THE ROLE OF HUMAN RESOURCE MANAGEMENT IN CONSTRUCTION PROJECT SUCCESS IN CASE OF JIMMA AGARO DIDESA ROAD CONSTRUCTION

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JIMMA, ETHIOPIA

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THE ROLE OF HUMAN RESOURCE MANAGEMENT IN CONSTRUCTION PROJECT SUCCESS IN CASE OF JIMMA AGARO DIDESA ROAD CONSTRUCTION

A Thesis Submitted to the School of Graduate Studies of Jimma University in Partial Fulfillment of the Requirements for the Award of the Degree of Master of Project Management and Finance (MA*)*

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JIMMA, ETHIOPIA

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ENDORSEMENT

We certify that this research report entitled "*The Role of Human Resource Management in Construction Project Success in Case of Jimma-Agaro Didesa Road Construction Projects*" submitted to Jimma University for the award of the Degree of Master of Arts in Project Management and Finance is a record of bonafide research work carried out by Mr. Shambel Admasu, under our guidance and supervision.

Therefore, as university advisers, we hereby declare that no part of this thesis has been submitted to any other university or institutions for the award of any degree or diploma.

Approved by:

Main Adviser's Name	Date	Signature
_____	_____	_____
Co-Advisor's Name	Date	Signature
_____	_____	_____

DECLARATION

I hereby declare that this thesis entitled "The Role of Human Resource Management in Construction Project Success in Case of Jimma-Agaro Didesa Road Construction Projects", has been carried out by me under the guidance and supervision of Dr. Arega Seyoum and Mr. Beyene Yosef. The thesis is original and has not been submitted for the award of any degree or diploma to any university or institutions.

Researcher's Name	Date	Signature
_____	_____	_____

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. Construction is one of the most labor-intensive industries. Hence, effective human resource management (HRM) is very crucial to guide a construction project towards success. Therefore, this study is conducted to investigate the role of Human Resource Management (HRM) towards project success. The three main areas have been 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 scope of the research would involve personnel in the Jimma-Agaro Dhidhesa Road Construction and it covers three main parties which is contractors, consultant and developers. Simple random sampling was used to select sample respondents. In this type of sampling method every member of the population has equal chance of being selected. The nature of this research would in quantitative manner. The questionnaires distribute to 80 respondents. Relative Importance Index (RII) was used to perform on the data collected to describe the basic features of the data. The questionnaires were distributed to 80 persons and response received from 62 of the. From those: 20 from contractors (32.25 %), 18 from consultants (29.03 %) and 24 from developers (38.70%). The response rate was 62 (77.5%). Relative Importance Index (RII) was used to analyses 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. In future research, motivation theory of HRM should be emphasized such as Maslow hierarchies of needs. Needs aren't always hierarchical "People who are hungry or homeless can still be powerfully motivated by the need for respect or love," says Daramu. "There are high rates of homelessness and food insecurity among college students, but they still continue going to class and doing the best that they can. Parents might choose to go hungry if they need to feed their children, putting love above their own physiological well-being." This could be very useful for future research and to insure the needs of human being were not have hierarchy.

ACKNOWLEDGEMENTS

I would like to thank everyone who had contributed to the successful completion of this final year research. Also, I would like to express my gratitude to my research supervisor, Dr. Arega Seyoum and Mr. Beyene Yosef for their invaluable advice, guidance and their enormous patience throughout the development of the research. Moreover, I would also like to express my gratitude to my loving parent and friends who had helped and given me encouragement and supports throughout the course of the research.

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LIST OF ABBREVIATIONS

(HRM): Human Resource Management

(ITU): International Telecommunications Union

(RII): Relative Importance Index

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The HRM 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 hand labor. Since then, the working condition and social pattern and the division of labor 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 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).

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 of HRM makes to organizational effectiveness includes: Assisting the organization to reach its goal, Employing the skills and abilities of the workforce efficiently, Providing the organization with well-trained and well-motivated employees, Increasing to the employee's job satisfaction and self-actualization, Developing and maintaining a quality of work life that makes employment in the organization desirable, Communicating HRM policies to all employees, Helping to maintain ethical policies and socially responsible behavior and 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 & So¨derholm, 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.

Project human resource (HR) management is an **element of project management concerned with organizing, managing, and leading a project team**. The team includes everyone who has assigned roles and responsibilities for completing the project. Construction is one of the most labor-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 Jimma–Agaro Didesa road construction project success.

1.2 Background of the Organization/case area

Transport policy in Ethiopia relates predominantly to road transport, given the importance of this mode to the economy and to the mostly rural population. After years of neglect under the previous regime and, to an extent in the early years of the current government, the critical role of road sector development in supporting implementation of strategic development programs has come to be recognized in the design of government economic and social development policies (and in expenditure priorities). Correspondingly, the design of road sector policies and strategies is now firmly oriented towards supporting the achievement of the government's development goals. The Road Sector Development Program (RSDP) is the government's strategy for achieving its policy objectives in the road sector (and is the basis for the road sector component of the SDPRP).

This program, prepared by the Ethiopian Roads Authority (ERA), includes not only investment in physical infrastructure and expenditure on maintenance of existing and new infrastructure, but also investment in institutional strengthening and capacity building in order to improve road sector management. The program is jointly funded by the government and its

development partners. The first phase of the RSDP (1997-2002) which has been concluded in 2002 has been evaluated as satisfactory, yielding improvements in accessibility and network quality, stronger road administration and management capacities, and more sustainable road maintenance financing. While generally successful, RSDP I fell short of its physical targets in some areas, notably rehabilitation and upgrading of trunk roads and periodic maintenance, and this can in some part be attributed to capacity constraints in the implementing organization, ERA. Recognizing this, the on-going second phase of RSDP (RSDP II) and subsequent programs will give renewed emphasis to capacity building as well as to the reform of institutional arrangements in the sector. The RSDP II, inter alia, addresses a number of policy and institutional support studies such as network planning, road corridor development plan, poverty impact of transport operations, rural transport and a variety of social issues including road safety, environmental protection and HIV/AIDS prevention and mitigation. This present draft document describes the coming third phase of RSDP, which is planned to be started in 2008. It can be said that this program has been planned on the higher side in that it is three times the size of what was planned in the RSDP I. The Five Year Plan as presented in this document is based on the assumption that commitments by the Government and donor partners will be realized. While every effort has been made to ensure that the information included here is both accurate and reliable, it is expected that some changes will occur over time, especially for projects in the later years of the Program. For a variety of reasons, projects may be delayed, expedited or the scope of a project may be altered in the coming years. For this reason, the Plan is updated on an annual basis. From those ERA's projects Jimma-Agaro Didesa road construction is the one which was planned to finish in three years. So that the construction of the project is now on progress and this research is very necessary to use the human resource effectively.

1.3 Statement of the Problem

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 and (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. So that problems identified and will discussed under this research is listed here:

From the researches referred above the time of researches were a lot of years ago. So a lot of things changed based on human resource management as time gone. Most of the researches done based on this topic was so many years ago. So it needs to do researches based on this topic to solve the problem of project human resource management.

The other problem is based on place of the research done. There is no any researches done base on the topic around Jimma. Therefore; the current research is very necessary to solve those problems.

Human resource management problems face most organization in Ethiopia. Specially, the construction industry of the country was most affected by HRM problem. Assessment of Human Resource Development Climate in Ethiopian Road Construction Corporation (WAKJIRA YILMA).Because of construction project was a site work it is difficult to control the human resource. All these HRM problems are very influential to project success, as getting the right people for the right position is very essential in construction project, so it will be discussed in this research and result will present as well as the way of the solution will recommended. There are a lot of problems occurs during construction project in Ethiopia. From those problems the human resource management is the one which take high percentage. But even if the problem is series researches done around this topic is not enough in our country. Specifically around Jimma Zone similar studies are not done. So, this research is expected to solve the problems related with human resource management of Jimma-Agaro Didesa road construction project.

1.4 Research Questions/ Hypotheses

This research attempts to answers the following research questions;

1) What is the role of HRM activities for the construction project success?

2) What are the major HRM challenges facing the construction management?

3) What are the critical factors for implementation of HRM in construction project success?

1.5 Objectives of the Study

1.5.1 General Objective

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

1.5.2 Specific Objectives

The specific objectives of this research are:

(1) To identify the Role of HRM activities for the Jimma-Agaro Didesa road construction project success.

(2) To find the major HRM challenges facing Jimma-Agaro Didesa road construction project.

(3) To determine the factor which affect implementation of HRM in construction project success

1.6 Significance of the study

This study is expected to investigate the role of HRM for the Jimma -Agaro Dhidhesa Road 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 Jimma-Agaro Dhidhesa Road Construction and increase the construction project success rate. The study also uses for the owner of the project in case of properly use of human resource which participate in Jimma-Agaro Didesa road construction project. In addition to this, it enables the stakeholders to know skill gap of employees who participate on road construction project and to fill the skill gap through training. The study has an advantage based on policy and procedures which related on the right and responsibility of employees. Moreover, this study initiates researchers for additional study around this topic and enables to solve the critical problem of project human resource management.

1.7 Scope and Limitation of the Study

1.7.1 Scope of the study

The scope of the research would involve personnel in the Jimma-Agaro Dhidhesa Road Construction and it covers three main parties which is contractors, consultant and developers. The nature of this research would in quantitative manner. The questionnaires distribute to 80 respondents. Descriptive analysis Relative Importance Index has been performed on the data collected to describe the basic features of the data. In addition to this the study includes how to acquire skilled person, team building and communication with in the team and employee evaluation takes place.

1.7.2 Limitations of the Study

The limitation of this research is related with the method, finance and material used to do the research. There is a lot of technique which is used to collect data and analyze it. But it is difficult to use all of them in this research. So it affects the quality of data collected and analyzed. On the other hand there was shortage of finance and materials to accomplish the research successfully. The main limitation of this survey is the main respondents are from developer, consultant and main contractors. We might neglect the responses from the subcontractor. 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

1.8 Organization of the Paper

This research paper contains six chapters and each chapter has its own contents. The first chapter of the dissertation was discussing some background information of project human resource management and the problem statements within the context of the research. Then in the second chapter mainly focuses on the literature review. Previously made studies from books and journals were discussed in this chapter. Chapter three was about research methodology. It mainly describe about the method to be implemented in the research in detail. The fourth chapter was basically about the result and discussion of the research. This chapter was talks about the result of the analysis. The fifth chapter is conclusion and recommendation. In this chapter conclusion and recommendation of the research was present.

CHAPTER TWO

LITRATURE REVIEW

2.1 Theoretical Literature

Human Resource Management (HRM) is of key and strategic importance to the project-oriented organization. Every time a new project or program is started, the human resource (HR) configuration of the organization changes. Within this dynamic environment, different and additional practices are required from the traditionally managed organization. However, in spite of this, the needs of HRM in the project-oriented organization have not received great attention in either the HRM or project management literature. We are undertaking a research project with the aim of identifying the needs for HRM in the project-oriented organization and describing the practices adopted. We have formulated an initial set of hypotheses and conducted a pilot study to test them. In this paper, we report the results of that pilot study. We have found that HRM is a core process in the project-oriented organization that needs to be more invasive, with greater involvement of the manager at the work interface than in the classically managed organization. However, that the opposite tends to be the practice. It requires different application of traditional HRM process as well as additional processes. All of this requires the HR department to develop different and additional policies, standards, rules, and guidelines for HRM in the project-oriented organization, and to work in greater partnership with the project management professionals at the work interface, while operating on a principle of subsidiarity, as is common elsewhere.

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

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.

2.1.1 Project Human Resource Management

Project Human Resource Management includes the processes that organize, manage, and lead the project team. The project team is comprised of the people with assigned roles and responsibilities for completing the project. Project team members may have varied skill sets, may be assigned full or part-time, and may be added or removed from the team as the project progresses. Project team members may also be referred to as the project's staff. Although specific roles and responsibilities for the project team members are assigned, the involvement of all team members in project planning and decision making is beneficial. Participation of team members during planning adds their expertise to the process and strengthens their commitment to the project.

The project management team is a subset of the project team and is responsible for the project management and leadership activities such as initiating, planning, executing, monitoring, controlling, and closing the various project phases. This group can also be referred to as the core, executive, or leadership team. For smaller projects, the project management responsibilities may be shared by the entire team or administered solely by the project manager. The project sponsor works with the project management team, typically assisting with matters such as project funding, clarifying scope, monitoring progress, and influencing stakeholders in both the requesting and performing organization for the project benefit. (From PMBOK® Guide, Fifth Edition).

2.1.2 Strategic Human Resource management (SHRM)

Strategic human resource management is the connection between a company's human resources and its strategies, objectives, and goals. The aim of strategic human resource management is to:

Strategic HR can be demonstrated throughout different activities, such as hiring, training and rewarding employees. Strategic HR involves looking at ways that human resources can make a direct impact on a company's growth. HR personnel need to adopt a strategic approach to developing and retaining employees to meet the needs of the company's long-term plans. HR issues can be a difficult hurdle to cross for many companies, there are all kinds of different components that can confuse business owners and cause them to make ineffective decisions that slow down the operations for their employees as well as their business. HR departments that practice strategic human resource management do not work independently within a silo; they interact with other departments within an organization in order to understand their goals and then create strategies that align with those objectives, as well as those of the organization. As a result, the goals of a human resource department reflect and support the goals of the rest

of the organization. Strategic HRM is seen as a partner in organizational success, as opposed to a necessity for legal compliance or compensation. Strategic HRM utilizes the talent and opportunity within the human resources department to make other departments stronger and more effective.

2.1.3 Important of strategic human resource management

Companies are more likely to be successful when all teams are working towards the same objectives. Strategic HR carries out analysis of employees and determines the actions required to increase their value to the company. Strategic human resource management also uses the results of this analysis to develop HR techniques to address employee weaknesses.

The following are benefits of strategic human resource management:

- Increased job satisfaction.
- Better work culture.
- Improved rates of customer satisfaction.
- Efficient resource management.
- Proactive approach to managing employees.
- Boost productivity.

Smart sheet Contributor Joe Weller on Sep 26, 2017

By Jeremy Bradley Updated January 25, 2019

2.1.4 Seven steps to strategic human resource management

Strategic human resource management is key for the retention and development of quality staff. It's likely that employees will feel valued and want to stay with a company that places a premium on employee retention and engagement. Before implementing strategic human resource management, you will need to create a strategic HR planning process using the steps below. The first step is to develop understanding of company's objectives then Evaluate HR capability after that analyze current HR capacity in light of your goals and estimate company's future HR requirements then determine the tools required for employees to complete the job at the last implement the human resource management strategy then evaluation and corrective action.

2.1.5 The Role of Human Resources in Projects Success

The human resources office was once viewed as the place to go to get an application or have your time card edited. Today, with technology and social networking permeating daily business activities, human resource managers have to come to the table with a more diverse set of skills. According to a Wall Street Journal article written by blogger Joseph Walker, they must also have skills to track and analyze employee performance, educational backgrounds, and the effects of flexible scheduling options for key employees. In fact, human resource managers are an integral part of successfully managing every project.

Hiring skilled talent is a primary function of every human resource manager. Understanding how to form a team of workers that can meld their talents to bring a large project to a close successfully requires experience, training and ingenuity. Whether you're depending on in-house HR personnel or consulting with headhunters and outside HR management systems, look for candidates that possess the minimum skill set.

In order to understand the diversity of knowledge human resource managers must possess, consider a project to add a multi-media room to an existing home. The project manager would need to form a team of professionals that include electronics experts, interior designers, carpenters and legal experts to oversee code enforcement-just to name a few. And within each of the segments are sub-skills to consider. For example, finding adequate electronics team members might include one or more experts in acoustics, wiring and computer-aided technology.

While finding appropriate workers for the team, the project manager must consider financial aspects for budgeting, current trends in salary and compensation, insurance requirements and personality types. According to Jan Goldfield, how contributor, even a small home media

theatre can cost $50,000. It's easy to see why finding an HR project manager with financial skills is necessary.

2.1.6 The human resource management challenges in construction projects

Construction industry operates in a very dynamic environment where demand changes from project to project, making the management of this diverse work force more difficult. The industry's project based structure comprises of diverse range of people from a wide range of occupational cultures and backgrounds, including people in unskilled, craft, managerial, professional and administrative positions. Thus the construction company needs coordination amongst these diverse set of employees, contractors and suppliers to attain the project objectives. The project based structure of this industry creates a problem in usage of central tenets of HRM strategies at operational level of projects. The present study aims at highlighting the various human resource management challenges faced by a large construction company.

2.2 Empirical Literature

2.2.1 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.

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.

2.2.2 Human Resource Management 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, it is 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.

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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.

2.2.3 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; pAdane *et.al* (2004) had conducted a study on factors influencing project success in the as-

pect 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.

2.2.4 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.

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.

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

2.2 Conceptual Framework

A conceptual framework is an analytical tool that is used to get a comprehensive understanding of a phenomenon. It can be used in different fields of work and is most commonly used to visually explain the key concepts or variables and the relationships between them that need to be studied. So in our case; the conceptual framework is a way of developing the dependent and independent variables which affect the success of Jimma-Agaro Didesa road construction project. 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 was focused on the following points:

1) Dependent Variables

   - Project Human Resource Management Success and Optimize Project Performance

2) Indirect factors

   - Human Resource Management Activities
   - Human Resource Management Challenges
   - Human Resource Management Success Factors
   - Project Team Member

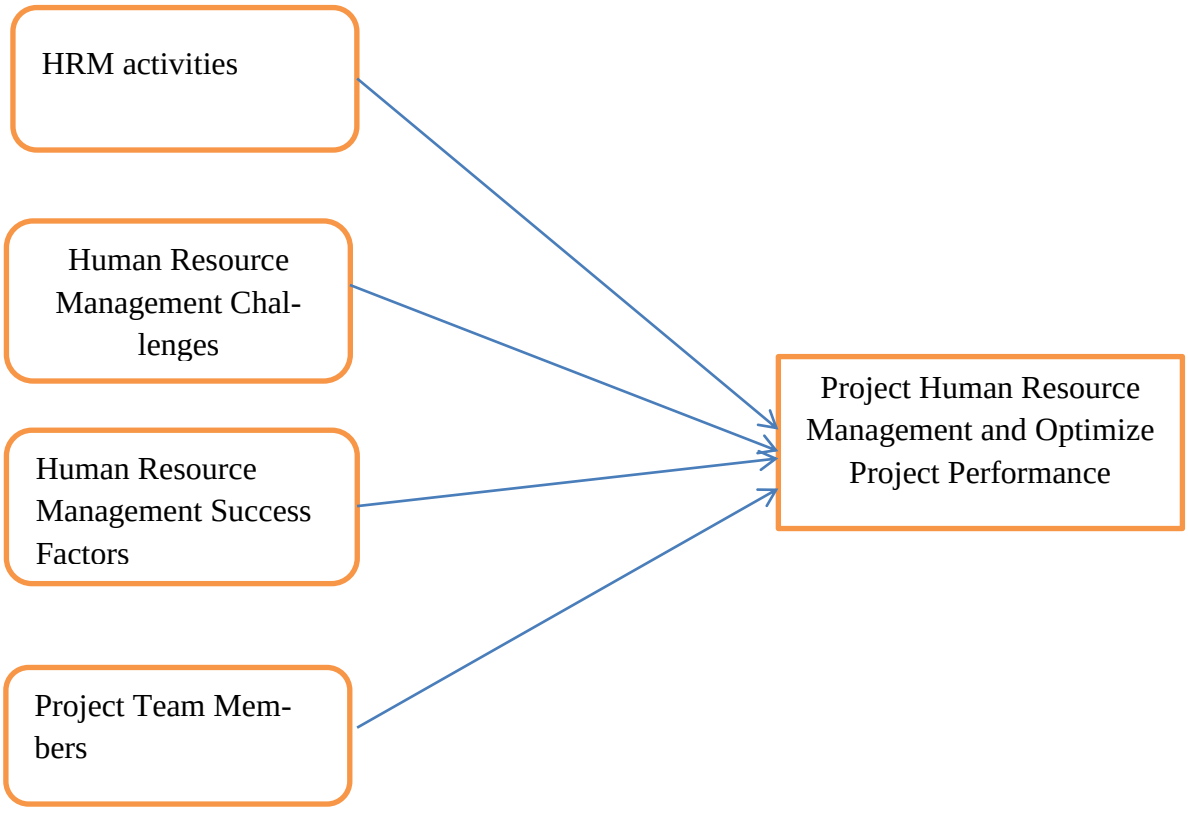


Figure 1 Conceptual framework of project human resource management for success of project

Source: - From the Impact of Project Management in Virtual Environment

CHAPTER THREE

RESEARCH DESIGN AND MOTHODOLOGY

3.1 Research Design

This research was conducted by using questionnaires. The reason for choosing questionnaire is because the respondents do not have the tolerance for interviewer bias. 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.

Descriptive research design has been used to conduct the research. Because the research was theory based it is better to use this type of design and descriptive design helps others better understand the need for the research.

The questionnaire was aimed towards the construction industry. There were a total of 3 parts in the questionnaire, and the language used in the questionnaire was in English language.

After the data is collected the Descriptive analysis was used to analyze the data collected and based on the output the research would conclude. Then future direction will recommend.

3.2 Sources of Data & Data Collection Techniques

3.2.1 Sources of Data

The data source used in this study was primary data source. Structured questionnaire was distributed to the contractor, consultant and developer which participate in Jimma-Agaro Didesa road construction projects. About 80 respondents were asked to give responses for the questioner. But from those respondents about 62 respondents were give their responses.

3.2.2 Data Collection Techniques

This research was conducted by using questionnaires. The reason for choosing questionnaire is because the respondents do not have the tolerance for interviewer bias. 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 was aimed towards the construction industry. There were a total of 3 parts in the questionnaire, and the language used in the questionnaire was in English language.

The first question was the important activities of human resources management in construction project success. There were a total of 7 human resource activities in, the first question.

A scale of 1-5; where 1 stands for strongly disagree, 2 stands for disagree, 3 stands for neutral, 4 stands for agree often while 5 stands strongly agree.

The second question was based on the major human resource management challenges.

There are 4 challenges available for the respondents .Similarly, a rating of 1-5 are provided as well, but this time around 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 was the critical success factor of Human resource management. Totally, there are 6 factors for the respondents. Similarly, a rating of 1-5 are provided as well, but this time around 1 stands for strongly disagree, 2 stands for disagree, 3 stands for neutral, 4 The fourth question was the Project Team in Human resource management. Totally, there are 8 factors for the respondents. Similarly, a rating of 1-5 are provided as well, but this time around 1 stands for strongly disagree, 2 stands for disagree, 3 stands for neutral, 4 stands for agree, while 5 stands for strongly agree.

3.4 Sampling Methods

Simple random sampling was used to select sample respondents. In this type of sampling method every member of the population has equal chance of being selected. The target population taken as a sample was contractors, consultants and developers those who participated in Jimma-Agaro Didesa road construction were used. The total population of the company was 156 and 80 questioners were distributed to the respondents and from those 62 of them were responding their responses and the data were analyzed. Then the result was discussed based on the sample taken.

3.5 Method of Data Analysis & Presentation

The analysis was beginning with a reliability test using Cronbach's Alpha test. This would to ensure the reliability of the data collected. In order to determine the relative ranking, the scores provided by the respondents was transforming to importance indices based on the relative importance index (RII).

3.5.1 Descriptive Data Analysis

Descriptive analysis was used to summarize the collected data and to find out the human resource management activities that are most extensively being practiced in Jimma-Agaro Didesa road construction. Apart from that, the results of the challenges of the HRM and critical success factors of HRM were summarized.

CHAPTER FOUR

RESULTS & DISCUSSION

4.1 RESULTS

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 Ethiopia construction industry in general and Jimma-Agaro Didessa road construction in particular and it covered three main parties which are contractors, consultants and developers. The questionnaires were distributed to 80 respondents and 62 responses received. Accordingly, 20 from contractors (32.25%), 18 from consultants (29.03 %) and 24 from developers (38.70%) were taken. There was no response from 18 persons (22.50%) and the response rate was 62 (77.50%). 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

1. Age

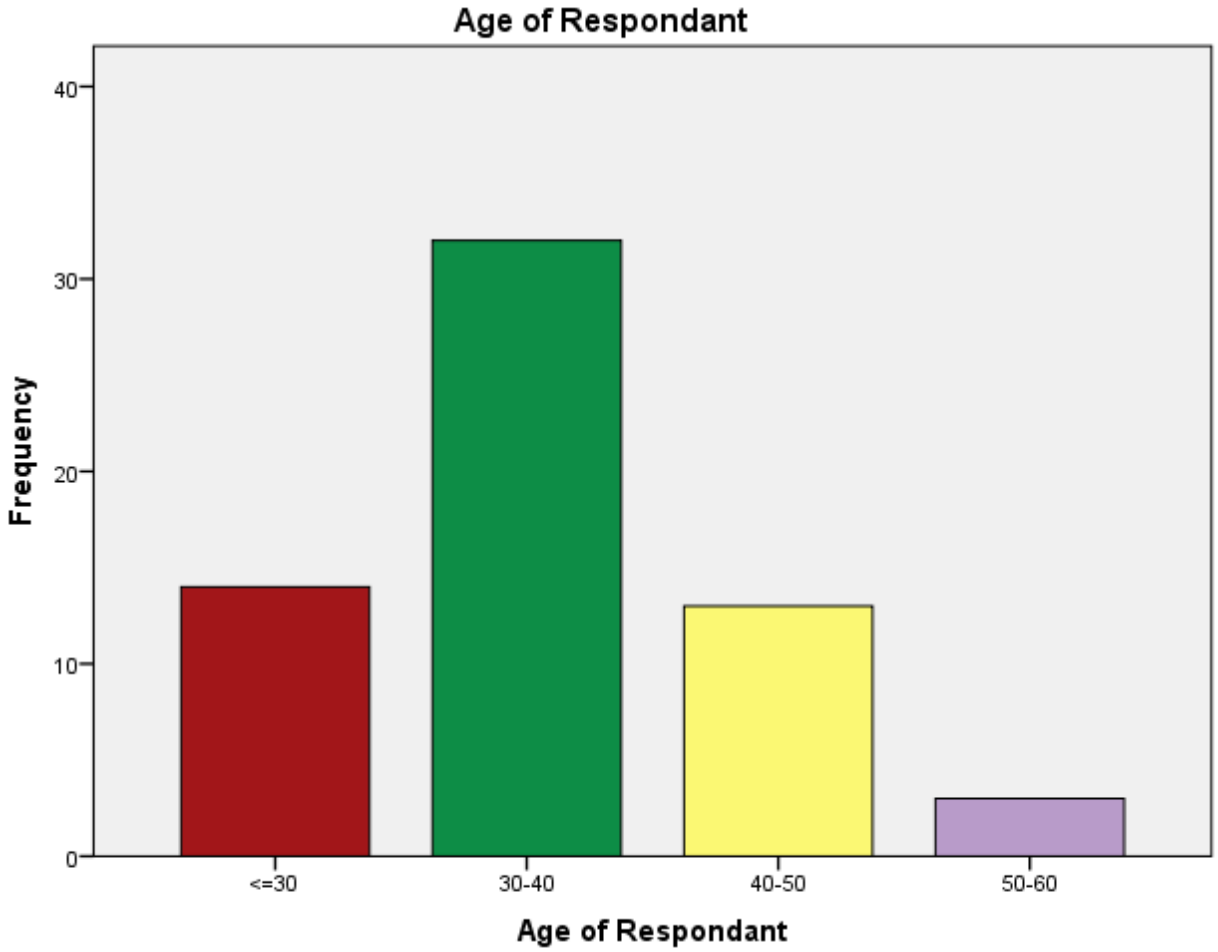


Figure 2 Graph of Age of Respondents

2. Gender

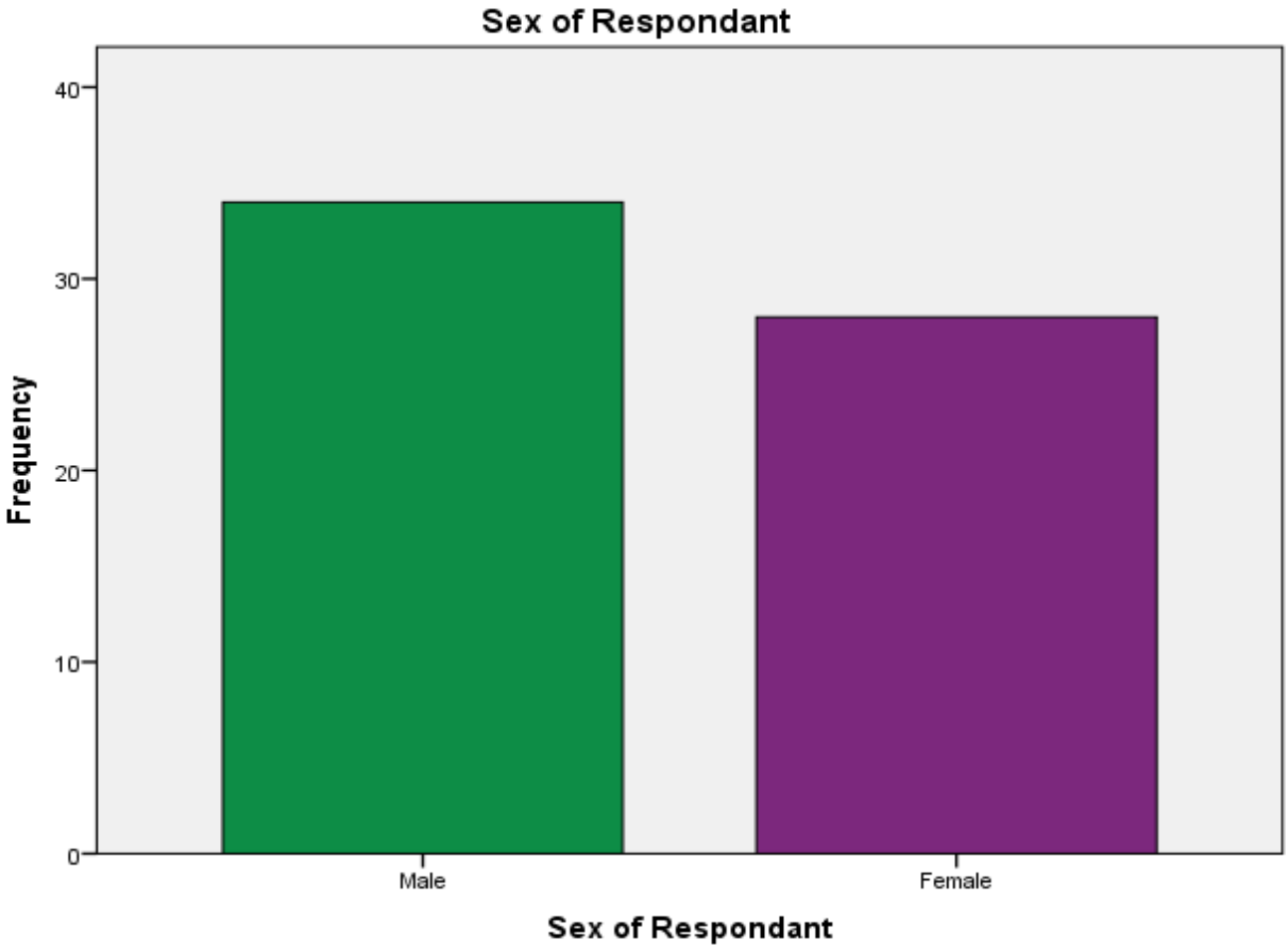


Figure 3 Graph of gender of respondents

3. Education

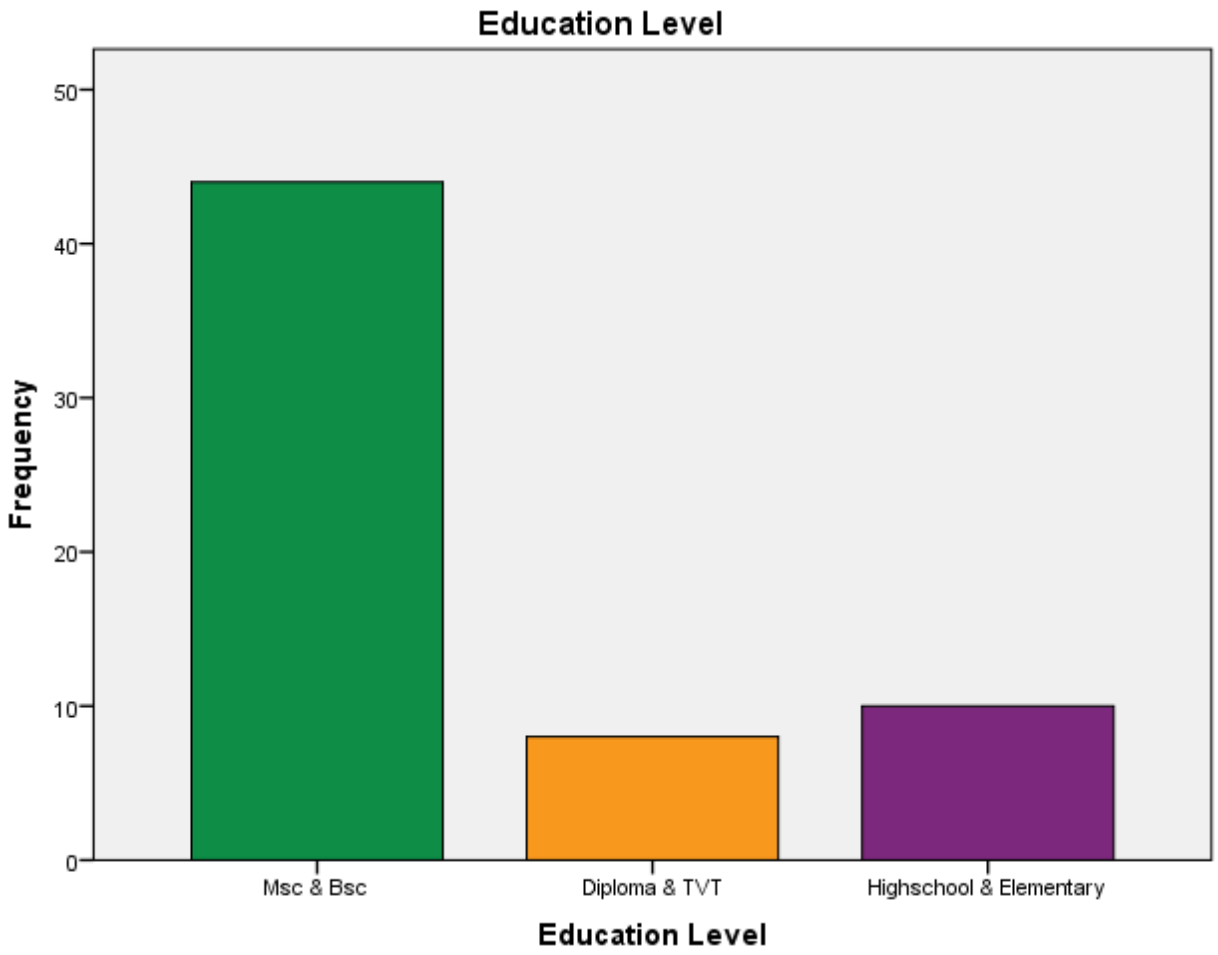


Figure 4 Graph of education level of respondents

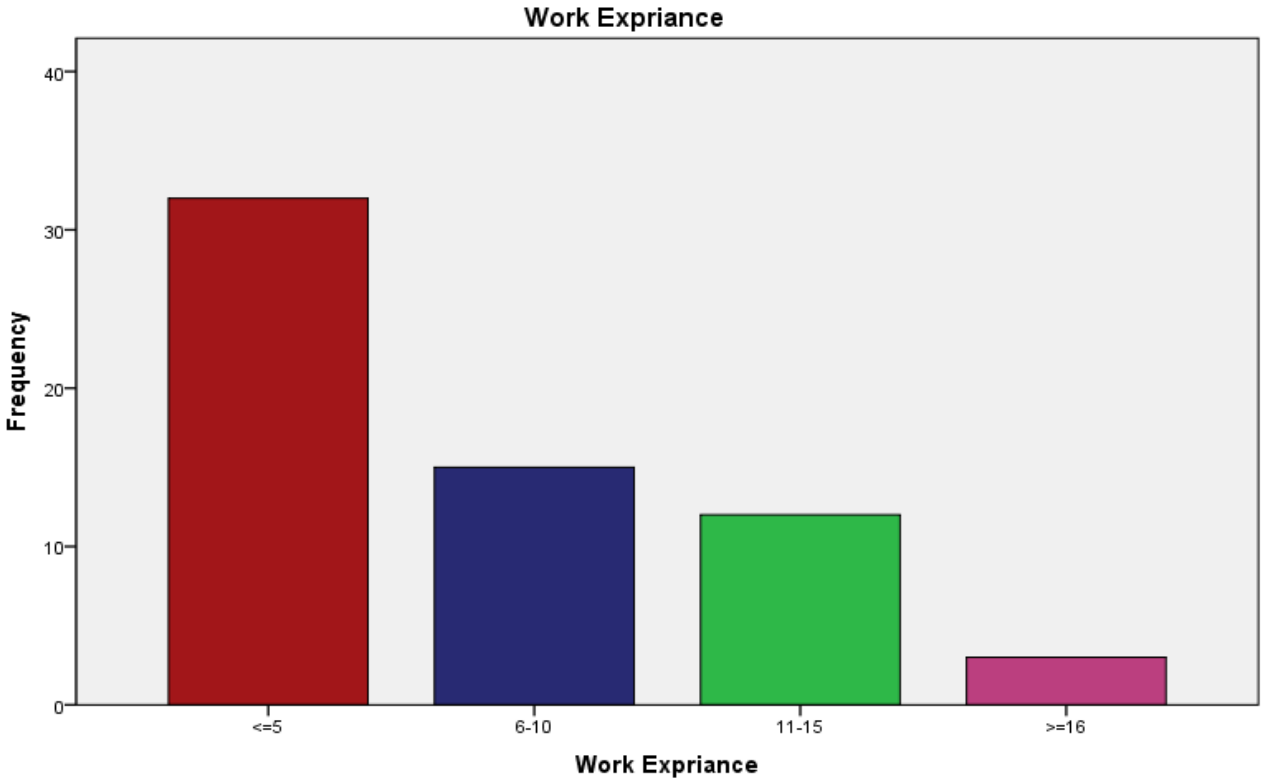


Figure 5 Frequency of work experience of respondents

5. Type of organization

Type of organization	**Percentage**
Clients (government or developer)	38.70
Consultants	29.03
Contractors	32.25

Table 1 Frequency of organization Type

4.3 Characteristics of 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. About half of the respondents have less than 5 years working experience. Even if the work experience of most respondent was less than 5 years the education level of about 71% of respondents were MSc and BSc holder. This can increase the reliability of the survey result, as they have vast knowledge in different field of studies and they have been overlooking the Human Resource Management in the construction industry in different perspectives of studies.

4.4 Normality Test

A normality test is used to determine whether sample data has been drawn from a normally distributed population (within some tolerance). A number of statistical tests, such as the Student's t-test and the one-way and two-way ANOVA require a normally distributed sample population. Also normality test is used to develop regression for determination of dependent variable in terms of independent variables.

Human Resource Management Activities

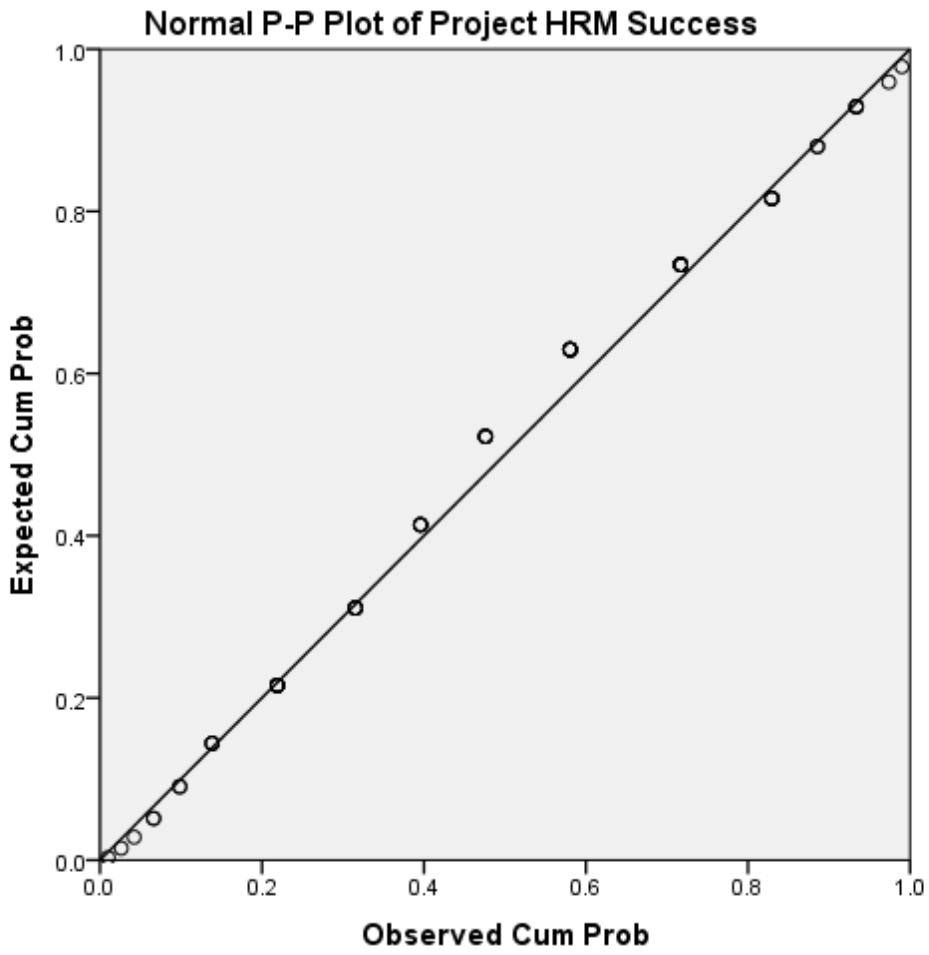
Table 2 Human Resource Management Activities

Tests of Normality[a,b]

	Human Resource Management Activities	Kolmogorov-Smirnov[c]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Project HRM Success	3	.441	4	.	.630	4	.001
	3	.169	6	.200*	.959	6	.811
	3	.253	9	.100	.909	9	.309
	4	.123	19	.200*	.963	19	.629
	4	.147	10	.200*	.922	10	.375
	4	.267	8	.098	.817	8	.044
	4	.274	4	.	.864	4	.275

*. This is a lower bound of the true significance.

a. Project HRM Success is constant when Human Resource Management Activities = 2. It has been omitted.
b. Project HRM Success is constant when Human Resource Management Activities = 3. It has been omitted.



Based on the above results the P values of most variables were >0.05 as well as the **skewness Z value** and **kurtosis Z value** which is calculated from **skewness Z value = skewness/St. Error** and **kurtosis Zvalue= kurtosis/St. Error** was in between (-1.96 and 1.96). In addition to this the P-Plot graph shows that distribution of the data is along the diagonal. This shows that the data distribution of the variables was approximately normally distributed.

Human Resource Management Challenges

Table 3 Human Resource Management Challenges

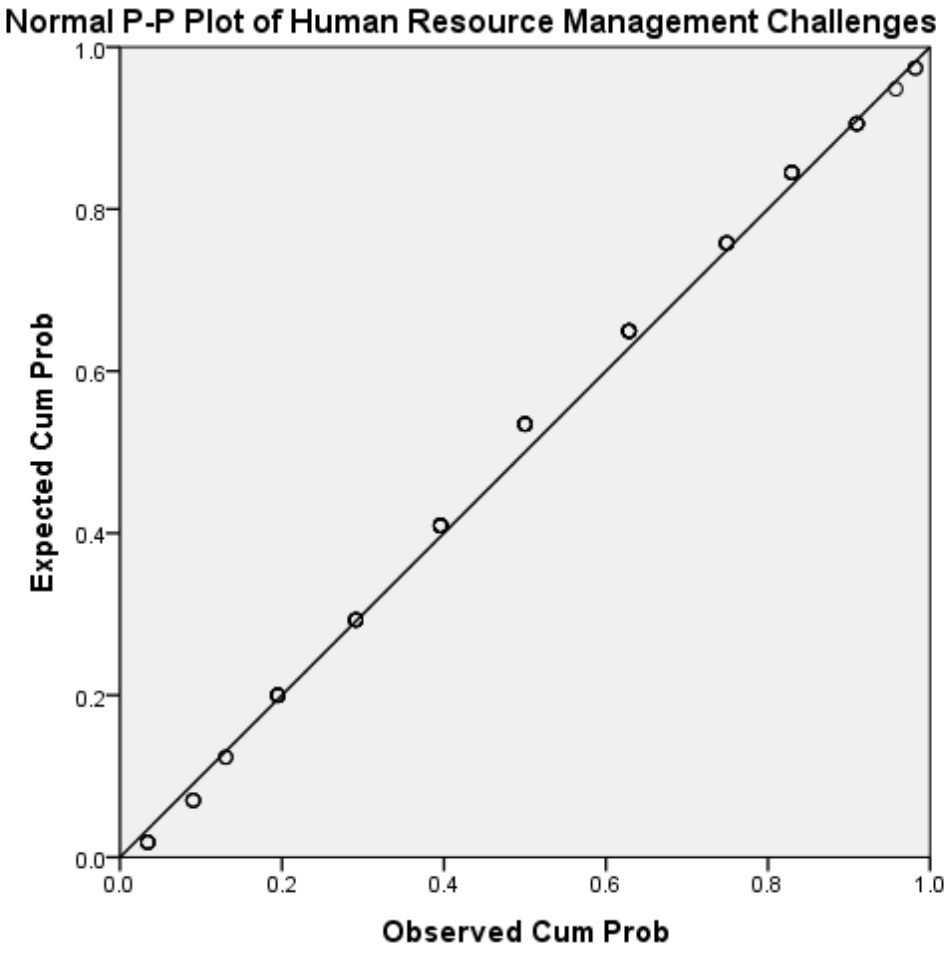
Tests of Normality[c]

	Human Resource Management Challenges	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Project HRM Success	3	.332	4	.	.890	4	.385
	3	.257	3	.	.961	3	.620
	3	.260	2	.			
	3	.243	6	.200*	.916	6	.480
	3	.208	6	.200*	.878	6	.258
	4	.214	7	.200*	.957	7	.791
	4	.226	6	.200*	.861	6	.192
	4	.269	10	.039	.850	10	.058
	4	.439	5	.002	.674	5	.005
	4	.178	5	.200*	.944	5	.691
	4	.220	5	.200*	.902	5	.423
	5	.260	2	.			

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

c. Project HRM Success is constant when Human Resource Management Challenges = 5. It has been omitted.



Based on the above results the P values of most variables were **>0.05** as well as the **skewness Z value** and **kurtosis Z value** which is calculated from **skewness Z value = skewness/St.Error** and **kurtosis Zvalue= kurtosis/St.Error** was in between (-1.96 and 1.96). In addition to this the P-Plot graph shows that distribution of the data is along the diagonal. This shows that the data distribution of the variables was approximately normally distributed.

Human Resource Success Factors

Table 4 Human Resource Success Factors

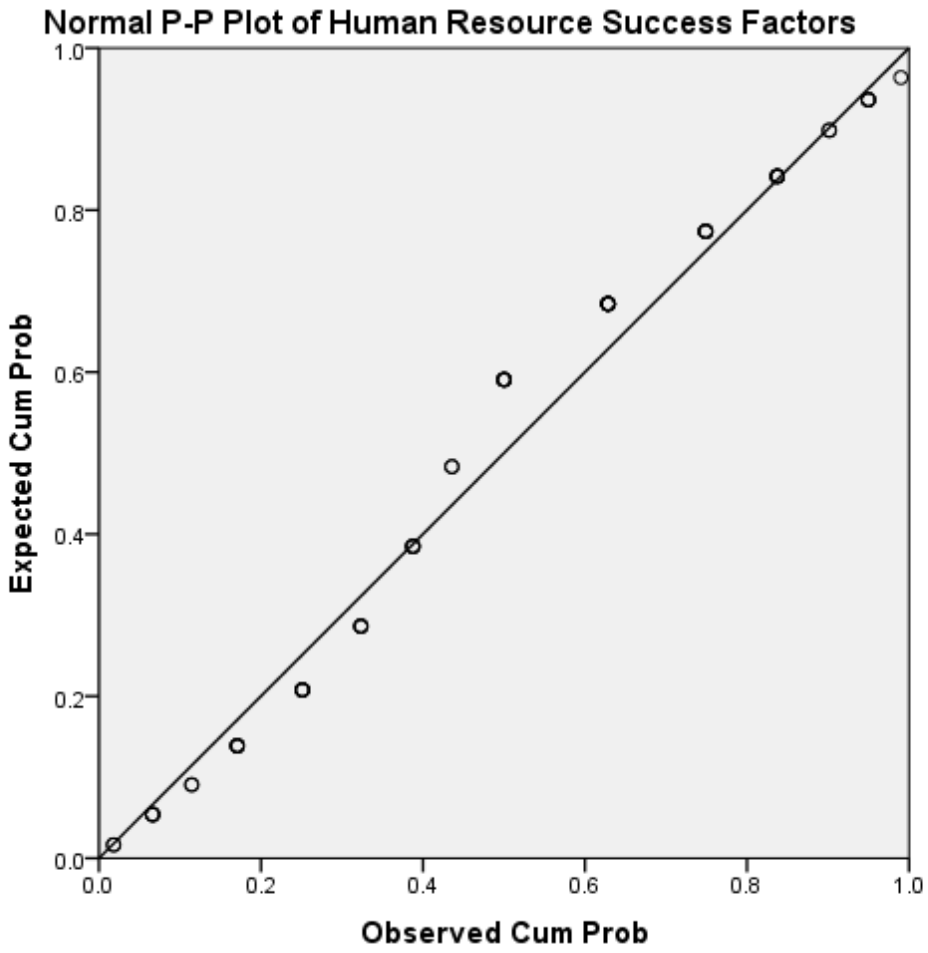
Tests of Normality[c]

	Human Resource Success Factors	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Sta-tistic	df	Sig.
Project HRM Success	3	.260	2	.			
	3	.277	4	.	.939	4	.649
	3	.260	2	.			
	3	.267	5	.200*	.834	5	.149
	3	.219	5	.200*	.947	5	.713
	3	.441	4	.	.630	4	.001
	3	.250	4	.	.930	4	.595
	4	.260	2	.			
	4	.352	6	.019	.689	6	.005
	4	.123	10	.200*	.936	10	.512
	4	.331	5	.078	.736	5	.022
	4	.225	6	.200*	.881	6	.272
	4	.260	2	.			
	4	.287	4	.	.891	4	.387

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

c. Project HRM Success is constant when Human Resource Success Factors = 4. It has been omitted.



Based on the above results the P values of most variables were **>0.05** as well as the **skewness Z value** and **kurtosis Z value** which is calculated from **skewness Z value = skewness/St.Error** and **kurtosis Zvalue= kurtosis/St.Error** was in between (-1.96 and 1.96). In addition to this the P-Plot graph shows that distribution of the data is along the diagonal. This shows that the data distribution of the variables was approximately normally distributed.

Project Team Members

Table 5 Project Team Members

Tests of Normality[a,d]

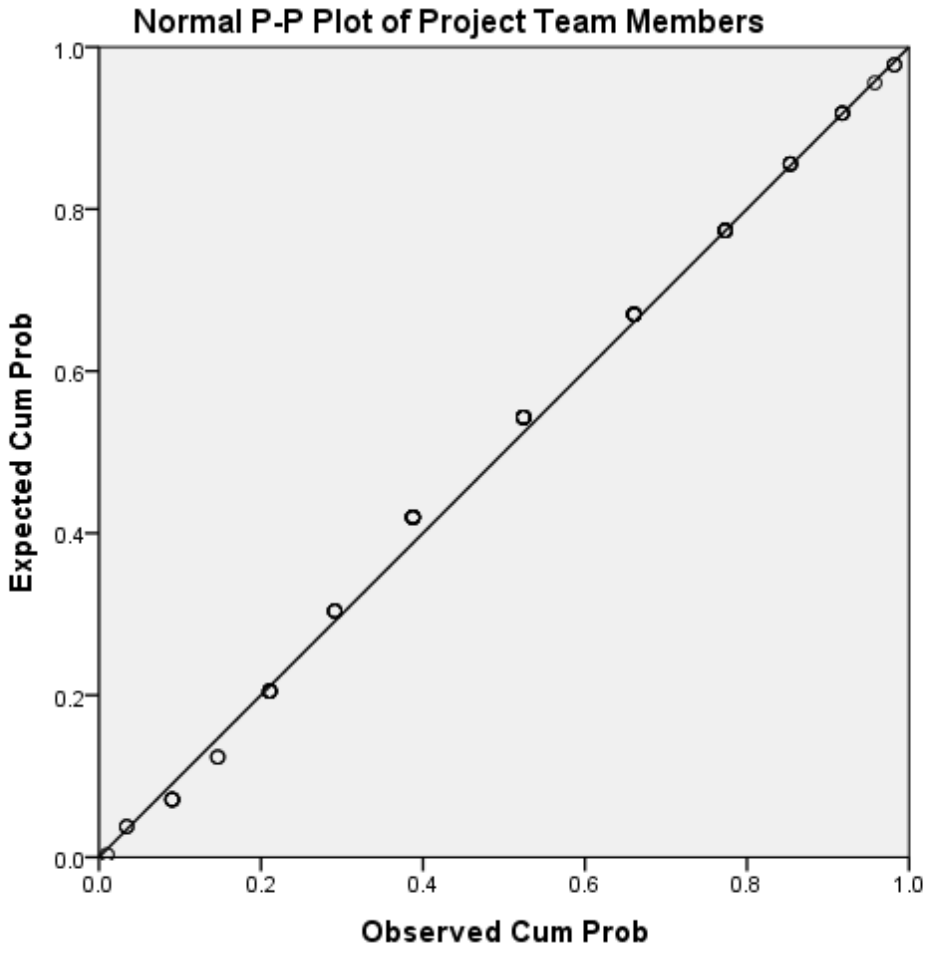
	Project Team Members	Kolmogorov-Smirnov[b]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Project HRM Success	3	.260	2	.			
	3	.274	5	.200*	.929	5	.589
	3	.260	2	.			
	3	.302	6	.091	.828	6	.103
	3	.239	4	.	.938	4	.644
	4	.131	8	.200*	.979	8	.960
	4	.245	9	.126	.863	9	.104
	4	.225	8	.200*	.860	8	.119
	4	.214	6	.200*	.954	6	.773
	4	.302	4	.	.830	4	.168
	4	.307	4	.	.729	4	.024
	5	.260	2	.			

*. This is a lower bound of the true significance.

a. Project HRM Success is constant when Project Team Members = 2. It has been omitted.

b. Lilliefors Significance Correction

d. Project HRM Success is constant when Project Team Members = 4. It has been omitted.



Based on the above results the P values of most variables were **>0.05** as well as the **skewness Z value** and **kurtosis Z value** which is calculated from **skewness Z value = skewness/St.Error** and **kurtosis Zvalue= kurtosis/St.Error** was in between (-1.96 and 1.96). In addition to this the P-Plot graph shows that distribution of the data is along the diagonal. This shows that the data distribution of the variables was approximately normally distributed.

4.5 Reliability Test

Reliability Statistics

Cronbach's Alpha	N of Items
.824	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Project HRM Success	14.2889	2.162	.686	.769
Human Resource Management Activities	14.3465	2.383	.646	.784
Human Resource Management Challenges	14.2069	2.325	.509	.826
Human Resource Success Factors	14.3102	2.337	.603	.794
Project Team Members	14.1689	2.318	.677	.775

Table 6 Reliability Statistics of Variables

Cronbach's alpha is used run on the sample to this test. Cronbach alpha of **0.824** was obtained, and this shown that this study had good internal consistency. The data collected was reliable so we can analyze it to know the output of our hypothesis.

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

4.6 Summary of the results

Relative Importance Index (RII) is used to determine the **relative importance** of quality factors involved. The points of likert scale used are equal to the value of W, weighting given to each factor by the respondent. The **Relative Importance Index** (RII) was calculated by using equation:

RII = ΣW/(A x N)

When, W= weighting given to each factor

A=maximum point of response

N=number of respondent

Table 7 Ranking of Human Resource Management Activities

Human resource activities	RII	Ranking
Reward strategies	0.7 51	1
Performance management	0.745	2
Management of talent and competencies	0.722	3
Career management	0.703	4
Performance improvement	0.690	5
Strategic human resources management	0.674	6
Effective communication in C-suite	0.670	7

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

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. Because employees motivated by rewards like salary, allowance and hardship allowance.

4.7.1 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 behavior which are dissatisfies (hygiene factors) and satisfier (motivators). Hygiene factors relate to the context of jobs includes 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.

4.7.2 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 employee's 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.

4.7.3 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 refers 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 the organization understands 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

Table 8 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 8 shown that the top HRM activity in ICT field is Management of 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 labor-intensive industry. Hence, reward strategies will be the top most important and effective HRM activities for the construction industry as shown in the current study. 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 9 Ranking of Challenges of HRM

Challenges	RII	Ranking
Employee retention	0.819	1
Managing change.	0.758	2
Talent management	0.758	3
Employee engagement	0.754	4
Conflict management	0.725	5
Organizational performance	0.716	6
Compensation	0.706	7
Leadership Development.	0.703	8
Crisis management	0.693	9
Creativity and innovation	0.690	10
Organizational development.	0.687	11
Human resource measurement and benchmarking	0.674	12
Training and development	0.651	13

4.8 The Major Human Resource Management Challenges

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

4.8.1 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 recognized 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)

4.8.2 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).

4.8.3 Employee Engagement

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 organization 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, and 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.

4.8.4 Comparison with previous study

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

Table 10 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 Engagement

Table 10 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 labor 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 11 Critical success factor of HRM implementation

Critical success factors	RII	Ranking
Support from top management	0.790	1
Training and development of staff	0.751	2
Information technology facilities.	0.729	3
Return on investment	0.712	3
Standardization (ISO)	0.709	5
Commitment from staffs	0.654	6
Organizational chart	0.648	7

4.9 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 provides 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

4.9.1 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 12 Relationship of type of organization and important HRM activities

	Type of organization	
Important activities of HRM	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
Effective communication in C-suite	11.315	0.079
Reward strategies	6.224	0.399

4.9.2 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 13 Relationship of type of organization and Major Challenges of HRM Type of organization

Major challenges of HRM	**Chi Square**	**p value**
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

4.9.3 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 types of organization do not have any significant difference with major challenges of HRM ($p>0.05$)

Table 14 Relationship of type of organization and Critical Success Factor of HRM implementation Type of organization

Critical success factor	Chi Square	p value
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

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

The result indicated that there is 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 ac-

tivities 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 discusses 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 recognized 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 a 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 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 is 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.

4.11 Correlation of Variables

Correlation is a statistical measure that expresses the extent to which two variables are linearly related (means they change together at constant rate.)

Correlation Coefficient

Correlation Coefficient	Interpretation
-1	Perfectively negatively correlated
1	Perfectively positively correlated
(1, 0.3)	Positively correlated
(-1,-0.3)	Negatively correlated
(-0.3, 0.3)	No correlation

The correlation coefficient represents the relatedness of two variables, and how well the value of one can be used to predict the value of the other. The correlation coefficient r ranges between -1 and +1. A positive r values indicates that as one variable increases so does the other, and an r of +1 indicates that knowing the value of one variable allows perfect prediction of the other. A negative r values in-

dicates that as one variable increases the other variable decreases, and an r of -1 indicates that knowing the value of one variable allows perfect prediction of the other. A correlation coefficient of 0 indicates no relationship between the variables (random scatter of the points).

To overcome the bias that a negative correlation is somehow worse than a positive correlation, the square of the correlation is often merely to indicate the strength of the relationship between the two variables. R-squared ranges from 0 to 1, and since squared values under 1 decrease rapidly, a large value of r-squared implies a very strong relationship.

Table 15 Correlation of each variable

Correlations

		Project HRM Success	Human Resource Management Activities	Human Resource Management Challenges	Human Resource Success Factors	Project Team Members
Project HRM Success	Pearson Correlation	1	.580**	.437**	.515**	.603**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	62	62	62	62	62
Human Resource Management Activities	Pearson Correlation	.580**	1	.480**	.427**	.529**
	Sig. (2-tailed)	.000		.000	.001	.000
	N	62	62	62	62	62
Human Resource Management Challenges	Pearson Correlation	.437**	.480**	1	.369**	.370**
	Sig. (2-tailed)	.000	.000		.003	.003
	N	62	62	62	62	62
Human Resource Success Factors	Pearson Correlation	.515**	.427**	.369**	1	.609**
	Sig. (2-tailed)	.000	.001	.003		.000
	N	62	62	62	62	62
Project Team Members	Pearson Correlation	.603**	.529**	.370**	.609**	1

Sig. (2-tailed)	.000	.000	.003	.000	
N	62	62	62	62	62

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

All of the variables result listed above in the table is range between (**0.3**, **1)** this show that those variables are positively correlated. Specially independent variable 4 and independent variable 3 are highly correlated where as independent variable 2 and independent variable 3 were the least positively correlated variables.

4.12 Regression Analysis – Multiple Linear Regression

Multiple linear regression analysis is essentially similar to the simple linear model, with the exception that multiple independent variables are used in the model. The mathematical representation of multiple linear regressions is:

$$Y = a + bX_1 + cX_2 + dX_3 + \epsilon$$

Where:

- Y – Dependent variable
- X_1, X_2, X_3 – Independent (explanatory) variables
- a – Intercept
- b, c, d – Slopes
- ϵ – Residual (error)

Multiple linear regressions follow the same conditions as the simple linear model. However, since there are several independent variables in multiple linear analyses, there is another mandatory condition for the model:

- Non-collinearity: Independent variables should show a minimum correlation with each other. If the independent variables are highly correlated with each other, it will be difficult to assess the true relationships between the dependent and independent variables.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.765	4	1.941	13.699	.000[b]
	Residual	8.077	57	.142		
	Total	15.842	61			

a. Dependent Variable: Project Human Resource Management

b. Predictors: (Constant), Project Team Members, Human Resource Management Challenges, Human Resource Management Activities, Human Resource Success Factors.

Table 16 Regression of all variables

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	.072	.473		.153	.879	-.876	1.020		
	Human Resource Management Activities	.337	.139	.290	2.421	.019	.058	.617	.622	1.609
	Human Resource Management Challenges	.119	.105	.126	1.141	.259	-.090	.328	.734	1.362

Human Resource Success Factors	.168	.130	.158	1.292	.202	-.092	.428	.600	1.665
Project Team Members	.347	.146	.307	2.385	.020	.056	.639	.539	1.855

a. Dependent Variable: Dependent Variable

Regression analysis is a common technique in market research which helps the analyst understands the relationship of independent variables to a dependent variable. More specifically it focuses on how the dependent variable changes in relation to changes in independent variables. So the study used regression analysis to describe the dependent variable or (the project human resource management success) by using independent variable and the equations that relate them were shown below. **Linear regression analysis** is **used to** predict the value of a variable based on the value of another variable. The variable you want to predict is called the dependent variable.

$$Y=\alpha + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \epsilon$$

Where, **Y**= is the dependent variable or PHRM Success

X1=is independent variable-1 or Human Resource Management Activities

X2=is independent variable-2 or Human Resource Management Challenges

X3=is independent variable-3 or Human Resource Success Factors

X4=is independent variable-4 or Project Team Members

α = is constant and **β** = is coefficient

ϵ = Error term

β1, β2, β3 and β4 = slop of each independent variables and they measure by what extent affect the dependent variable, that is Project Human Resource Management Success.

Model selection and output discussion

So as to achieve the objective the paper, the study was conducted primarily based on structured questionnaire data. The advantage of using questionnaire data and knowing the determinant varia-

bles was examined using descriptive statistics, correlation and regression analysis. The correlation matrix was used to examine the relationship between the dependent variable and explanatory variables. The dependent variable in this study Project Human Resource Management Success that takes Likert ordinal values specifically 1 to 5 that is strongly disagree to strongly agree. Therefore, ordinal regression model is fitted model for this kind of research. Pearson is used to determine the significance level of each independent and control variable. The regression model was run using ordinal logic regression, to test the casual relationship between the dependent and independent variable to determine the most significance and influential independent variables and other control variables affecting the human resource management in construction project success in case of Jimma-Agaro Didesa road construction. In connection to this, the general model for this study, as is mostly found in the existing literature is represented as follows:-

$$Y_{i,t} = \alpha + \beta X_{it} + \epsilon_{it} \quad \ldots\ldots 1$$

The subscript 'i' representing the cross-sectional dimension and 't' denote the time-series dimension. The left-hand variable 'Yi,t', represents the dependent variable in the model, which is Project Human Resource Management Success. 'Xit' contain the set of independent variables in the estimation model, was taken to be constant over time't' and specific to the individual cross-sectional unit 'i'. If 'α' is taken to be the same across units, then ordinal model regression provides a consistent and efficient estimate of 'α'and 'β'.

From the output of the current study as shown in the above table and the formula stated above general output was given below:-

$$Y = 0.072 + 0.337 X1 + 0.119 X2 + 0.168 X3 + 0.347 X4 \quad \ldots\ldots 2$$

In genera the output of the regression analysis done above show that all values are positive and this describe that as the each of independent variables change the dependent variable or Project Human Resource Management success also changed linearly. Also the independent variable-4 or Project Team Members most affect the dependent variable (Project Human Resource Management success) whereas the independent variable-2 or Human Resource Management Challenges had least effect on dependent variable (Project Human Resource Management success).

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 Conclusions

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 The top three most important HRM activities in 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 behavior which are dissatisfies (hygiene factors) and satisfier (motivators). Hygiene factors relate to the context of jobs includes 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 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 recognized 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 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 The opinion of the three different organizations 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 labor-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. This could be 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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APPENDIX

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<=30	14	22.6	22.6	22.6
	30-40	32	51.6	51.6	74.2
	40-50	13	21.0	21.0	95.2
	50-60	3	4.8	4.8	100.0
	Total	62	100.0	100.0	

Table 17 : Frequency of Age of Respondents

Education

Education Level of Respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	MSc & BSc	44	71.0	71.0	71.0
	Diploma & TVT	8	12.9	12.9	83.9
	High school & Elementary	10	16.1	16.1	100.0
	Total	62	100.0	100.0	

Table 18 : Frequency of education level of respondents

Number of years working experience

Work Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<=5	32	51.6	51.6	51.6
	6-10	15	24.2	24.2	75.8
	11-15	12	19.4	19.4	95.2
	>=16	3	4.8	4.8	100.0
	Total	62	100.0	100.0	

Table 19 : Frequency of work experience of respondents

Gender

Gender of Respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	34	54.8	54.8	54.8
	Female	28	45.2	45.2	100.0
	Total	62	100.0	100.0	

Table 20 Frequency of gender of respondents

QUESTIONNAIRE

English Version Questionnaire

Questionnaire for data collection on *the role of human resource management in construction project success in case of Jimma-Agaro Didesa road construction. Questionnaires* for structured Facility Based Cross-sectional Study.

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

Informed consent form

Dear respondent, I am glad to inform you that you are one of the chosen study participants to participate in this study the purpose of which is to assess The role of human resource management in construction project success in case of Jimma-Agaro Didesa road construction

The information in this questionnaire will be kept strictly confidential, will not be revealed to any one and only the research team will have access to the information you gave but your name and address will not be recorded or identified even by the research team.

Only you will fill this questionnaire after you agree to take part in the study. However your genuine and true responses you give value for success of the study and also will help for better understanding of the problem that would eventually help in designing appropriate intervention to solve the problems and I sincerely ask you to give your genuine and true responses to the questions provided .the questionnaire contains three parts and will take not more than 25 minutes.

SECTION – I: PROJECT IDENTIFICATION

		Full Name
1.1	Name of the project:	Name in short
1.2	Donor	
1.3	Project implementation regions/city administrations	

SECTION-II. SOCIO DEMOGRAPHIC TYPES

1. Gender of the respondents

1. Male 2.Female

2. Education status of the respondents

1. Master (MA, MSc) 2.Degree (BA, BSC) 3.Diploma 4. High school completed 5.Elemntary student

3. Age of the Respondents:

1.30 years old or younger 2. 31-40 years 3.41-50 years 4. 51-60 years

4. 46-50 years 5.51-55 years 6.Older than 55 years

4. Position of the Respondents:

1. Contractors 2.Consultants 3. Developers 4. Government collaborates 5. Others

5. Level of the Organization at which the respondents exist.

1. Head Office 2. Regional Office 3. Cluster Program Office 4. Areal Program.

6. For How many years you have been working with Construction Projects.

1. 0-5 years 2.6-10 3.11-15years 3.Greater or equals to 16 years.

7. Category of Your Position:

1. Contractor's staff 2. Government stakeholders 3. Developers staff 4. Consultants staff 5. Other

SECTION – III: PROJECT SUCCESS FACTORS

Instruction: Responses for questions that rely on "the extent/magnitude/ rating" are designed to be in a Likert scale of 1 to 5. Would you please circle your response noting that 1 is the *LOWEST (STRONGLY DISAGREE)*

and 5 is the HIGHEST *(STONGLY AGREE)*

PROJECT SUCCESS FACTORS						
QUESTIONS		RESPONSE				
3. 1 Important activities in Human Resource Management		Strongly Disagree	Disagree	neutral	Agree	Strongly Agree
3.1.1	Reward strategies					
3.1.2	Performance management					
3.1.3	Management of talent and competencies					
3.1.4	Career management					
3.1.5	Performance improvement					
3.1.6	Strategic human resources management					
3.1.7	Effective communication in C-suite					
3.2 Human Resource Management Challanges in Construction project						
3.2 .1	Leadership Development.					
3.2 .2	Managing change.					
3.2 .3	Organizational development.					
3.2 .4	Training and development					
3.2 .5	Organizational performance					
2.2 .6	Employee retention					

3.3.7	Talent management					
3.2 .8	Employee engagement					
3.2 .9	Compensation					
3.3.10	Creativity and innovation					
3.2 .11	Human resource measurement and bench-marking					
3.2 .12	Crisis management					
3.2 .13	Conflict management					
3. 3 HR critical success factors						
3. 3 .1	Support from top management					
3. 3 .2	Training and development of staff					
3. 3 .3	Information technology facilities					
3. 3 .4	Return on investment					
3. 3 .5	Standardization (ISO)					
3. 3 .6	Commitment from staffs					
3. 3 .7	Organizational chart					