

**FRAMEWORK OF MOTIVATION FACTORS ON LABOUR
PRODUCTIVITY IN ISKANDAR MALAYSIA**

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PRODUCTIVITY IN ISKANDAR MALAYSIA

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Specially dedicated to *God Almighty*, for seeing me through the hurdles of this programme and making this research a success.

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ABSTRACT

Iskandar Malaysia is the main development corridor in Johor, the southern state of Malaysia. The ultimate goal of Iskandar Malaysia is to be a strong and sustainable metropolis of international standing by the year 2025. High labour productivity is one of the key criteria for the facilitation and realisation of the Iskandar Malaysia vision. Labour productivity is measured by the unit of output per unit of labour. Previous studies have reported that the labour productivity of Iskandar Malaysia construction projects was six times lower than the labour productivity of Singapore construction projects. This was due to lack of motivation among the Iskandar Malaysia construction labourers. Therefore, there is a need to study how to motivate Iskandar Malaysia construction labourers, so as to increase their productivity. This study adapted the Model for Continuous Improvement of Construction Productivity (MCICP) in order to develop a motivation framework that will enhance labour productivity of Iskandar Malaysia construction projects. A mixed method approach was used to collect data from Iskandar Malaysia construction skilled labourers and construction professionals, using questionnaire and interview. The study used purposive sampling technique in selecting the respondents. Forty skilled labourers and sixty two construction professionals responded to the questionnaire survey, and another ten construction professionals (site supervisors) were interviewed using semi-structured interview method. The data from questionnaire and interview were analysed using SPSS software (version 22) and thematic content analysis respectively. After the analysis, the major factors that motivate labourers participating in Iskandar Malaysia construction projects were identified, and ranked hierarchically using Relative Importance Index (RII). The outcome of the ranking indicated that effective management, viable construction practices, financial incentives, continuous training and development, and safe working environment were the most significant motivation strategies that positively influence Iskandar Malaysia construction labourers. Based on the major motivation factors, the study developed a framework that can be used to boost the morale of Iskandar Malaysia construction labourers, so that their productivity can be increased. Implementation of the established motivation framework will also lead to career progression of Iskandar Malaysia construction labourers, based on the training elements in the framework. This career prospect will attract local skilled labourers to participate in Iskandar Malaysia construction projects.

ABSTRAK

Iskandar Malaysia adalah satu koridor pembangunan yang utama di Johor, sebuah negeri di selatan Malaysia. Matlamat utama Iskandar Malaysia ialah menjadi satu kawasan metropolitan yang kuat dan lestari bertaraf dunia menjelang tahun 2025. Produktiviti buruh yang tinggi adalah satu kriteria penting untuk membantu merealisasikan visi Iskandar Malaysia. Produktiviti buruh diukur dengan melihat satu unit pengeluaran bagi setiap unit buruh yang digunakan. Kajian terdahulu melaporkan bahawa produktiviti buruh di kawasan pembinaan Iskandar Malaysia adalah enam kali lebih rendah berbanding produktiviti buruh di kawasan pembinaan di Singapura. Ini adalah disebabkan kurangnya motivasi dikalangan buruh pembinaan di Iskandar Malaysia. Oleh itu, terdapat keperluan untuk menyelidik bagaimana untuk memberi motivasi kepada buruh pembinaan di Iskandar Malaysia demi untuk meningkatkan produktiviti mereka. Kajian ini mengadaptasi Model Pembaikan Berterusan untuk Produktiviti Pembinaan (MCICP) sebagai langkah untuk membangunkan kerangka motivasi yang akan menambahbaik produktiviti buruh di kawasan pembinaan Iskandar Malaysia. Satu kaedah peyelidikan gabungan telah digunakan untuk mengumpul data daripada buruh berkemahiran dan ahli pembinaan profesional melalui temubual dan soalselidik. Kajian ini menggunakan teknik pensampelan bertujuan untuk memilih sampel. Empat puluh buruh berkemahiran dan enam puluh dua ahli pembinaan profesional telah menjawab soalan soalselidik, manakala sepuluh orang ahli pembinaan profesional (penyelia tapak) telah ditemubual. Data yang dikumpulkan telah dianalisa menggunakan software SPSS (versi 22) dan analisa kandungan tema. Hasil dapatan dari analisa yang telah dikenalpasti kemudiannya diberi penarafan menggunakan *Relative Importance Index (RII)*. Hasil penarafan ini menunjukkan bahawa pengurusan efektif, amalan pembinaan berdaya maju, insentif kewangan, latihan dan pembangunan berterusan, dan persekitaran kerja yang selamat adalah merupakan strategi motivasi paling signifikan yang memberi kesan positif kepada buruh pembinaan di kawasan pembinaan Iskandar Malaysia. Berdasarkan kepada faktor utama motivasi yang telah dikenalpasti, kajian ini telah membangunkan kerangka yang dapat digunakan untuk menaikkan semangat buruh pembinaan di Iskandar Malaysia untuk meningkatkan produktiviti mereka. Perlaksanaan kerangka motivasi ini dapat menjurus kepada peningkatan kerjaya buruh pembinaan di Iskandar Malaysia berdasarkan kepada elemen latihan yang terdapat di dalam kerangka tersebut. Prospek kerjaya ini akan dapat menarik buruh tempatan berkemahiran untuk bekerja di dalam projek pembinaan di Iskandar Malaysia.

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LIST OF ABBREVIATIONS

ABS	-	Australian Bureau of Statistics
ATR	-	Australian Treasury Report
CDP	-	Comprehensive Development Plan
CET	-	Cognitive Evaluation Theory
CICE	-	Construction Industry Cost Effectiveness
CIDB	-	Construction Industry Development Board
CII	-	Construction Industry Institute
CIMP	-	Construction Industry Master Plan
CMAA	-	Construction Management Association of America
CTBUH	-	Council on Tall Buildings and Urban Habitat
DSM	-	Department of Statistics Malaysia
ECER	-	East Coast Economic Region
EPSRC	-	Engineering and Physical Sciences Research Council
EPU	-	Economic Planning Unit
ETP	-	Economic Transformation Programme
GDP	-	Gross Domestic Product
HMR	-	Human Resource Managers
HRP	-	Human resource planning
IBS	-	Industrialised Building System
ICA	-	Indonesian Contractors Association
IDR	-	Iskandar Development Region
IES	-	Iskandar Economic Statistics
ILO	-	International Labour Organisation
IMHCB	-	Iskandar Malaysia Human Capital Blueprint
IRDA	-	Iskandar Regional Development Authority
JSNAC	-	Johor State New Administrative Centre

MGCC	-	Malaysian German Chamber of Commerce
MHLG	-	Ministry of Housing and Local Government
NCCER	-	National Centre for Construction Education and Research
NCER	-	Northern Corridor Economic Region
NPP	-	National Physical Plan
NUMed	-	Newcastle University Medicine Malaysia
PMBok	-	Project Management Body of Knowledge
PWD	-	Public Works Department
SCORE	-	Sarawak Corridor of Renewable Energy
SCRE	-	Sarawak Corridor of Renewable Energy
SDC	-	Sabah Development Corridor
SDT	-	Self Determination Theory
SIRIM	-	Standards and Industrial Research Institute of Malaysia
SJER	-	South Johor Economic Region
SPSS	-	Statistical Package for Social Science
STD	-	Self Determination Theory

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CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter discusses the background of the study, followed by the statement of problem. After that, the research questions and research objectives are outlined and then continued with the significance, scope, methodology, and contribution of the research. This chapter ends with a description of the hierarchical process flow for this study, the terminological definitions, limitations, chapter breakdown, and the chapter summary.

1.2 Background of Study

The construction industry plays an active part in the economic development of a nation. However, its contribution has raised a lot of argument among researchers. Some researchers are of the view that its contribution to a country's economic development is insignificant, while others opined that it is the economic driver of a nation. Irrespective of this argument, the role of the construction industry in a nation's development cannot be sidelined. Myers (2013) states that the construction industry is an important sector in the history of any country and its effort in nation building is significant. It plays a vital role in the infrastructural development and promotion of national growth.

Both developed and developing nations have realised and understood the significance of the construction sector in socio-economic and sustainable development of the country. Malaysia, particularly, had initiated several plans to boost this sector. Currently, the Malaysian Construction Industry is at the forefront of propelling Malaysia to a developed nation status by the year 2020. Although the industry does play an active role in the transformation of national structures, critics still believe that more needs to be done to actualise this vision.

For the actualisation and sustainability of this vision, the Malaysian economy requires an average growth of 6.0% in Gross Domestic Product (GDP) per annum (CITP 2016-2020 Report). This will require active contribution of all sectors of the economy. A statistics conducted in 2014 by the Department of Statistics Malaysia shows that the GDP of Malaysian Construction Industry is small compared to other sectors and yet its contribution remains stable and consistent (DSM, 2014). Kamal *et al.* (2012) state that Malaysian Construction Industry is a significant contributor to the rapid development of the economy of the nation. It is regarded as a major economic backbone for Malaysia due to its complex nature and direct connection with other sectors.

The Construction Industry is one of the sectors that require high amount of labour to execute the work on site and this has led to massive employment of labour, thus creating job opportunities for people. In 2013, the Economic Planning Unit (EPU) came up with a report known as the “Malaysian Economy in Figures” which indicated that Malaysian Construction Industry had an employment rate of 6.2% in 2013, a rate which some researchers have argued to be relatively small compared to other sectors like the service sector which witnessed 53.3% rate of employment the very same year. Nonetheless, a reasonable number of locals and foreigners have benefited from the employment packages rendered by Malaysian Construction Industry due to the intensive construction of mega projects in the country implemented by the government.

The government alongside the Construction Industry governing bodies came up with several long-term plans to help raise the status of Malaysia to a developed

nation. One of the plans was the establishment of five regional development corridors. The regional development corridors cover all the zones in Malaysia which include Iskandar Development Region (IDR), Northern Corridor Economic Region (NCER), East Coast Economic Region (ECER), Sabah Development Corridor (SDC), and Sarawak Corridor of Renewable Energy (SCORE). However, this study focused on IDR only in exploring the effect of motivation factors on the productivity of the labourers participating in this regional development project.

IDR or South Johor Economic Region (SJER) is currently known as Iskandar Malaysia. It is a development corridor under Malaysian Construction Industry, set to become southern Peninsular Malaysia's most developed region by the year 2025 (IRDA, 2014). The vision of this development project is to establish a strong continuous developing metropolis of international standard with its foundation based on nation building, growth and value creation, and equitable and fair distribution among stakeholders (Khazanah Nasional, 2006). Rizzo and Glasson (2012) believe that the federal government chose Johor as the beneficiary of Iskandar Malaysia due to its strategic location in the southern region of Peninsular Malaysia.

The Iskandar Malaysia construction projects requires both skilled and unskilled labour in order to deliver quality output. Moreover, without motivated construction labourers, the aim of this international development project may not be successfully accomplished. Therefore, the need for motivated labour cannot be ruled out in the construction industry, especially the Iskandar Malaysia construction project because of its high demand for labour.

Labour simply means the combination of human's physical and mental efforts for the establishment of goods and services. Any organisation that wants to stay competitive should develop its available human resources so as to improve individual skills and accomplish organisation goals. Apart from having an adequate supply of labour, an organisation must provide them with necessary training to ensure efficiency. Continuous training strategy should be adopted for the general development of construction workers (Anuwar *et al.*, 2006). The priority of any organisation should be to develop its employees in order to improve their

productivity, which represents the effective and efficient conversion of resources into marketable products, and determine business profitability.

Richardson (2014) defines productivity as the ability to generate outputs from a set of input. He further states that productivity is made up of three basic sources: labour (the mental and physical efforts of workers), management (the activities of planning, coordinating, motivating, and controlling), and technology (the contribution of machines transferring energy into useful work).

Labour productivity has been interpreted by several researchers in different ways. Richardson (2014), for instance, referred to it as the units of output per unit of labour. Meanwhile, according to Borcharding and Liou (1986), labour productivity is the relationship between manpower in terms of labour cost and the quantity of outputs produced, whereas Akindele (2013) states that labour productivity is the labour output per day (man-day) that is often reduced due to lack of motivation. Labourers may be demoralised to work due to lack of motivation such as lack of proper instructions, provision of poor tools and equipment, lack of incentives, and lack of supervision skills (Soham and Rajiv, 2013). Although the lack of motivation reduces the productivity of workers, most scholars believe that weather condition and natural disaster also affects labour productivity. In Malaysia, labour productivity has been relatively low due to natural disasters, high carbon emissions and energy use, and lack of motivation among construction workers (CITP 2016-2020 Report).

To accomplish the objective of any construction project, all the factors that affect productivity should be critically considered (Mostafa *et al.*, 2011). Therefore, it is necessary for the management of Iskandar Malaysia to be aware of various human development techniques that will enable the construction labourers to execute their job with maximum performance. Thus, the use of the motivation concept to improve the productivity of construction labourers in Iskandar Malaysia is imperative. The management is obliged to motivate labourers through the provision of quality tools for work, suitable working environment, and incentives because these will surely motivate them and, in turn, increase their overall output (CITP 2016-2020 Report).

Motivation has been defined from many viewpoints by various researchers, depending on their area of study, but the implication still remains the same. It can be referred to as those inner-striving conditions such as wishes, desires, drives, goals, and force. It is an inner state that activates or channels behaviour towards goals, thus encouraging the workers to perform their work efficiently. Keller (2010) describes motivation as that which directs the magnitude of behaviour of an employee. It is regarded as one of the strategies that can maximise workers' productivity (Kazaz *et al.*, 2008). Based on all these definitions, it can be concluded that motivation is directly proportional to productivity.

The motivation of the Iskandar Malaysia construction labourers is of great significance because it will definitely lead to higher productivity or output. Motivation of labour is a vital factor in enhancing customer satisfaction (Ali *et al.*, 2015). It has been proven empirically that motivation is one of the major factors for increasing labour productivity and a key contributor to maximising labour productivity in the construction industry (Omotayo, 2014). Therefore, the increasing number of labourers in the construction sector need to be motivated because their output depends on their input. Hence, motivational approach should be applied to increase efficiency (Mee-Edoiye *et al.*, 2000).

For an organisation to be successful, its employees should have the zeal to deliver their jobs competently. Therefore, it is necessary for the construction manager to possess an outstanding skill and experience which will enable him to control the resources available to him when completing a project within the stipulated time. Basically, the selection of a construction manager should be based on his construction competence as well as managerial experience and skills which will, in turn, improve labour productivity.

Previous researchers have emphasised on the need for effective labour management to improve productivity in the construction industry, and efforts are being made in this regard. Despite the efforts, the issue of low productivity still exists among construction companies without having much improvement. The most essential resource in a construction project like Iskandar Malaysia is labour (human

resource). For this reason, those at the managerial level need to understand the concept of motivation of labour so that they can apply it appropriately in order to fulfil the purpose of their existence. Iskandar Malaysia needs to improve its existing motivational package by applying a strategic approach that will enable them to actualise their long-term goal.

This research was channelled towards identifying, examining, and analysing motivation factors and their impact on labour productivity in the Iskandar Malaysia construction projects. This was to enable the researcher, through empirical research, to establish a motivation framework which would be used as a guide to motivate Iskandar Malaysia construction labourers in order to improve productivity.

1.3 Statement of Problem

It is obvious that lack of motivation negatively affects construction projects including Iskandar Malaysia projects, even though some researchers are of the view that it has an insignificant effect on labour productivity. Whichever way, the need for motivated labourers is paramount. Ali *et al.*, (2015) affirmed that labour productivity in the construction industry has been unduly low due to lack of motivation. Similarly, Ahsan Khan (2015) opined that the inability of the management to motivate their workers is among the major reasons construction output has been relatively low in developing countries. In the same vein, a research conducted by Thomas *et al.*, (2004): and Stella (2008) indicated that the lack of motivation among Malaysian construction labourers have led to project delay and abandonment, labour shortage, cost overrun, waste of resources, and high rate of accident on site, resulting to low labour productivity.

Labour productivity of Iskandar Malaysia construction projects had deteriorated over the years as stated by Iskandar Malaysia construction professionals. According to the CITP 2016-2020 booklet, labour productivity of Iskandar Malaysia construction project has not been able to meet to international standard due to lack of motivation among their labourers. Similarly, a study conducted by Ohueri *et al.*,

(2016) reported that labour productivity of Iskandar Malaysia construction projects is inefficient due to non-implementation of major factors that motivate labourers such as continuous training and development, financial incentives, availability of quality materials on site, and adoption of viable construction practices. In the same vein, The News Strait Times, a local newspaper reported in 2014 that labour productivity of Iskandar Malaysia construction projects was six times lower than the labour productivity of Singapore construction projects. According the report, this situation might worsen by the end of 2016, probably due to influx of inexperienced foreign labour and use of demoralised labourers. Therefore, there is a need to enhance labour productivity of Iskandar Malaysia construction projects, to enable it attract more foreign investors and also realise its vision of becoming the most developed region within the Southern Peninsular Malaysia by the year 2025.

Similarly, lack of motivation have discouraged Malaysian skilled labour from participating in Malaysian construction industry as well as Iskandar Malaysia projects. According to CIDB's annual report 2015, Iskandar Malaysia has not been able to attract potential local youths to become involved in this development project due to the difficult, dirty, and dangerous (3D) perception of these youths. This has led to the shortage of local skilled labour and inflow of unskilled foreign labourers to fill the labour shortage gap. The high number of foreign workers in Iskandar Malaysia project have contributed to the high crime rate in Johor Bahru and inefficient labour productivity in Iskandar Malaysia construction project. Therefore, the implementation of the established motivation framework will lead to career progression of Iskandar Malaysia construction labourers, based on the training elements in the framework. This career prospect will attract skilled labourers to participate in Iskandar Malaysia construction projects.

1.4 Research Questions

It is in view of the above problems that the following questions arose and served as a basic guide to the overall implementation of this study:

- i. What are the major factors that motivate Iskandar Malaysia construction labourers?
- ii. How does the management of Iskandar Malaysia motivate their construction labourers?
- iii. What motivation strategies can be used to increase labour productivity of Iskandar Malaysia construction projects?
- iv. How can a motivation framework be established and used to increase labour productivity of Iskandar Malaysia construction projects?

1.5 Research Objectives

The essence of this research work was to achieve the following objectives:

- i. To identify the major factors that motivate Iskandar Malaysia construction labourers.
- ii. To evaluate how Management of Iskandar Malaysia motivate their construction labourers.
- iii. To explore the motivation strategies that can be used to improve labour productivity of Iskandar Malaysia construction projects.
- iv. To establish a motivation framework that can be used to increase labour productivity of Iskandar Malaysia construction projects.

1.6 Significance of Research

The findings of this research would enlighten professionals in the construction industry, especially those participating in Iskandar Malaysia construction projects, on the need to motivate construction labourers for higher productivity. It will provide useful guidelines to the government, the CIDB, and the Iskandar Regional Development Authority (IRDA) in making policies that will improve the existing motivational strategies in the Malaysian construction industry, particularly Iskandar Malaysia. The research method used could also be used to find

out the effects of motivation factors on labour productivity of other regional construction projects. The outcome of this research will generate people's interest in investigating other areas of motivation in the construction context which would later enrich the literature on motivation as a phenomenon. Finally, the end product of this research could serve as a guide to construction managers in adopting a suitable strategy to motivate construction labourers for higher productivity.

1.7 Scope of Research

This research concentrated on the effects of motivation factors on the productivity of the construction labourers participating in Iskandar Malaysia construction projects. Major developers participating in Iskandar Malaysia projects as well as the Iskandar Regional Development Authority (IRDA) were the main focus, and the respondents for the questionnaire survey included clients (i.e. IRDA), contractors, consultants (i.e. architects, builders, civil/structural engineers, mechanical engineers, electrical engineers, quantity surveyors, project managers), and skilled labourers in Iskandar Malaysia, while the interviewees were site supervisors in Iskandar Malaysia. The labourers in this study consisted of general labourers, semi-skilled labourers, and skilled labourers who are predominantly found in labour intensive construction projects. Empirical data were collected and analysed to enable the researcher to establish a motivation framework that could be used to improve the productivity of Iskandar Malaysia construction labourers.

1.8 Research Methodology

The reliability of a research data depends on the method adopted to gather the data and eventually determines the success of any research work (Leedy, 2015). This research utilised the descriptive study method. First of all, an extensive literature review was carried out to extract the theories to be used in this research. After that, a mixed method approach (using questionnaire and interviews) was adopted in obtaining data from the samples. The choice of the research strategy or method is

dependent on the type and availability of the required information. Purposive sampling technique was used to select the samples from the population. This sampling technique is suitable for this kind of research. According to Baker *et al.* (2013), purposive sampling enables the researcher to select the most appropriate participants with respect to their characteristics, or in other words, participants with the right information. Moreover this technique is convenient because it saves time and cost (Plowright, 2015). The data collected from the quantitative and qualitative research strategies were analysed using the SPSS software (version 22) and thematic content analysis, respectively. The research method will be further detailed in Chapter 3.

1.9 Contribution of Research

This research intended to explore more on the topic of motivation and its impact on the labour productivity in Malaysian construction industry, especially in Iskandar Malaysia, that could add to the existing body of knowledge. In addition, the study has identified the factors that motivate Iskandar Malaysia construction labourers and investigated the challenges faced by Iskandar Malaysia management in terms of controlling labourers. It also discovered the constraints encountered by the labourers. This enabled the researcher, through empirical findings, to establish a motivation framework that would be used to improve labour productivity of Iskandar Malaysia construction projects. Based on the training elements in the framework, local skilled labour will be attracted to participate in Iskandar Malaysia Construction projects. The established framework can be applied to any construction project with the interest of improving productivity because similar factors affect labour productivity in the construction industry all over the world.

1.10 Hierarchical Process Flow

The hierarchical process flow in this research explains graphically, the key variables to be studied and their connectivity with one another

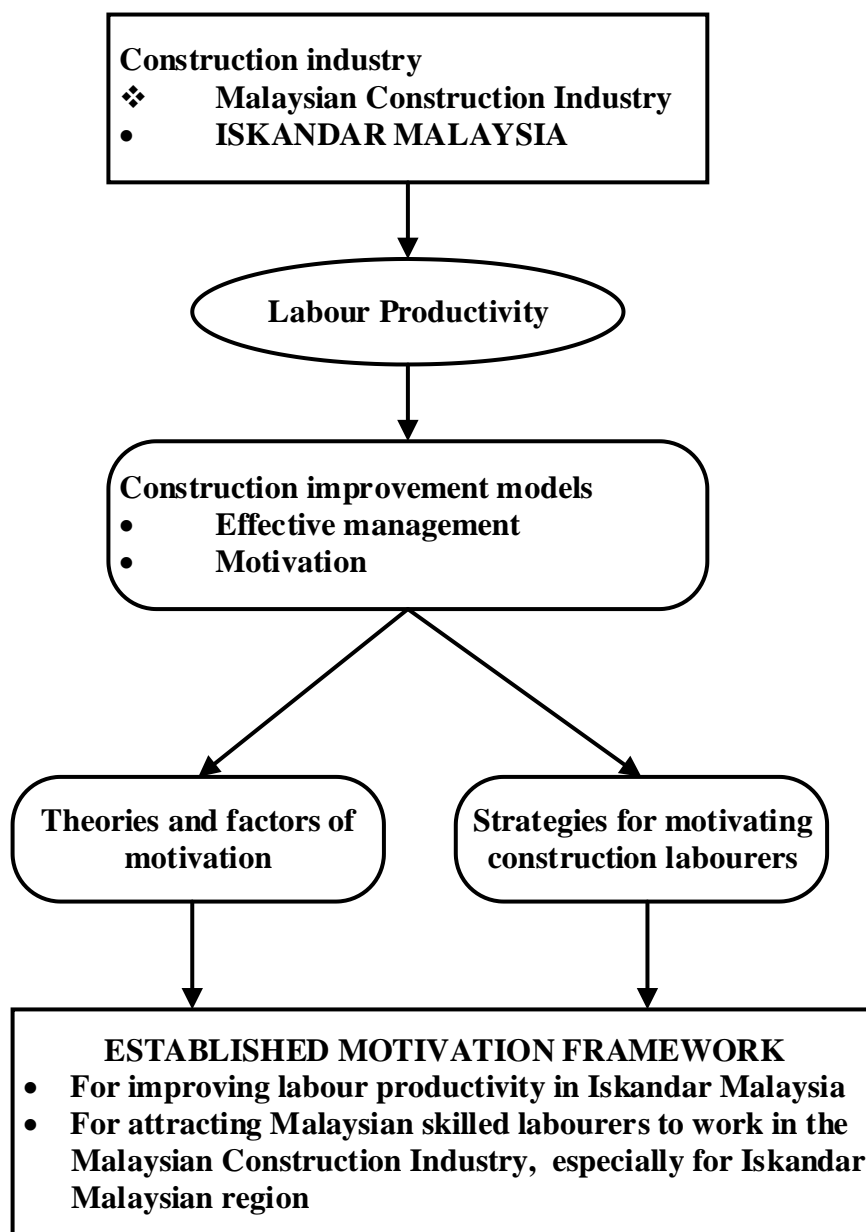


Figure 1.1 Hierarchical Process Flow

1.11 Operational Definition of Terms

The following terms are defined as used in this study:

a) Construction industry

It is a sector of the national economy that is engaged in the preparation of land and construction, alteration, and repair of buildings, structures, and other properties.

b) Labour

It simply means the combination of all human efforts for the production of goods and services.

c) Productivity

It is the measure of how efficient a person or machine is in converting input to output.

d) Labour productivity

It is considered as the amount of goods and services produced by a productive factor (manpower) within a given time.

e) Employees

They are the workers in an organisation who are working for the accomplishment of the organisational goals. In this study, the employees are the Iskandar Malaysia labourers.

f) Motivation

It is a decision-making process in which an individual selects the desired outcomes and sets in motion the behaviour appropriate to them. It can be seen as a driving force which is provided in a work situation, either physically or psychologically, and determines the input and productivity level of the worker.

g) Consideration

This term refers to a situation where both colleagues and managers treat staff with understanding in which they apply diplomacy in handling people.

h) Intimacy

Intimacy or familiarity could be described as the feeling of warmth and friendliness based on interpersonal relationship among people.

i) Strategy

It is a method or plan chosen to bring about a desired future such as the achievement of a goal or solution to a problem.

j) Apprenticeship

It is defined as a training programme that combines vocational education with work-based learning for intermediate occupational skills (i.e. more than routinised job training) and is subject to externally imposed training standards, particularly for their workplace component.

1.12 Limitations of Research

This study has proposed a motivation framework for improving labour productivity of Iskandar Malaysia construction projects. However, there are some limitations to this research:

- 1) The study is limited to Iskandar Malaysia construction projects in the state of Johor.
- 2) Some of the selected samples for this research either did not collect the questionnaire at all or collected but did not return it because they were not willing to give away information regarding the strategies they used in motivating their labourers for higher productivity. However, this study used the interview survey method to support the data from the questionnaires collected.
- 3) Due to time constraint and financial limitation, some Iskandar Malaysia developers were not surveyed. Nevertheless, the researcher made sure all the five flagship zones of Iskandar Malaysia were covered in the survey.

1.13 Chapter Breakdown

Chapter 1: Introduction

This first chapter provides the general introduction of the study, followed by the research questions and objectives, significance of the research, scope of the research, brief explanation of the research methodology, contributions of the research, hierarchical process flow, operational definition of terms, and limitations of the study.

Chapter 2: Literature Review

The second chapter gives a more thorough explanation of the topics relevant to the study such as the construction industry, Malaysian Construction Industry, Iskandar Malaysia, labour, productivity, and labour management. This chapter then reviews the theories pertinent to the study, specifically the theories of motivation. It also elaborates on the various motivational models established by previous researchers for the purpose of increasing labour productivity in the construction context.

Chapter 3: Research Methodology

Chapter 3 comprises both the research methodology and method employed during this study in order to achieve the aim and objectives of this research. The chapter examines the research design, validity and reliability of the pilot survey, processes involved in administering the research instruments, population and sample size for this research, sampling techniques used for this research, data collection, and data analysis.

Chapter 4: Data Analysis

This chapter presents the analysis of the quantitative and qualitative data, as well as the discussion of results obtained in the study. It involves a lot of graphical and tabular representations of the analysed data.

Chapter 5: Conclusion and Recommendation

This chapter revisits the aim and objectives of the study, and conclusions drawn from the research findings are presented alongside the limitations of the study, validation of the established framework and recommendations for further research.

1.14 Chapter Summary

This chapter has expounded on the background of the study, problem statement, research questions and objectives, research significance, research scope, research methodology in brief, contribution of the research, hierarchical process flow, definition of pertinent operation terminologies, limitation of research, and chapter breakdown of the whole thesis. The next chapter discusses the literature related to the study.

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