MOTIVATION FACTORS AFFECTING PROJECT MANAGER'S JOB PERFORMANCE IN MALAYSIA AND SINGAPORE

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FACULTY OF BUILT ENVIRONMENT
UIVERSITI MALAYA
KUALA LUMPUR

2024

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RESEARCH PROJECT SUBMITTED TO THE FACULTY OF BUILT ENVIRONMENT UNIVERSITI MALAYA, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF PROJECT MANAGEMENT

2024

UNIVERSITY OF MALAYA

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MOTIVATION FACTORS AFFECTING PROJECT MANAGER'S JOB PERFORMANCE IN MALAYSIA AND SINGAPORE

ABSTRACT

The construction industry significantly contributes to a country's economic sector, relying heavily on the job performance of its project members. However, the construction industry in Malaysia and Singapore still faces room for improvement in job performance. Researchers have identified failures in achieving time, cost, and quality goals in numerous construction projects in these countries are mainly due to lack of motivation practice in the industry. Thus, the aim of this study is to explore suitable motivation practices that can enhance the job performance of project managers (PMs) in Malaysia and Singapore. A literature review was conducted by studying previous research articles, journals, and books concerning motivation and job performance. This study adopted a quantitative approach, sending out 256 sets of questionnaire surveys to project managers in Malaysia and Singapore through email. However, only 33.6% received responses. Collected data was analysis using mean analysis to determine the motivation factors affecting job performance, strategies to improve job performance, and the performance of PMs' roles. High salary levels, fringe benefits, and job safety were ranked as the top three motivation factors. Next, the Mann-Whitney U test was used to determine significant differences in agreement levels on motivation factors and job performance. Subsequently, Pearson's correlation test was conducted to identify the correlation between motivation factors and job performance. It was found that most of the motivation factors has positive correlation with the role of project manager. This research is beneficial to PMs and other construction stakeholders in Malaysia and Singapore. By instilling motivation in employees, it is possible to improve the job performance of individuals.

Keywords: Motivation, job performance, construction, project manager

FAKTOR MOTIVASI YANG MEMPENGARUHI PRESTASI KERJA PENGURUS PROJEK DI MALAYSIA DAN SINGAPURA

ABSTRAK

Industri pembinaan memberi sumbangan besar kepada sektor ekonomi negara, dan bergantung sepenuhnya pada prestasi kerja ahli projeknya. Walau bagaimanapun, industri pembinaan di Malaysia dan Singapura masih memerlukan peningkatan dalam prestasi kerja. Para penyelidik telah mengenal pasti kegagalan mencapai matlamat masa, kos, dan kualiti dalam pelbagai projek pembinaan di kedua-dua negara ini adalah disebabkan oleh kurangnya motivasi dalam industri ini. Oleh itu, tujuan kajian ini adalah untuk meneroka amalan motivasi yang sesuai yang boleh meningkatkan prestasi kerja pengurus projek (PP) di Malaysia dan Singapura. Kajian literatur dijalankan dengan mengkaji artikel penyelidikan terdahulu, jurnal, dan buku berkaitan motivasi dan prestasi kerja. Kajian ini menngunakan pendekatan kuantitatif dengan menghantar 256 set borang soal selidik kepada pengurus projek di Malaysia dan Singapura melalui e-mel. Walau bagaimanapun, hanya 33.6% respons diterima. Data yang terkumpul dianalisis dengan menggunakan analisis min untuk menentukan faktor motivasi yang mempengaruhi prestasi kerja, strategi untuk meningkatkan prestasi kerja, dan prestasi peranan PP. Gaji yang tinggi, faedah sampingan, dan keselamatan kerja merupakan tiga faktor motivasi teratas. Seterusnya, ujian Mann-Whitney U digunakan untuk menentukan perbezaan yang signifikan dalam tahap persetujuan terhadap faktor motivasi dan prestasi kerja. Ujian korelasi Pearson dijalankan untuk mengenal pasti korelasi antara faktor motivasi dan prestasi kerja. Hasil kajian menunjukkan kebanyakan faktor motivasi berkorelasi positif dengan peranan pengurus projek. Penyelidikan ini memberi manfaat kepada PP dan pihak berkepentingan pembinaan lain di Malaysia dan Singapura. Dengan memberikan motivasi kepada pekerja, ianya dapat meningkatkan prestasi kerja individu.

Kata Kunci: Motivasi, produktiviti, pembinaan, pengurus projek

ACKNOWLEDGEMENTS

I would like to thank and give credit to everyone who had contributed to the successful completion of this research. I would like to express my deepest gratitude to my research supervisor, Dr. Nur Mardhiyah Binti Aziz for her invaluable advice, guidance and his effort in assisting me throughout the development of the research.

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LIST OF SYMBOLS AND ABBREVIATIONS

PMI	:	Project Management Institute
MCO	:	Movement Control Order
BCA	:	Building Construction Authority
CIDB	:	Construction Industry Development Board
PM	:	Project Manager
PP	:	Pengurus Projek
GDP	:	Gross Domestic Product

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CHAPTER 1: INTRODUCTION

1.1 General Introduction

This chapter aims to address the research gap in the construction industry of Malaysia and Singapore by presenting the motivation towards improving the job performance of project managers. It discusses the challenges faced by project managers and the strategies that can be employed to enhance their job performance. The chapter begins with a brief background of the research, followed by a clear problem statement and research questions. The study's aim and objectives are then presented, along with a description of the research methodology. Finally, the structure of the thesis is explained in the concluding section of this chapter. By exploring the key motivation factors that impact the job performance of project managers in the construction industry of Malaysia, this research aims to contribute to the development of effective strategies for enhancing their performance and overall productivity.

1.2 Research Background

The construction industry is an industry that starts with the processes of developing, renovating, maintaining, and demolishing buildings and infrastructures (Jamal, 2020). The construction industry plays an important role in Singapore and Malaysia by greatly supporting the countries' gross domestic product (GDP) (Alaloul et al., 2021). However, during the Covid-19 outbreak, the pandemic has left a huge impact on the industry, with Malaysia suffering 18.5 billion Ringgit losses in the first phase of the Movement Control Order (MCO). As a result, the performance of the construction industry has significantly dropped due to cash flow issues, failure to deliver projects on time, and labor issues (Harun & Razak, 2020). Nevertheless, the industry in both countries has started to show improvement during the recovery period of Covid-19, posting 3.5% and 2.9% of GDP to

the respective countries (Ministry of Trade and Industry Singapore, 2022; Department of Statistics Malaysia, 2022).

The golden triangle, also known as time, cost, and quality, has always been crucial to define project success (Nawi et al., 2018). Construction projects often face problems with the trade-off between time, cost, and quality, and the three factors must meet a certain standard to define a project as successful. However, one factor can easily drop down the priority list due to an increase in focus on the other factors (Jones, 2021). It is a challenging task to achieve time, cost, and quality at the same time, and cutting down construction costs often leads to an extension of the project timeline, which might affect the quality of the project. Simultaneously, increasing the quality of construction will often lead to additional construction costs and time (Wang et al., 2019). Several studies have found that the construction industry has always been struggling to complete and handover projects on time, on budget, and to meet client satisfaction. A study on the global construction industry by Yap et al. (2021) has shown that 80% of traditionally procured projects experience project delays, which eventually leads to cost overruns. In Singapore and Malaysia, the construction industry is currently facing poor performance, which is causing a failure to complete projects within the specific time and cost overrun (Memon, Rahman & Azis, 2012; Leong, 2021).

Moreover, the project manager plays an important role in the success of construction projects. The project manager applies their expertise, ability, and tools in each activity to achieve time, cost, and quality in the project (PMI, 2017). Shibani and Sukumar (2015) pointed out that the project manager is responsible for supervising or monitoring the project to ensure that the performance of the project is up to standard. Additionally, Jha (2004) stated that the project manager in the construction industry is responsible for planning activities during the pre-construction stage. The project manager also plays an important part in the management and scheduling of the project by

allocating and deploying scarce resources such as manpower, machinery, and money (Sommerville, Craig & Hendry, 2010).

To cope with the problem, several researchers have shown that one of the best ways to enhance job performance in the construction industry is by implementing motivation exercises. Motivating skills from a project team leader by giving them extrinsic rewards, such as salary, bonus, promotion, and welfare packages, can increase the job performance of an employee (Jalagat, 2016; Ogbogu, 2017; Udofot et al., 2022; Ghaffari et al., 2017). In addition, influencing employees with intrinsic motivation, such as mental support, redesign of job, and interpersonal development practices, also has a significant impact on improving the job performance of employees (Hayati & Caniago, 2012; Menges et al., 2016; Guo et al., 2014; Joo, Jeung & Yoon, 2010; Moon et al., 2020).

There are a few motivation theories developed by several researchers that can be classified into two categories, early theories of motivation and contemporary theories of motivation. Early theories of motivation are the most commonly used motivation. They were formulated in the early 1950s and consist of Hierarchy of Needs Theory, Theory X and Theory Y, Two-Factor Theory, and McClelland's Theory of Needs. However, there is a lack of studies for contemporary theories of motivation. As a result, this may affect the reliability of the theories. There are 7 contemporary theories of motivation, including Self-Determination Theory, Job Engagement, Goal Setting Theory, Self-Efficacy Theory, Reinforcement Theory, Equity Theory, and Expectancy Theory (Robbins & Judge, 2012).

1.3 Problem Statement

The construction industry is managed by a large group of people. It is a complex and unique industry that comprises several highly motivated personnel. Employee motivation is crucial as it builds the foundation for higher job performance levels (Smithers & Walker, 2000). According to Chan and Theong (2013), although the demand for

construction has expanded significantly in recent years, worker productivity has consistently lagged, and safety issues on construction sites have not been adequately addressed. The well-being of construction workers can affect project performance. For instance, a worker who is satisfied with their job tends to perform better (Peiró et al., 2019).

Unegbu, Yawas and Dan-asabe (2022) found that the construction industry has not demonstrated a strong performance. The underperformance of construction projects can be attributed to inadequate utilization of project management best practices, project performance measures, and critical success factors. These factors collectively influence the outcome of construction projects. Additionally, Gamil, Rahman and Nagapan (2019) found that "poor communication among construction participants" is one of the critical factors that contribute to poor performance in construction, leading to cost and time overruns. However, according to research by Dorcas et al. (2019) in Nigeria, "construction mistakes" rank as the top factor that influences performance, followed by the usage of inexperienced labor and inadequate examination.

Motivating workers has always been a major factor in enhancing performance in a construction project (Barg et al., 2014). As claimed by Maloney and Mcfillen (1986), encouragement or motivation are the key factors that contractors should focus on to enhance work productivity. According to Barker (2017), a motivated employee who completes a job with full effort will give an advantage to a company and the industry. The findings of the results show that workers in Indonesia rank a high salary as the top motivation to improve productivity, followed by a good safety program to secure all workers, so that any potential danger can be avoided.

A project manager who is demotivated is a serious problem in the construction industry. Lack of motivation will affect the cost, workmanship and productivity of the project (Phan et al., 2020). It can affect team morale. When a project manager is

demotivated, it can have a trickle-down effect on the team members, resulting in decreased morale, reduced enthusiasm, creativity, and dedication towards the project. This, in turn, can have a further negative impact on the project's performance. As a result, it can directly cause impact on the project sponsor and stakeholders.

Several researchers have conducted studies to improve the performance of project manager. According to a study by Anderson (1992), the study suggests that the strategies to improve the performance of project manager are through participating in training and mentorship program. However, the study is conducted in year 1992 may be outdated and may not be applicable in the current era. Training programs and mentorship initiatives might face challenges in keeping pace with the rapid advancements in technology. To make the most of emerging tools and platforms, project managers may find it necessary to constantly upgrade their skills.

As a result, this research is conducted to identify the motivation factors that can improve the job performance of project manager in the construction industry of both countries to fulfill the research gap.

1.4 Research Questions

The research questions and the associated research objectives are shown in Table 1.1.

Table 1.1: Research objectives and questions

Research Objectives	Research Questions
To determine the motivation factors that affect job performance of project manager in Malaysia and Singapore	i. What are the motivation factors that affect job performance of project manager? ii. How the motivation factors can affect the job performance of project manager?
To analyze the most significant motivation factors that affect job performance of project manager in Malaysia and Singapore	i. What are the most important motivation factors that affect job performance of project manager in Singapore and Malaysia?

To develop a strategy that can improve the job performance of project manager in Singapore and Malaysia	i. What is the strategy to improve the job performance of project manager in Singapore and Malaysia?

1.5 Research Aim

The aim of conducting this research is to study the suitable motivation practices that can help to improve the job performance of project manager in Malaysia and Singapore.

1.6 Research Objectives

The aim is achievable by the following objectives:

i. To determine the motivation factors that affect job performance of project manager in Malaysia and Singapore.
ii. To analyze the most significant motivation factors that affect job performance of project manager in Malaysia and Singapore.
iii. To suggest a suitable strategy that can improve the job performance of project manager in Malaysia and Singapore.

1.7 Research Methodology

This research is designed to be exploratory research with the aim to develop a strategy to improve the job performance of project manager in Malaysia and Singapore through suitable motivation practices. This research starts with a thorough literature review in order to identify the research gap in job performance. Databases like Emerald, IEEE, Sage journals were used in gathering the literature of the topic.

Quantitative method is adopted in this research for data collection. Questionnaires are used to identify the motivation factors that affect the job performance of project manager in the construction field of Malaysia and Singapore. Then, 256 sets of questionnaires are distributed to the project managers in the construction industry of

Singapore and Malaysia as recommended by Roscoe (1975) to collect the relevant information.

The data collected shall be analyzed using Cronbach's Alpha Reliability Test to determine the internal consistency of the questionnaire. Lastly, the data collected is also analyzed using Mann-Whitney U Test to achieve the research objective 3.

1.8 Scope of Research

The scope of this research is limited to the construction companies in Malaysia and Singapore. For the Malaysian construction companies, only registered G7 construction companies registered with the Construction Industry Development Board (CIDB) were considered in this study. For the Singapore construction companies, only A1 Company that registered with the Building Construction Authority (BCA) Singapore will become part of the study population.

1.9 Significance of Research

The data obtained from the research will be used to develop strategies that improve project performance that led to improvement in time, cost and quality. By identifying the motivation factors that impact the job performance of project managers, this study aims to enhance their productivity, thereby increasing the likelihood of project success. Moreover, early exploration of these motivation factors can play a critical role in improving the overall productivity of the construction industry and help to ensure that project success is consistently achieved. The findings of this research are expected to be of significant value to the construction industry stakeholders in Malaysia and Singapore, enabling them to develop effective strategies for improving the motivation and job performance of project managers.

1.10 Structure of Thesis

Chapter 1: Introduction

This chapter provides an overview of the research in the area where it is focused. It provides an overview of the study's research background, problem statement, research questions, aim and objectives, methodology, scope and significance of the study. Here is a summary of the guidelines for doing research and achieving the study's goals.

Chapter 2: Literature Review

Chapter 2 outlines the literature review to provide a thorough understanding of the research topic with background information on previous and current studies knowledge. The meaning of “motivation” is being explained in details that shows the two types of theories such as content and process theories of motivation. Then, the linkage between motivation and job performance is explained. Next, the roles of project manager in the construction industry are explained in detailed.

Chapter 3: Research Methodology

Chapter 3 outlines the research methodology, described and explains the process and procedure in selection of the research mode as well as the approach which aligns with the result from Chapter 2. This Chapter covers the research design, approach and technique, which is quantitative research approach for this study. The approach selection was due to explanatory research purpose through distribution of questionnaires with the relevant professional expertise and experience who provide the data required. In addition, the data analysis methodology and validation will be elaborated.

Chapter 4: Results

Chapter 4 outlines the data analysis and research findings. The information gathered through the distribution of questionnaire survey forms, secondary data sources, and the utilization of a quantitative technique is examined. Following the completion of the data analysis, the distinctions between the primary and secondary data will be organized.

Chapter 5: Discussion

Chapter 5 revisits the studies in accordance to the research objective set out in Chapter 1. Data obtained from the questionnaire are evaluated by comparing with the findings from other researchers as set out in Chapter 2.

Chapter 6: Conclusion

Chapter 6 summarizes the study's conclusion and represents the final chapter in this research report. The reason to conduct this research is concluded in this chapter along with the motivation factors that affect job performance of project manager in construction industry of Singapore and Malaysia.

CHAPTER 2: LITERATURE REVIEW

2.1 General Introduction

In this chapter, an assessment of various articles and journals related to the motivation factors that impact the job performance of project managers in the construction industry of Malaysia and Singapore is conducted. The definitions and importance of motivation and job performance, and how they are interconnected. Furthermore, an overview of the various motivation factors that have been found to enhance the job performance of project managers in Malaysia and Singapore is provided.

2.2 Roles and Responsibilities of Project Manager

2.2.1 Conduct Feasibility Studies

According to Zakaria et al. (2015), the project managers should conduct a visual inspection of the site conditions before the commencement of a construction project. This allows the project manager to determine the suitable type of machinery or equipment that are to be used at site, which can impact the success of the project. The project manager should take into account factors including the accessibility of the site and terrain in order for the heavy vehicles to mobilize to the site. The idea obtained from the feasibility studies allows the project manager to plan for necessary resources to be utilized that can improve the overall performance and success of the construction project.

2.2.2 Planning of Activities, Scopes, Schedules and Budgets

During the planning stage, it is crucial for the project manager to develop Work Breakdown Structure (WBS) that outlines all the work packages involved in the project. The WBS serves as a guide that allows the project manager plans and allocates activities based on the available budget and schedule. By breaking down the project into smaller and manageable work packages, the project manager can identify potential risks and

allocate resources effectively to ensure project success. The WBS also helps to prevent scope creep by providing an overview of the project deliverables and objectives. In short, WBS is an important tool for project managers in the construction industry to ensure the project is completed on time, budget, and quality (Anantatmula, 2010).

2.2.3 Solve Problems that Interfere the Project

It is important for a project manager to engage in proactive planning and identify potential risks and issues that could occur during the construction process. The project manager can take proactive measures to prevent or reduce the impact of these risks on the project's schedule, budget, and quality. Additionally, the project manager should be capable of estimating any additional budget needed due to potential risks that might happen during the planning stage. Furthermore, a project manager should be able to handle unforeseen risks by creating backup plans and allocating resources to mitigate the impact of the risks. (Zakaria et al., 2015).

2.2.4 Managing the Project Team Member

During the construction stage, the project manager should also pay attention to the work ethics of each project team member. Work ethics play an important role in ensuring that the project progresses smoothly and avoids any potential hurdles that may arise due to unprofessional or unethical behavior. The project manager should ensure that all team members adhere to the predetermined work ethics and standards set for the project. Any team member found to be in violation of these standards should be dealt with immediately to avoid any negative impact on the project timeline, budget, and quality. By taking prompt action, the project manager can also set an example for the rest of the team members, and encourage them to maintain high levels of professionalism and work ethics throughout the project. Therefore, maintaining and enforcing work ethics is an important

responsibility of a project manager in the construction industry to ensure project success (Ahmed, 2013).

2.2.5 Oversee the Quality, Safety and Health of the Project

Time, cost and quality of a project is crucial in defining a project success. The quality of the project is an achievement that shows the competencies of a project manager's leadership in managing a construction project. Then, the safety and health of all project team member are significant towards reducing the number of accidents and fatalities happening at the work site because the work site is strictly regulated by the government and authority (Anantatmula, 2010).

2.2.6 Monitoring the Progress of the Project

As a project manager, one of the key responsibilities is to oversee project monitoring and progress reporting. The project manager should ensure that the project is progressing as per the planned schedule and budget, and any deviations or delays are identified and addressed in a timely manner. This requires constant monitoring and tracking of project's activities, milestones, and deliverables, and maintaining regular communication with the project team, stakeholders, and clients. The project manager should also be able to identify potential risks and issues that may impact the project progress, and develop appropriate strategies to mitigate their impact. Additionally, the project manager should prepare regular progress reports that provide data of the project's performance, identify any issues or challenges, and recommend appropriate measures to ensure project success. By monitoring project progress and providing regular reports, the project manager can keep all stakeholders informed and aligned, and ensure that the project is completed on time, within budget, and to the required quality standards (Zakaria et al., 2015).

2.2.7 Commissioning and Handover of the Work Packages

Upon completion of a construction project, the project manager should conduct contract close-out, post-contract evaluation, and post mortem reviews to ensure that the project has been delivered according to the agreed terms and conditions. This encompasses the delegation of tasks related to mechanical and engineering packages, the execution of handover activities, and the administration of project closure. The project manager should ensure that all necessary documentation and records are properly maintained for future reference. It is important to conduct a thorough evaluation of the project in order to identify areas for improvement and ensure that lessons learned are documented and shared with other project teams to enhance future project success.

2.3 Motivation

Motivation is an important aspect in an organization in enhancing job performance. A motivated worker will give lot of advantages to a company because a motivated worker tends to improve the work performance. This is because the motivated worker is enjoying the work. Thus, it resulted in high productivity of work and decreasing the turnover rate (Ghaffari et al., 2017). The following section discussed on the definitions and the background of motivation. In recent years, the idea of motivation has been defined in several ways. According to Locke and Latham (1990), motivation is defined as an internal circumstance that drive action and external circumstances that act as a driving force to action. Apart from that, Seiler et al. (2012) classified it as an internal force that drives and stimulate behavior. Motivation is a procedure that starts, monitors and support a goal-oriented behavior. It is a force that induce a person to act (Cherry, 2020). Herman and Sharom (2017) defined it as a driving force that acts on a person that induce the person to a gold-directed approach. In addition, Manzoor (2011) emphasized it as power that enhances approach, directs a behavior and stimulate continuity of the approach. After

analyzing the definitions, motivation is concerned with the needs, wants or drives of an individual. Motivation is categorized into two approaches, namely content theories and process theories.

2.3.1 Content Theories

The major content theories of motivation consist of Maslow's hierarchy of needs theory, Alderfer's ERG theory of needs, Herzberg's two factor theory, and McClelland's theory of needs. Content theories emphasizes on the things that motivate people at work. The theory is concerned with identifying an individual's needs, relative strength and the goal that they pursue so that it can be achieved (Dinibutun, 2012).

2.3.1.1 Maslow's Hierarchy of Needs Theory

Maslow's hierarchy of needs theory is founded by Abraham Maslow in year 1943. It explained that all people are having the same type of needs, the type of needs are commonly classified into a series of levels depending on the hierarchy of significance. The theory can be represented by a pyramid or a hierarchy of needs as shown in Figure 2.1. The needs at the bottom must be achieved in order to move up to the higher level (Fisher, 2009). The hierarchy goes from a basic thing that an individual need for surviving to finding a purpose in life (Badubi, 2017). Meaning, as one person achieved a level of satisfaction, then the individual will move up to gain satisfaction at the higher level (Herman and Sharom, 2017). The Maslow's Hierarchy of Needs includes the following needs: -

i. Physiological needs – It is the most basic needs for the survival of a human being that include food, water, oxygen, clothes, shelter and more.
ii. Safety needs – It includes safety and security, free of pain, protection and etc.

iii. Belongingness and love – It is a need for social that includes affection, good relationship, friendship, love and so on.

iv. Esteem needs – It is an individual's need for confidence, power, freedom and achievement.

v. Self-actualization – It is a driver whereby an individual starts to realize personal's achievement and growth.

Physiological needs, safety needs and belongingness and love are lower-order needs that are satisfied externally. However, esteem needs are self-actualization are higher order needs that are satisfied internally.

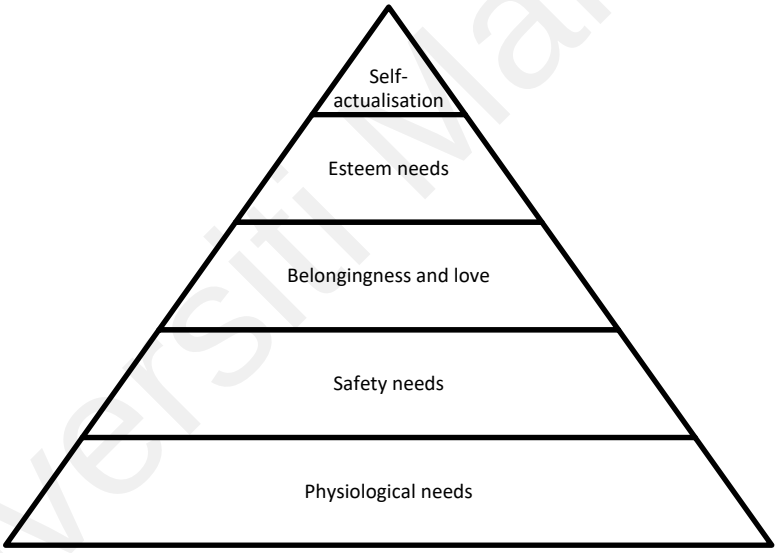

Figure 2.1: Maslow's Pyramid of Needs
(Source: Fisher, 2009)

2.3.1.2 Alderfer's ERG Theory of Needs

ERG theory of needs is founded by Clayton Alderfer in year 1969. The ERG theory spells out "what motivates a person take a move?" Alderfer simplified and categorized the Maslow's hierarchy of needs into existence needs, relatedness needs and growth needs (Chang & Yuan, 2008). Figure 2.2 shows the mapping of Maslow's hierarchy of needs theory and Alderfer's ERG theory of needs. Each category is explained as follows: -

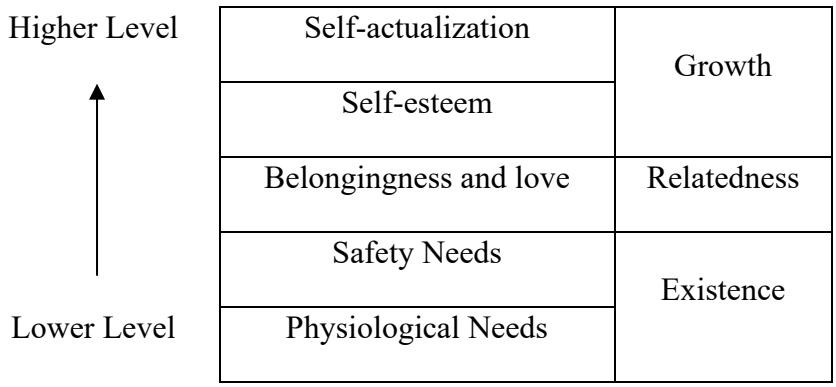

Figure 2.2: Mapping of Maslow's theory and Alderfer's theory

(Source: Chang & Yuan, 2008)

i. Existence Needs – Include all basic survival needs such as food, water, shelter, safety, oxygen and clothes (Yang, Hwang & Chen, 2011).

ii. Relatedness Needs – Enclosed with a relationship with other people such as sense of security and respect (Chang & Yuan, 2008).

iii. Growth Needs – It is a demand from a person to seek for accomplishment towards achieving a goal (Arnolds & Boshoff, 2011).

2.3.1.3 Herzberg's Two-Factor Theory

Herzberg's two factor theory is founded by Fredrick Herzberg in year 1959. The theory is categorized into two groups of factors which are known as motivation factors and hygiene factors (Ruthankoon & Ogunlana, 2003). Motivation factors are linked to the need for growth and self-actualization. It includes achievement, recognition, and responsibility and so on. Hygiene factors emphasizes on the surrounding of the work such as salary, fringe benefits, working conditions and so on (Alshmemri, Akl, & Maude, 2017). The theory explained that the absence of motivation factors decreases the motivation and the presence of motivation factors will increase motivation. On the other hand, the presence of hygiene factors does not lead to any motivation but deterioration of hygiene factors will ensue job dissatisfaction (Ozsoy, 2019).

2.3.1.4 McClelland's Theory of Needs

McClelland's theory of needs is founded by David McClelland in year 1961. The theory is categorized into 3 needs, which are known as need for achievement (nAch), need for power (nPow) and need for affiliation (nAff). The theory states that achievement, power and affiliation are the significant needs that motivates an individual (Dinibutun, 2012).

i. Need for achievement (nAch) – It emphasizes that individual who wants to achieve have a higher tendency to strive for a favorable outcome.
ii. Need for power (nPow) – An individual with a strong need for power will influence others to behave in a way that they would not have behaved otherwise.
iii. Need for affiliation (nAff) – An individual with strong need for affiliation tend to be motivated to maintain a friendly and close interpersonal relationship.

2.3.2 Process Theories

The major process theories of motivation consist of 4 motivation theories, which are Locke's goal setting theory, Skinner's reinforcement theory, Adam's equity theory and Vroom's expectancy theory. Process theories emphasizes on an individual's behaviors that is directed by their needs. The individual will be motivated when their expectations and values are met. Process theories emphasizes on how the individual is motivated (Tan, Rajah & Yusoff, 2014).

2.3.2.1 Locke's Goal Setting Theory

Goal setting theory is founded by Edwin Locke in year 1990. The theory suggests that an individual who has a goal tend to put in more effort towards achieving the goal. Meaning, a person will take actions and find ways to satisfy an unsatisfied need. Individual with a goal tend to perform better than individual who does not have a goal (Lunenburg, 2011).

2.3.2.2 Skinner's Reinforcement Theory

Reinforcement theory is founded by Skinner in year 1963. The theory highlights some characteristics which help to shape an individual's behavior and action (Gordon & Krishanan, 2014). For example, a student who always submit their homework consistently in time will be rewarded and a student who always submit their homework late will be punished. This will induce the students to always submit their homework in time due to the consequences of positive reinforcement and negative reinforcement (Omomia & Omomia, 2014).

2.3.2.3 Adam's Equity Theory

Equity theory is founded by Adam in year 1963. The theory states that an individual will be satisfied when the individual's input is equal to the outcome of others that they are comparing (Robbins & Judge, 2012). The individual's input is referring to the contribution or effort made by the individual and the output refers to the reward that they gained. As a result, this theory is concerned on fairness and equity (Herman and Sharom, 2017).

2.3.2.4 Vroom's Expectancy Theory

Expectancy theory is founded by Victor Vroom in year 1964. The theory states that an individual's tendency to perform depends on the expectation of the outcome and its rewards. In other words, an employee tends to perform better when he believes the performance will eventually lead to reward such as bonus, promotion or increment by the company (Robbins & Judge, 2012).

2.4 Job Performance

Job performance can be interpreted as the total input from an employee's behavior throughout a set timeframe. Job performance is a kind of conduct depicting what an individual has accomplished at work. The work executed by an employee is anticipated to bring a value to an organization – which means, a worker's behaviors may be recognized in the degree which help or impede a company. A good job performance can be achieved when the worker has achieved a certain expectation set by the company (Jalagat, 2016). The productivity of an organization can be measured using the total output of a task to the number of employees engaged in the task to produce the output (Aiyetan & Olotuah, 2006). The result of the employee's works is measured. Therefore, a value is expected (Bullock, 2013).

Job performance identifies how an individual perform in their job obligations. Job performance is affected by the surrounding, including physical demanded work, employee's attitude, level of stress, and overtime. A bad situation of work and high stress level can cause a bad wellbeing such as smoking and a bad eating routine. As a result, it leads to deteriorate of job performance. However, a workplace filled with good environment and great supervision by employer is a crucial factor that leads to improvement in job performance (Ferdiansyah & Rinawati, 2022).

2.5 Relationship between Motivation and Job Performance

Pang and Lu (2018) suggests that in order to improve efficiency and quality of work, organizations should not only focus on the task itself but also develop effective motivation systems to increase employees' motivation towards their work. Maartje (2020) found that salary increments can be an effective motivation tool to increase employee motivation and improve organizational performance, especially when the salary increments are flexible. Pang and Lu (2018) concluded that organizations should define

clear strategies to link performance with rewards in order to improve organizational performance through motivation. Naqbi, Yusoff and Ismail (2018) established that monetary incentives are important factors that contribute significantly to both employee motivation and achievement, which in turn leads to better organizational-level performance returns.

2.6 Motivation Factors Influencing Job Performance Level

The five factors that is influencing the job performance based on Maslow's Hierarchy of Needs theory are discussed and summarized in Table 2.1. The theory is adopted in this study because it continues to be widely utilized in the fields of sociology, management, psychology, and education, providing a comprehensive framework for improving job performance of project manager in the construction industry (Hale et al., 2018).

2.6.1 Physiological Needs

An essential need that must be satisfied for a human. These are the survival needs for an employee that include a good salary, a proper accommodation, any bonus and fringe benefits and overtime that are able to improve job performance level (Barker, 2017).

2.6.1.1 Salary Level

Salary is a payment made by an employer to an employee in exchange for a service rendered by the employee. A salary is usually made by the employer in a monthly basis (Doyle, 2020). A high salary job may give advantage by benefitting the mental satisfaction of an individual.

2.6.1.2 Overtime

Overtime refers to the excess hours work in a day by an employee. The overtime rate is not less than 1 ½ times of the regular hourly rate (Murray, 2021). Therefore, employees

are motivated to work overtime because it can increase their earning, simultaneously benefiting the organization by completing more tasks.

2.6.1.3 Fringe Benefits

Fringe benefits are an additional benefit given by an employer to an employee. Perks usually are in the form of medical insurance, bonuses, allowances, or any free meal (Horton, 2021). Employees who are offered with fringe benefits makes them feel valued and motivated in an organization (Bowman, 2018).

2.6.1.4 Working Conditions

Working conditions emphasizes on the physical surround of work. It includes ventilation, lighting, interior design, comfortability in a work area. A working space with excellent good working condition is able to motivate the workers to work harder and efficiently (Herman & Sharom, 2017).

2.6.2 Safety Needs

After achieving the physiological needs, an individual will be motivated and move up to achieve the safety needs. Safety needs are needs that are able to prevent any hazard which can cause harm to life, such as, safety induction program, job security and a safe working space (Dinibutun, 2012).

2.6.2.1 Job Safety

Workers in the construction field are exposed to more hazard that may potentially harm the workers compared to other industries. As a result, providing the employee with a safe working condition is part of a motivation to improve job performance of an employee

because the employees may feel valued to be a part of the organization (Abrey & Smallwood, 2014).

2.6.3 Belongingness and Love

When physiological and safety needs have been achieved, humans will seek for social belonging. Social belonging includes a good relationship, trust, teamwork and an oriented program (Johnson et al., 2018).

2.6.3.1 Good Relationship with Colleagues

Good relationship between colleagues is important as the employees are working in a same place or project in order to achieve the organization's goal. Employees who have the same culture and tradition may lead to a joyful workplace (Barker, 2017).

2.6.3.2 Good Training Program

A good training program allows the employees to understand the way a company runs, giving themselves more knowledges on the company's goal. Therefore, the employees can be more motivated about their work as more expertise are gained (Bianca, n.d.).

2.6.3.3 Job Involvement

According to a study by Samarasinghe (2016), employee who regularly involve himself in a job tend to have higher opportunity for job promotions and pay raise due to the willingness to strive harder. Apart from that, employee who involve in job has more chances to socialize with their colleague.

2.6.4 Esteem Needs

It is a need that a person's reputation is to be recognized and appreciated by others in the ego needs level. It includes, promotion, recognition on job or by supervisor.

2.6.4.1 Job Recognition

Job recognition emphasizes on the honor or attention an employee receives for doing a task meaningfully and greatly. Employees tend to perform better when the organization acknowledges for their good behavior (Samarasinghe, 2016). To give an example, the employee of the month program is able to let the employee set a clear goal in mind, it is a good way to recognize the employees.

2.6.4.2 Promotion

An organization is more likely to promote an employee to a higher position when the organization acknowledges on the employee's good work. Promotion means more responsibility and power in an organization. Promotion can motivate an employee by giving more chances and shining on their career (Hartman, n.d.).

2.6.4.3 Appreciation and Feedback

Employees tend to be motivated to work better when they received a good feedback or appreciation regarding their work. Feedback is a kind of job recognition on the employee's performance. An appreciation can be some reward to the employee for a good performance (White & White, 2017).

2.6.5 Self-Actualization

Self-actualization emphasizes on an individual's passion to improve and develop capacity and skills. This includes participation in a challenging task and marking a decision for an organization (Barker, 2017).

2.6.5.1 Challenging Work

Employees are likely to build up the sense of competency and enthusiasm by engaging in a challenging task. Thus, it will lead to improve in skills and knowledges of the job (Samarasinghe, 2016).

2.6.5.2 Inadequate Supervision

A study by Kim et al. (2015) found that employees who participate in decision making is able to develop leadership competencies. A good leadership in an organization will bring the team together and achieve the organization's goal.

Table 2.1: Motivation factors affecting job performance level

Category	Motivation Factors	Authors
Physiological needs	Salary	Barker (2017), Famakin (2014), Dorcas (2019), Enshassi et al. (2009), Barg et al. (2014), Smithers and Walker (2000), Aiyetan and Olotuah (2006), Abrey and Smallwood (2014), Kim et al. (2015)
	Overtime	Barker (2017), Enshassi et al. (2009), Aiyetan and Olotuah (2006), Abrey and Smallwood (2014)

	Fringe benefits	Barker (2017), Barg et al. (2014), Smithers and Walker (2000), Aiyetan and Olotuah (2006), Abrey and Smallwood (2014), Kim et al. (2015)
	Working condition	Enshassi et al. (2009), Barg et al. (2014), Smithers and Walker (2000), Aiyetan and Olotuah (2006), Abrey and Smallwood (2014), Sypniewska (2014), Kim et al. (2015)
Safety needs	Job safety	Barker (2017), Famakin (2014), Dorcas (2019), Enshassi et al. (2009), Barg et al. (2014), Abrey and Smallwood (2014), Sypniewska (2014), Kim et al. (2015)
Belongingness and love	Good relationship with colleagues	Barker (2017), Helen et al. (2015), Famakin (2014), Dorcas (2019), Enshassi et al. (2009), Barg et al. (2014), Smithers and Walker (2000), Aiyetan and Olotuah (2006), Abrey and Smallwood (2014), Sypniewska (2014), Kim et al. (2015)
	Good training program	Barker (2017), Helen et al. (2015), Dorcas (2019), Enshassi et al. (2009), Barg et al. (2014), Smithers and Walker (2000), Aiyetan and Olotuah (2006), Abrey and Smallwood (2014)
	Job involvement	Famakin (2014), Enshassi et al. (2009), Barg et al. (2014), Sypniewska (2014)

Esteem needs	Job recognition	Barker (2017), Famakin (2014), Aiyetan and Olotuah (2006), Sypniewska (2014), Kim et al. (2015)
	Promotion	Famakin (2014), Barg et al. (2014), Smithers and Walker (2000), Aiyetan and Olotuah (2006), Sypniewska (2014)
	Appreciation and feedback	Helen et al. (2015), Famakin (2014), Dorcas (2019), Barg et al. (2014), Smithers and Walker (2000), Kim et al. (2015)
Self-actualization	Challenging work	Barker (2017), Famakin (2014), Barg et al. (2014), Smithers and Walker (2000)
	Inadequate supervision	Barker (2017), Helen et al. (2015), Famakin (2014), Dorcas (2019), Barg et al. (2014), Abrey and Smallwood (2014)

2.7 Strategies to Improve Job Performance

Strategies are necessary to be made to address the barriers affecting project managers' job satisfaction in construction projects and to improve project managers' satisfaction level with their job and workplace. However, few research efforts have been made in this field. Fortunately, studies have developed strategies to improve managers' job satisfaction in general discipline and employees' job satisfaction in the construction sector.

Project managers may feel satisfaction from their job if they have sufficient responsibility and utilize a wider range of skills. To equip project manager with the relevant knowledge areas and skills, sufficient resources should be provided to boost

project managers' capabilities, such as training courses. According to Anderson (1992), many individuals who become project managers have a background in a specific technical field, such as civil engineering or mechanical engineering. However, they may lack the necessary managerial skills to effectively carry out their role. Typically, their training involves learning on the job, often in a trial-and-error manner. Formal training, if provided at all, usually occurs later. It could be advantageous to initiate project management training prior to promoting individuals to management positions. This training could be conducted internally for larger companies or through external management programs designed specifically for project managers in the construction industry.

In additions, as reported by Dai and Wells (2004), having a capable mentor can greatly assist a novice project manager in acquiring the necessary managerial skills for effective project management. This mentor should ideally be a mid to high-level manager with substantial experience in project management. They should be willing to dedicate time to guide and support the project manager in cultivating valuable managerial qualities. This mentorship should encompass career counseling to provide an unbiased evaluation of the individual's skills and potential. Additionally, the mentor should aid the project manager in formulating career plans that foster the enhancement of managerial skills through accumulated project experience.

An efficient communication management system is required to disseminate the information and work procedures of a construction projects in timely manner to prevent errors. Creating a transparent and open lines of communication among the project manager, team members, stakeholders, and higher management is able to improve the job performance of project manager. Regular and clear communication is vital for managing expectations, addressing conflicts, and ensuring that everyone is well-informed and working towards the same goals. (Zhao et al., 2020).

Moreover, acknowledge and reward the accomplishments and success of the project manager are one of the ways to improve the performance of project manager. This can be in the form of public recognition, incentives based on performance, chances for career growth, or other types of acknowledgment from the organization that inspire and reinforce their dedication to maintaining high job performance (Ahmad et al., 2022).

Lastly, adequate resources are essential to improve the performance of project manager. Resources can be in a form of budget, human resources, tools, technologies to efficiently oversee the project (Ling et al., 2017). Sufficient allocation of resources empowers the project manager to achieve outcomes in a productive and effective manner.

2.8 Summary of Chapter

To summarize, the literature review has explained on the theories and listed the factors of motivation that affects the job performance level based on the Maslow's theory. The factors of motivation have been explained according. Then, the roles and responsibilities of the project manager and the strategies to improve the job performance have been listed and described accordingly.

CHAPTER 3: METHODOLOGY

3.1 Introduction

The techniques and methods to conduct this research are interpreted and clarified to realize the objectives of the research. The methodologies adopted in this study are described and explained in details to ensure data and information received are reliable and systematic.

3.2 Research Design

Abbott and McKinney (2013) defined research design as a mode of observation that let researchers monitor and survey in a systematic and structured ways. It is used as a guide for the researchers to resolve the problem encountered in the research. As a result, the preference of research design is crucial in defining research success (Moffatt, 2015). Research design shows the procedure of conducting the research by adopting different method in collecting and gathering data for the purpose of analyzing it.

This research focus on the motivation factors that affect job performance of project manager in the construction industry of Malaysia and Singapore. Then, a thorough literature review of motivation and job performance of project manager is conducted to put together all existing studies and findings on the research area. The literature review conducted is to achieve the aim of identifying the motivation factors that affect job performance of project manager in both countries based on studies by other researchers. The literature review was conducted through findings from journals, books and websites in order to achieve the research objective.

Then, a quantitative research method is chosen for this research. The sample size is determined prior to distribution of the questionnaire to the public. The questionnaire is then distributed for data collection from the targeted respondents which are the project manager in the construction industry of Malaysia and Singapore only.

The data collected are analysed using quantitative data analysis through the SPSS software version 26. The results obtained are discussed to either confirm or reject the hypothesis obtained earlier. The data and figures concluded are analysed using different research method in order to achieve the research objectives. For instance, the demographic of respondents, the motivation factors that affect job performance of project manager and competencies of project manager's role in charts and figures mode.

Lastly, the research is concluded to discuss on the importance of the findings. The findings are linked to the previous study by other researchers. The motivation factors that affect job performance of project manager in the construction industry of Malaysia and Singapore are determined. Figure 3.1 depicts the flow chart of the process of this research.

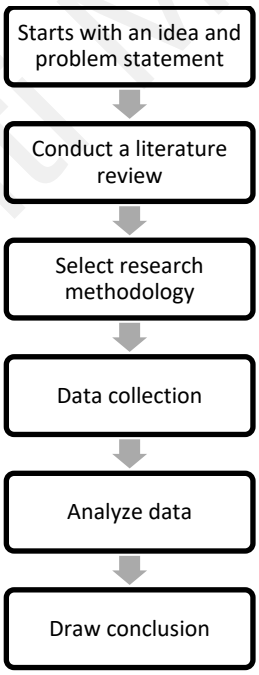

Figure 3.1: Research process

3.3 Research Approach

Research methodology refers to the way a researcher conducts systematic research to address the aims and objectives of a study (Kothari, 1990). The suitable type of research approach to be adopted in research depends on nature of the research question. There are two basic kinds of research approach, namely quantitative and qualitative method of analysis (Noor, 2008).

The research strategy that is to be adopted in this study is the quantitative method. A set of questionnaires are produced to identify the motivation factors towards improving job performance of project manager in the construction industry. The survey focused on the strategy of motivation and current performance of project manager in the construction industry of Malaysia.

Question in questionnaires can be categorized into two types, namely open-ended and closed-ended questions. Open-ended questions enable the respondents to answer in text format, respondents are allowed to provide any form of answer. Closed-ended questions limit and narrow the answer to a given set of options (Reja et al., 2003). However, a closed-ended question is adopted in this research.

3.3.1 Qualitative Research Method

Silverman (2020) describes qualitative research as an exploratory study, it is used to determine the underlying logics, idea, and motivations. This method is adopted to discover movement in perception and opinion, and investigate thoroughly into a problem. This method only applies to a small sample size of population to gain data from selected respondents. Qualitative method has several types, such as in-depth interview, focus groups, documents and so on (Ma, 2000). In-depth interviews can provide explicit information from a group of information (Bhawna and Gobind, 2015). Interview can be conducted unstructured or semi-structured. Unstructured interviews are interviews that

are not planned in advance. Instead, the questions arise in a free-flowing conversation; while an interviewer will ask the interviewee a few pre-planned questions and the rest are not determined in advance (Leavy, 2000).

3.3.2 Quantitative Research Method

Quantitative research method is adopted to explain on the phenomena by quantifying variables that are analyzed mathematically. The analyzed variables are transformed into a statistic. This method is suitable for research that involves a larger sample size of respondents (Silverman, 2020). Questionnaire survey is a significant instrument to conduct this method. The questionnaire survey questions will be prepared by the researchers and the questionnaire will be given out to the respondent for answering. The data obtained from the questionnaire will be transformed into a numerical data for analysis.

3.3.3 Justification of Selection

In short, quantitative research method is adopted in this research due to several factors. Firstly, this research involves a large amount of participation from the respondents from Selangor in a very short period. Thus, by adopting quantitative research method, it can generalize the whole population when the sample size is well-selected. Moreover, the data generated is in numerical form and is arranged in a simple analytical method. The received table are in the form of table, charts and figures. Therefore, statistic tests can be performed to a large amount of data to provide statements on the data. In addition, the questionnaire is prepared in a very structured manner, the research objective shall be answered easily because the research questions are designed to achieve the research objective. Lastly, data collection and data analysis for quantitative research method is faster when compared to qualitative method.

3.4 Research Techniques

3.4.1 Literature Review

To establish research objectives, a literature review was conducted to enrich the researcher's existing understanding of the study area. The literature review aids in systematically collecting essential information, serving as a guide to assess the appropriateness of the chosen research topic. The literature review is conducted to have in-depth understanding of the knowledge on motivation and job performance of project manager. This involved reviewing journals, research papers and books from other authors obtained from databases such as ScienceDirect, IEEE, Sage Journal and so on from year 1990 to 2023. The purpose of conducting the literature review is to establish context, identify gaps in knowledge and identifying key concepts and theories such as motivation factors by Maslow, strategies to improve job performance and job performance of project manager. The findings from the literature review were used to design the questionnaire.

3.4.2 Questionnaire

Quantitative method research has been adopted and a sets of questionnaire survey has been given out as a survey instrument. A questionnaire survey is the most suitable and appropriate method to be adopted in this research to ensure research objectives and aim are realized in a short period.

3.4.2.1 Purpose of Questionnaire

The questionnaire was designed to identify motivation factors that improve the job performance of project manager. Understanding the important factors will enable researcher to propose a suitable strategy to maximize the performance of project manager. Furthermore, the questionnaire was also designed to find out the strategies to improve job performance of project manager.

3.4.2.2 Design of Questionnaire

The questionnaire in this study is designed to include only close-ended type question with measurements that included the range of nominal and ordinal scale. Each question is compulsory to be answered by respondents and are limited to one most relevant answer only. The survey form is categorized to 3 different sections as follow: -

i. Section A – Personal information of the respondent
    a. Respondents are required to select their gender, age, occupation and working experience accordingly. Each question is compulsory to be answered.

ii. Section B – Motivation factors affecting job performance of project manager
    a. Respondents are required to select the most relevant responses from the five-point Likert Scale questions. The questions designed are a list of motivation factors that will affect the job performance level. Each question is compulsory to be answered and respondents are free to answer all question based on their perception.

Table 3.1: Likert scale question for section B

Value	1	2	3	4	5
Statement/ Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

iii. Section C – Strategies to improve job performance of project manager
    a. Respondents are required to select the most relevant responses from the five-point Likert Scale questions. The questions designed are a list of strategies that will affect the job performance level. Each question is compulsory to be answered and respondents are free to answer all question based on their perception.

Table 3.2: Likert scale question for section C

Value	1	2	3	4	5
Statement/ Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

iv. Section D – Job performance of project manager

a. Respondents are required to rate the performances from the five-point Likert Scale questions. The questions designed are a list of job performance of project manager. Each question is compulsory to be answered and respondents are free to answer all question based on their perception.

Table 3.3: Likert scale question for section D

Value	1	2	3	4	5
Statement/ Question	Very poor	Poor	Neutral	Good	Excellent

3.4.3 Data Sampling

In order to maximize the gathering of respondents, it is crucial for the researcher to first determine the specific individuals who will be selected as the sample before distributing the questionnaires. To ensure the applicability of the findings to the entire population, it is essential to choose a sample that accurately represents the population as a whole (Kumar, Talib, & Ramayah, 2013). This sampling is required since contacting every project manager one by one to obtain their responses would be time consuming. In this research, project manager of the construction organization in Malaysia and Singapore were targeted to obtain their feedback in identifying the motivation factors to improve their job performance.

Respondents were randomly selected from the samples to generalize the entire population. The population chosen in this research are the G7 contractors from Selangor in Malaysia and contractors from Singapore only. The list of G7 contractors from

Selangor can be obtained from the Construction Industry Development Board (CIDB) website. On the other hand, the list of contractors from Singapore can be obtained from Building and Construction Authority (BCA). There are a total of 3096 numbers of G7 contractors' firm in Selangor and 136 numbers of class A1 General Building and Civil Engineering contractors in Singapore. G7 contractors in Malaysia and A1 contractors from Singapore have unlimited bidding limit. Thus, it can participate in project with a huge value (Muthusamy & Chew, 2020; Chua et al., 2018).

The sample size is determined using the rules of thumb developed by Roscoe (1975), whereby the sample size of the research should be about 30 to 500 people. When it is applied to a subsample such as males and females, it shall be analyzed separately and each subsample shall have at least 30 sample (Nikbin et al., 2012).

3.4.4 Distribution of Questionnaire

The questionnaires are distributed through using email attached with a Google Form link to the targeted respondents. The respondents' email address was obtained from the CIDB Malaysia (https://cims.cidb.gov.my/smis/regcontractor/reglocalsearchcontractor.vbhtml) and BCA Singapore (https://www.bca.gov.sg/BCADirectory/Classification/Details/128) website. The respondents were given 6 weeks duration to answer the questionnaire. Due to a low response rate, a follow up email was sent on the 4th week that serve as a reminder to the respondents that does not reply to the questionnaire.

3.5 Data Analysis

The process of data analysis includes preparing, sorting, summarizing, rearranging and tabulating the data in order to smoothen the interpretation process. All the information and data obtained are analyzed using SPSS software version 26. Firstly, descriptive analysis such as Cronbach's Alpha Reliability Method was performed first to identify the

normality of the distribution, reliability of the responses as well as its mean and standard deviation. Next, it was followed by Frequency Distribution Analysis, Pearson Correlation Test and Mann-Whitney U Test for different research objectives. Table 3.4 shows the analysis method for different research objectives.

Table 3.4: Analysis method for different research objectives

Research Objectives (RO)	Analysis Method
RO1: To determine the motivation factors that affect job performance of project manager in Malaysia and Singapore.	i. Mann-Whitney U Test
RO2: To analyze the most significant motivation factors that affect job performance of project manager in Malaysia and Singapore	i. Mann-Whitney U Test ii. Pearson's Correlation Test
RO3: To suggest a suitable strategy that can improve the job performance of project manager in Malaysia and Singapore	

3.5.1 Cronbach's Alpha Reliability Test

Cronbach's Alpha Reliability test used to measure the internal consistency. It determines the correlation value for a set of items in a group. This test is commonly used for Likert questions in a questionnaire to determine the reliability of the survey. A higher Cronbach's Alpha Value means the data obtained are more consistent and reliable. Oppositely, the lower the Cronbach's Alpha Value for a data, the lower the consistency and reliability. The formula for Cronbach's alpha method is:

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N-1) \cdot \bar{c}}$$

Whereby, N is the number of items, $\bar{c}$ is the average covariance between item-pairs and $\bar{v}$ is the average variance. The range of α value is 0 to 1. A rule of thumb to interpret the range of internal consistency of Alpha value by Pallant (2010) is shown in table 3.5.

Table 3.5: Internal consistency of Cronbach's Alpha Reliability Method

Cronbach's Alpha Value (α)	Internal Consistency
≥ 0.90	Excellent
0.80 - 0.89	Good
0.70 - 0.79	Acceptable
0.60 - 0.69	Questionable
0.50 - 0.59	Poor
< 0.5	Unacceptable

3.5.2 Frequency Distribution Analysis

Frequency distribution analysis is a table that depicts the different categories of measurement and the number of observations for each category (Fletcher et al., 2014). In this study, 256 sets of questionnaires have been distributed for a survey. These numbers for the respondents are changed into percentage for data analysis. Then, various types informational maps are constructed based on the collected data to describe the statistics.

3.5.3 Mann-Whitney U Test

The Mann-Whitney U test is a non-parametric test. It is a statistical test to compare data from different independent group in a population which does not requires a large sample size. It is used to identify whether there are any significant differences in agreement level and perception between the two sample means from two different group (MacFarland & Yates, 2016).

The test is applied in this research to compare the opinions and experiences from two different group of samples which are project manager from Singapore and Malaysia. This is because project managers from different countries may have a different opinion on the motivation factors and job performance of project managers. Table 3.6 shows the hypotheses of Mann-Whitney U test. Null hypothesis rejected when $p > 0.05$, it denotes there is no major difference among the two variables. Thus, the null hypothesis (H0) is accepted. At the flip side, the null hypothesis (H0) is accepted when $p \leq 0.05$, there is

significant difference among the two variables. Thus, the alternative hypothesis (H1) is accepted.

Table 3.6: Hypotheses for Mann-Whitney U test

Mann-Whitney U Test (P)	Hypotheses
> 0.05	Null hypotheses
≤ 0.05	Alternative hypotheses

3.5.4 Pearson's Correlation Test

Pearson's Correlation is used to identify the linear relationship between two quantitative and continuous variables. The motivation factors and job performance of project manager are the two variables that are being applied to determine the relationship. Pearson's coefficient, r is ranged from -1 to 1, the value closer to the range indicates it has a significant linear correlation.

3.6 Summary of Chapter

To summarize, this research was conducted by using quantitative research. Questionnaires were distributed through email. The questionnaire consists of three sections and respondents are required to select the most relevant answers. The targeted respondents in this research are project managers from the construction industry of Malaysia and Singapore. Additionally, the results from the collected data were analyzed using frequency distribution analysis, Cronbach's Alpha Reliability Test, Mann-Whitney U test and Pearson's correlation test.

CHAPTER 4: RESULTS

4.1 Introduction

Results and findings of this research are discussed and interpreted in this chapter. The results generated in this chapter are categorized and interpreted into four parts, mainly frequency distribution analysis of the respondents' biographical data, reliability test on results obtained by using Cronbach's Alpha reliability test, Mann-Whitney U test for the motivation factors and job performance of project manager and Pearson's correlation test. Lastly, a brief conclusion is provided to summarize the study.

4.2 Demographic of Respondents

In this research, 256 sets of questionnaires had been sent out by email to the project manager in the construction industry based in Singapore and Malaysia. However, only 86 sets had been answered with a response rate of 33.6% and the rest are not responded. The data collection process has taken 6 weeks to conduct, from 23rd October 2023 to 3rd December 2023. 50% of the respondents are from Malaysia and 50% of the respondents are from Singapore.

4.2.1 Gender of Respondents

The first question requires the respondent to answer their gender. Figure 4.1 shows the percentage and frequency of respondents by gender.

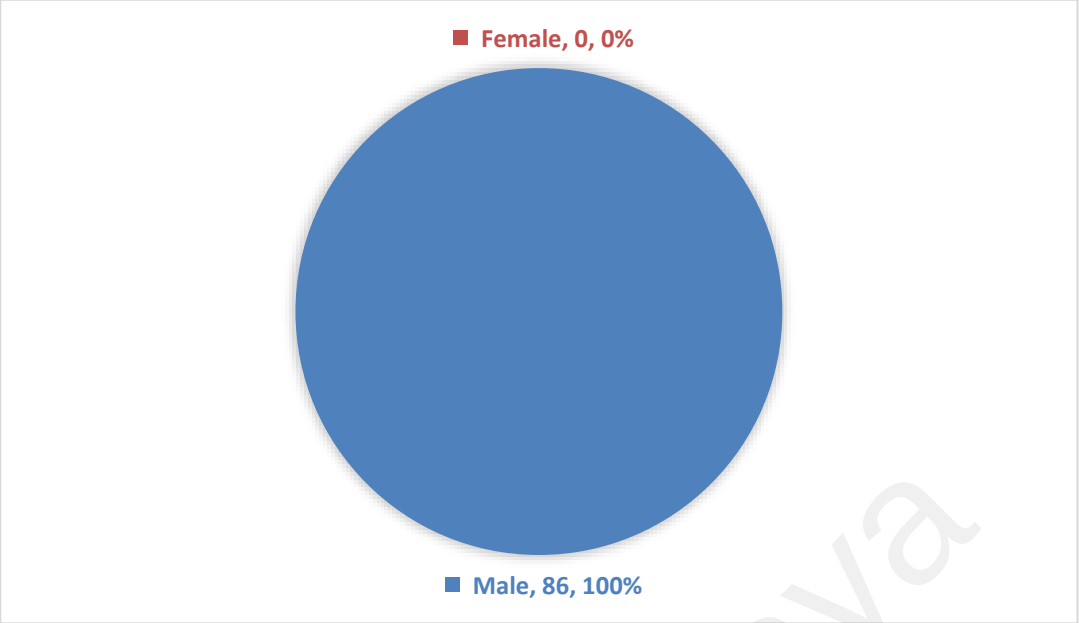

Figure 4.1: Gender of respondents

There were 86 male respondents which contributed to 100% of the total respondents and 0 female respondent was recorded.

4.2.2 Age of Respondents

Figure 4.2 depicts the percentage and frequency of respondents by age.

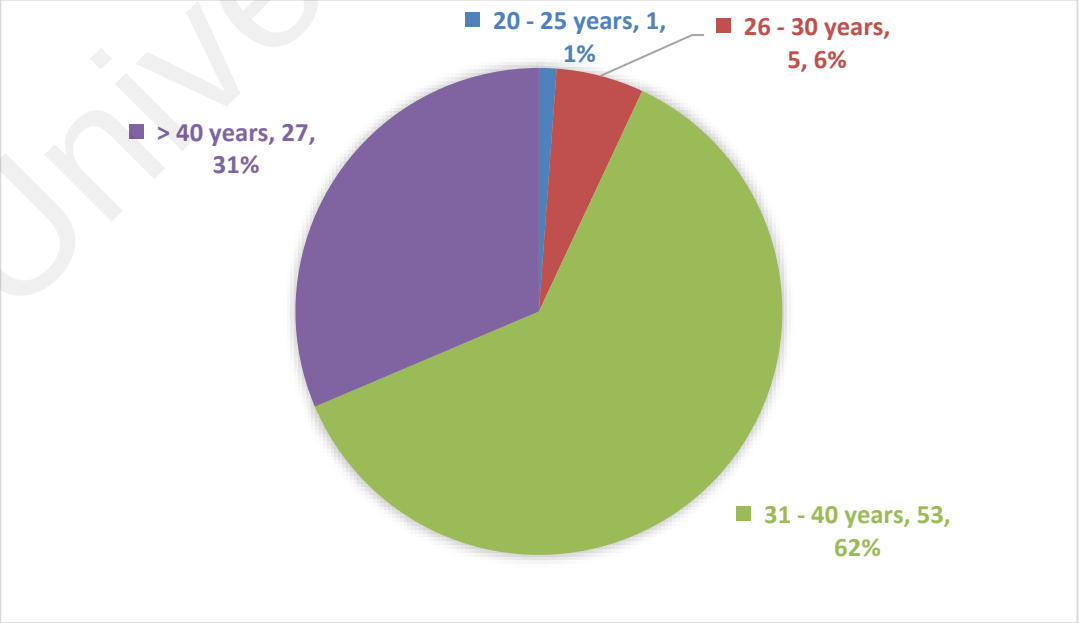

Figure 4.2: Age of respondents

Figure 4.2 shown that there were 1 respondent aged from 20 – 25 years old forming 1% of the total respondents, 5 respondents aged from 26 – 30 years old that forms 6% of the total respondents, 53 respondents aged from 31 – 40 years old that forms 62% of the total respondents, and 27 respondents aged above 40 years old that forms 31% of the total respondents.

4.2.3 Working Experience of Respondents

Figure 4.3 shows the percentage and frequency of respondents by working experience.

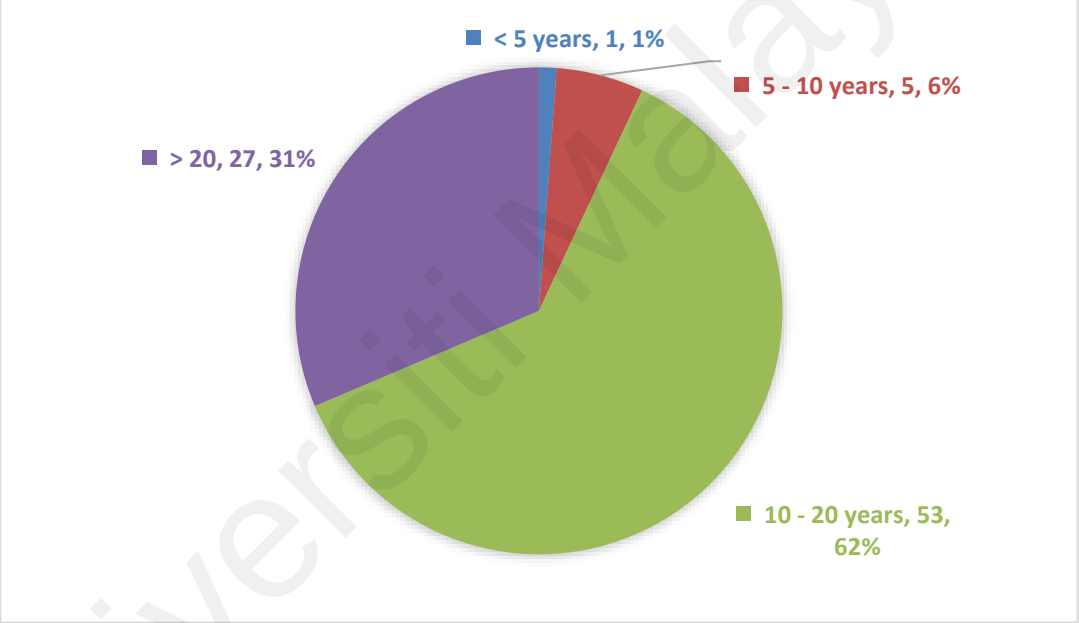

Figure 4.3: Work experience of respondents

Figure 4.3 shows that there were 1 respondent has working experience that is lesser than 5 years that forms 1% of the total respondents, 5 respondents with working experience from 5 to 10 years that forms 6% of total respondents, 53 respondents with working experience from 10 to 20 years that forms 62% of total respondents, and lastly, 27 respondents with working experience more than 20 years that forms 31% of total respondents.

4.2.4 Working Country

Figure 4.4 depicts the percentage and frequency of respondents by country of work.

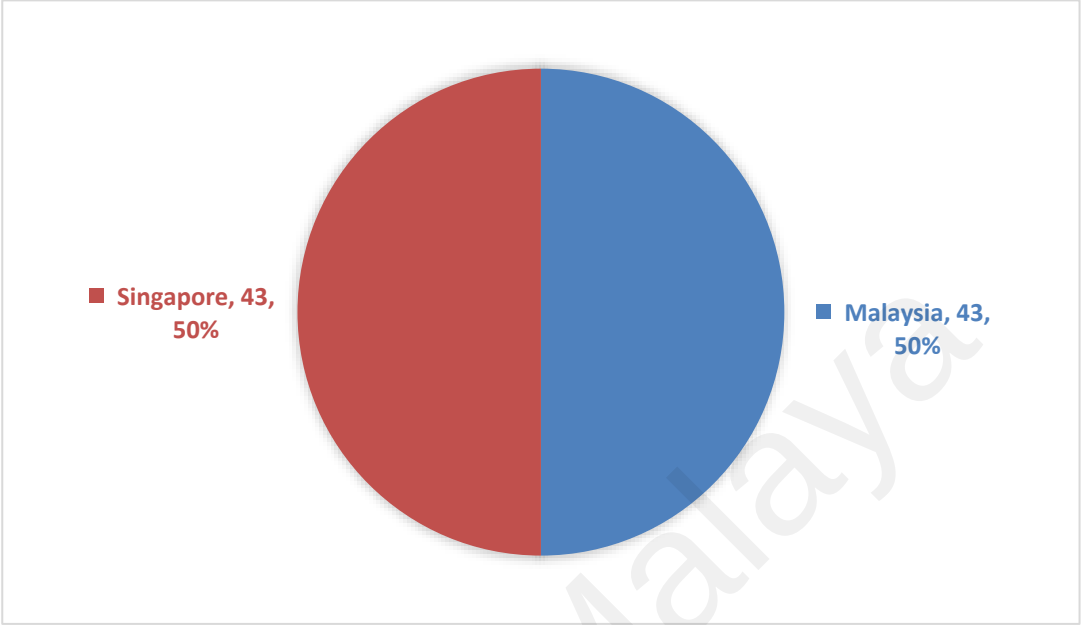

Figure 4.4: Working country of respondents

Figure 4.4 shows that there were 43 respondents that is working in Singapore and Malaysia that forms 50% of the total respondents respectively.

4.3 Cronbach's Alpha Reliability Test

The feedback from the 86 respondents is analyzed using SPSS. Table 4.1 depicts the value of Cronbach's Alpha for motivation factors influencing job performance at 0.783.

Table 4.1: Reliability statistics of motivation factors influencing job performance

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.783	0.765	13

The value falls in the acceptable category as shown in table 3.4. This may be due to the reason that there are less respondents participated in the survey due to time constraint. As a result, the data obtained is acceptable to be used for data analysis.

Table 4.2 depicts the value of Cronbach's Alpha for strategies to improve job performance at 0.798.

Table 4.2: Reliability statistics of strategies to improve job performance

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.798	0.816	5

The Cronbach's Alpha value at 0.798 falls at the good result. Thus, it is denoted that the data obtained is reliable for analysis purpose.

Table 4.3 depicts the value of Cronbach's Alpha for strategies to improve job performance at 0.798.

Table 4.3: Reliability statistics of job performance of project manager

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.782	0.782	6

The value falls in the acceptable category as shown in table 3.4. This may be due to the reason that there are less respondents participated in the survey due to time constraint. As a result, the data obtained is acceptable to be used for data analysis.

4.4 Motivation Factors Influencing Job Performance

The objective of having this section is to determine the motivation factors that influence the job performance of project manager from Singapore and Malaysia. The respondents are required to rate the motivation factors based on their perception and agreement.

4.4.1 Mean Analysis of Motivation Factors Influencing Job Performance

Table 4.4 shows the mean ranking of motivation factors that influence the job performance based on the perception and agreement of the project manager from Singapore and Malaysia. The higher the mean value, the higher the agreement level from the respondents.

Table 4.4: Mean ranking of motivation factors influencing job performance

Code	Factors	Mean	Ranking
F1	High salary level	4.80	1
F2	Fringe benefits	4.71	2
F3	Job safety	4.45	3
F4	Working relationship with colleagues	4.33	4
F5	Overtime	4.14	5
F6	Working conditions	4.09	6
F7	Promotion	4.07	7
F8	Appreciation and feedback by superior	4.01	8
F9	Job recognition by superior	3.97	9
F10	Job involvement	3.69	10
F11	Participation in decision making	3.59	11
F12	Adequate supervision by superior	2.86	12
F13	Involvement in challenging works	2.78	13

Table 4.4 presents the results of the mean ranking of motivation factors that influence job performance of project manager in the construction industry of Malaysia and Singapore. The motivation factors are presented in following descending order. In short, high salary level was ranked first. It was followed by fringe benefits, job safety, working relationship with colleagues, overtime, working conditions and promotion. Appreciation and feedback by superior were ranked eighth. Involvement in challenging works by project manager was ranked the last at thirteenth.

4.4.2 Mann-Whitney U Test of Motivation Factors Influencing Job Performance

Mann-Whitney U Test is conducted to determine the difference in agreement level and perception between project manager from Singapore and Malaysia. The p-value used in this analysis is 0.05.

Table 4.5 shows the outcome of the test for motivation factors that influence the job performance of project manager based on the agreement of project manager from Singapore and Malaysia. The test has revealed that there are 9 factors that show significant difference in agreement of factors.

Table 4.5: Mann-Whitney U Test of motivation factors influencing job performance

Code	Factors	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
F1	Job recognition by superior	163.500	1109.500	-7.153	**0.000***
F2	Promotion	212.500	1158.500	-6.730	**0.000***
F3	Job safety	251.000	1197.000	-6.643	**0.000***
F4	Involvement in challenging works	388.500	1334.500	-5.089	**0.000***

F5	Participation in decision making	392.000	1338.000	-5.034	**0.000***
F6	Overtime	408.000	1354.000	-4.851	**0.000***
F7	Job involvement	432.500	1378.500	-4.746	**0.000***
F8	Working relationship with colleagues	469.000	1414.500	-4.403	**0.000***
F9	Adequate supervision by superior	532.500	1478.500	-1.387	**0.000***
F10	Appreciation and feedback by superior	824.500	1770.500	-1.387	0.165
F11	Working conditions	879.500	1825.500	-0.540	0.565
F12	High salary level	894.000	1840.000	-0.424	0.672
F13	Fringe benefits	899.000	1845.000	-0.299	0.765

Table 4.5 shows that there are 9 factors that has significant difference of agreement between project manager from Malaysia and Singapore, which are F1 = 'Job recognition by superior' (p = 0.000), F2 = 'Promotion' (p = 0.000), F3 = 'Job safety' (p = 0.000), F4 = 'Involvement in challenging works' (p = 0.000), F5 = 'Participation in decision making' (p = 0.000), F6 = 'Overtime' (p = 0.000), F7 = 'Job involvement' (p = 0.000), F8 = 'Working relationship with colleagues' (p = 0. 000) and F9 = 'Adequate supervision by superior' (p = 0. 000). Therefore, the alternative hypothesis (H1) is accepted by F1, F2, F3, F4, F5, F6, F7, F7, F8 and F9 where all P value is not more than 0.05. Whilst, other factors such as F10 = 'Appreciation and feedback' (p = 0.165), F11 = 'Working conditions' (p = 0.565), F12 = 'High salary level' (p = 0.672) and F13 = 'Fringe benefits' (p=0.765) are higher than 0.05. Thus, there are no significant difference between

the agreement from project manager in Singapore and Malaysia. As a result, alternative hypothesis (H1) is rejected by F10, F11, F12 and F13 where P value is more than 0.05.

Table 4.6 is tabulated to identify the difference in agreement level on the motivation factors that influence the job performance of project manager from Singapore and Malaysia.

Table 4.6: Mean ranking of motivation factors influencing job performance

Code	Factors	Region	N	Mean Rank	Sum of Ranks
F1	Job recognition by superior	Malaysia	43	25.80	1109.5
		Singapore	43	61.20	2631.5
F2	Promotion	Malaysia	43	26.84	1158.5
		Singapore	43	60.06	2582.5
F3	Job safety	Malaysia	43	27.84	1197.0
		Singapore	43	59.16	2544.0
F4	Involvement in challenging works (self-actualization)	Malaysia	43	31.03	1334.5
		Singapore	43	55.97	2406.5
F5	Participation in decision making (self-actualization)	Malaysia	43	31.12	1338.0
		Singapore	43	55.88	2403.0
F6	Overtime	Malaysia	43	31.49	1354.0
		Singapore	43	55.51	2387.0
F7	Job involvement	Malaysia	43	54.94	2362.5
		Singapore	43	32.06	1378.5
F8	Working relationship with colleagues	Malaysia	43	32.91	1415.0

		Singapore	43	54.09	2326.0
F9	Adequate supervision by superior (self-actualization)	Malaysia	43	34.38	1478.5
		Singapore	43	52.62	2262.5

Among the 13 factors as shown in table 4.5, there are 9 motivation factors which shown significant difference in perception between the project manager from Singapore and Malaysia. The 9 motivation factors are categorized and explained according to Maslow's pyramid of needs theory.

Physiological needs include F6 = 'Overtime'. For F6, it has a mean rank 31.49 for Malaysia which is lower than Singapore at 55.51. This may be due to the fact that project manager in Singapore who is fall under the category of non-workman is not entitled for overtime pay (Ministry of Manpower, 2023). Therefore, project manager in Singapore have higher perception that overtime payment is a motivation factors that improve job performance as compared to project manager from Malaysia.

Safety and security needs include F3 = 'Job safety', F3 has a mean rank of 27.84 for project manager based in Malaysia which is a lot lower than project manager in Singapore at 59.16. This shown that the project manager from Singapore has higher agreement level that job safety is a motivation factors that improve job performance as compared to project manager from Malaysia. This may be due to the reason that Singapore authority imposed a harsher penalty to the company when there are any breach of safety at the worksite (Liew, 2022).

Moving up to social belonging level, it includes two motivation factors, which are F7 = 'Job involvement' and F8 = 'Working relationship with colleagues'. For F7, it has a mean rank of 54.09 for project manager from Malaysia which is higher than project manager from Singapore at 32.06. This shown that the project manager from Malaysia

has higher agreement level than project manager from Singapore that higher involvement in job is able to improve job performance. At the flip side, F8 has a mean rank of 32.91 for project manager from Malaysia which is lower than project manager from Singapore at 54.09. This denotes that the project manager from Singapore has higher agreement level than project manager from Malaysia that better working relationship with colleagues is able to improve job performance.

Self-esteem needs include F1 = 'Job recognition by superior' and F2 = 'Promotion'. For F1, it has a mean rank of 25.80 for project manager from Malaysia which is lower than project manager from Singapore at 61.20. This shown that the project manager from Malaysia has lower agreement level than project manager from Singapore that job recognition by superior is able to improve job performance. Apart from that, F2 has a mean rank of 26.84 for project manager from Malaysia which is higher than project manager from Singapore at 60.06. This denotes that the project manager from Malaysia has lower agreement level than project manager from Singapore that promotion to higher position is able to improve job performance.

Moving up to self-actualization needs, it includes two motivation factors, which are F4 = 'Involvement in challenging work', F5 = 'Participation in decision making' and F9 = 'Adequate supervision by superior'. For F4, it has a mean rank of 31.03 for project manager from Malaysia which is lower than project manager from Singapore at 55.97. For F5, it has a mean rank of 31.12 for project manager from Malaysia which is lower than project manager from Singapore at 55.88. At the same time, for F5, it has a mean rank of 34.38 for project manager from Malaysia which is lower than project manager from Singapore at 52.62. This can conclude that the project manager from Singapore has higher agreement level than project manager from Malaysia that involvement in challenging work, participation in decision making and adequate supervision by superior are able to improve their job performance.

4.5 Strategies to Improve Job Performance of Project Manager

The objective of having this section is to determine the strategies to improve job performance of project manager in the construction industry of Malaysia and Singapore. The respondents are required to rate the strategies based on their perception and agreement.

4.5.1 Mean Analysis of Strategies to Improve Job Performance of Project Manager

Table 4.7 depicts the mean ranking of strategies to improve job performance of project manager based in Malaysia and Singapore. The higher the mean value, the higher the agreement level from the respondents.

Table 4.7: Mean ranking of strategies to improve job performance of project manager

Code	Factors	Mean	Ranking
S1	Knowledgeable project management skills	4.80	1
S2	Having a capable mentor	4.73	2
S3	Efficient communication management system	4.72	3
S4	Having adequate resources	4.72	3
S5	Acknowledging and rewarding on accomplishment	4.41	4

Table 4.7 presents the results of the mean ranking of strategies to improve job performance of project manager in the construction industry of Malaysia and Singapore. The strategies are presented in following descending order. In short, knowledgeable project management skills was ranked first. It was followed by having a capable mentor, efficient communication management system and having adequate resources. Acknowledging and rewarding on accomplishment was ranked the last at fourth.

4.6 Job Performance of Project Manager

The objective of having this section is to determine the job performance of project manager in the construction industry of Malaysia and Singapore. The respondents are required to rate their job performance based on their perception and agreement.

4.6.1 Mean Analysis of Job Performance of Project Manager

Table 4.8 depicts the mean ranking of job performance of project manager based in Malaysia and Singapore. The higher the mean value, the higher the agreement level from the respondents.

Table 4.8: Mean ranking of job performance of project manager

Code	Factors	Mean	Ranking
T1	Planning activities, scopes, schedules and budget	4.78	1
T2	Managing project team member	4.73	2
T3	Monitoring the progress of project	4.48	3
T4	Conducting feasibility studies	4.44	4
T5	Overseeing the quality, safety and health of project	4.44	4
T6	Commissioning and handing over of work package	4.40	5

4.6.2 Mann-Whitney U Test of Job Performance of Project Manager

Mann-Whitney U Test is conducted to determine the difference in agreement level and perception between job performance of project manager from Singapore and Malaysia. The p-value used in this analysis is 0.05.

Table 4.9 shows the outcome of the test for job performance of project manager based on the agreement of project manager from Singapore and Malaysia. The test has revealed that there are 4 job performance that show significant difference in agreement of factor.

Table 4.9: Mann-Whitney U Test of motivation factors influencing job performance

Code	Factors	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
T1	Conducting feasibility studies	229.5	1175.5	-6.861	**0.000***
T2	Overseeing the quality, safety and health of project	294.5	1240.5	-6.219	**0.000***
T3	Monitoring the progress of project	315.5	1261.5	-6.007	**0.000***
T4	Commissioning and handing over of work package	329.0	1275.5	-5.817	**0.000***
T5	Managing project team member	918.5	1864.5	-0.076	0.939
T6	Planning activities, scopes, schedules and budget	921.0	1867.0	-0.047	0.962

Table 4.9 shows that there are 4 job performance that has significant difference of agreement between project manager from Malaysia and Singapore, which are T1 = 'Conducting feasibility studies' (p = 0.000), T2 = 'Overseeing the quality, safety and health of project' (p = 0.000), T3 = 'Monitoring the progress of project' (p = 0.000), and F4 = 'Commissioning and handing over of work package' (p = 0. 000). Therefore, the alternative hypothesis (H1) is accepted by T1, T2, T3 and T4 where all P value is not more than 0.05. Whilst, other job types such as T5 = 'Appreciation and feedback' (p = 0.939 and T6 = 'Fringe benefits' (p=0.962) are higher than 0.05. Thus, there are no significant difference between the agreement from project manager in Singapore and

Malaysia. As a result, alternative hypothesis (H1) is rejected by T5 and T6 where P value is more than 0.05.

Table 4.10 is tabulated to identify the difference in agreement level on the job performance of project manager from Singapore and Malaysia.

Table 4.10: Mean ranking of job performance of project manager

Code	Job Performance	Region	N	Mean Rank	Sum of Ranks
T1	Conducting feasibility studies	Malaysia	43	27.33	1755.5
		Singapore	43	59.66	2565.5
T2	Overseeing the quality, safety and health of project	Malaysia	43	28.85	1240.5
		Singapore	43	58.15	2500.5
T3	Monitoring the progress of project	Malaysia	43	29.34	1261.5
		Singapore	43	57.66	2479.5
T4	Commissioning and handing over of work package	Malaysia	43	29.65	1275.0
		Singapore	43	57.35	2466.0

Among the 6 job performances as shown in table 4.9, there are 4 job performance which shown significant difference in perception between the project manager from Singapore and Malaysia.

For T1 = 'Conducting feasibility studies', it has a mean rank of 27.33 for project manager in Malaysia which is lower than project manager in Singapore at 59.66. T2 = 'Overseeing the quality, safety and health of project has a mean rank of 28.85 and 58.15 for project manager in Malaysia and Singapore. Subsequently, T3 = 'Monitoring the progress of project' has a mean rank of 29.34 and 57.66 for project manager in Malaysia

and Singapore respectively. Lastly, for T4 = 'Commissioning and handing over of work package', it has a mean rank of 29.65 for project manager in Malaysia which is lower than project manager in Singapore at 57.35. This can be concluded that job performance for T1, T2, T3 and T4 for project manager in Singapore tend to be higher as compared to project manager from Malaysia.

4.7 Pearson's Correlation Test for Motivation Factors and Job Performance

Pearson's Correlation test is conducted to determine the correlation between motivation factors and job performance of the project manager. The influential of motivation factors on job performance can be proved if there are any significant relationships between the two variables. Table 4.11 shows the outcome of the test.

Table 4.11: Pearson's Correlation Test for motivation and job performance

Motivation Factors	Job Performance	Pearson Correlation	Sig. (2-tailed)
F1	T1	0.547**	0.000
	T2	0.626**	0.000
F2	T1	0.628**	0.000
	T2	0.640**	0.000
	T6	0.462**	0.000
F3	T3	0.607**	0.000
	T4	0.624**	0.000
	T5	0.545**	0.000
	T6	0.438**	0.000
F4	T1	0.287**	0.007
	T2	0.228*	0.035

	T3	0.576**	0.000
	T4	0.578**	0.000
	T5	0.508**	0.000
	T6	0.640**	0.000
F5	T1	0.551**	0.000
	T2	0.543**	0.000
	T3	0.373**	0.000
	T4	0.486**	0.000
	T5	0.383**	0.000
	T6	0.384**	0.000
F7	T3	0.604**	0.000
	T4	0.705**	0.000
	T5	0.612**	0.000
	T6	0.524**	0.000
F8	T1	0.235*	0.029
F9	T3	0.552**	0.000
	T4	0.643**	0.000
	T5	0.711**	0.000
	T6	0.483**	0.000
F11	T3	0.455**	0.000
	T4	0.480**	0.000
	T5	0.450**	0.000
	T6	0.406**	0.000
F12	T3	0.283**	0.008
	T4	0.247*	0.022
	T5	0.326**	0.002

F13	T3	0.335**	0.002
	T4	0.263*	0.015
	T5	0.346**	0.001
	T6	0.234*	0.030

Note: ** indicates correlation is significant at 0.01 level (2-tailed)
* Indicates correlation is significant at 0.05 level (2-tailed)

Among the 13 motivation factors as shown in table 4.5, there are 11 motivation factors which shown positive correlation with the role of project manager. The 11 motivation factors are categorized and explained according to Maslow's pyramid of needs theory.

As shown in table 11, Physiological needs include F1 = 'High salary level', F2 = 'Fringe benefits' and F5 = 'Overtime' that shows correlation with the job performance of project manager. For F1, it shows a positive correlation with T1 = 'Planning activities, scopes, schedules and budget' (0.547) and T2 = 'Managing project team member' (0.626). Meanwhile F2 shows positive correlation with 3 of the job performance, which include T1 = 'Planning activities, scopes, schedules and budget' (0.628), T2 = 'Managing project team member' (0.640) and T6 = 'Commissioning and handing over of work package' (0.462). F5 shows positive correlation with all of the job performance, which include T1 = 'Planning activities, scopes, schedules and budget' (0.551), T2 = 'Managing project team member' (0.543), T3 = Monitoring the progress of project' (0.373), T4 = 'Conducting feasibility studies' (0.486), T5 = 'Overseeing the quality, safety and health of project' (0.383) and T6 = 'Commissioning and handing over of work package' (0.384)

Safety needs include F3 = 'Job safety' that shows positive correlation with 4 out of 6 of the project manager roles, it includes T3 = 'Monitoring the progress of project' (0.607), T4 = 'Conducting feasibility studies' (0.624), T5 = 'Overseeing the quality,

safety and health of project' (0.545) and T6 = 'Commissioning and handing over of work package' (0.438).

Next, belongingness and love include F4 = 'Working relationship with colleagues 'and F13 = 'Involvement in challenging works' that shows correlation with the job performance of project manager. For F4, it shows a positive correlation with all of the job performance of project manager, T1 = 'Planning activities, scopes, schedules and budget' (0.287), T2 = 'Managing project team member' (0.228), T3 = Monitoring the progress of project' (0.576), T4 = 'Conducting feasibility studies' (0.578), T5 = 'Overseeing the quality, safety and health of project' (0.508) and T6 = 'Commissioning and handing over of work package' (0.640). Meanwhile F13 shows positive correlation with 4 of the job performances, which include T3 = 'Monitoring the progress of project' (0.335), T4 = 'Conducting feasibility studies' (0.263), T5 = 'Overseeing the quality, safety and health of project' (0.346) and T6 = 'Commissioning and handing over of work package' (0.234).

Esteem needs includes F7 = 'Promotion', F8 = 'Appreciation and feedback by superior' and F9 = 'Job recognition by superior' that shows positive correlation with the job performance of project manager. F8 shows positive correlation with T1 = 'Planning activities, scopes, schedules and budget at 0.235, while F7 and F9 shows positive correlation with T3 = 'Monitoring the progress of project' (0.604 & 0.552), T4 = 'Conducting feasibility studies' (0.705 & 0.643), T5 = 'Overseeing the quality, safety and health of project' (0.612 & 0.711) and T6 = 'Commissioning and handing over of work package' (0.524 & 0.483) respectively.

Lastly, self-actualization includes F11 = 'Participation in decision making' and F12 = 'Adequate supervision by superior' that shows positive correlation with the job performance of project manager. F11 shows positive correlation with T3 = 'Monitoring the progress of project' (0.455), T4 = 'Conducting feasibility studies' (0.480), T5 =

'Overseeing the quality, safety and health of project' (0.450) and T6 = 'Commissioning and handing over of work package' (0.406). F12 shows positive correlation with T3 = 'Monitoring the progress of project' (0.283), T4 = 'Conducting feasibility studies' (0.247) and T5 = 'Overseeing the quality, safety and health of project' (0.326).

CHAPTER 5: DISCUSSION

5.1 Introduction

This section will discuss in-depth on the results obtained in Chapter 4. The discussion is conducted in this study by comparing it with the literature review conducted earlier. The outcomes of the reliability test conducted are also incorporated. Subsequently, a thorough exposition of the surveyed sample is provided. The discussion also further highlights the difference in perception and correlation for the motivation and job performance of project manager in Singapore and Malaysia.

5.2 Motivation

5.2.1 High Salary Level

High salary level was ranked as the highest ranking factor with a mean value of 4.80. The majority of the respondents strongly agree that a high salary level can enhance the job performance of the project manager. Barker (2017) emphasizes the physiological need for a good salary, considering it a survival requirement for employees. A high salary not only addresses the basic financial needs of project managers but also contributes to their mental satisfaction (Barker, 2017). This aligns with the data analysis, where high salary level received the highest mean score and top ranking. The significance of this factor cannot be overstated, as it serves as a fundamental motivator and contributes to overall job performance.

5.2.2 Fringe Benefits

Fringe benefits was ranked second out of the total motivation factors with a mean value of 4.71. Most respondents in Singapore and Malaysia strongly agree that fringe benefits provided by employers are significant motivation factors that affect the job performance of the project manager. Literature suggests that fringe benefits, such as medical insurance,

bonuses, and allowances, contribute to employees feeling valued and motivated within an organization (Horton, 2021; Bowman, 2018). The data analysis supports this, with fringe benefits receiving a high mean score and ranking second. Organizations in Malaysia and Singapore should recognize the importance of a comprehensive benefits package in enhancing project managers' motivation, ultimately leading to improved job performance.

5.2.3 Job Safety

Job safety is identified as a critical factor, ranking third in importance according to the data analysis. This aligns with safety needs highlighted in the literature review (Dinibutun, 2012). Ensuring a safe working environment is especially pertinent in industries like construction, where workers are exposed to potential hazards (Abrey & Smallwood, 2014). The emphasis on job safety reflects project managers' concern for their well-being, and organizations should prioritize safety measures to not only comply with regulations but also to foster a sense of value and motivation among their project management teams.

5.2.4 Working Relationship with Colleagues

The working relationship with colleagues was identified as the 4th ranked factor, with a mean value of 4.33, according to the responses from Malaysia and Singapore. The majority of the respondents in these regions expressed a strong belief in the positive impact of a good working relationship with colleagues on the job performance of project managers. A positive workplace culture, built on trust and teamwork, contributes to a joyful workplace, as discussed by Barker (2017). Organizations should recognize the significance of fostering positive relationships among project managers to enhance overall motivation and job performance (Johnson et al., 2018).

5.2.5 Overtime

Overtime, while not the highest priority, still holds significance, ranking fifth in the data analysis. The literature review supports this, indicating that employees are motivated to work overtime due to the potential increase in earnings and the concurrent benefit to the organization in completing more tasks (Murray, 2021). Balancing the demands for overtime with the need for work-life balance is crucial, and organizations should consider flexible arrangements to accommodate project managers' preferences and maintain motivation.

5.2.6 Working Conditions

Working conditions secured the 6th position in the ranking, with a mean value of 4.09 as reported by respondents from Malaysia and Singapore. It includes aspects such as ventilation and sufficient lighting. The majority of participants in these regions strongly agreed that favorable working conditions significantly contribute to the enhanced job performance of project managers. The literature supports this by emphasizing the impact of physical surroundings on motivation and efficiency (Herman & Sharom, 2017). Organizations should invest in creating optimal working conditions to provide a motivating environment for project managers, contributing to improved job performance.

5.2.7 Promotion

Promotion garnered the 7th position in the ranking, achieving a mean value of 4.07 as reported by respondents from Malaysia and Singapore. The majority of participants in these regions expressed a strong belief in the positive impact of promotion on the job performance of project managers. The literature suggests that promotion not only recognizes an employee's good work but also offers increased responsibility and power within the organization (Hartman, n.d.). While it may not be as critical as salary or fringe

benefits, organizations should still consider the potential impact of a well-defined promotion structure on project managers' motivation and commitment to achieving higher levels of performance.

5.2.8 Appreciation and Feedback by Superior

Appreciation and feedback by superiors claimed the 8th position in the ranking, with a mean value of 4.01 as reported by respondents from Malaysia and Singapore. A noteworthy majority of participants in these regions expressed a strong belief in the positive impact of receiving appreciation and feedback from superiors on the job performance of project managers. The importance of appreciation and feedback by superiors is emphasized in the literature review, correlating with the data analysis where it ranks eighth in importance. Positive feedback and appreciation are identified as motivators that can significantly impact job performance (Samarasinghe, 2016; White & White, 2017). Organizations should focus on implementing effective feedback mechanisms and recognition programs to acknowledge project managers' efforts, fostering a positive work culture and motivation.

5.2.9 Job Recognition by Superior

Job recognition by superiors secured the 9th position in the ranking, attaining a mean value of 3.97 as reported by respondents from Malaysia and Singapore. A significant majority of participants in these regions indicated a strong belief in the positive impact of job recognition by superiors on the job performance of project managers. The literature suggests that acknowledging an employee's performance positively influences their behavior and job satisfaction (Samarasinghe, 2016). Organizations should implement strategies for recognizing project managers' achievements, such as employee of the month programs, to boost motivation and job performance.

5.2.10 Job Involvement

Job involvement was ranked 10th with a mean value of 3.69 as reported by respondents from Malaysia and Singapore. A significant portion of participants in these regions expressed a belief in the positive impact of job involvement on the job performance of project managers. However, the literature suggests that regular job involvement can lead to higher opportunities for job promotions and pay raises (Samarasinghe, 2016). Organizations should find ways to encourage project managers to actively engage in their roles, as it may contribute to long-term career development and increased motivation.

5.2.11 Participation in Decision Making

Participation in decision-making secured the 11th position in the ranking, with a mean value of 3.59 as reported by respondents from Malaysia and Singapore. A notable portion of participants in these regions expressed a belief in the positive impact of participating in decision-making on the job performance of project managers. While not a top priority, involving project managers in decision-making processes can still contribute to their motivation and job satisfaction, as highlighted by Kim et al. (2015). Organizations should consider creating avenues for project managers to participate in strategic decisions relevant to their roles.

5.2.12 Adequate Supervision by Superior

Adequate supervision by superiors secured the 12th position in the ranking, with a mean value of 2.86 as reported by respondents from Malaysia and Singapore. signaling a lower priority according to the data analysis. While it may not be among the highest-ranking factors, effective supervision is crucial for guiding project managers and ensuring their success (Barker, 2017). Organizations should explore ways to strike a balance between autonomy and supervision to meet the specific needs of project managers.

5.2.13 Involvement in Challenging Work

Involvement in challenging works is identified as the least critical factor according to both the literature review and the data analysis, ranking thirteenth. However, the literature suggests that engaging in challenging tasks can enhance employees' sense of competency and enthusiasm (Samarasinghe, 2016). Organizations should find opportunities to provide challenging projects and tasks to keep project managers motivated and continually developing their skills.

5.2.14 Mann-Whitney U Test on Motivation

Table 4.6 shows that there is higher agreement level on the improvement of job performance through 'higher job involvement' by project managers in Malaysia, compared to project managers in Singapore. At the flip side, the higher agreement levels among project managers in Singapore, compared to their counterparts in Malaysia, regarding the positive impact of factors such as job recognition by superiors, promotions, job safety, involvement in challenging work, participation in decision-making, overtime opportunities, working relationships with colleagues, and adequate supervision by superiors on job performance will be discussed.

In Malaysia, project managers widely agree that being more involved in their jobs positively impacts job performance, as shown by the high agreement levels in the survey. This inclination can be explained by cultural values, work practices, and organizational structures in the Malaysian construction industry. The emphasis on collaboration and teamwork in Malaysian culture leads project managers to see higher job involvement as beneficial, fostering shared responsibility and teamwork for better job performance (Tan, 2023). In contrast, in Singapore, project managers strongly agree on the importance of various job-related factors for enhancing job performance. This is likely influenced by a work culture that highly values individual recognition and career

advancement as reported by Alavanza (2023). Recognition by superiors, promotions, and challenging assignments are seen as crucial motivators contributing to improved job performance in the Singaporean professional landscape.

Additionally, the higher agreement levels on job safety, involvement in decision-making, overtime opportunities, working relationships, and supervision by superiors in Singapore may result from organizational practices that prioritize these aspects. Singaporean project managers place importance on a safe and inclusive work environment, active participation in decision-making, and supportive relationships with colleagues (Stolarchuk, 2023). The acknowledgment of overtime opportunities and adequate supervision reflects a work ethic valuing dedication and effective leadership.

These differences in perspectives between Malaysia and Singapore suggest variations in cultural influences, organizational structures, and professional expectations. How job recognition, promotions, safety, challenging work, decision-making participation, overtime, working relationships, and supervision are prioritized within each context contributes to the observed distinctions in agreement levels among project managers.

5.3 Strategies to Improve Job Performance of Project Manager

5.3.1 Knowledgeable Project Management Skills

Knowledgeable project management skills by project managers in the construction industry of Malaysia and Singapore was ranked at the first position as the critical role of expertise in effective job performance with a mean value of 4.80. Respondents overwhelmingly acknowledge the significance of possessing a comprehensive understanding of project management principles and methodologies can improve the job performance of project manager.

5.3.2 Having a Capable Mentor

In the construction industry of Malaysia and Singapore, project managers ranked 'having a capable mentor' as the second-place strategy that can improve their job performance, with a mean value of 4.73. This denotes that majority of the respondents believe that having a skillful and experienced mentor provides numerous benefits for individuals in various professional settings.

5.3.3 Efficient Communication Management System

Efficient communication management system was ranked at the 3rd position, with a mean value of 4.72 as reported by the project manager from Malaysia and Singapore. A majority of the participants expressed a belief that a clear and effective communication management system within the project team member can improve the job performance of project manager.

5.3.4 Having Adequate Resources

Tied for the 3rd place, with a mean value of 4.72, the emphasis on having adequate resources reflects the shared perspective among project managers in the construction industry of Malaysia and Singapore. This denotes that having an adequate resources in terms of time and cost are able to improve the job performance of project manager.

5.3.5 Acknowledging and Rewarding on Accomplishment

Acknowledging and rewarding on accomplishment of project manager was ranked at the 5th position, with a mean value of 4.41 as reported by respondents from Malaysia and Singapore. A minority of participants in both countries believe that acknowledging and rewarding on project manager's accomplishment can improve the job performance of project manager.

5.3.6 Mann-Whitney U Test on Job Performance of Project Manager

The higher job performance in conducting feasibility studies, overseeing the quality, safety, and health of the project, monitoring the progress of the project, and commissioning and handing over of work packages by project managers in Singapore, as compared to those in Malaysia, is observed. Several factors contribute to these differences.

Firstly, it is noted that in Singapore, project managers demonstrate a greater emphasis on conducting thorough feasibility studies. This is seen as an indication of a proactive approach, with project managers in Singapore placing a higher priority on assessing the viability and potential challenges of projects before execution. This thorough evaluation helps in making informed decisions and mitigating risks, contributing to their overall higher job performance in this aspect.

Similarly, the superior performance of Singaporean project managers in overseeing the quality, safety, and health of the project may be attributed to a more stringent adherence to standards and regulations. The construction industry in Singapore is known for its strict regulatory framework and high safety standards, which likely influences project managers to prioritize and excel in these areas, ensuring a safe and high-quality project outcome (EHL Insights, 2023).

Furthermore, the effectiveness of monitoring project progress in Singapore might be linked to a culture of meticulous project management. Project managers in Singapore may exhibit a more structured and disciplined approach to tracking milestones and addressing potential issues promptly. This diligence in monitoring progress contributes to a smoother project flow and ultimately enhances job performance (Tan, n.d.).

Lastly, the superior performance of Singaporean project managers in commissioning and handing over work packages could be attributed to a focus on client

satisfaction and compliance. Singapore's construction industry places a significant emphasis on delivering projects that meet or exceed client expectations. As a result, project managers in Singapore may invest more effort in the final phases of project execution, ensuring a seamless handover and client satisfaction, which positively impacts their job performance (Singapore Management University, 2023).

In summary, the observed differences in job performance between project managers in Singapore and Malaysia can be attributed to factors such as a proactive approach to feasibility studies, adherence to high standards in quality and safety, a meticulous approach to monitoring project progress, and a strong focus on client satisfaction in the commissioning and handover phase.

5.4 Job Performance

5.4.1 Planning Activities, Scopes, Schedules and Budget

Planning activities, scopes, schedules, and budget emerged as the top-ranking factor influencing job performance for project managers in the construction industry of Malaysia and Singapore, with a mean value of 4.78. This denotes that project manager in Singapore and Malaysia ranked this role as the job with the highest performance.

5.4.2 Managing Project Team Member

Managing project team members secured the second position in the list, with a mean value of 4.73. According to the project managers surveyed in the construction industry of Malaysia and Singapore, adeptly handling and guiding the project team is crucial for effective job performance. The majority of respondents emphasized the significance of leadership and interpersonal skills in fostering a collaborative and productive work environment.

5.4.3 Monitoring the Progress of Project

Monitoring the progress of the project was rated as the third most impactful factor, with a mean value of 4.48. The consensus among project managers from both Malaysia and Singapore is that vigilance over project advancement is fundamental to job performance. Regular assessment and tracking of project milestones contribute to the identification of potential challenges and allow for timely adjustments, ensuring the overall success of the project.

5.4.4 Conducting Feasibility Studies

Conducting feasibility studies secured the fourth position in influencing job performance, with a mean value of 4.44. Project managers in the construction industry across Malaysia and Singapore expressed a shared belief in the importance of thorough feasibility assessments. This involves a comprehensive evaluation of the project's viability, potential risks, and benefits, laying the groundwork for informed decision-making throughout the project lifecycle.

5.4.5 Overseeing the Quality, Safety and Health of Project

Overseeing the quality, safety, and health of the project shared the fourth position, also with a mean value of 4.44. The project managers acknowledged the critical role of ensuring project integrity, safety, and health standards. This involves continuous monitoring and implementation of measures to uphold quality assurance and promote a secure and healthy work environment.

5.4.6 Commissioning and Handing over of Work Packages

Commissioning and handing over of work packages rounded out the list with a mean value of 4.40. Project managers in Malaysia and Singapore underscored the importance

of the final phases of project execution. The efficient commissioning and seamless handover of work packages were identified as crucial elements for successful project completion, ensuring that the project meets client expectations and regulatory requirements.

CHAPTER 6: CONCLUSION

6.1 Introduction

The results obtained from the analysis will be discussed in relation to the 3 objectives in this research. Accompanied by contribution of this study to the relevant future research, limitation of the study and also recommendation to overcome the constraints are discussed.

6.2 Meeting Research Objectives

Objective 1: To determine the motivation factors that affect job performance of project manager in Malaysia and Singapore

Literature review revealed that high salary level, overtime, fringe benefits, good working conditions, job safety, good relationship with colleagues, job involvement, job recognition, promotion, appreciation and feedback, involvement in challenging work and adequate supervision are the motivation factors that able to improve job performance. Thus, findings from the literature review were then used to analyze on the motivation factors that affect job performance of project manager in Malaysia and Singapore.

Data collected was analyzed using Cronbach's Alpha Reliability test. The Cronbach's Alpha value for motivation factors that affect job performance of project manager is 0.783, which falls at the acceptable category. Table 6.1 shows the ranking of motivation factors that affect job performance of project manager in the construction industry of Malaysia and Singapore. The more detailed version can be found in Table 4.4.

Table 6.1: Ranking of motivation factors influencing job performance

Factors	Ranking
High salary level	1
Fringe benefits	2
Job safety	3
Working relationship with colleagues	4
Overtime	5
Working conditions	6
Promotion	7
Appreciation and feedback by superior	8
Job recognition by superior	9
Job involvement	10
Participation in decision making	11
Adequate supervision by superior	12
Involvement in challenging works	13

Objective 2: To analyze the most significant motivation factors that affect job performance of project manager in Malaysia and Singapore

The second objective was met by analyzing the data from the questionnaire using Mann Whitney U Test. The test is able to identify the difference in perception of the project manager on the motivation factors that affect the job performance in Malaysia and Singapore. Table 6.2 shows the result of Mann-Whitney U test conducted on the motivation factors that affect job performance of project manager in the construction industry of Malaysia and Singapore. The result show that there are no significant differences in perception and agreement level on 'appreciation and feedback by supervisor', 'working conditions', 'high salary level' and 'fringe benefits' between

project manager in Malaysia and Singapore. However, there are significant difference in perception and agreement level on 'job recognition by superior', promotion', 'job safety' 'involvement in challenging works', 'participation in decision making', 'overtime', 'job involvement', 'working relationship with colleagues', 'adequate supervision by superior' and 'appreciation and feedback by superior' between project manager in Malaysia and Singapore.

Table 6.2: Mann-Whitney U Test on Motivation Factors

Code	Factors	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
F1	Job recognition by superior	163.500	1109.500	-7.153	**0.000***
F2	Promotion	212.500	1158.500	-6.730	**0.000***
F3	Job safety	251.000	1197.000	-6.643	**0.000***
F4	Involvement in challenging works	388.500	1334.500	-5.089	**0.000***
F5	Participation in decision making	392.000	1338.000	-5.034	**0.000***
F6	Overtime	408.000	1354.000	-4.851	**0.000***
F7	Job involvement	432.500	1378.500	-4.746	**0.000***
F8	Working relationship with colleagues	469.000	1414.500	-4.403	**0.000***
F9	Adequate supervision by superior	532.500	1478.500	-1.387	**0.000***
F10	Appreciation and feedback by superior	824.500	1770.500	-1.387	0.165

F11	Working conditions	879.500	1825.500	-0.540	0.565
F12	High salary level	894.000	1840.000	-0.424	0.672
F13	Fringe benefits	899.000	1845.000	-0.299	0.765

Objective 3: To suggest a suitable strategy that can improve the job performance of project manager in Malaysia and Singapore

Literature review revealed that knowledgeable project management skills, having a capable mentor, efficient communication management system, having adequate resources, acknowledging and rewarding on accomplishment are the strategies that are able to improve job performance. Thus, findings from the literature review were then used to analyze on the strategy to improve job performance of project manager in Malaysia and Singapore

The third objective is realized by analyzing the mean of 5 strategies to improve the job performance of project manager. The Cronbach's Alpha value for the strategies fall at 0.798, which categorized at the good category. Table 6.3 shows the ranking of strategies to improve the job performance of project manager in the construction industry of Malaysia and Singapore. The more detailed version can be found in Table 4.7.

Table 6.3: Ranking motivation factors influencing job performance

Strategies	Ranking
Knowledgeable project management skills	1
Having a capable mentor	2
Efficient communication management system	3
Having adequate resources	3

Acknowledging and rewarding on accomplishment	4

6.3 Contribution of the Study

The finding of this research would greatly impact the project manager in the construction industry of Malaysia and Singapore as the motivation factors that can improve the job performance of the project manager have been identified. The findings of the study have also identified the poorer job performance of each project manager's role that can be further improve. The employers can improve the job performance of the project manager by providing the motivation factors that has been identified and ranked in accordance to the industry's wants and needs. In addition, other stakeholders in the construction industry may also be benefited through this research as the employers can give more attention to the same motivation factors that are listed in this study to motivate the employees so that they can enhance maximize the productivity of the organization in order for time, cost and quality to be achieved.

The research findings can contribute academically to schools and universities by providing valuable insights into improving the job performance of project managers in the construction industry. The study's focus on motivation factors and their positive correlation with the role of project managers offers practical knowledge for academic institutions. This information can be incorporated into academic curricula, enabling students to understand and apply effective motivational practices in real-world scenarios.

6.4 Limitation of the Study

The limitation that occurred in this research is because of the low response rate and time constraint. The lower response rate at only 33.6% affected the results of the research. Apart from that, the questionnaire distribution is sent out only by email to the targeted

respondents. Thus, there is a high possibility that the emails are left unattended or being ignored by another person who is not relevant.

In addition, due to time constraint, data collection period is only limited to 6 weeks and the targeted respondents are only limited to project manager in the G7 and A1 contractor firm accredited by CIDB Malaysia and BCA Singapore. The small sample size may affect the reliability of the test as there are insufficient data for analysis purposes.

6.5 Recommendations for Future Studies

To solve with the limitations encountered in this study, more time shall be allocated for the whole research process so that more data can be obtained from the respondents. When there are more responses on the questionnaire, the results obtained will be more reliable because the large samples are able to generalise the entire population. With a longer timeframe for questionnaire distribution and data collection, the targeted respondents can be expanded to a much larger population.

Then, a mixed study approach which consists of quantitative and qualitative approach can be adopted in future study. Interview session may be conducted physically or virtually to overcome the short side of questionnaire survey that include non-responses or unattended that happened most of the time. A lot of information can be obtained from the targeted respondents in an interview session which may not be readily available in the questionnaire survey. Thus, mixed approach shall be adopted if there is no time constraint.

6.6 Closure

To summarize, the results obtained has achieved the research objectives. The research contribution has been discussed. Moreover, this section has explained the limitation that encountered in this research and the recommendation for future study.

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