

**THE ROLES OF HUMAN RESOURCE MANAGEMENT IN
CONSTRUCTION PROJECT SUCCESS**

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**A project report submitted in partial fulfilment of the
requirements for the award of Master of Science
Project Management**

**Faculty of Engineering and Science
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Nov 2012

DECLARATION

I hereby declare that this project report is based on my original work except for citations and quotations which have been duly acknowledged. I also declare that it has not been previously and concurrently submitted for any other degree or award at UTAR or other institutions.

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APPROVAL FOR SUBMISSION

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Specially dedicated to
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The Role Human Resource Management in Construction Project Success

ABSTRACT

The Human resource management (HRM) function today is concerned with much more than simple filing, housekeeping, and record keeping. When HRM strategies are integrated within the organization, human resource management (HRM) is holding an important role in ensuring that an organization to move forward and prosper. Organizational effectiveness or ineffectiveness can be defined by such parameters as performance, legal compliance, employee satisfaction, absenteeism, turnover, training effectiveness and return on investment (ROI). Around the world, a lot of top management personnel recognize that human resource deserve attention because they are a significant factor in top-management strategic decision that guide the organization's future operations. There are 3 crucial elements are needed for organization to operate effectively (1) Mission and strategy , (2) Organizational structure and (3) HRM. Construction is one of the most labour-intensive industries, it involves many foreign labour, skilled foreman, engineers, supervisors, architects , surveyors etc. Most of the construction works are in project basis. Hence, effective human resource management (HRM) is very crucial to guide a construction project towards success. Therefore, this study was conducted to study the role of Human Resource Management (HRM) towards project success. The three main areas were being studied in this research (1) The important activities of HRM in construction project success (2) The major HRM challenges (3) The critical success factor of

HRM. The questionnaires were distributed to 120 persons and received response from 29 from contractors (24.2 %), 35 from consultants (29.2 %) and 32 from developers (26.7%). The response rate was 96 (80%). Relative Importance Index (RII) was used to analyse the results. From the result, it showed that Reward strategies are the most important activities in HRM. As reward strategies include salary increment, incentives etc, all these factors could motivate all the employees so that they will stay in the same organization for long time. Employee retention is the most challenging in HRM, as employee tends to look up for better offer in term of pay and benefits from other organization. Support from top management is the most critical factor in HRM, as top management has the right to determine the direction and policies of the organization hence affect the implementation of HRM.

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LIST OF ABBREVIATIONS

Human Resource Management (HRM)

International Telecommunication Union (ITU)

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CHAPTER 1

INTRODUCTION

1.1 Background

The history of HRM can be traced to Great British of England, where masons, carpenters, leather workers and other craftspeople organized themselves into guilds. They used their unity to improve their work conditions. (Ivancevich ,2003)

The field further developed with the arrival of the industrial revolution in the latter part of the 18th century, which laid the basis for a new and complex industrial society. In a simple term, the industrial revolution began with the substitution of steam power and machinery for time-consuming handlabour. Since then, the working condition and social pattern and the division of labour were significantly altered. Under the Industrial revolution, a new kind of employee emerged, a boss or manager who was not necessarily the owner, as had usually been the case in the past-became a power broker in the new factory system. With this revolution, the gap between the employee and employer became wider at that time. (Ivancevich ,2003)

The drastic changes in technology, the growth of organizations, the rise of unions, and government concern and intervention concerning working people resulted in the establishment of personnel departments around the 1920s. Since then, more and more organizations seemed to take note of and do something to resolve the conflict between employees and management. Early personnel administrators were called welfare secretaries. Their job was to bridge the gap between management and workers (Ivancevich,2003).

Scientific management and welfare work represent two concurrent approaches that began in the 19th century and along with industrial psychology, merged during the era of the world wars. Scientific management represented an effort to deal with inefficiencies in labour and management primarily through work methods, time and motion study and specialization. Industrial psychology represented the application of psychological principles towards increasing the ability of workers to perform efficiently and effectively.

The HRM function today is concerned with much more than simple filing, housekeeping, and record keeping. When HRM strategies are integrated within the organization, human resource management (HRM) is holding an important role in ensuring that an organization to move forward and prosper. Organizational effectiveness or ineffectiveness can be defined by such parameters as performance, legal compliance, employee satisfaction, absenteeism, turnover, training effectiveness and return on investment (ROI) (Ivancevich,2003).Around the world, a

lot of top management personnel recognize that human resource deserve attention because they are a significant factor in top-management strategic decision that guide the organization's future operations. 3 crucial elements are needed for firms to be effective : (1) Mission and strategy , (2) Organizational structure and (3) HRM.

The contributions HRM makes to organizational effectiveness include the following (Ivancevich,2003):

1. Assisting the organization to reach its goal
2. Employing the skills and abilities of the workforce efficiently
3. Providing the organization with well-trained and well motivated employees
4. Increasing to the fullest the employee's job satisfaction and self-actualization.
5. Developing and maintaining a quality of work life that makes employment in the organization desirable.
6. Communicating HRM policies to all employees
7. Helping to maintain ethical policies and socially responsible behavior.

8. Managing change to the mutual advantage of individuals, groups, the enterprise and the public.

From HRM in big organization, we are now focusing on small scale of HRM which is Project Human Resource management. Project is a temporary, limited in resources, separated various milestones into deliverables with the aim of producing or providing unique product or services (Lundin & Söderholm, 1995). Over the years, many organizations have implemented team-based project in their daily work to improve productivity and to achieve company goal (Irja, 2006).

Organizing and managing the project team are the main processes of Project Human Resource Management. The project team is comprised of the people who have assigned roles and responsibilities being assigned, project team members should be involved in much of the projects planning and decision-making. Early involvement of team members could increase expertise during the planning process and fortifying commitment to the project. The type, structure and number of project team members are flexible and will change as the project progress.

Basically, the Project Human Resource Management processes can be divided into 4 main categories (PMBOK,2008):

1. **Human Resource Planning-** Identifying and documenting project roles, responsibilities and reporting relationship and staffing management plan.

2. **Acquire Project Team-** Obtaining the human resources needed to complete the project.

3. **Develop Project Team-** Improving the competencies and interaction of team members to enhance project performance.

4. **Manage Project Team-** Tracking team member performance, providing feedback, resolving issues, and coordinating changes to enhance project performance.

Construction is one of the most labour-intensive industries, involves many foreign labour, skilled foreman, engineers, supervisors, architects, surveyors etc. Most of the construction works are in project basis. Hence, effective human resource management (HRM) is very crucial to guide a project towards success. Therefore, this study was conducted to study the role of Human Resource Management (HRM) towards project success.

1.2 Problem Statement

HRM problems are very common for construction industry players in Malaysia. High turnover rate, layoff, shortage of labours or skilled technician are those common problem faced by construction industry main players. For instance most of the contractor found it hard to employ the skilful technical workers. Most of the consultant firm find it hard to employ a design engineer and most of the developers firm find it hard to employ an experienced project manager. All these HRM problems are very influential to project success, as getting the right people for the right job is very essential in construction project.

1.3 Aim & Objective

The aim of this research is to study the role of human resource management in construction project success.

1.3.1.1 Objectives

The objectives of this research are:

(1) To identify the roles of HRM activities for the construction project success.

(2) To find the HRM challenges in construction management

(3) To determine the critical success factor of implementation of HRM

1.4 Research Scope

The scope of research will involve personnel in the Malaysia construction industry and it covered three main parties which is contractors, consultant and developers. The questionnaires were distributed to 120 persons.

1.5 Significance of study

This study is expected to understand the role of HRM for the construction project success, analyze the role of HRM in construction project success, challenges faced by construction industry on the implementation of HRM and identify the critical success factor of HRM. This study could also assist main construction project players in solving HRM problem in construction project and increase the construction project success rate.

1.6 Research Methodology

The research will start with literature review, regarding the human resource management and project success. The nature of this research will be in quantitative manner.

Since the research is in quantitative, a questionnaire will be produced for data collection. The targeted audience will be those who are currently working in construction industries. The questionnaire will have rating scale questions, as well as some objective multiple choice questions. Online survey tool will be used to ease up the data collection process, and a total of 120 questionnaire survey invitation will be sent out through e-mail.

Descriptive analysis Relative Importance Index will be performed on the data collected to describe the basic features of the data. Since the data collected is non-parametric, Kruskal-Wallis test will be used to further analyze the data and Kruskal-Wallis test will be used to compare the difference among the independent group. An additional reliability test will be used to check the reliability of the questionnaire survey.

1.7 Chapter of Dissertation

The first chapter of the dissertation discussed some background information of project human resource management and the problem statements within the context of the research. The aim and objectives of the study is also defined for the study to identify the works to be done in order to complete the research. The scope of the study is defined. The significance of study shows how this research may be able

to help construction industry to solve the Human Resource Management problems and help to attain project success.

The second chapter mainly on the literature review. Previously made studies from books and journals are discussed in this chapter. This chapter will provide a more in depth understanding of the current trend of HRM and its impact towards construction project success, HRM challenges and critical success factors in the implementation of HRM.

Chapter three is about research methodology. It mainly describe about the method to be implemented in the research in detail. The method discussed here provides a clearer understanding of how the research reaches a conclusion.

The fourth chapter is basically about the result of the research. This chapter talks about the result of the analysis. Results from the analysis will be organized to allow the reader to easily interpret the outcome of the research.

The fifth chapter is discussion. In this chapter, the result will be discussed. The findings from literature review will be re-assessed in relation with the results from this research.

The last chapter is about conclusion and recommendation. This chapter discussed about the final finding of the research. Limitation of the research was also pointed out and recommendation on what can be done in the future to further improve this research was also provided.

1.8 Summary

This chapter described some general information regarding the Human Resource Management in Construction Industry. The aim of this research is to study the role of human resource management in construction project success. The findings from the study will contribute to construction companies in Malaysia to enhance the Human Resource Management Practices.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter involves the study of the previous research. By studying the previous cases and researches, it will allow further understanding of the current issue and problems encountered in the context of this research. The main objective of doing literature reviews is to get adequate information in understanding the subject of the research.

Various channels can be used to accumulate materials and information regarding the research. Channels include books, journals, handouts, technical papers, and newspapers. Previous research, theory, case study and concepts on the subject should be looked into for better understanding of the subject. In this study, related E-Journals and other reading materials can be easily accessed at the UTAR Library (science direct)

2.2 Definition of Project & Project Versus Operation

A project by nature is a temporary work, whereby the work has a designated start and end time, on the other hand, operation is an ongoing process with no beginning and ending time (Huemann et al, 2007). Besides that, a project can also be differentiated from an operation through the observation of the output. A project

always produces unique results, while an operation has repetitive and similar output (Huemann et al, 2007). Normally, in a project, the project team will disperse upon project completion, while in an operation, the employees will remain along with the organization (Huemann et al, 2007). Both of these methods are also executed in order to achieve organizational objectives or business plan (PMBOK,2008).

2.3 Definition of Human Resource Management

Project human resource management describes the effective use of manpower involved in the project (Duncan, 1996; PMBOK, 2008). The type and number of project team members may change frequently throughout the course of the project. It involves developing human resource plan, acquiring project team, develop project team and manage project team. Developing human resource plan is the process of identifying the roles, responsibility, required skills, and reporting relationship and documents them into a staff management plan (PMBOK, 2008). Acquiring project team is the process of obtaining the necessary human resource to complete the project works. Developing project team is the process of enhancing project performance through constant improvement of team interaction and environment. Managing a project team is the process of tracking the performance of all the team members, resolving issues provided by the members in order to optimize project performance (PMBOK, 2008).

Martina *et.al* (2007) had conducted a study on human resource management in the project orientated company. The aim of this paper is to provide an overview of past research on HRM in the context of projects, published in the project management, general management, and HRM literatures. They had developed a

model of what they see as the critical HRM aspects of project-oriented organizing, based on prior research and use it to structure the review. Finally they summarize what they see as the major shortcomings of research in the field of HRM in the project-oriented company and outline a research agenda to address outstanding areas of research on this topic.

Rodney *et.al* (2008) had conducted a study on Human resource management in the project-oriented organization in the aspect of employee well-being and ethical treatment.. In this paper they report their results on the HRM practices adopted in project-oriented organizations to fulfill the second role. They found that by and large in project-oriented organizations the management support role dominates, and they are not very good at caring for employees. The need for profit and responding to client demands often takes precedence over employee well-being. However, some of the organizations they interviewed have adopted HRM practices to care for employees, Also providing employees with career development opportunities is as important for the individual as it is for the organization.

Hueman *et.al*(2006) stated that the mainstream of HRM literature still gives greater attention to the human resources in routine organizations. The HRM function HRM practices in flat and flexible project-oriented companies have generally been neglected. Most of the HRM research is undertaken from a managerial and prescriptive perspective. Therefore, the research of HRM in project oriented company must take the perspective of the individual employee as well as organization. They recommend the future research of HRM to be more emphasized

on identifying the HRM policies, practices and process adopted by project orientated companies.

Patanakul & Milosevic (2008) had conducted a study on the effectiveness in managing a group of multiple projects. Their study is more on the management of a group of multiple projects (MGMP). Their finding showed that organizational-level and operational level influencing the effectiveness in MGMP and the criteria to measure MGMP effectiveness. They recommend the research to MGMP research to across the borders of the project management domain.

2.4 Project Success

Traditionally, a success of a project can be evaluated through time, cost, and quality (Chan et al., 2002). The conventional perspectives of project success are very easy to evaluate and measure (Willard, 2005) but there have been many criticisms from others (Shenhar et al., 1997; Alarcon et al., 1998).

Samiaah *et.al* (2011) had conducted a study on future criteria for success of building projects in Malaysia. The outcomes of this study indicated that a categorization scheme for success criteria for building projects should include the categories of project management success, product success, along with market success.

Adane *et.al* (2004) had conducted a study on factors influencing project success in the aspect of impact of human resource management. The study shows that there was a link between project success and the Personnel factors. The factor was proven that there is no effect on project success. Their results show that the relationships between the independent variables and project success will differ according to project life cycle stage. Apart from that, the result also shows that for 3 distinct structure (functional, project based and matrix) , management support and trouble-shooting variables were significantly related to project success.

Ofer *et.al* (2010) had conducted a study on HRM in project groups the project of duration on team development effectiveness. Their results showed that, team development only effective on operational business and not much effect on project success. However, they did confirm that project duration was found to moderate the relationship between team development and project success. The effectiveness on team development increases in longer duration project.

Belout&Gauvreau (2003) had conducted a research to study the factors influencing project success in the aspect human resource management. Their finding showed that there was a link between personnel factors and project success. But this factor did not impose any significant effect on project success. However, the result shown that the three main distinctive organizational structure (functional, project based and matrix), the Management support and trouble-shooting variables were significantly correlated to project success. They recommended that future studies to be more focus on the impact of PIP (Project Implementation Profile) factors while merging the combined effect of moderating factors on the project success variables.

Moreover, more viewpoints to be collected for future study : Sponsor's View, Project Manager's View.

2.5 HRM activities in construction project success

ITU-D (2008) had conducted a survey regarding the HRM in ICT industry. The results showed indicated that managing change, organizational development and leadership development are the top there major challenges in HRM. The findings of the survey also showed the top there HRM activities are management of talent and competencies, performance improvement and strategic human resource management

Wayne (2008) stated that motivation is actually very important in motivating employee towards project success. Simpson *et.al* (2007) also stated that in order to foster motivation within each team member on a project, the project manager must take time to understand how every individual is motivated. In other words, the project manager should avoid applying a broad application of motivation to all team members based solely on the manager's perception.

Ewen (1986) in his study involving 1021 life insurance agents on the effects of certain Herzberg's motivators and hygiene factors on general job satisfaction found out that Herzberg's theory not well supported. For example, hygiene factors such as company policies and manager's interest in agents are perceived by the agents as one of the job motivators. On the other hand, monetary reward such as incentives, salary and commission are also being perceived as motivators in 80

percent of the agents involved in the study. Prestige also acted as a motivator in this study. Many agents perceived that title and advancement will motivate them the most.

Parus(1999) stated that compensation practices should be viewed from a total rewards perspective where compensation includes psychological rewards, learning opportunities, and recognition in addition to monetary rewards in the form of base pay and incentives (Graham et al., 2002; Heneman et al., 2000). Apart from that Grahan et.al (2002) also stated that as a firm matures and the novelty and excitement of assuming risk wear off for employees, cash compensation must increase to competitive market levels in order for the firm to retain employees.

Tangen(2005) stated that performance is another concept that is often confused with productivity. Whereas productivity is a fairly specific concept related to the ratio between output and input, performance is a broader concept that covers both the economic and operational aspects of an industry. Performance refers to excellence, and includes profitability and productivity among other non-cost factors, such as quality, speed, delivery and flexibility. Performance refers to excellence, and includes profitability and productivity among other non-cost factors, such as quality, speed, delivery and flexibility. (Aki *et.al* ,2011). In order to foster motivation within each team member on a project, the project manager must take time to understand how every individual is motivated. (Simpson et.al 2007)

Indicators are defined in order to check the feasibility of the company's strategy and the kinds of goals that should be used on a daily basis. Measurement

enables increased visibility of the quality and progress of a certain task and helps to justify, manage and evaluate quality and productivity improvement programs at the operations level. The point has been made that proper measurement goals are those that focus as much on communication as on evaluation and targets (Haapasalo et al., 2006).

Neely et al. (1995) refer to the performance measurement system as “... a set of metrics used to quantify both efficiency and effectiveness of actions.” Performance measurement has two main aims: to connect company goals and objectives to improvements and to set targets for improvement activity (Grünberg, 2004).

In order for a company to succeed, it is critical that the company can control and manage its operations effectively. The better the controllability is, the better the company's ability to react to changes will be. In order to have good controllability, a company must have access to indications of past, present and future trends from the operative environment (Haapasalo et al., 2006). Opportunities for creating value are shifting from the management of tangible assets to the management of knowledge-based strategies that develop an organization's intangible assets (Anderson & McAdam, 2004). These intangible assets are important elements when developing lead measures for a proactive performance measurement system.

Ntonga (2006) stated that talent and competencies management is a function of human resource management that identify develop, deploy and retain talented and

high potential employee. Talent in the organization refer to core employees and leader that drive the business forward (Hansen,2007). Talent management is not just a new and fancy word for finding and developing employees (Laff,2006). Talent Management requires a systematic view that calls for dynamic interaction between many functions and processes (Cunningham, 2007).

Berger & berger (2004) presented three main goals with a Talent Managemet strategy:

1. To identify, select and cultivate employees that demonstrate superior performance.
2. To find, develop and position highly qualified backup for key position in the organization.
3. Allocate resources i.e compensation, coaching, training and job assignments.

Hartley (2004) stated that talent management is a term that extends over a wide set of activities such as succession planning, HR planning and employee performance management.

Creelman (2004) defines talent management as the process of attracting, recruiting and retaining talented employees. Knez et.al(2004) expressed a similar view of the concept when arguing that Talent management refers to a continuous process of external recruitment and selection and internal development and retention.

Josh (2006) stated that talent and competencies management is a "forward-looking" function. Not only should talent and competencies management improve organization's flexibility and performance, it should give the organization the information and tools to plan for growth, change, acquisitions, and critical new product and service initiatives.

Bola (2011) stated that career management is another commonly cited antecedent of career development. Once individuals have planned their career goals, they require skills, competencies and values to execute their career goals with appropriate career management practices. In other words, the next step after career planning will be carrying out the plans through appropriate career management practices.

Career management is an ongoing process of preparing, developing, implementing and monitoring career plans and strategies undertaken by the individual alone or in concert with the organisation's career system (Hall & Associates 1986, Greenhaus, et al. 2000).

Greenhaus et.al(2000) supports the contention that effective career management can enable individuals to make informed decisions that are consistent with their talents, aspirations and values and improve organisation effectiveness.

Brown (1998) state that career management practices must support individuals in their efforts to develop the knowledge, skills, and behaviours that will enable them to be successful.

Hall & Associates (1986) stated that the integration of both individual career planning and institutional career management processes results in career development when the individual attains the career goals set.

Morrison&Hock (1986) stated that career management represents the organisational perspective in the career development process. This feature is demonstrated when organisations endeavour to match individual interests and capabilities with organisational opportunities through a planned programme encompassing such activities as the design of effective internal career systems, employee counselling, job rotation opportunities and a blend of positional experiences with on and off the job training assignments (Hall & Associates 1986).

Gutteridge (1986) stated that career management involves specific HR activities, such as job rotation, potential appraisal, career counselling, and training and education designed to help match employee interests and capabilities with organisational opportunities.

Greenhaus, et.al.(2000) & Martin, et.al.(2001) both have stated that an effective career management practices will help promote employee insight, goal and strategy development and gather appropriate feedback and assist employees in using

and developing skills and knowledge that will benefit the organisation and the growth and self esteem of its employees .

2.6 HRM Challenges

Cutler (2001) stated that keeping critical employees motivated and dedicated is one of the most important demands of management today. In his study, he had quoted that “Sometime is not that who you hire that count, its who you keep”

Baker (2006) stated that the fact it is a lot cheaper to keep current employees than to hire the new one.

Vishal (2007). stated that many employees will leave the company due to few reasons (1) Salary (2) Lack of challenge and growth (3) Lack of recognition (4) Overall low job satisfaction . Kaliprasad (2006) stated that capable person are in short supply globally which account for fierce competition between organizations to attract and retain these skilled resources, and in the same study, it is also stated that the most effective strategy to retain capable person is to create a stimulating and challenging working environment.

Goretsky& Pettry (2007) stated that it is very important to make a move to retain and development of talent because the high turnover pose a threat to the company.

David (2008) stated that engaged workers dedicate their energy to achieving their organization's objectives. They are committed, enthusiastic, loyal, and excited. Engaged employees are more productive, more profitable, more customer-focused, safer, and more likely to withstand temptations to leave the organization.

Roche (2005) stated that engaged employee feel passion about their job, provide drive and innovation to enable them in moving the company forward.

Gebeur (2006) stated in his study that the definition of employee engagement is defined as “workers’ willingness and ability to contribute to a company’s success, the extent to which employees put discretionary effort into their work.

Paradise (2008) stated that it is a widely accepted fact that employee engagement is vital to business success, but there is no obvious documented path to pursue it.

Baker (2006) stated that project performance and progress is strongly related with employee’s engagement.

Hundley, Jacobs and Drizin (2005) stated that workforce engagement sizes up a complex ongoing process to recruit, retrain, reward and retain productive employeeby enhancing understanding organizational practices and employees perspective.

Milis & Mercken (2002) stated that change was provoked by the outcome of the project can mean a number of things. It can be divided into two larger categories: technological changes and cultural changes. Technological changes are changes in systems and tools and this means that people must familiarize themselves with new tools and ways of working. This can often be tackled by effective training and support. However, cultural changes are more difficult to cope with. Cultural changes can mean changes in the customs or the organization itself. Cultural changes can change management styles, attitudes, standards, adaptability to change and power equilibrium. These kinds of changes easily create resistance and the issues must be effectively handled by the project manager. Tools for reducing resistance include such as: user participation, effective communication, support, leadership and commitment from the top.

Williams & Williams (2007) describe it change process is a series of overlapping phases. Price & Chahal (2006) discuss the same matter and suggest that change is a process, not an event and it takes place all the time. It is rather obvious that once a large change within an organization takes place, everything is not changed overnight, but change is rather a process that consumes time.

Jumair (2009) stated in his e-HRM study managing change within the organization could be a full time job by itself as it requires the management of people and their expectations, resistance to change confusion redundancies and errors (Remus, 2007).

2.7 Critical Success Factor of HRM

Support from Top management

Cathey (2011) stated that the interaction between Human Resource Management and top management should be improved for the good of an organisation. The Strategic HR is based on the on the deep knowledge of the organization, processes, procedures and the business strategy. But it needs a strong link to the critical success factors, which can enable the HRM Function to measure its own success on the way of implementing the Strategic HR in the organization.

Young & Jordan (2008) stated in their research that top management support is the most important critical success factor for project success and is not simply one of many factors. Boards and top managers may have to personally accept that they have more influence on whether a project succeeds or fails.

Duncan (1996) indicated that the effective communications among stakeholders both internal and external is crucial in a project It includes activities like identify stakeholders, plan communications, distribute information, manage stakeholder expectations, and report performance (PMBOK, 2008). Identify stakeholder is the process of identifying all the people that have impact on the success of the project.

Junaid (2009) stated in his e-HRM study top management support is one of the most critical success factors for implanting an ERP system is the support and involvement of top managers in the project during its life cycle (Al-Sehali, 2000). In order for e-HRM implementation to be successful, top managers have to approve and

continuously support the responsible parties during the implementation stage to make sure no obstacles prevent or delay the progress. Moreover, an executive sponsor should be appointed to coordinate, communicate, and integrate all aspects of the project between the development team and top management (Remus, 2007). The executive sponsor should communicate, integrate and approve the shared vision of the organization and the responsibilities and a structure of the new e-HRM system (Nah et al, 2001).

Training and development

Olaniyan *et.al* (2008) stated that the need for improved productivity has become universally accepted and that it depends on efficient and effective training is not less apparent. It has further become necessary in view of advancement in modern world to invest in training. Thus the role played by staff training and development can no longer be over-emphasized. Staff training and development are based on the premise that staff skills need to be improved for organizations to grow. Training is a systematic development of knowledge, skills and attitudes required by employees to perform adequately on a given task or job. New entrants into organizations have various skills, though not all are relevant to organizational needs. Training and development are required for staff to enable them work towards taking the organization to its expected destination.

Adeniyi (1995) observed that staff training and development is a work activity that can make a very significant contribution to the overall effectiveness and profitability of an organization. He therefore, provides a systematic approach to training which encases the main elements of training.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter defined the methodology that was undertaken to fulfil the aim and the objectives of the research. The data collection method and the data analysis were explained in detail in this chapter.

Basically, there are two types of researches: (1) Applied research and (2) basic research. Applied research is a research that was performed with the intention of solving a problem that was currently existed, whereas basic research is performed to enhance the understanding of a certain problem that existed. This research is a basic research, because it seeks to further understanding the Role of human resource management in project success.

3.2 Theoretical Framework

The research begins by studying common human resource management and its relationship with construction projects success. Further on, the context of impact of human resource management towards project success will be focused.

3.3 Research Design

The research is established to study the role of human resource management towards construction projects success. Firstly the important activities of human resource management were identified. Secondly, the challenges to implement human resource management were identified. Lastly, the critical success factors of human resource management were identified.

3.3.1 Questionnaire

This research is conducted by using questionnaires. The reason for choosing questionnaire is because they do not have the tolerance for interviewer bias (Dohoo et al., 2003). This method is a convenient and flexible mean for the respondent to fill up the questionnaires, this help to ease the low response rate and convenient for the data analysis.

The questionnaire will be aimed towards the construction industry. There will be a total of 3 questions in the questionnaire, and the language used in the questionnaire will be in English language.

The first question is the important activities of human resources management in construction project success.. There are a total of 13 human resource activities in the first question. A scale of 0-5; where 0 stands for unsure, 1 stands for not

important, 2 stands for least important, 3 stands for important, 4 very important for often while 5 stands extremely important.

The second question is the major human resource management challenges. Similarly, a rating of 0-5 are provided as well, but this time around 0 stands for unsure, 1 stands for strongly disagree, 2 stands for disagree, 3 stands for neutral, 4 stands for agree, while 5 stands for strongly agree.

The second question is the major human resource management challenges. There are 13 challenges available for the respondents. Similarly, a rating of 0-5 are provided as well, but this time around 0 stands for unsure, 1 stands for strongly disagree, 2 stands for disagree, 3 stands for neutral, 4 stands for agree, while 5 stands for strongly agree.

The third question is the critical success factor of Human resource management. Totally, there are 7 factors for the respondents. Similarly, a rating of 0-5 are provided as well, but this time around 0 stands for unsure, 1 stands for strongly disagree, 2 stands for disagree, 3 stands for neutral, 4 stands for agree, while 5 stands for strongly agree.

3.3.2 Descriptive Analysis

Descriptive analysis will be used to summarize the collected data and to find out the human resource management activities that are most extensively being

practiced in Malaysian construction industries. Apart from that, the results of the challenges of the HRM and critical success factors of HRM will be summarized.

3.4 Data Analysis

Since the data is non-parametric or non-normally distributed .The analysis will begin with a reliability test using Cronbach's Alpha test. This is to ensure the reliability of the data collected.

In order to determine the relative ranking, the scores provided by the respondents were transformed to importance indices based on the relative importance index.

Relative Importance Index (RII) was calculated based on the following formula:

$$RII = \frac{\sum w}{AN}$$

where,

- RII = relative importance index
- w = weight given to each skill and method by the respondents, ranging from 1 to 5
- A = highest weight (i.e. 5 in this study)
- N = total number of respondents

3.4.1 Questionnaire Reliability Test

Cronbach's Alpha test is used to check the reliability or the consistency of the questionnaire. This test will produce a Cronbach's Alpha value, any value above 0.7 will be considered as a reliable questionnaire; while anything below that will indicate that the questionnaire is unreliable (Field, 2005).

3.4.2 Sample Comparison Test

Kruskal-Wallis is test used to find the differences between several independent groups (Field, 2005). Since the data is non-parametric, Kruskal-Wallis is favoured over ANOVA. This test will be used to find the differences between the organization towards important activities of Human resource management, major challenges of Human Resource Management and critical success factors of Human Resource Management.

The interpretation of this test begins with the significance value (Field, 2005). Any value lower than or equal to 0.05 will be considered as having a significance difference between the groups.

CHAPTER 4

RESULTS& DISCUSSION

4.1 Introduction

This chapter will be assessing the role of human resource management towards construction project success. This chapter presented the result of the collected data. All the result of the analysis is presented to provide a better understanding of the important activities of Human Resource Management in Construction Project Success, The major Human Resource Management Challenges and The Critical Success of Human Resource Management.

The scope of research will involve personnel in the Malaysia construction industry and it covered three main parties which is contractors, consultant and developers. The questionnaires were distributed to 120 persons and received response from 29 from contractors (24.2 %), 35 from consultants (29.2 %) and 32from developers (26.7%). There was no response from 24 persons(20%) and the response rate was 96 (80%). In this survey questionnaire, the questions were divided into 4 parts as below:

Section A : Company and Respondent Profile

Section B : The important activities of HRM

Section C : The major HRM challenges

Section D : The critical success factor of HRM

4.2 Summary of Respondent

Summary of Respondents' Particulars

1. Age

Age	Percentage
Less than 20	0
20-29	11
30-39	19
40-49	40
50 and above	30

2. Gender

Gender	Percentage
Male	80
Female	20

3. Education

Education	Percentage
Certificate	10
Diploma	25
Degree	45
Master	12.4
PhD	7.6

4. Type of organization

Type of organization	Percentage
Clients (government or developer)	35.5
Consultants	35.5
Contractors	29

5. Occupational Level

Occupation Level	Percentage
Managing Director	5
Project Manager	20
Project Engineer	30
Contract Manager	15
Contract Executive	15
Project Executive	15

6. Area of specialization

Area of specialization	Percentage
Construction Management	15
Building Surveying	15
Civil/Structural Engineering	25
Architectural	25
Quantity Surveying	20

7. Number of years working experience

Number of years working experience	Percentage
Less than 2 years	11
2-5 years	19
6-10 years	25
More than 10 years	45

8. Project experience

Project Experience	Percentage
Shopping complex	2
Shop lots	10
Hotel/ Motel	6
Clinic/ Pharmacy	5
Library	2

Museum	2
Hospital	8
School	2
Residential Building	13
Religious Building	4
Office	15
Civil Engineering Project	7
University	2
Institution	1
Police Station/ Fire Brigade Station	8

9. Project Contract Value

Project contract value	Percentage
Less than RM 10 million	35
RM 10 million – RM 50 million	45
More than RM 50 million	20

4.3 Particular of the respondents

In this section, the particulars of the respondents are being discussed. Most of the respondents are at executive and management level in construction companies and most of them possess degree in various fields such as construction management, quantity surveying, civil and structural engineering, mechanical and electrical engineering degree. Most importantly, about half of the respondents have more than 10 years working experience. This can increase the reliability of the survey result, as they have vast experience and they have been overlooking the Human Resource Management in the construction industry for many years.

4.4 Summary of the results

Table 1: Ranking of Human Resource Management Activities

Human resource activities	RII	Ranking
Reward strategies	0.733	1
Performance management	0.717	2
Management of talent and competencies	0.694	3
Career management	0.669	4
Information systems and business management	0.604	5
Strategic human resources management	0.573	6
Effective communication in C-suite	0.569	7
Reengineering the human resources function	0.560	8
Performance improvement	0.556	9
Strategic management	0.554	10
Knowledge management	0.548	11
Competencies for competitiveness	0.521	12
Managing diversity	0.513	13

- Communication in C-suite is a strategic marketing & communication firm that help you to prepare, execute deliver highly effective communication to your most important audience

4.5 The important activities of HRM towards construction project success.

The result of the survey showed that the ranking of the top three HRM activities is as: (1) reward strategies, (2) performance improvement, (3) management of talent and competencies.

Reward Strategies

Reward strategies normally are the combination of the process, policy and practices of how employees are paid in order to achieve company's mission and goal. Reward strategies can also be called as compensation. Compensation is the human resource management function that deals with every type of reward individuals receive in exchange for performing organizational task. compensation includes psychological rewards, learning opportunities, and recognition in addition to monetary rewards in the form of base pay and incentives (Graham et al., 2002; Heneman et al., 2000). Basically, the rewarding strategies could be in direct financial and indirect financial form. Financial form such as wages, salaries, bonuses and commission. For the indirect financial include vacations , various kind of insurance.

Reward strategies are very important for all the industries as this is the main reason individuals seek employment. It is an exchange relationship. Employees trade labour and loyalty for rewards. Apart from that, reward strategies also can be related to *Herzberg two-factor theory*. According to this theory, there are 2 factors that influence work behaviour which are dissatisfiers (hygiene factors) and satisfier (motivators). Hygiene factors relate to the context of jobs include pay, working condition, supervision and so on. Motivator includes factors like achievement, recognition and so on. Motivation is actually very important in motivating employee towards project success (Wayne, 2008). Reward strategies stand at the most important HRM activities because construction industry is a competitive and labour-

intensive industry. Hence, attractive reward scheme is the most powerful HRM tools for most of the construction companies.

Performance management

Performance management and improvement is the second important HRM activities in construction project success.

Performance is a concept that is often confused with productivity. Whereas productivity is a fairly specific concept related to the ratio between output and input, performance is a broader concept that covers both the economic and operational aspects of an industry. Performance refers to excellence, and includes profitability and productivity among other non-cost factors, such as quality, speed, delivery and flexibility. (Aki *et.al* ,2011).

As performance management in project management is the process by which executives, project managers to align employee or project team member performance with organization's goal. An effective performance management process has a precise definition of excellent performance, and provides feedback to employees project team member about their performance. Thus it defines, measures, monitors and giving feedback. In order to foster motivation within each team member on a project, the project manager must take time to understand how every individual is motivated. (Simpson *et.al* 2007) In other words, the project manager should avoid applying a broad application of motivation to all team members based solely on the manager's perception. Taking the time to work with each team member to

understand personal work drivers will allow the project manager to uncover basic human needs and individual motivators. Hence, it could help in achieving project success. This could apply exactly in the construction projects, as most of the jobs in construction industry is project orientated, every project may have different project team members.

Opportunities for creating value are shifting from the management of tangible assets to the management of knowledge-based strategies that develop an organization's intangible assets (Anderson & McAdam, 2004). These intangible assets are important elements when developing lead measures for a proactive performance measurement system. Hence, an effective performance management and improvement is crucial in driving a construction project towards success.

Talent and competencies management

Talent and competencies management is a natural evolution of HR. It is a series of business processes. Talent in the organization refer to core employees and leader that drive the business forward (Hansen,2007). Talent management is not just a new and fancy word for finding and developing employees (Laff,2006).

Organizations we speak to are emphasizing on different elements -- driven by their maturity and the urgent business problems they face today. While a few mature organizations have dealt with most of the processes above, most organizations focus on several of the key elements and build an integrated approach over time. Additionally, Talent and competencies management is a "forward-looking" function.

Not only should talent and competencies management improve organization's flexibility and performance, it should give the organization the information and tools to plan for growth, change, acquisitions, and critical new product and service initiatives. (Josh,2006).

Talent and competencies management is a function of human resource management that identify develop, deploy and retain talented and high potential employee. (Ntonga, 2006) It is very important in the construction industry as it is a labour-intensive industry. It is essential that for an employer to recruit skilled and experience workers or management staff for their company.

Most of the top management of organization understand that having the right person in the right place at the right time could help in maximizing the profits. This will apply to construction projects, as it is a labour intensive industry, by having the talented person at the project team to enable them to perform and apply their respective skills and technical knowledge in the project hence help to attain project success.

Comparison with previous study

The result from ITU-D can be summarised in the table below:

Table 2: Comparison of important HRM activities

ITU-D (2009)	This survey

1.) Management of talent and competencies	1.) Reward Strategies
2.) Performance Improvement	2.) Performance Management
3.) Strategic Human Resource Management	3.) Management of talent and competencies

Table 2 shown that the top HRM activity in ICT field is Management and talent and competencies, whereas in construction industry the top HRM activity is reward strategies. In ICT industry, experts with different special programming knowledge are very important in the ICT projects. Hence, management of talent and competencies rank number 1 in the survey. It is totally different for construction industry, as it is a labour-intensive industry. Hence, reward strategies will be the top most important and effective HRM activities for the construction industry. However, management of talent and competencies ranks number 3 in this survey. This activity is also important in construction industry, as it is essential that for an employer to recruit skilled and experience workers or management staff for their company.

Most of the tasks in ICT field and construction are in project basis .A project always produces unique results, while an operation has repetitive and similar output (Huemann et al, 2007). As stated by Hueman et.al (2007) every project is unique and it will require a lot of talent with different skills and competencies to help in attaining success on a project. Therefore, management of talent and competencies is one of the top three HRM activities in ICT and construction field.

Table 3: Ranking of Challenges of HRM

Challenges	RII	Ranking
Employee retention	0.715	1
Managing change.	0.700	2
Employee engagement	0.682	3
Conflict management	0.681	4
Organizational performance	0.618	5
Compensation	0.608	6
Leadership Development.	0.600	7
Crisis management	0.596	8
Creativity and innovation	0.592	9
Organizational development.	0.583	10
Human resource measurement and benchmarking	0.552	11
Training and development	0.546	12
Talent management	0.544	13

4.6 The Major Human Resource Management Challenges

The result of the survey shown that the top three ranking of the HRM challenges are as (1) Employee retention (2) Managing change and (3) Employee engagement.

Employee Retention

Employee retention is the top challenge for Human Resource Management in Construction industry, this is because construction industry is a competitive industry as many employees will leave the company due to few reasons (1) Salary (2) Lack of challenge and growth (3) Lack of recognition (4) Overall low job satisfaction (Vishal,2007). These are the 4 main factors that pose threat to employee retention in construction industry.

Salary is crucial in the human resource management, as this is the main reason where people seek for employment. Most of the employee will leave a company due to better offer in term of salary.

Challenge and growth also important for an employee in construction industry, they tend to leave the company as they would like to take up challenge to handle mega projects. This could bring growth to their knowledgebase and enhance their resume.

Recognition from top management also important, employees will leave the company if their efforts were not recognised by their superior. Recognition is important as it could bring motivation for their employees. Low job satisfaction also a reason for an employee to leave the company, as low job satisfaction will demotivate their employees.

Turnover is expensive, disruptive, and impacts the morale of the remaining project team members. Turnover is often preventable when an employer offers market driven compensation, better than average employee benefits, and a workplace culture that appreciates and engages employees. It is very important to make a move to retain and development of talent because the high turnover pose a threat to the company. (Goretsky& Pettry ,2007)

Managing Change

Change process is a series of overlapping phases, as Williams & Williams (2007) describe it. Price & Chahal (2006) discuss the same matter and suggest that change is a process, not an event and it takes place all the time. Change management is a critical skill in the fast changing organizations of today. Change management should focus on creating an environment in which the change can be implemented (Kemp & Low 2008).

Managing change is challenging because employees fear to leave the tried and true in their comfort zone. Additionally, in managing change, many organizational issues, factors, and methods must support the change for change management to work. Change can be divided into two larger categories: technological changes and cultural changes. (Milis & Mercken ,2002) Cultural changes can mean changes in the customs or the organization itself. Cultural changes can change management styles, attitudes, standards, adaptability to change and power equilibrium.

It is rather obvious that once a large change within an organization takes place, everything is not changed overnight, but change is rather a process that takes time. For example, if organizational structure is changed due to one of the key person in the construction project had passed away, certain change steps need to be taken in order to reach the actual outcome that was sought after. A revised organization structure will need to be in place so that the project can be in order.

The change management in construction project is very common and challenging. As minor changing in the project team might have impact on the project success. Therefore, effective change management helps change to succeed. The role of employee involvement in change management is very important. For instance, a project manager should have discussion with the project members on the causes of the change and have a mutually agreed solution for the change. This could help in managing the change effectively and efficiently. Managing change within the organization could be a full time job by itself as it requires the management of people and their expectations, resistance to change confusion redundancies and errors (Jumair, 2009 & Remus, 2007).

Employee Retention

Employee engagement is defined as “workers’ willingness and ability to contribute to a company’s success, the extent to which employees put discretionary effort into their work. (Gebeur ,2006).

Employee engagement is a combination of commitment to the organisation and its values. It goes beyond job satisfaction and is not simply motivation.

Engagement is something the employee has to offer: Engaged workers dedicate their energy to achieving their organization's objectives. They are committed, enthusiastic, loyal, and excited. Engaged employees are more productive, more profitable, more customer-focused, safer, and more likely to withstand temptations to leave the organization.(David,2008) They are also more engaging because engaged employees are more likely to elicit engagement from key stakeholders, such as their internal and external customers. Engaged employees want their organization to succeed because they feel connected emotionally, socially, and even spiritually to its mission, vision, and purpose.(John *et.al* 2010).

In the construction industry, it is very challenging to upkeep the employee engagement all the time. This is because most of them are working under the challenging condition such as hot sun, dirty environment, stress from internal stakeholders or external stakeholders. Hence employee engagement remains the challenge for construction industry.

Keeping the employee engagement is beneficial to the organization as a measure of staff retention as the cost to recruit the new employees or project team members are costly. engaged employee feel passion about their job, provide drive and innovation to enable them in moving the company forward. (Roche ,2005)

Project performance and progress is strongly related with employees engagement (Baker,2006) . Therefore, creating an environment that encourages employee engagement is considered essential in the effective management of human capitals.

Comparison with previous study

The result of ITU-D shown that the top three HRM challenges are as below:

Table 4: Comparison of HRM challenges

ITU-D (2008)	This survey
1.) Managing Change	1.) Employee Retention
2.) Organizational development	2.) Managing Change
3.) Leadership Development	3.) Employee Engagament

Table 8 shown that the top challenge in ICT field is Managing Change .Managing change is the top challenge in the ICT industry, this is because change is a normal phenomenal in the ICT industry. As discussed earlier, change can be divided into two larger categories: technological changes and cultural changes. (Milis & Mercken ,2002).

Information technology is changing rapidly and it induces the demand towards different IT talent or expert could be varying from time to time. Vice-versa, employee retention is the top challenge in construction industry. This is because in the labour intensive industry, there will be a trend of high turnover rate due to counter offered by competitors (David,2008). Hence, employee retention is the top challenge in the construction industry.

However, managing change is also one of the top challenges in construction industry. It ranks number 2 in this survey in the HRM challenges. The main reason is most of the tasks in ICT and constructions are in project basis. Basically, the change normally happen in construction is cultural changes. Cultural changes can be referred as can mean changes in the customs or the organization itself. (Milis & Mercken ,2002). Changes in project are very common mostly the changes are related to organizational structure. The organizational structure will change due to staffing planning and re-arrangement. Therefore, managing change is very challenging in both industries.

Table 5: Critical success factor of HRM implementation

Critical success factors	RII	Ranking
Support from top management	0.658	1
Training and development of staff	0.631	2
Information technology facilities.	0.617	3
Return on investment	0.617	3
Standardization (ISO)	0.563	5
Commitment from staffs	0.531	6
Organizational chart	0.496	7

4.7 The critical success factor

The result of the research indicated that support from the top management play an important roles in succeeding the implementation of HRM in construction

industry. This is because the direction of each organization is determined by the decision of the top management. Importantly the top management provide the finance backing for project team members. Top management is also one of the stakeholders in a project who has direct or indirect impact. The importance of stakeholder management is a part of successful project management (PMBOK,2008).

The top management sets the overall policy and selects the appropriate member or expert to take charge of a proposed project. HRM is also part of the company's policy. Hence, any amendment on HRM will be approved by top management. The support from top management will determine the effectiveness of the implementation of HRM. With the support of top management, any new policy regarding HRM will be approved easily. This is because new policy might have impact to the organization, therefore the involvement and support from top management is very important. Hence, it forms a critical success factor of HRM in construction industry.

In order for HRM implementation to be successful, top managers have to approve and continuously support the responsible parties during the implementation stage to make sure no obstacles prevent or delay the progress. (Remus, 2007).

Types of organization and the important activities of HRM

Kruskal-Wallis is used to find the difference between the type of organization (contractors, consultants and developers) with important activities of HRM. The results are as below:

The result of the test indicated that all the different type of organization do not have any significant difference with important activities of HRM ($p > 0.05$)

Table 6: Relationship of type of organization and important HRM activities

Important activities of HRM	Type of organization	
	Chi Square	p value
Management of talent and competencies	8.369	0.212
Performance management	3.746	0.711
Strategic human resources management	2.455	0.873
Performance Improvement	8.795	0.185
Career management	8.925	0.178
Strategic management	11.315	0.079
Knowledge management	10.487	0.106
Reward strategies	6.224	0.399
Competencies for competitiveness	5.468	0.485
Information systems and business management	4.939	0.552

Managing diversity	6.233	0.398
Reengineering the human resources function	3.166	0.788
Effective communication in C-suite	4.326	0.633

Types of organization and the major HRM challenges

Kruskal-Wallis is used to find the difference between the type of organization and major challenges of HRM. The results are as below:

The result of the test indicated that all the different type of organization do not have any significant difference with major challenges of HRM ($p > 0.05$)

Table 7: Relationship of type of organization and Major Challenges of HRM

	Type of organization	
	Chi Square	p value
Major challenges of HRM		
Leadership Development.	5.238	0.631
Managing change.	5.620	0.585
Organizational development.	7.574	0.372
Training and development	11.659	0.112
Organizational performance	5.067	0.652

Employee retention	5.776	0.566
Talent management	7.468	0.382
Employee engagement	6.580	0.474
Compensation	2.844	0.899
Creativity and innovation	3.515	0.834
Human resource measurement and benchmarking	10.059	0.185
Crisis management	12.769	0.078
Conflict management	13.903	0.053

Types of organization and critical success factors

Kruskal-Wallis is used to find the difference between the type of organization and critical success factor. The results are as below:

The result of the test indicated that all the different type of organization do not have any significant difference with major challenges of HRM ($p > 0.05$)

Table 8: Relationship of type of organization and Critical Success Factor of HRM implementation

	Type of organization	
	Chi Square	p value
Critical success factor		

Support from top management	5.083	0.279
Commitment from staffs	7.355	0.118
Information technology facilities.	4.281	0.369
Training and development of staff	5.064	0.281
Organizational chart	6.356	0.174
Return on investment	1.999	0.736
Standardization (ISO)	6.737	0.150

4.8 Relationship of HRM activities, challenges and critical success factors and type of organization

The result indicated that there are no significant difference on the type of organization towards HRM activities, HRM challenges and critical success factor.

Contractors, developer and consultant have the same view on HRM activities in construction project success. Basically, the top three HRM activities are crucial in the construction project success. (1) reward strategies, (2) performance improvement, (3) management of talent and competencies. Reward strategies are the top choice of the three main organizations. This is because reward strategies could induce motivation in the project team. Motivation is very important in driving a project towards success. Performance management is the second important activities of the three organizations. This is because project team member performance is the driving factor of project success. A construction project team comprises of people from multi discipline, therefore respective people might possess respective skills and knowledge. Performance management could allow them to have a feedback on their contributions towards the project and any improvement needed to enhance the performance. Most

importantly, effective performance management scheme will allow team members to have their own platform perform and apply their respective expertise. Management of talent and competencies are the third important activities in HRM, as we discussed earlier, a construction project team is comprised of people from multi disciplinary. Every team members will have different skills and experiences, as construction projects are diversified. Construction project includes building, road, bridge, hydro-dam, power plant etc. Therefore, by allocating the right person at the right position in the construction project is very important, as this could allow the person to fully apply his knowledge and experience to perform certain task in the project.

Contractors, developer and consultant have the same view on HRM challenges in construction project success. Employee retention is the top challenge in HRM in construction project. Keeping an employee in an organization for many years is not easy. Employee will leave an organization for better offer, opportunity or they might be frustrated with the organization for not being recognised of their contribution. There are a lot of construction companies in Malaysia, including contractor firms, consultant firms and developer firms. Hence, it will make the industry to be very competitive in term of managing human capital. Managing change in HRM is the second important in construction project, this is because construction projects contain a lot of uncertainties. Many unexpected incident will happen such as one of the project team member left the project in the construction stage. When a person resigns from the certain position in the project or organization, swift adjustments have to be made by project manager. For example, replacing the leaving staff with suitable candidates. Normally, this process is very challenging and always poses a threat to the construction project team. Employee engagement is the

third challenge in HRM. Commitment and sacrifice of employees are very important elements in construction projects, these two elements are the catalyst of the progress and success of the project. This remains as challenge because, harsh working environment and condition are the main factors for the project members to loss their commitment on the project.

Contractors, developer and consultant have the same view on the critical success factor of HRM. Top management support is the top choice of the three organizations. Support from top management is very important, as it could motivate the employees. If any policy in an organization is not approved or agreed by top management, it will end up being aborted. But, if any policy that is agreed and approved by top management, this could give confidence to the employees. Any HRM activities or policy has to be approved and agreed by top management before implementation For example, rewarding scheme may have impact to the company financial resources, and therefore the involvement of top management is crucial.

4.9 Reliability Test

Cronbach's Alpha is used run on the sample to this test. Croanbach alpha of 0.950 was obtained, and this shown that this study had the high internal consistency.

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

CHAPTER 5

Conclusions

5.1 Introduction

This chapter drew a conclusion for the research. All the findings of the research are summarized and concluded. The implication of the research was discussed. While the limitation of the research as well as recommendation on how to improve this research were also assessed in the latter part.

5.2 What are the top three most important HRM activities is construction project success?

Reward strategies, performance management and management of talent and competencies are the three main HRM in construction project success. Reward strategies can also be called as compensation. Apart from that, reward strategies also can be related to *Herzberg two-factor theory*. According to this theory, there are 2 factors that influence work behaviour which are dissatisfiers (hygiene factors) and satisfier (motivators). Hygiene factors relate to the context of jobs include pay, working condition, supervision and so on. Motivator includes factors like achievement, recognition and so on. Hence, attractive reward scheme is the most powerful HRM tools for most of the construction companies, as this is the chief reason people looking for employment, with the hope of every efforts that made will be rewarded.

An effective performance management process has a precise definition of excellent performance, and provides feedback to project team member about their performance. Taking the time to work with each team member to understand personal work drivers will allow the project manager to uncover basic human needs and individual motivators. Hence, an effective performance management and improvement is crucial in driving a construction project towards success. Performance always allows organization to have feedback on their current HRM policy and rectify and improve any shortcoming.

Talent and competencies management is very important in the construction industry as it is a labour-intensive industry. It is essential that for a employer to recruit skilled and experience workers or management staff for their company. Most of the top management of organization understand that having the right person in the

right place at the right time could help in maximizing the profits and avoid double-handling works. This will apply to construction projects by having the talented person at the project team to enable them to perform and apply their respective skills and technical knowledge in the project hence help to attain project success.

In conclusion, reward strategies, performance management and talent and competency management are the top three HRM activities in construction project success.

5.3 What are the top three major challenges faced by construction industry in the implementation of HRM?

Employee retention, managing change and employee engagement are the top three main challenges faced by the construction industry currently regarding the implementation of HRM.

Salary, lack of challenge and growth, lack of recognition and overall low job satisfaction are the four main factors that pose threat to employee retention in construction industry. Salary is crucial in the human resource management, as this is the main reason where people seek for employment. Most of the employee will leave a company for the better offer in term of salary. Challenge and growth also important as it could bring growth to their knowledgebase, technical skills and enhance their resume. Recognition from top management also important, employees will leave the company if their efforts were not recognised by their superior. Low job satisfaction could be also a reason for an employee to leave the company. Tackling the four

common problems could help to ease the employee retention in construction projects, but normally are these are most hectic area to tackle in the context of HRM.

Change is a process, not an event and it takes place all the time. It is rather obvious that once a large change within an organization takes place, everything is not changed overnight, but change is rather a process that takes time. Change and uncertainties are very common in construction projects. Change in the context of HRM refers to project member's turnover or revising the organizational structure. Project team members may resign in the middle of the project or organizational chart reshuffled due to new member joining in or reassign to another projects. Therefore, managing change in the context of HRM is also very challenging in construction project.

Engaged workers dedicate their energy to achieving their organization's objectives. They are committed, enthusiastic, loyal, and excited. Engaged employees are more productive, more profitable, more customer-focused, safer, and more likely to withstand temptations to leave the organization. In the construction industry, it is very challenging to upkeep the employee engagement all the time. This is because most of them are working under the challenging and harsh condition such as hot sun, stress from internal stakeholders or external stakeholders.

In conclusion, employee retention, change management and employee engagement are the top three HRM challenge in construction project.

5.4 What is the main critical success factor of HRM

The result of the research indicated that support from the top management play an important roles in succeeding the implementation of HRM in construction industry. This is because the direction of each organization is determined by the decision of the top management. Any policy and proposal has to be agreed and approved before implementation with an organization. Hence, we can conclude that top management support is the critical success factor.

5.5 How is the opinion of the three different organization towards HRM activities, challenges and critical success factor?

The result indicated that there are no significant difference on the type of organization towards HRM activities, HRM challenges and critical success factor. The three type of organization include contractor, developer and consultants. These 3 organizations could represent the whole of the construction industry. From the finding, we found out that there is no significant difference in between their view towards HRM activities in construction project success.

Basically, we can conclude that reward strategies, performance improvement and management of talent and competencies are the three main HRM in construction project success. Whereas, Employee retention, managing change and employee engagement are the top three main challenges of HRM in construction project. At last, support form top management is the most critical success factor of HRM.

5.6 Research Implication

The research could help in identifying the important HRM activities in construction project success. This is beneficial to the construction industry, as it is a labour-intensive industry. Each employee's contribution could help in achieving project success. Therefore, this research could help the construction industry to identify the important HRM activities.

Apart from that, it could also help to identify the challenges of HRM faced by construction industry. This is because all these challenges will impede the growth of Human resource. Basically, this study could help in improving HRM in construction industry.

5.7 Limitation of the research

The main limitation of this survey is the main respondents are from developer, consultant and main contractors. We might neglect the responses from the sub-contractor. Most of them refuse to fill up the questionnaire due to low literacy. Therefore, this sample might not be able to represent the whole structure of construction industries

5.8 Further Research

In future research, motivation theory of HRM should be emphasized such as Theory X, Y and Z, Maslow hierarchies of needs. This could be very useful in the

HRM study related to construction project success. As this could link to employee retention and project success.

Apart from that, it is encouraging that future research to be more focus on the employee engagement and disengagement and draw a link with employee retention rate with project success.

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APPENDICES

APPENDIX A: Questionnaire

SURVEY: The role of human resource management towards construction project success

This questionnaire consists of Four (4) sections:-

Section A : Company and Respondent Profile

Section B : The important activities of HRM

Section C : The major HRM challenges

Section D : The critical success factor of HRM

Hello,

You are invited to take part in a research study about The role of Human Resource Management in Construction Project Success

Please be assured that your answers will be treated with confidentiality. Your frank and honest opinions in this questionnaire are sought and the information obtained will be strictly used for academic purposes and statistical analysis only. The identity of respondents will not be revealed.

I would be grateful if you could take a few minutes of your time to fill in this questionnaire.

Your cooperation is very much appreciated.

Thank you.

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SECTION A

COMPANY AND RESPONDENT PROFILE

Please tick (✓) the correlated answers and fill in the blanks accordingly. You may tick more than one answer if needed. Thank you.

Name :
 Company :
 Address :

10. Age

- | | |
|--------------|--------------------------|
| Less than 20 | <input type="checkbox"/> |
| 20-29 | <input type="checkbox"/> |
| 30-39 | <input type="checkbox"/> |
| 40-49 | <input type="checkbox"/> |
| 50 and above | <input type="checkbox"/> |

11. Gender

- | | |
|--------|--------------------------|
| Male | <input type="checkbox"/> |
| Female | <input type="checkbox"/> |

12. Education

- | | |
|------------------------|--------------------------|
| Certificate | <input type="checkbox"/> |
| Diploma | <input type="checkbox"/> |
| Degree | <input type="checkbox"/> |
| Master | <input type="checkbox"/> |
| PhD | <input type="checkbox"/> |
| Others; please specify | <input type="checkbox"/> |

.....

13. Type of organization

- | | |
|-----------------------------------|--------------------------|
| Clients (government or developer) | <input type="checkbox"/> |
| Consultants | <input type="checkbox"/> |
| Contractors | <input type="checkbox"/> |

14. Occupational Level

- | | |
|------------------------|--------------------------|
| Managing Director | <input type="checkbox"/> |
| Project Manager | <input type="checkbox"/> |
| Project Engineer | <input type="checkbox"/> |
| Contract Manager | <input type="checkbox"/> |
| Contract Executive | <input type="checkbox"/> |
| Project Executive | <input type="checkbox"/> |
| Others; please specify | <input type="checkbox"/> |
-

15. Area of specialization

- | | |
|------------------------------|--------------------------|
| Construction Management | <input type="checkbox"/> |
| Building Surveying | <input type="checkbox"/> |
| Civil/Structural Engineering | <input type="checkbox"/> |
| Architectural | <input type="checkbox"/> |
| Quantity Surveying | <input type="checkbox"/> |
| Others; please specify | <input type="checkbox"/> |
-

16. Number of years working experience

- | | |
|--------------------|--------------------------|
| Less than 2 years | <input type="checkbox"/> |
| 2-5 years | <input type="checkbox"/> |
| 6-10 years | <input type="checkbox"/> |
| More than 10 years | <input type="checkbox"/> |

17. Project experience

- | | |
|--------------------------------------|--------------------------|
| Shopping complex | <input type="checkbox"/> |
| Shop lots | <input type="checkbox"/> |
| Hotel/ Motel | <input type="checkbox"/> |
| Clinic/ Pharmacy | <input type="checkbox"/> |
| Library | <input type="checkbox"/> |
| Museum | <input type="checkbox"/> |
| Hospital | <input type="checkbox"/> |
| School | <input type="checkbox"/> |
| Residential Building | <input type="checkbox"/> |
| Religious Building | <input type="checkbox"/> |
| Office | <input type="checkbox"/> |
| Civil Engineering Project | <input type="checkbox"/> |
| University | <input type="checkbox"/> |
| Institution | <input type="checkbox"/> |
| Police Station/ Fire Brigade Station | <input type="checkbox"/> |
| Others; please specify | <input type="checkbox"/> |
-

18. Largest project involved based on contract sum

- | | |
|-------------------------------|--------------------------|
| Less than RM 10 million | <input type="checkbox"/> |
| RM 10 million – RM 50 million | <input type="checkbox"/> |
| More than RM 50 million | <input type="checkbox"/> |

Signature :

Date :

Company Stamp :

SECTION B

The important activities of HRM in Construction project Success

- 1. Please identify the importance of the following human resource activities on a scale of 1 to 5.**

(5) = Very Important

(2) = Of Little Importance

(4) = Important

(1) = Unimportant

(3) = Moderately Important

Human resource activities	5	4	3	2	1
1. Management of talent and competencies					
2. Performance improvement					
3. Strategic human resources management					
4. Performance management and pay policy					
5. Career management					
6. Strategic management					
7. Knowledge management					
8. Reward strategies					
9. Competencies for competitiveness					
10. Information systems and business management					
11. Managing diversity					
12. Reengineering the human resources function					
13. Effective communication in C-suite					

SECTION C

The major HRM challenges

Listed below are major human resource management challenges. Please choose your answer according to the scale of 1-5

- | | |
|----------------------------|----------------------------|
| (5) = Very Important | (2) = Of Little Importance |
| (4) = Important | (1) = Unimportant |
| (3) = Moderately Important | |

Challenges	5	4	3	2	1
1. Leadership Development.					
2. Managing change.					
3. Organizational development.					
4. Training and development					
5. Organizational performance					
6. Employee retention					
7. Talent management					
8. Employee engagement					
9. Compensation					
10. Creativity and innovation					
11. Human resource measurement and benchmarking					
12. Crisis management					

13. Conflict management					
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SECTION D

The critical success factor of HRM Implementation

Listed below are critical success factor for HRM. Please choose your answer according to the scale of 1-5

(5) = Very Important

(2) = Of Little Importance

(4) = Important

(1) = Unimportant

(3) = Moderately Important

Critical success factors	5	4	3	2	1
1. Support from top management					
2. Commitment from staffs					
3. Information technology facilities.					
4. Training and development of staff					
5. Organizational chart					
6. Return on investment					
7. Standardization (ISO)					

