

LABOUR SHORTAGE IN MALAYSIAN
CONSTRUCTION INDUSTRY: FACTORS
AFFECTING RECRUITMENT AND POLICY
RECOMMENDATION

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Labour Shortage in Malaysian Construction Industry:
Factors Affecting Recruitment And Policy
Recommendation

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Labour shortage in Malaysian construction industry:
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recommendation

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DECLARATION

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A lot of people do not understand the reason why I pursue a Master degree at the age of 58 years old. But, I believe, age is not a barrier for one to chase for knowledge. It is always been my dream to obtain more knowledge and contribute it to the next generation.

I struggled to learn, especially the knowledge of Internet Technology, the ever-changing software's applications. Thanks to my 2 sons, my course mate for guiding me days and nights.

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PREFACE

The standards of Universiti Tunku Abdul Rahman require all students to receive their Master of Business Administration certification to complete a research project (MKMA29906) and be verified by the university professors of said establishment.

As a student with experience in property development, building construction, and government administration, it will be advantageous to have in-depth knowledge and experience in dealing with the construction industry. The study aims to examine the cause of the shortage of labour in the construction industry, discover the challenges, and explore all measures that could give a long-term solution.

To obtain reliable feedback and data, interviews with the respondents will be conducted in qualitative research. The targeted respondents are those existing industry players who run construction-related entities. They include the managing director, chief executive officer, project manager, business owner, and personnel closely related to the operation and management of the construction industry.

The feedback from the stakeholders will be analyzed to examine the cause and challenges of labour shortage in the construction sector and recommend some practical measures that could deal with the problem in an effective approach.

ABSTRACT

Malaysia's construction market is segmented by commercial, residential, industrial, infrastructure sectors, and additional new construction projects. The scope of the construction industry is very wide, unlike manufacturing, agriculture, and servicing sectors which operate in a spot for their operation. Construction projects move from one location to another location after the completion of a task.

The building process starts with paper planning, design, financing, recruitment of the workforce, and continues until a structure is built and ready for use. Construction also covers repairs and maintenance work including expansion, extension, and improvement works on the asset, which also eventually involve demolition, dismantling, or decommissioning works (Mordorintelligence, 2022).

Over the years, the shortage of local labour and its involvement in the construction industry had caused the over-dependency on foreign workers. Foreign workers become the dominant workforce of the sector. The situation becomes complicated, and it has never improved due to the fast-changing global environment in economics, socioeconomic and politics with the source country.

The Covid-19 pandemic is an unprecedented crisis for the global market. The post-pandemic market is full of changes and challenges to most of the world economy. We witnessed the downfall of a lot of businesses due to mobility restrictions, disruption of the supply chains, and market lockdown by various countries during the crisis. The shutdown of borders, the lack of business activities, and the migration of human resources to the gig economy had become the main problem in getting the required workforce.

Due to the tightening policy after the emergence of the new government in 2018, most of the business sectors are facing a shortage of manpower. The situation worsened when the Covid-19 pandemic caused the closing of countries' borders, lockdown to reduce human mobility, suspension of projects, and workers getting unemployed with the widespread disruption of economic activities.

The construction industry has been facing the problem of labour shortage since the market is fully opened in April 2022 and progressing toward recovery.

As the construction industry is the main driving factor of an economy, the problem requires immediate attention. The objective of this research is to do a finding of the cause, the problem, the challenge, and measures to overcome the problem of labour shortage in Malaysia. The study will explore the factors affecting recruitment of labour, the short-term and long-term measures to curb the problem.

Design/methodology/approach

The data used in this research paper is based on the latest statistical data available from the Construction Industry Development Board (CIDB), the Department of Statistics, and government agencies. The challenges and most significant problems faced by the Malaysian construction industry are identified and analyzed through the collection of information from the press, interviews, and literature reviews. Other than the secondary data from various sources, a questionnaire survey was chosen as a methodology to achieve the objective of the research. The respondents comprising of top management, project manager, and owners from Public-listed companies (PLC), property development companies, infrastructure construction companies, building construction companies, sub-sectors, and those who are involved directly in the industry.

For effective analysis, an integrated approach of grounded theory and thematic analysis is being adopted.

Findings

As construction sector had contributed to more than 6% growth in Malaysian Gross Domestic Production (GDP). It is one of the crucial economic sectors that can provide a dynamic force to provide the overall prosperity of a country. The problem of shortage in labour must be addressed to maintain its competitiveness and healthy growth. The paper intended to provide some possible solutions on how to solve the problem of high dependency on foreign labours and eventually overcome the challenges. It also examines the cause and challenges of the labour shortage in the construction industry and explores more exerted measures to overcome the problem to offer practical implications to the stakeholders and policymakers related to the construction industry. A long-term plan for dealing with the challenges is most important to maintain a steady upward momentum of the industry.

Chapter 1

Research Overview

1.1. Background of study

The construction industry is closely related to the sustainable development of a country, and it is an exertion that has a direct influence on socioeconomic development in money circulation which spurs growth and is the backbone of a country's economy. Therefore, it is significantly important that could contribute to the prosperity, healthy, and quality of life for the community. The construction industry is extremely sensitive to changes in the broader economy, and it also influences every sector in an economy. The construction product differs from site to site, which requires a variety of skilled, semi-skilled, and flexible pools of workers. Due to the characteristic of migrant workers as labour force which are a more mobile, flexible, and expendable in times of economic decline or down times, construction is thus often fond of and deeply dependent upon them (Buckley et al., 2016).

Malaysia had acknowledged the impact of growth from the construction industry since the 1980s and is aggressively expanding in domestic and internationally. The construction sector is playing a significant role in nation-building, it had been going up and down due to the fast-changing global environment. Despite that, the construction sector has been growing rapidly in Malaysia in the last decade and it is expected to continue growing with mega projects. A global environment like the Asia financial crisis in 1998 and the Covid-19 pandemic in 2019 had severely affected the growth of the industry. Since the construction sector covers every aspect of life, involving socioeconomic infrastructure, industrial development, and basic amenities such as commercial and residential projects, infrastructure, public amenities, and communication backbone, it covers all aspects of life in a country. Efforts to uplift Malaysia from a developing country to a dynamic,

robust competitive, progressive, and resilient nation should not be hindered by those challenges.

Mordor Intelligence (2023) forecasted that for the period of 2023-2028, the Malaysian construction industry is expected to grow at more than 6% of the Compound Annual Growth Rate (CAGR).

As known, the first Covid-19 case was discovered in Malaysia at the end of January 2020. During the COVID-19 pandemic, Malaysia's construction industry was severely affected. Most of the construction works, except those that were classified as essential services were halted by the Movement Control Order (MCO), a measure introduced by the Malaysian government to control the spread of the virus. The restricted movement, the disruption of supply chains, the decrease domestic economic activities, and the financial volatility had seriously affected all sectors (Alaloul et al., 2021). Even after the MCO was lifted, the construction industry has continued to encounter disruption. The government had imposed stringent Standard Operating Procedures (SOP) for all economic sectors, especially on health and safety measures for the construction sites. Such disruption has prevented the construction industry and its sub-sectors from carrying out their originally and normally envisaged tasks. The measures implemented by the government to curb and confine the spread of the virus, and the measures to suspend of ongoing construction projects also had affected the timely completion and handing over of the project. The huge impacts and negative consequences include regulation compliance, increment in costs, disruption of resources, lacking materials, and financial constraints.

Due to the vital role of the construction industry which had contributed to economic growth in numerous aspects such as job creation, income generation, economic activities, domestic demand, Gross Domestic Production (GDP) growth, and its support to other industry sectors, any disruption of its supply chain and resources will jeopardize the entire economy. Shortage of labour will create a significant impact on the construction industry and the country's economy. Construction Industry Development Board (CIDB) chief executive, Datuk Ahmad Asri said that the issue of a labour shortage is a national issue that affects all sectors including the construction industry (Theedgemarkets, 2022).

The situation worsened when the Covid-19 pandemic caused the closing of countries' borders, lockdown to reduce human mobility, and suspension of business activities. It had caused the downfall of a lot of businesses due to those restrictions, conditions, and market lockdowns.

According to Carpio et al., (2015), the construction sector heavily depends on foreign workers, and about half of the sector's workforce is foreign-born. It has been facing a severe problem of labour shortage when the market is open and progressing toward recovery.

Due to the outbreak, a lot of construction companies unable to sustain the huge expenses of providing food and accommodation to their workers, especially foreign workers, regardless of skilled or general workers. They need to reduce the cost to survive the crisis. Most surviving construction companies are adopting the practice of cost reduction to lay off excessive labour so as to survive and maintain competitiveness.

After the market is fully opened in 2022, the construction industry continuously faces the problem of a serious labour shortage. Those construction companies that survived the crisis do not have sufficient labour to continue and carry on with their existing projects.

With the increased cost of living, the fluctuation of currency, changes in weather, and the disruption of the supply chain due to the Russian-Ukraine war, the wage had become non-attractive for foreign workers to work in Malaysia. The fluctuation of currency exchange rate due to the strong US dollar had created an impact on the recruitment exercise, especially the recruitment of foreign labours. The depreciation of the Malaysian currency disrupted the supply of the workforce. Foreign workers do not wish to come to Malaysia due to the low exchange rate.

To attract foreign workers to come back to Malaysia, the Malaysian government has no choice but to revise the minimum pay to RM 1,500 due to the weaker Ringgit currency. This has further pushed up production costs of the construction industry.

As the recruiting process for foreign workers is slow and costly, the production capacity cannot meet the demand of the market. It becomes a backlash to the Malaysian economy.

1.2. Supply and Demand Theory

A minor change in the price, either increase or decrease, will result in a substantial change in the demand and supply in the market. This is also an economic theory that closely related in the labour market, and it could provide a useful guidance to study the relationship. But the labour market is not only influenced by a fundamental economic theory where the elasticity is used to measure the relationship between the price and quantity demanded or supplied, it also involves other sophisticated variables. The problem of shortage in labour is sophisticated, not a situation of *Ceteris Paribus* where an economics variable having an effect on another variable in a condition of “all other things remain unchanged” or “other things held constant” in an equal form that could be explained (Hausman, P., 1988). The distribution of resources, the changing preferences, the price (wages), the quantity (number of foreign labour), and the “invisible hand” will disrupt or affect the supply and demand (Rajib et al.,2021).

The shortage of labours has become the main challenge of the construction industry. The situation worsened due to the transition from pandemic to endemic, and the re-opening of the economy increased the demand for the workforce in all sectors. The recruitment of new workforce has become more challenging when all sectors are recruiting at the same time. Malaysia as a emerging country, largely depends on the migrant-induced productivity in its economy sectors. The large number of migrants labour are consist of those low skilled labours that are employed on a temporary basis (Jordaan, 2017).

According to Hudea (2015), demand and supply is an approach considering the rationality and tendency of individual to maximize benefits based on the economic situation. The demand and supply market is grounded on the 2 factors to reach equilibrium under the price and quantity elements. Subsequent increase in demand will result in an increment of prices or wages.

1.3. Neoclassical Theory

Neoclassical theory is an economic theory that focuses in the principle of supply and demand, functions as the driving force in relation with the production, pricing and consumption. It could affect the making of economic decision, impact the organizational performance as well as the measure of the government to regulate the market.

Neoclassical theory is a macroeconomic principle about international migration of labour (Harris & Todaro, 1970). It is one of the approaches used in discussing the determinants of international migration of labour, and it affecting the decision of migration after evaluates the differentials in income and probability to seek job in origin and destination country (Lewis, 1954; Ranis & John, 1961).

Neoclassical theory other then implies that the customers' preference are invariant with respect to their current consumption, Lawson, T. (2013) suggested that the term of "Neoclassical" pervades the discourse of academic economics, and it is being employed to denote a range of substantive theory and policy stances.

Prior to the migration to a foreign country, a foreign worker consider both the financial and non-financial benefits and all other costs incur to the migration. The flow and migration trend of labour from origin country to destination country mainly because of the monetary gains, especially the wage differential. It always flows from the low wage country to high wage country (Massey et al., 1993; Hanson, 2008).

Cohn. S., (1990) in opinion that the employers will continuously monitor the level of productivity of individual workers and would instantaneously react to the wages and output, which bring the 2 elements to equilibrium by adjusting the wage rate or worker's productivity, or introducing new technology, or adjusting the number of worker in recruitment.

1.4. Problem statement

The growth of Malaysia's Construction Industry (MCI) can be divided into 3 major phases of the country's economic development. The three phases that was identified was phase one, the post-independence and the launching of the 5-years Malaysian Plan (1966-1970) ranging from 1957 to 1970, phase two with the introduction of New Economic Policy from the year of 1971 to 1990, and phase 3 with the Vision 2020 from 1991 onwards until present.

(I) Phase one: Post-independence and the launching of the Malaysia Plan (1957 – 1970)

The construction sector had been playing a significant role in the nation's development since its independence in 1957. The strong correlation between the construction sector and economic growth contributing not only to national economic growth but also contributes to a better living standard for Malaysian. The construction sector was a low-technology, labor-intensive, and crafts-based industry in the early days. According to Fadhlin et al., (2004), construction sector grew at an average rate of 4.1 % during the period of 1965 to 1970, the early years of post-independence. Economic development programs in agriculture, infrastructure, and rural development, and the growth in capital expenditure in housing schemes had boosted the construction activity during the period. Other than the construction works in the public sector, there was an increased amount of private sector investment, especially in the non-residential sector towards the end of the sixties.

(II) Phase two: Introduction of New Economic Policy (1970 – 1990)

The most significant structural change in the Malaysian economy was seen during the term of the second Prime Minister, Tun Abdul Razak Hussein (1970-1976). He was given the alias "Bapa Pembangunan" (Father of Development) due to his contribution to nation-building. His leadership marked the beginning of phase 2 in the construction growth history, he charted the development of the nation physically, socially, and politically which Malaysians witnessed today (Malaysianbar.org, 2007). With the implementation of the New Economic Policy

(NEP) and subsequent the five-year Malaysia Plan, and the involvement of the public sector that carried out numerous ambitious projects, the construction sector saw explosive growth. The introduction of the New Economic policy had seen more involvement of Malay contractors, especially in government projects in the construction industry.

Since then, the construction sector continually achieves fantastic growth. The annual average growth rate of the construction sector achieved 8 % between 1980 and 1985, exceeding the 6 % growth of GDP during the period.

The cyclical upswings and downswings of the world economy affected the construction sector and overall economy sectors. The recession years of 1983 to 1986 had adversely affected the construction industry due to the drastic downsizing measures of the government in public expenditures and contractions business activities in private sector (Narayanan & Lai, 2005).

(III) Phase three: Vision 2020 (1990 - 2020) until present

The construction industry grew and regained momentum in phase 3 after the doldrums towards the full economic recovery in early 1990. Upon realizing that the importance of the construction sector's growth would benefit other sectors and drive the economy to a higher achievement level, the government has launched Vision 2020. It is to envision that Malaysia will develop into an advanced industrialized country by the year 2020. For the purpose to achieve this goal, the government has invested heavily in mammoth projects in modernizing the infrastructure of the Kuala Lumpur metropolitan. The blueprint is a modernization effort to spur Malaysia into an advanced digital technology businesses hub in Southeast Asia.

The rapid development for 20 years, from 1990 to 2010, the recruitment of foreign workers was massively done to meet the demand for workforce in all economic sectors. According to Carpio (2015), the labour force survey found that there were around 380,000 documented foreign workers in Malaysia in 1990 and the number increased tremendously to around 2.1 million in 2010 overtaking the local labour force. It almost constituted 7.4 % of Malaysia's total population of 28.3 million in

2010 (Department of Statistics Malaysia, 2011). The Department of Statistics reported that as of June 2011, the MCI employs 1,214,000, which constitutes approximately 10% of our country's total employment of 12,116,600. However, around 70% - 80% of the construction labour is occupied by foreigners (Hamid et al., 2011). A notable change in the labour landscape has taken place due to the massive development of projects and economic growth over the years.

According to Khan et al., (2014), former Prime Minister Tun Dr Mahathir Mohammad initiated a vision known as Malaysian "Vision 2020" for the strong industrialized economy and modernized Malaysia in 1990. The vision defined a clear direction for making Malaysia a developed nation and transforming Malaysia into a prosperous, competitive, resilient, and dynamic country. The construction industry achieved a 15 % per annum growth between 1991 and 1995 when the government launched mega projects like Putrajaya, Cyberjaya, Petronas Twin Towers (KLCC), and KL International Airport (KLIA) in addition to other private sector initiatives. The growth spurts in construction industry were disrupted when the Asia Financial Crisis plagued the Asia region in July 1997.

Asian Financial Crisis had caused financial constraints and the deferment of many major construction projects in the country. Despite the drastic downswing, the recovery after 1998 was rapid. Even with a lot of projects put on hold earlier, its growth was still encouraging with a smaller variation of 4 % between 1980 and 2002 (Narayanan et.al, 2005).

The MCI growth was initiated by the government as the locomotive and driver in the modern economy. After the massive building of landmark projects, the government and private sectors joined hands to spur the nation's economy. Light Rail System (LRT), Mass Rapid Transit (MRT), Besraya Highway, Maju Express Way (MEX), DUKE Expressway, SMART Tunnels, Pan Borneo Highway, KLIA2, Warisan Merdeka Tower (KL118), Tun Razak Exchange (TRX), Pavilion KL, shopping centres, housing projects, non-residential projects, and various construction projects had continued playing a vital role in the last 30 years. Despite of the share market turmoil (1985), Asian Financial Crisis (1997), Global

Financial Crisis (2008), and the Covid-19 pandemic (2020-2022) which had badly affected the economy, MCI is still resilient to the challenge.

During the world economic crisis in 1997, the construction industry was used as one of the strategies to boost the Malaysian economy. Mega projects were being introduced. The rapid rise of the industry has caused a massive demand for foreign workers. According to a study by Aziz (1995, as cited in Abdul-Aziz, 2001), due to the tremendous growth rates by the late 1980s and early 1990s, labour shortages were particularly intense in indispensable trades like concreting, carpentry, bricklaying, painting, tiling, steel work, and plumbing. Labour shortages had become acute due to the local workforce staying away from the construction industry which involves a lot of physical, manual work, and unattractive wages compared to other sectors. The manufacturing sector offered better remuneration, employment benefits, labour attrition, and opportunities that had attracted most of the younger workforce (Abdul Aziz, 2001). The level of interest among the locals had decreased, causing the construction industry to have no other alternative but to rely heavily on foreign workers for a solution. As reported by the Construction Industry Development Board (CIDB, 2018), there is a significantly declining number of skilled and unskilled general construction workers.

According to the article written by Asila Jalil (2022),

“The sector had experienced robust growth during the period from 1991 to 2020 with an average Annual Growth Rate of 7.2 %, which contributed to the national Gross Domestic Product (GDP) with an annual average share of 3.9 %. Although the contribution is relatively small, it provides a valuable multiplier effect to the aggregate economy attributed to its extensive backward and forward linkages with other sectors. Thus, a developing nation, the sector's contribution remains significant in ensuring sustainable economic growth.”

The shortage of labour begins in the early 70s when Malaysia implemented its second 5-year Malaysian Plan. The government at the time had discovered the

importance of the construction industry and its close relationship with the nation's economic growth. Due to the vision of achieving GDP growth to spur the activities of the country's economy, the government initiated public projects. The government-funded project encouraged the private sector to evolve from small-scale residential housing projects to non-residential construction companies. The local construction workforce is no longer sufficient to carry out such a huge project. Since then, a shortage of local labour involved in the construction industry has caused the recruitment of foreign workers and later caused the problem of over-dependency on foreign workers. Foreign workers become the dominant workforce of the sector. The situation has become complicated, and it has never improved over the years due to the fast-changing global environment.

The supply chain of human resources in the sector was disrupted by the Covid-19 pandemic. Other than the lockdown, MCO, and various control measures imposed by the Malaysian government, many construction companies are no longer able to retain their workforce. The haulage of projects due to the disruption of material supplies, the Covid-19 infection of workers, expiring work permits, failure to retain existing workers, and financial problems faced by the stakeholder have severely affected the sector. The reopening of the economy after MCO, having a massive impact on the private sector, industry, and jobs are expected to be large in Malaysia. 98.5 % of small and medium enterprises are likely to be severely affected with lesser resources to absorb the shock (Kuriakose, 2020).

The over-reliance of MCI on foreign labour is unhealthy and poses a long-term threat to the sector. Any disruption of labour supply from other sources could erode the base of the foundation and compromise the Malaysian economy. According to Narayanan et al., (2005), other than making intensify efforts to provide a better working environment in the construction industry, Malaysia must vary its source of immigrant labour from more countries to lesser rely on certain source countries.

Even with various efforts by the government and private initiatives, the shortage of labour in MCI had never been improved over the years.

1.5. Research objectives

As mentioned earlier, the supply and demand is not in a situation of *Ceteris Paribus* (Hausman, 1988), there were other variables that acted as “invisible hand” (Lawson, 2013) that would determine the success in dealing with the problem of labour shortage. Other than the Covid-19 outbreak, the factors affecting the recruitment of foreign workers need to be further explored to serve the strategic interest to Malaysia.

The question to ask is how the internal and external factors affecting the recruitment of labour would influence the construction industry’s performance? What are the internal and external factors that could affect the organizational performance of a construction company? What are the best possible solutions to the problem of labour shortage in short term and long run? This research study attempts to address to those questions.

The research objective is to assess the internal and external factors affecting the recruitment of labour towards the organizational performance in construction industry. It is aim to pave the way for an effective approach in managing the human capital.

This study leverages the literature reviews, primary and secondary sources including reports, journals, academic literature, news coverage concerning local and foreign labour in the construction industry intending to assess the research objectives.

1.6. Significant of study

The shortage of labour in MCI had caused a delay in achieving the “Vision 2020”. Its failure to boost the activity of the other economic sectors also affected the country’s economy. Malaysia may not be able to progress if the problem of a labour shortage is prolonged and remains unsolved. This study further explores the possibility of implementing new government policies and private-sector measures that could solve the problem. The problem had been dragging on for decades, but the problem got worse with over-dependency on the foreign

workforce. To achieve healthy and balanced economic growth, Malaysia cannot rely forever on foreign labour. The workforce may have helped Malaysia to achieve its mission of economic performance, better living standard of its people, and prosperity of the society, but the outflow of currency to source countries also will weaken the strength of the ringgit currency.

This study intended to free the MCI from the problem of labour shortage and create a better job environment that could attract the involvement of the local workforce. The present composition of 80% foreign workers to 20% local workers (Hamid et al., 2011) is unhealthy. The change of policy in the source country will haul the progress and disrupt a country's economy.

Other than looking at the approaches to encourage and improve the willingness of the locals to work in the construction sector, steps need to be taken to ensure the working environment can attract and retain the foreign workforce. For example, the Indonesian government refused to allow their citizen to come to Malaysia due to harsh treatment, low wages, and an unsatisfactory working environment.

This study looks at the overall causes, factors affecting the recruitment of labour, and practical solutions to increase the sustainability, profitability, and competency of MCI.

1.7. Definition of terms

For the purpose of a better understanding of this research, different terms are described and define herein.

ARMS

It is building software which used in design of modular system.

Ceteris Paribus

Ceteris Paribus is a Latin word which means "all other things being equal", "other things held constant", or "remain unchanged" in economics.

Construction Industry Development Board (CIDB)

CIDB was established by the Malaysian government under the Ministry of Public Works in 1974 to stimulate, promote, and improve the development of MCI.

CAPEX

Capital Expenditure is a long term investment like physical assets and equipments.

Cast in-situ

Building technology that casts walls and slab panels in formwork at work site.

Compound Annual Growth Rate (CAGR)

It is a ratio that provides annual growth rate of return over time period longer than a year.

Contract management

This is a process that manages contracts from the beginning to execution, extension, termination or the completion of job.

Department of Occupational Safety and Health (DOSH)

A government department under the Ministry of Human Resource that is responsible for protecting people from safety and health hazards from the workplace and ensuring the safety, health and welfare of the workers.

Fulfillment of contract

It is referred to the completion of a contract which executed in accordance with the terms and conditions.

FWK Alum system

A prefabricated building system used in the installation of formwork.

Environment, Social, and Governance (ESG)

This is a framework designed to consider the needs and approaches to generate value and govern the healthy way of management for the organization.

Gross Domestic Production (GDP)

It is a term used to measure the size and growth of economy for a country.

Grounded Theory

Grounded theory is a methodology used in qualitative research.

Invisible hand

The unseen forces that help the “demand and supply of goods and services” in a free market economy to reach an equilibrium.

Industrial Building System (IBS)

Construction techniques that mass produced the components of construction building or structure, either at site or off-site which later assemble to a structure enhance effectiveness of works with minimal workforce.

Industrial 4.0 (I4.0)

This is a concept utilized the technology to bring progress and maximum return of industry with digitalization and AI automation., It also recognized as The Fourth Industrial Revolution, 4IR.

Liquidated Ascertained Damage (LAD)

It is a predetermined measure of damage agreed in a construction contract. A late delivery or completion of job will always cause the contractor to compensate the employer with penalty.

Malaysia's Construction Industry (MCI)

It is referred as all industry related to the construction sector

Movement Control Orders (MCO)

It is a movement restriction policy implemented by Malaysia government during the outbreak of Covid-19 to curb and confine the spread of the virus.

Mechanical and Electrical (M&E)

It is concerns with the installation and maintenance of mechanical and electrical equipment within the built environment.

New Economic Policy (NEP)

It was a social re-engineering action plan by the government which adopted in 1971 for a period of 20 years.

OPEX

Operation expenses (OPEX) is “Day-to-day” operation expenses like salaries, rental, utilities and taxes.

Shortage of labour

This is a term referred to the shortage of blue-collar workers, skilled, semi-skilled and unskilled labour.

Source countries

It is referred to the 15 approved countries that supply foreign labour to Malaysia in difference economic sectors.

TAG-IT

This is an anti-lost application used to locate the building equipments.

The first Malaysia Plan (1966-1970)

It was a short term economic planning initiated by the Malaysian government in 1966. Since then, the Malaysia Plan is introduced every 5 year until present day.

Technical and Vocational Education and Training (TVET)

It refers to all forms of education and training, including formal, informal training which provide working skills related to occupations in economic sectors.

Chapter 2

Literature Review

2.1. Introduction

Organizational performance in construction mainly focused on the timely delivery of projects. It is measured on the fulfillment of the contract regardless of whether there is a profit margin. Therefore, the productivity mentioned in this study focuses on the job done and the delivery of the project under the contract requirement. Despite various research and studies to identify factors influencing the performance of the Malaysian construction industry, not many studies have focused on the factors affecting the recruitment of labour to solve the problem of labour shortage in strategic human resource management.

According to Mojahed and Aghazadeh (2008), the first and foremost step in improving construction productivity towards better organizational performance is to identify the influencing factors. Thereafter the factors affecting productivity are identified are mainly contributed by the shortage of labour workforce, study and analysis of factors affecting the recruitment of labour would be able to assist the management to undertake appropriate actions to mitigate those issues.

2.2. The evolution of the labour landscape

Before the early 1980s, the primary source of labour in the MCI was mostly Malaysian Chinese. Even though the tenure of one project may take years to complete, most of the work scope was less permanent. The division of work scope according to different trades requires different skills. The duration of a certain segment of trade might be less than 6 months depending on the size of a project and the sector of the workers. The diverse nature of construction work caused much uncertainty in securing a job. That diverse scope of construction works were less permanent, and it did not induct new entrants. Employers worsened the

situation when they were reluctant to adjust terms of employment and corrections in wages (Narayanan, 1992).

The employers not only refused to increase the wages but also resorted to a way out by employing illegal immigrants from Indonesia in the early 80s. Because of their language and cultural similarities with local Malay ethnic society, they become the most favourable workforce in the construction sector. They are willing to work for long hours with lesser demand, lower wages, and working under harsh environments (Gill, 1988; Azizah, 1988; Navamukundan, 1992, as cited in Narayanan et al., 2005).

As mentioned earlier, the Malaysian education system emphasizes more on academic achievement more than skill and technical development. The apprenticeship system provides training mostly for the school dropped-out and it is normally passed on from father to son, relatives, family members, or apprentices.

The knowledge and skills are also widely passed on to young job seekers and unskilled workers by apprenticeship led by a “kepala” or head of the trade. The younger Malaysian workers are not interested in careers in construction, pointing to dropping apprenticeship rates and no trade certificate graduation. The decreases result from insufficient apprenticeship opportunities, low wages, and other demand factors pushing young workers away from the industry.

The ascending levels of education among the Malaysian Chinese, and most of them excel in more respectable trades and stable incomes had seriously eroded the traditional foundation of the system. As the economy underwent a structural transformation, from small scale to larger scale, from low rise to high rise building, demand for construction workers to fill the emigrated workforce. The construction sector was left with no other alternative but to recruit foreign workers. (Narayanan et al., 2005)

In those early days, the carpenters moved into a construction site only after the earthwork contractor and piling contractor completed their work. The carpenters moved in to prepare the wooden formwork before the entrant of concreting

workers. The bricklaying contractor, the scaffolding contractor, the plumber, the Mechanical and Electrical (M&E) contractor, the tiling contractor, and all the other specialized job even from day one until today is considered less permanent and unstable. They need to seek an ad hoc contract sometimes. Even if they obtained a contract, they must move from site to site, location to location, and state to state to seek a contract for sustainability and continuity for their business.

The survival game becomes more sophisticated and challenging when the owner or main contractor defaulted on their wage payment. The payment was irregularly held back by the employer or main contractor due to weak governance of the government authorities and premature regulation.

Contractors always face problems in getting their progress payment. Certificates of work done and claims have always been delayed because the architect and engineering consultant was engaged by the employers. The arbitration process involves huge costs and is very time-consuming. When the labour has hardship in getting their lawful wages, most of the local workforce left the trade and converted their livelihood to another stable income job. The situation only improved after the formation of CIDB to regulate, develop and facilitate the construction industry in 1994.

According to Zaki et al., (2012), human resources and human capital are the fundamental issues for a construction company in generating growth and contributing to national development. The biggest challenge for a Malaysian construction company is its strength and competitiveness.

Most of the foreign labour recruited overseas are poor, have less educational background, and have no working experience in construction. Formal training is not provided before the recruitment and upon arrival, they are sent to the work site. They were assigned to the “kepala” or head of trade to be apprentices. Most of their salary was paid according to the quantity of work done or measured by productivity. The contractors do not use a fixed salary system to ensure the labour works harder to obtain the targeted income. Fixed salaries are only paid to the general workers or “kongsi-gong” which means the company directly engaged the

labourer who is getting daily wages. “Kongsi-gong” is the lowest level of unskilled labour or being recognized as a general worker.

2.3. Migration of labour workforce

In addition to the failure to attract new young local workers, the ageing of the existing workforce, and shortages of immigrant workers are caused by the changing of governmental practices, the market environment, and the economic growth of source countries. The economic downfall like the recession from 1985 to 1988 also created an impact on the construction industry.

The unattractive working conditions had caused many locals to choose to emigrate to a higher wage, better working environment, and better compensation countries. This drawing away of primary skilled workers had seriously depleted the pool of expertise in MCI. The local Chinese, who was the main pillar of the traditional apprenticeship, had left a serious vacuum in the workforce. Most of them immigrated to the countries like Japan, Singapore, and Taiwan. In 1993, it was estimated that quite a number of the 150,000 Malaysian in these three countries are working illegally without a permit. It was believed that a considerable proportion of them were involved in the construction sector in those countries (Abdul-Rashid, 1996, as cited in Narayanan et al., 2005).

The low skills and poor educational background of the foreign workers that were recruited and engaged in the industry made the locals think that such work was not for them. As the construction sector has always been linked to dirty, dangerous, difficult, low pay, long working hours, and harsh working environment, which would cause the locals shunned away from the construction industry, and led to further reliance on foreign workers.

The main cause of labour out-migration from the country of origin is the economic factors that are closely related to the labour standards, unemployment situation, and availability of socioeconomic facilities. Better prospects for higher wages, a working environment, and employment opportunities in the designated country are also added to the labour migration.

The employment opportunities in the designated country help to overcome economic hardship at the origin and improve the conditions in the origin country by transferring skills and remittances (Panda, & Mishra, 2018).

The trend of migration of the labour force varies in response to the global economy, market environment, government policies, and other factors. The outflow of local Malaysian to designated countries as a labour force and the inflow of migrant workers from the source's countries are determined by the factors affecting the recruitment which we will explore in depth.

2.4. Factors affecting recruitment

As the problem of labour shortage cannot be solved by only referring to the demand and supply economic theory which had multiple “invisible hand” that could affect the outcome and solution, in-depth research through literature reviews is needed.

The literature review had led to the better understanding of the labour shortage problem through the analysis on various factors affecting the recruitment of labour. Besides recruitment exercises to overcome the labour shortage, the factor that could not be ignored is the higher rate of productivity will result in more benefits to project cost and time which means fewer input resources are used (Williams, 2010 as cited in Porathepkasemsant & Charoenpornpattana, 2019). The poor retention strategies of the construction industry resulted in a high staff turnover issue and Malaysia is ranked as the top three countries in Southeast Asia in the year 2015 (Ling et al., 2022). Moshood et al., (2021) stated that the high turnover rate was the prime issue for Malaysian construction companies which had caused a serious workers shortage issue.

Efficient use of labour, accurate and complete drawings, quality workmanship with no delays other than those reasons caused by an incident beyond the control of mankind like weather conditions, and no litigation at the completion are important to achieve perfect productivity (Hughes et al., 2014).

Muhamid (2013) said that the definition of labour productivity is referred as the number of goods and services that a laborer produces at a designated time. It will affect the time, cost performance, and handing over of a timely completed construction project.

Alinaitwi et al., (2007) stated that one of the most daunting problems faced by construction industries is the productivity of the construction workers. Poor productivity is one of the major causes contributing to the cost and time overruns in construction projects. Therefore, a shortage of labour will lead to the setback of overall productivity or sustainability of the construction industry.

Olomolaiye et al., (1998) in opinion that factors affecting productivity in construction sector are rarely constant. The factors may be varied from location to location, project to project, and within a site depending on the circumstances. Two categories of factors influencing construction productivity, external and internal factors, are being identified. External factors include the nature of the business, employer, procedure, climate, and degree of economic development which are beyond the control of the company's management. Internal factors which originate within the company include management, technology, labour, and trade unions.

Enshassi et al., (2007) suggested that the main factors affecting productivity in building construction projects in Gaza Strip are lack of labour experience, material shortage, poor supervision, communication gap and changing of drawing specifications during the execution of a contract.

Kadir et al.,(2005) in opinion that the top 5 important factors affecting the labour productivity for Malaysian housing projects are shortage in material supply, payment, ineffective consultants, and contractors' incapacity.

Lim and Alum (1995) conducted a study to identify the factors affecting productivity in Singapore's construction industry. They concluded that top affecting factors of the recruitment are related to the issues of employing sufficient workforce, the turnover rate of labour, absenteeism and ineffective communication with foreign workers.

Zakeri et al., (1996) found that the critical constraints for Iranian construction productivity and performance are shortage of materials, weather and work site condition, insufficient tools and equipment, changing in designs, inconsistent in orders, weak supervision, improper planning, poor workmanship, changing crew size, and labour turnover.

Makulsawatudom and Emsley (2002) identified that the most significant and critical factors affecting construction productivity in Thailand are lacking of materials, incompetent supervisor, insufficient tools and equipment, poor attendance, unclear instruction, poor site layout, irregular inspection, and rework.

Most of the conclusions mentioned in the literature reviews surround the shortage of labour in human resources management. It is crucial to explore the cause and the challenge of labour shortage which may jeopardize the productivity and healthy growth of the sector.

A company needs to evaluate its capacity to retain the said recruitment with its financial and management capacity. The retention of workers requires skill management to avoid frequent recruitment exercises and increase overall productivity. The company needs to evaluate the costs and legal considerations on whether to recruit local or foreign workers, legitimate foreign workers, or illegal immigrants. The recruitment criteria depend on the availability of supplies, market conditions like fluctuation of currency exchange rates, government procedures, demography of the workers, and labour policies of the source countries.

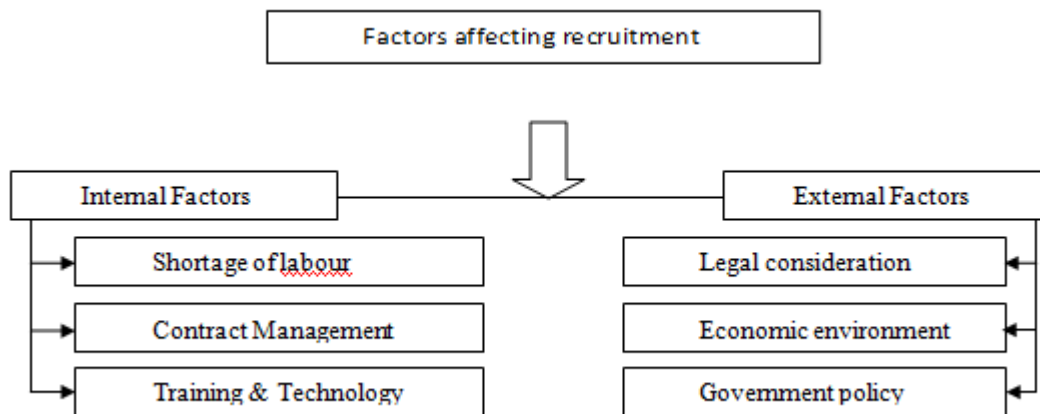
For the completion of contract and delivery, to avoid delay and Liquidated Ascertained Damages (LAD) of contract breaches, an additional workforce is needed. The number of the labourers is determined by the size of the company, value of contract, and job specifications of the respective project.

This research study refers to productivity towards better organizational performance only by referring to the delivery of contract agreements, completion of a project, and handing over the work site to the employer. Profitability in monetary value is not a consideration due to multiple variances involved for a business entity and it takes different approaches in research.

The issue of profitability in monetary gains is not the scope of this research. These studies consider only a variety of factors affecting productivity which lead to better organizational performance, the fulfillment of contracts and quality jobs done. Thus, exploring the possibility of solving the problem of labour shortage in MCI is timely.

Hence, the literature reviews led to the identification of factors affecting the recruitment of the workforce in the Malaysian construction industry. The internal and external factors which are identified as factors affecting the shortage of labours are illustrated as follows,

Figure 2:1: Factors affecting the recruitment of construction workers in the Malaysian context.



The above model is suggested and built based on the findings in the literature reviews. After comparing various literature reviews and findings, it is found that the factors affecting the recruitment of construction workers in MCI to curb the labour shortage are divided into 2 main factors, which are internal factors and external factors.

The internal factors chosen for in-depth study are shortage of labour, contract management, and training and technology, and the chosen external factors are divided into legal considerations, economic environment, and government policy. The construction sector’s productivity depends on the success of the recruitment

exercise in workforce staffing, which will further contribute to the smooth operation of projects and maximum organizational performance.

2.4.1. Internal factors

2.4.1.1. Shortage of labour

The term “labour shortage” is referring to an “absolute shortfall in the number of workers in a labour workforce” while at other times it also refers to a “mismatch between worker qualifications and the jobs which are available” (Barnow et al., 2013 as cited in Rahim et al., 2016).

A construction company will need to recruit an extra workforce when the manpower is falling short to carry out work tasks as required by the construction job specifications. The key factor affecting organizational performance is human capital. Therefore, if there is a situation where a job site without sufficient labour or human resources to perform various work tasks, other resources would not be able replaced, utilized, and converted into productive use (Muhamid 2013).

Yusoff et al., (2021) in an opinion that hiring foreign labours is one of the fast and immediate solutions to managing labour shortages. Salleh et al., (2014) suggested that the fastest and cheapest way to fill the vacancies in the workforce and reduce the problem of a labour shortage is to fill the vacancy with foreign workers. According to MOHR (2019), the estimated number of active foreign labours in the Malaysian construction industry as mid of 2019 was about 435,000 people, constituting up to 21.7% of total documented foreign labours.

The sustainability of human resources in the MCI was directly disrupted due to the over-dependence on foreign labour (Rahim et al., 2016). The influx of unskilled foreign labours too had worsened the situation of the existing shortage of skilled worker market (Marhani et al., 2012; Hamid et al., 2013).

Construction is labour intensive industry that is commonly regarded as a major investment component which is highly dependent on human labour. Other than those who are involved in project management, most of the workers are low-skilled workers. The current global growth in the construction industry required a

massive number of labours, therefore, the shortage of skilled labour has become a crucial issue in most countries. The consequences of labour shortage had contributed to the higher costs and poor quality of project performance. It also delayed the delivery of projects and harmed the successful completion (Juricic et al., 2021).

To perform effectively in construction projects, labour is an essential key factor in successive project management. Many construction projects have failed and been unsuccessful due to the labour factor (Rahim et al., 2016).

The shortage of labour is one of the critical problems that had a direct effect on project performance. It could jeopardize the organizational performance in contract management, especially in terms of cost, time and quality (Hamid et al., 2011; Ibrahim, 2013; Jarkas & Younes, 2014; Rahim et al., 2016). Surprisingly, labour costs are high, and it comprised 30% to 50% of the overall project costs in numerous countries (Jarkas & Younes, 2014) which had been regarded as an important resource for the efficiency and success of the construction project.

The CEO of CIDB, Datuk Ahmad Asri said,

“Among the main challenges are the increases in the price of some building materials, lack of workers, the increase in workers' minimum wage as well as the cost to house them and cash flow issues faced by contractors”.

He said that entering the Covid-19 endemic stage, the construction sites are fully opened and it has contributed a significant increase in construction activities. All construction work sites can operate without restriction. An estimated shortage of 400,000 workers for the construction industry is yet to solve. To solve the problem, CIDB is closely working with the construction industry's stakeholders and the Ministry of Human Resources (MOHR) to effectively resolve the issue (Bernama, 2022).

2.4.1.2. Contract Management

The delivery of the contract is important for the construction companies because they were bid by the contract to deliver the contract requirements within a designated time frame. According to Hanak and Vitkova (2022), the construction projects are complex and difficult to manage. Serious and unfavourable consequences could tarnish the performance which could even result in a project failure if the contract was not properly managed.

A business can only achieve operational efficiency if a proper contract management system is applied. The success of the procurement in a sound contract management system ensures the performance of the contractor if the work is carried out as per the defined terms and conditions in schedule, duration, specification of the contract. The length of the contract indicates the specific time frame to complete a contract with a job done with quality according to contract specifications (Ajayi et al., 2015, as cited in Muhammad et al., 2019).

The number of workers to be recruited depends on the organizational size of the construction company and the scale of the contract. Not many empirical studies exist on organizational performance for a construction company at the industry level is related to market structure and fulfillment of the contract (Hyung et al., 2012). The nature of business, the size of the company, and the scale of the contract also determines the approach of labour recruitment, whether massive recruitment from abroad by the construction company or using a sub-contract system which places the responsibility of staffing to the subcontractors.

Many property developers in Malaysia diversified into construction firms and subcontract its task to various sub-sectors like carpenter, masonry, concreting, steel works, tiling, M&E, landscape, & painting work according to the need of different trades. The size of the organization, the contract sum, and the nature of work tasks determine the need and the number of recruited labours and talent in various trades.

2.4.1.3. Training and technology

(i) Training

The educational system in Malaysia stresses paper qualification and has never given much attention to vocational training. According to the Education Ministry, during Covid-19 pandemic from March 2020 to July 2021, 21,316 students quit and dropped out from school (Lim, 2021). These are students who prematurely stopped schooling before they could finish their studies in the conventional education system. This group of young school leavers should be given an opportunity to obtain vocational training. The training of semi-skilled and unskilled labour through the apprenticeship or Technical and Vocational Education and Training (TVET) for the younger generation who have been recruited to the training institutions will further enhance the skills of the labour and improves the productivity of the various industries. The key element in achieving economic development is having a productive workforce. Hence, a productive economy needs a substantial workforce to produce economic services and activities. The availability and sustainability of a productive workforce in the construction industry affects the business environment. Therefore, a range of programs and industry-based training centres should be developed to increase the number of trainees and workforce for the industry (Zakaria, 2009, as cited in Zaki et al., 2012).

According to the study carried out by Alinaitwe et al., (2007), the two most significant contributing factors of low productivity of construction industry in developing countries are incompetent and inexperienced workers.

(ii) Technology

The construction site of the developed countries like the UK, USA and Germany are highly mechanized, but labour is a still major component of construction work in Malaysia. Therefore, Malaysia is still labor-intensive like the rest of the developing countries (Moshood et al., 2020).

The Malaysian government through the CIDB encouraged the use of the IBS method. It is believed that the use of IBS could solve the problem of poor workmanship, delay in completion, and inferior quality of construction works, and eventually improve the overall performance.

Ismail (2001) pointed out that careful planning of cast in-situ work using lightweight prefabricated formwork in steel, fibreglass, or aluminium as a replacement to existing conventional formwork in timber would improve speed, less defects, and total saving in cost. On-site pre-casting provides several advantages to overcast in-situ construction, it include the mass production of quantity, reduction of cost and time, and improvement of quality (CIDB, 1992). A shorter cycle time implies that the total project construction duration would also be reduced, hence minimizing management overhead and delivering on time. As efficiency increased, the actual labour productivity also will be improved due to the learning effects and the economies of scale (Kadir et al., 2006).

Demirkesen and Tezel (2020), stated that the construction industry needs innovative technologies such as digitalization, building information modelling (BIM), Internet of Things (IoT) to improve project management which leads to a solution in human resource management and better organizational performance. The construction industry is way behind in adopting and implementing new technologies (Hargaden et al., 2019; Klinc and Turk, 2019).

The construction industry has a fragmented nature which consists mostly Small and Medium Enterprises (SMEs) which have limited resources to adopt and foster innovative and advance technologies (Arayici and Coates, 2012; Dallasega et al., 2018). Pacchini et al., (2019) in opinion that the degree of readiness for an organization to adopt the implementation of I4.0 still not able to go in line with literature. It's lacking of objective approaches (Orzes et al., 2018).

2.4.2. External factors

2.4.2.1. Legal considerations

The recruitment of labour also highly depends on legal considerations. The construction companies would surely employ legal foreign labour if they were available. Illegal foreign labour is cheaper and always available in comparison to local labour. Norhana and Noreha (2021) found that the major issue that Malaysia facing is the problem of illegal foreign workers. There are two to four million foreign workers in this country in which more than 50% of them are present illegally (Immigration Report, 2019).

Most of them enter the country illegally as they cannot fulfill the entry requirements. In general, there are three types of illegal foreign labour, namely those who entered the country illegally, those who entered legally but overstayed, those who were cheated by agencies (Trumpbour, 2015; MOHA, 2011), and those who are changing employer without government approval.

In Malaysia, only six employment sectors, five formal and one informal sector can recruit foreign workers, which are the construction, manufacturing, services, plantation, agriculture, and domestic helper sectors (Norhana & Noreha, 2021).

The source of labour to fill the vacancy is strongly related to the concept of demand and supply. The construction companies will opt to employ foreign workers if the locals are not interested in the job. Some of the construction companies consider employing illegal foreign workers since they are cheaper in wages and available in the market.

Khazanah Research Institute (2018) reported that the number of legal foreign workers in the country had increased tremendously from 1,683,000 in 2010 to 2,235,000 in 2017. ILO Report (2020) had estimated that the number of foreign workers in Malaysia had increased to a population between 2.96 million and 3.26 million in 2019.

As per conditions of recruitment by the Department of labour Peninsular (MOHR, 2023), the recruited workers must be a minimum of 18 years old and a maximum

of 45 years old at the time of first entry to Malaysia, and the Philippines female worker is not allowed to work in manufacturing, plantation, agricultural, services, construction, mining and quarrying sectors.

Demographic developments have increasingly affected the situation faced by the construction sector. Demographic changes like the decrease in birth rate, ageing population, and increase in migration had seriously affected the landscape of labour structure. Bahr & Laszig, (2012) in opinion that it is normal when a generation aged out, the next generation enters. The shift in age demographic and a shift in workforces are common.

According to the Ministry of Home Affairs (2022), the policies on the recruitment of foreign workers allowed only 15 source countries to supply foreign workers to Malaysia.

The approved source countries are Cambodia, India, Indonesia, Kazakhstan, Lao PDR, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Thailand, Turkmenistan, Uzbekistan, and Vietnam.

To avoid being taken legal action by the enforcement agencies or authorities, the employer had to ensure the recruitment of foreign worker had been carried out in accordance with the government policies, or they would face legal implications.

The following table demonstrates the list of source countries which are allowed to supply foreign labour to various economic sectors in Malaysia;

Table 2.1: Source countries and sectors allowed recruiting foreign workers.

No	Country	Gender		Sector
		M	F	
1.	Thailand	/	/	Manufacturing, Plantation, Agricultural, Services, Construction, Mining , Quarrying.
2.	Cambodia	/	/	
3.	Nepal	/	/	
4.	Myanmar	/	/	
5.	Lao PDR	/	/	
6.	Vietnam	/	/	
7.	Philippines	/	X	
8.	Pakistan	/	/	
9.	Sri Lanka	/	/	
10.	Bangladesh	/	/	
11.	Turkmenistan	/	/	
12.	Uzbekistan	/	/	
13.	Kazakhstan	/	/	
14.	India	/	/	Services-(restaurant), Construction (High Tension cables), Agriculture & plantation
15.	Indonesia	/	/	Manufacturing (female only), Plantation, Service, Agricultural, Construction, Mining ,Quarrying

Source: moha.gov.my (Ministry of Home Affairs)

2.4.2.2. Market environment

The fast-changing market environment is also a factor for construction companies to recruit how many workers. The Covid-19 pandemic had caused a serious lack of employing foreign workers since most of them have expired working permits, are unemployed, and returned to their country of origin. Lack of employment opportunity, insufficient income, and poverty in the country of origin has become the push factors for migrant workers to work in the destination country (Masud, Hamzah, & Ahmad, 2022).

FMT (2022) reported that due to the economic turmoil of the country, Sri Lankan government had made an official request to Malaysian government so as to supply migrant workers to Malaysia. The economic crisis had left the Sri Lankan no choice but to seek better job opportunities abroad. The Malaysian government agreed to approve and accept 10,000 workers to assist Sri Lanka in overcoming the crisis.

Shin. A.J. (2021) suggested that,

“Policymakers should implement more exclusionary or inclusive policies toward migrants in response to fluctuations between their currencies and those of their major migrant-sending countries. While the high value of the currency in the host country attracts foreign labour, conversely it will affect the real income earned in the host country. They may consider returning home or moving to another country. They are vulnerable to the exchange rate since a big portion of the income will be sent back to the source country.”

For these reasons, depreciation of Malaysian currency is likely to deter the future migration of foreign workers. While appreciation of currency only would increase migration pressures on host country (Hanson and Spilimbergo 1999; Mishra and Spilimbergo 2011).

2.4.2.3. Government policies

The recruitment procedures that were complicated and take a long time to approve also hindered the recruitment exercises. The process of applying to the government authority and workers which took about 6 months is too lengthy and costly in terms of work progress. The frequently changed government policy will disrupt the labour market.

Foreign workers are not fond of working in a country full of uncertainty. At present, only 6 employment sectors are allowed to hire workers in the formal sectors which include construction, manufacturing, services, plantation, agriculture as well as mining and quarrying. The age limit for the employment of

foreign workers is a minimum of 18 years old and to a maximum of 45 years old. This age limit is a condition refers to the age at the first entry (MOHA, 2022).

The government policies had been changing from time to time causing uncertainty in the recruitment process. It hindered the recruitment exercise and labour supply. For the purpose to attract foreign labour, the government should create an atmosphere of economic stability. Muhamid (2013) concluded that the government should improve the wages and benefits by enforcement of regulations and law. Khan and Tahir (2014) discovered that the construction risks are significantly influenced by government policy.

Yi (2006), in their study discovered that the China government policy had a vital role that had significantly influenced the price of affordable houses in the country. Thus, it is necessary to moderate the potentiality of regulation and government policy on the relationship between factors affecting risk attitudes among the construction companies in Malaysia (Moshood et al., 2020).

According to the report by Surin (2022), the Federation of Malaysian Manufacturers (FMM) said the constant “flip-flops and knee-jerk” changes in the policies and procedures for recruitment of foreign workers had caused frustration and disappointment for the industry. It is proven to be most damaging to the economic sectors, especially in the investor confidence. The employers are lost and confused about the process in dealing with different ministries. They had been running around dealing with various government agencies without a clear direction. The uncertainty, the delays in processing and approval had caused unnecessary impacts. Their costs increased, and if they can’t get the workers in time to meet their order obligation, they will lose future contract. Furthermore, it would decrease their competency in manufacturing.

2.5. Research Framework

Due to the inclusive nature of and differing opinions that have been documented in the role and position in social science, deep comprehensive of phenomenon events or experience of real-life cannot be measured in quantity, the significant

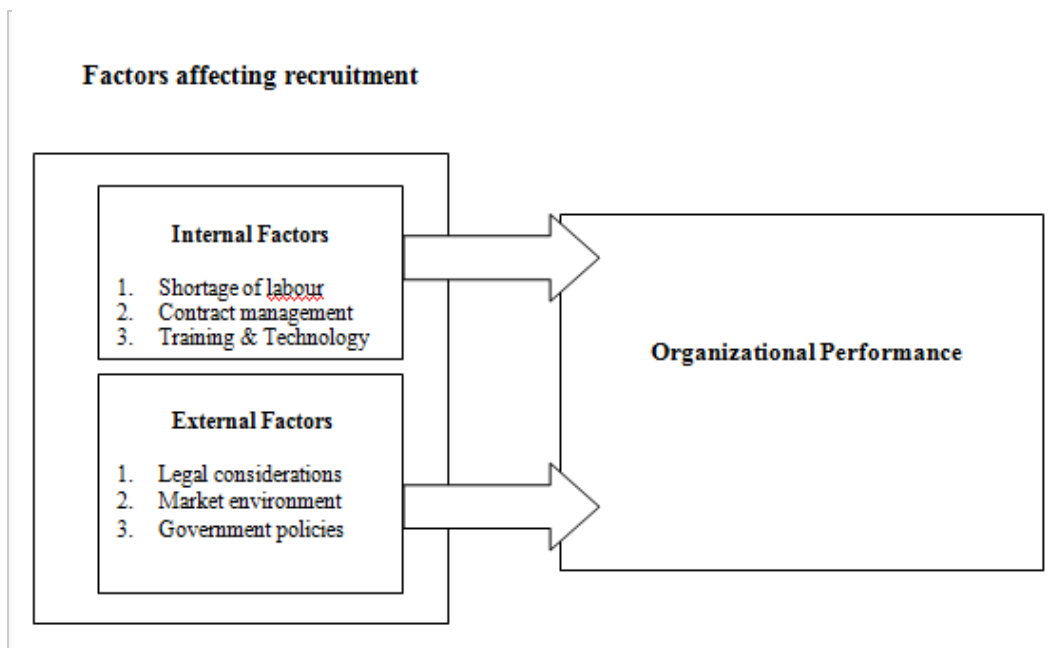
role of qualitative research theory is an undeniable method (Travallaei & Mansor, 2010).

Creswell (2011) has recognized the important role of a theory related to methodology and said that;

“In qualitative research, one does not begin with a theory to test or verify. Instead, consistent with the inductive model of thinking, a theory may emerge during the data collection and analysis phase or be used relatively late in the research process as a basis for comparison with other theories.”

Many research findings have mentioned the importance of factors affecting the recruitment of the workforce in the construction industry. Therefore, the research framework to explore the causes, challenges and solutions for the Malaysian situation will be based on the literature reviews had been drawn to study the issue in depth. The research will concentrate on the influence of internal and external factors that lead to efficient workforce staffing and overall organizational performance. The internal factors affecting the Malaysian construction industry are being identified as shortage of labour, contract management, and training and technology. On the other hand, the external factors are legal considerations, the market environment, and government policies.

Figure 2.2: *The proposed framework on factors affecting recruitment: in relation to workforce staffing and organizational performance.*



Based on the research questions, the background of the study and the discussion of literature reviews between the dependent variable, and each of the independent variables are internal factors and external factors.

2.6. Hypothesis development

The hypothesis is being developed in line with the questionnaire for the purpose to prove whether there is a relationship between the independent variable and dependent variable as follows;

- (i) There is a positive relationship between internal factors and organizational performance.

This is a hypothesis intended to prove there is a positive relationship between internal factors (i.e. shortage of labour, contract management, and training and technology) and the performance of construction industry. Therefore, the internal factors are the independent variables, and the dependent variable is the organizational performance. The relationship between the internal factors

affecting the recruitment of sufficient workforce towards an overall organizational performance is tested with the outcome of the themes.

- (ii) There is a positive relationship between external factors and organizational performance.

This is a hypothesis intended to prove there is a positive relationship between external factors, (i.e. legal considerations, market environment, and government policies) and the performance of construction industry. Therefore, the external factors are the independent variables, and the dependent variable is the organizational performance. The relationship between the external factors affecting the recruitment of sufficient workforce towards an overall organizational performance is tested with the outcome of the themes.

2.7. Conclusion

This study focuses on two categories, internal factors and external factors that affect the recruitment of labour, mainly foreign labour. The study focuses on the recruitment of foreign workers due to the situation that almost 70% - 80% of the dependency rate of semi-skilled, unskilled labour forces for the Malaysian construction industry is foreign labour (Hamid et al., 2011). The internal factors can be managed by the organization, stressed on the role of the contractors in labour and strategic human resource management, but external factors are beyond their control. .

Chapter 3

Research Methodology

3.1. Qualitative interviews design

Grounded theory is a method used by the researcher after the collection of data to develop a finding in the process of research (Leedy & Ormrod, 2005). Grounded theory has a particular purpose; which is to "move beyond description" (Creswell, 2007, p.62) so that the researcher can "generate" and "discover" a theory.

Barney Glaser and Anselm Strauss discovered and developed the Grounded theory in 1967 (Mitchell & Cody, 1993; Creswell 2007) in the field of sociology. Despite some different opinions, some researchers and experts believe that theory is the "outcome of the research" which could generate from the data inductively (Creswell, 2007; Leedy & Ormrod, 2005).

Mitchell and Cody (1993) noted that Glaser and Strauss (1967) have clearly stated that grounded theory should avoid preconceived theoretical assumptions or speculations. Still, they advise researchers to possess a sociological "perspective" and "theoretical sensitivity" which would lead to the generation of a theory (p.171).

3.2. Target respondents

The respondents are comprised of top management, project managers, and owners from Public- listed companies (PLC), property development companies, infrastructure construction companies, building construction companies, sub-sectors, and those who are involved directly in the industry.

For the first group of respondents (Respondent A to Respondent D), they are the top management personnel in the PLC that actively involved in the property

development, building construction, and infrastructure construction projects that worth hundreds of million Ringgit Malaysia in values.

The second group of respondents (Respondent E to Respondent H) is those who handle daily operation of construction project who directly engaged in the delegation of tasks, work schedule, supervision, and strictly adhere to the objective of contract delivery.

The third groups of respondents (Respondent I to Respondent L) are individuals involved in trades that are closely related to the construction industry, like corporate advisor, renovation contractor, safety equipment contractors, and sub-sector business owner.

Table 3.1: Background of research respondents

R	Type	Position	Nature of business	Experience
A	PLC	Managing Director Major shareholder	Property developer, Building & infrastructure	>10 years
B	PLC	Project Director	Property developer Main contractor	> 15 years
C	PLC	Executive Director	Developer & contractor	>10 years
D	PLC	Project Manager	Construction	>10 years
E	MNC	Corporate Advisor	Building & Infrastructure	>20 years
F	Private	General Manager	Property developer	>10 years
G	Private	Managing Director	Construction	>30 years
H	Private	Project Manager	Property developer	>10 years
I	Private	Senior Manager	Interior renovation	>35 years
J	Private	Owner	Renovation, & sub-sector	>5 years
K	Private	CEO	In-building system	>10 years
L	Private	Managing Director	Agency	>10 years

Note: R = Respondent MNC = Multinational Company PLC = Public-listed company

Private = private company

3.3. Interview questions

The interview questions are intended to collect the views, suggestions, and feedback from the entrepreneurs and higher management personnels who involve in the Malaysian construction industry.

The questionnaire divides into 2 main sections, part one and part two. The Part One questions are intended to do a basic coding for feedback obtained from the respondents, and the Part Two questions are the main data that would be able to contribute to the research, and those questions are intended to obtain extra information and feedback.

The first part is the question regarding the overall scenario that is faced by the construction company, the second part is intended to collect data and respond to the analysis of the hypothesis. Part two questions are divided into internal factors affecting recruitment, and the external factors affecting recruitment, that would assist in collecting opinions for further analysis and findings. The content of the questionnaire is in the following tables,

Table: 3.2: Interview Questions (Part One)

No.	Questions
1.	What is the background of your company? (a) Public-Listed company (b) Private company
2.	What is the nature of the business of your company? (a) Infrastructure & building contractor (b) Property developer (c) Consultant (d) Sub-sectors
3.	What is your position in the company? (a) Top management (CEO, Managing Director, Executive Director, general manager Etc.)

- (b) Project Management (Project manager, supervisor, consultant etc.)
 - (c) Entrepreneur (Owner of business, sub-sector)
4. What are your years of experience in the sector related to Malaysian Construction Industry?
 - (a) Less than 5 years
 - (b) 5 – 10 years
 - (c) Above 10 years
 5. What is your total current contract value?
 - (a) Less than RM 10 million
 - (b) RM 10 million – RM 50 million
 - (c) RM 50 million – RM 100 million
 - (d) Above RM 100 million
 6. How many construction workers that your company directly engaged in the current project (direct employment)?
 7. How many construction labours that your company engaged in the current project through a "Sub-contractor system"?
 8. Do you think the increment of minimum wages to RM 1,500 per month could attract the local workforce in the construction industry?
 9. What is your opinion and suggestion that the construction industry could attract more local workforce, especially the semi-skilled, unskilled labour to get involved in the sector?
 10. Do you think the present government policy on recruiting foreign workers led by the Ministry of Homan Affairs in One Stop Center (OSC) instead of the Ministry of Human Resources could effectively solve the labour shortage problem? If not, why?
-

Part One covers the respondents' profile and background to determine that they are the right person that understands the basic requirements of the topic. This set of interview questions will also lead the respondents to answer Part Two questions which required in-depth knowledge about the recruitment process of required workforce.

The data obtained from Part One will also give the background information which is needed to answer questions on some of the factors affecting the recruitment of labour.

Table: 3.3: Interview Questions (Part Two)-Internal Factors

No.	Questions
1.	What is the main reason that our Malaysian are not interested in construction work?
2.	In your opinion, what is the main cause of the labour shortage that is being faced by the construction industry? What is the percentage of foreign labour against local Malaysian employed by your company?
3.	Is the problem of shortage of labour affects your contract delivery and to what extent it affects your company's performance?
4.	What are in your opinion that the best short-term and long measures to solve the shortage of labours in the construction industry?
5.	How do you determine the number of required workforces in a construction project and the system like direct employment, sub-contract system, sub-sectors, and employment through subsidiary companies used by your company?
6.	Did your company diversify into sub-sectors to reduce the burden of costs or for better management?
7.	Do you provide industrial building and construction training for your construction labour? If yes, what kind of training?
8.	Does your company provide or arrange training programs under the CIDB, HRDF or other agencies? Whether the program could ease the dependency on foreign labour or enhance their skills? If not, why?
9.	What type of technology that your company using to improve organizational performance? Industrial Building System (IBS) or digitalization programs under Industrial 4.0 (I4.0)?

Part Two covers the questions related to the internal factors affecting the recruitment of labour which are the shortage of labour, contract management, and training and technology that may affect the recruitment process.

The number of shortages, the type of workers, the categories of trades, the urgency of recruitment, the contract fulfillment, the duration of projects, the training programs, and the technologies are variable that could affect the recruitment of sufficient workforce contribute towards a better organizational performance.

Table 3.4: Interview Questions (Part Three)- External Factors

No.	Questions
1.	Would you consider employing illegal foreign labour (without proper permit/documentation) to work on your construction project?
2.	Would you consider the legal implication if you were employing illegal foreign labour and whether the legal consideration refrains from your decision to recruit illegal foreign labour?
3.	Do you agree with the statement that our construction industry once heavily depends on Indonesia as a source country, but now the role had been taken over by other countries? Why and what contributed to this situation?
4.	Did Covid-19 cause your company difficulty recruiting a sufficient workforce and what is the situation in the post-pandemic era?
5.	Do you think the depreciation of currency (Ringgit Malaysia) and the growth of GDP in source countries have any impact on the recruitment of foreign labour? (<i>Economy consideration? Currency fluctuation? GDP of the source country?</i>)
6.	Do you think that the current recruitment procedure under government policies is efficient and able to solve the problem of labour shortage? Do you think the current government policies that imposed minimum pay of RM 1,500 and opened more labour-source countries could solve the problem in the long run?
7.	What is your preference in recruiting foreign labour from a particular source country? (Like Indonesia, Bangladesh, Pakistan, and Sri Lanka etc.) Why? Is it evaluated according to recruitment costs or productivity?
8.	What do you think of the role of female foreign workers in the construction industry? What types of construction work involve female worker? And what is their contribution to the sector?
9.	What do you think if government register the existing refugees in Malaysia and offers them a working permit, especially in the construction industry? (At present, there is no government agency, except United Nations High Commission for Refugees (UNHCR) to issue refugee cards and they are not allowed to work in Malaysia)

Part Three covers the questions related to external factors affecting the recruitment of labour. The scope of the questions covered external factors like legal considerations, market environments, and government policies. Questions like whether a construction company considers employing illegal foreign workers, and why they are taking the risk is needed to investigate for better understanding the change of mindset of the industry stakeholders. This is also a portion of

questions that would be able to assist the firming of public policies that might change the overall organizational performance of MCI.

3.4. Interview techniques

The research was limited to an intentional sample of 12 respondents who are actively involved in the construction industry. They are the active stakeholders to the industry who perform specific roles and functions to manage the company and projects. They were selected and interviewed based on their knowledge, expertise, and experience with the construction industry who in association with the management of human resources.

The interview is conducted face-to-face in various venues that are convenient to the respondents. The interview was conducted in multi-lingual like, Cantonese, Mandarin, Hakka, and English. The language used did not hinder the interview process, and their valuable opinions to assess the data collection are well recorded.

For recording and research purposes, all responses and data are translated in English transcripts. Most of the interviews are conducted personally and voice recorded for cross-referencing during the preparation of transcripts. Out of 12 respondents, 8 were interviewed and 4 respondents who are having a busy work schedule requested to answer the questionnaire in writing and communicate in email.

3.5. Sample size

Sim, et al., (2018) identified 4 general approaches in effort to determine the sample size which are used in qualitative research are, (i) a combination of methodological considerations and individual experience identified as rule of thumb, (ii) identified specific characteristics of the proposed study in a conceptual model, (iii) numerical guidelines derived from the research, and (iv) the probability of sample size to obtain a sufficient data.

Rules of thumb had been proposed as an effective approach to determine sample size by several authors who involved in qualitative research. Methodological considerations and experience in similar studies also used as one of the yardstick in decision making (Sim.J, et. al., 2018).

Sim. et al., (2018) recommended a sample size for the grounded theory survey ranges from 5 to 35, due to the belief that whilst the research topic is having a degree of similarity and diversity.

Due to the nature of construction industry requires hands-on involvement in the Strategic Human Resources Management and daily operational functions which involves multi-tasks, different scopes and special skills during the execution of contract, the sampling size is determined and targeted only to those who are actively involved in the construction industry.

Therefore, the sampling size for the study of 12 respondents who are closely related to the construction industry and having experience in dealing with human resources management is to be deemed sufficient.

3.6. Data collection

The respondents are experienced individuals that have been involved in the construction industry. They are the stakeholders with expertise, experience, and direct project responsibilities in human resources management and project management. They had given sufficient, clear, coherent and relevant data for the purpose of the study.

The respondents were informed about the purpose of the interview, and they are positive and most of them have voiced their opinions for the betterment of the construction industry. Their contribution is acknowledged while their responses are anonymous.

For the purpose to collect bias-free data, open-ended interview questions were created to allow any kind of narrative that respondents would like to express, as well as the fluency of narratives to reflect their experiences (Creswell, 2011; Bell & Waters, 2014).

3.6.1. Analysis techniques

Qualitative data analysis is being used to organize, analyze, and interpret qualitative data which are non-numeric, conceptual responses, feedback, and information obtained from the respondents. For the purpose of the research, raw data is being collected, identified, organized, cleansed, and analyzed so as to capture the themes and patterns that answer the questionnaire.

According to Creswell & Creswell (2014), qualitative research is developed from the specific observations on frequent occurrences of a reflective response to a more generalizations and theories which are referred as inductive thinking or induction reasoning. The inductive method started with explicit observation and measurement before searching thoroughly to obtain patterns and themes within the data, which enable the researcher to develop a hypothesis that could be tested and eventually resulted in generalization or theories.

Due to the process of collecting data from the verbal responses involved information aroused from the individual experience in the industry, the data needs to be properly organized, cleansed and analyzed. Certain data need to be verified with secondary data obtained from the journals, literature reviews, reports, and reliable sources.

Due to the characteristics of qualitative survey do not reflect in scaling and numeric calculation, facts finding, and affirmation of information are the process that could not be avoided. Although the process is tedious and time consuming, it is the most important process to affirm the usefulness and accuracy of the data.

3.6.2. Data analysis

Data analysis is the process of grouping, cleansing, modeling, and finally analyzing the data to extract useful insight data that could firm up a useful report that supports the purpose of the investigation (Calzon, 2022).

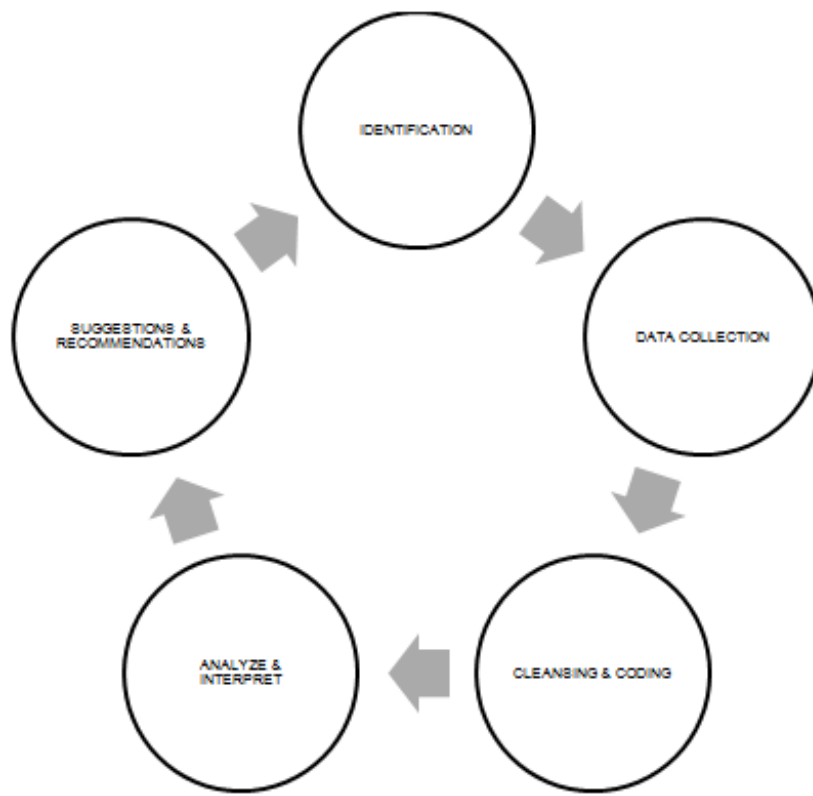
Grounded theory used in the research required the researcher frequently referring to the literatures which are found relevant to the qualitative observations during the data collection and analysis. Literature reviews and qualitative data are useful in terms of shaping new perspectives that arise from the respondents' views. The researcher may refine the data after analyzing the responses from the participants during the data collection stage (Heydarian, 2016).

Thematic analysis is the method used to analyze the raw data which was obtained from the interview and transcribed. It is a technique being used to collect, compile, coding to extract the insight of the patterns or themes that would support the data analysis. It also enables the researcher to extract relevant data by focusing on the reflections and experiences that had been discovered in a particular data item. Using the thematic approach, the researcher will discover the commonalities in the trends, correlations, variations, and patterns that a topic is discussed or noted down for further interpretation (Braun & Clarke, 2012).

The process of the data analysis is divided into 5 stages as illustrated in figure 3:3. The 5 stages are as follow;

- Identification of topic
- Data collection
- Cleansing & coding
- Analyze & interpretation
- Suggestions & recommendations

Figure 3.1: *The process of data analysis*



The 5 stages' data analysis process:

(i) First stage: Identification of topic

The process started with the identification of topic in accordance with the purposes of the study, questions, source of information, and target respondents that could contribute to the investigation.

(ii) Second stage: Data collection

The data collection process involves collection of information through the survey questionnaire which design in qualitative approach that structured in non-numeric conceptual format to gather information through the responses of the targeted respondents.

(iii) Third stage: Cleansing and coding

After the data collection process, the raw information will be departmentalized, cleansed and grouped into different themes in accordance with the need of the study. The coding process could be done in a predetermined set of constructs that are associated with the definition and characteristics. A code is a description captured during the interview; it is a code when it was noted in the data. A code is a description, not an interpretation (Mortensen, 2021). It should be frequently reviewed and refined throughout the process. Braun and Clarke (2006), "*Data within themes should cohere together meaningfully, while there should be clear and identifiable distinctions between themes.*" After the responses codes are identified, inductive (data-driven) and deductive (theory-driven) approaches can be used to generate themes (Hyedarian, 2016).

(iv) Fourth stage: Analyze and interpretation

This is the stage of extract and analyze, all cleansed useful data which are relevant are being analyzed according to the trends, patterns, themes, variations, correlations of facts. Thematic analysis is conducted with the critical review of responses on the transcript constructed from the responses of the participants to the interview questions, dialogues, and responses to the open-ended question (Braun & Clarke, 2006, as cited in Hyedarian, 2016). This is a process that works toward the direction and preparation of relevant conclusions.

(v) Final stage: Suggestions and recommendations

This is the final process of the flow which arises from the findings. This is the stage of interpretation of findings to outline the course of actions based on the outcome of data analysis. Suggestions and recommendations are made after the discovering of the problem and limitations.

Finally, the data analysis process goes back to the identification stage in order to cross-check the suggestions and recommendations made are in line with the problems identified in the topic.

Chapter 4

Research and findings

4.1. Introduction

Grounded theory is an approach extended from qualitative analysis. This survey uses a process of thematic analysis method directed by the grounded theory (Heydarian, 2016). The use of thematic method driven by the grounded theory examining the real-world data is particularly informative for this topic of research.

4.2. The findings

Data had been analyzed repeatedly checking on the commonality and similar points raised during the interviews of various respondents. Similar views have been coded and interpreted to formulate the themes which are reflective on the hypothesis whether (i) There is a positive relationship between internal factors and organizational performance, or (ii) There is a positive relationship between external factors and organizational performance. After the coding process and cleansing, frequently mentioned issues and points are being identified as themes.

4.3 Themes

Themes are referred to a pattern that has been captured as a key which arousing one's attention or interest of the data. A theme is characterized by its significance with the collated codes and all data that is relevant (Braun & Clarke, 2006).

This theme is identified to focus on the data collected from the respondents' input on the current issues and difficulties faced in the recruitment of sufficient workforce to achieve a better organizational performance. This would help to

provide a better understanding of the situation faced by the stakeholders of the Malaysian construction industry and factors affecting the recruitment of labour workforce. The themes that had been identified here are focused on the accomplishment of mission, which is recruitment of sufficient workforce working towards the completion of projects, handing over of projects, and fulfillment of contract requirement without taking into consideration of monetary gains. The monetary gain or profit involves too many other factors, and it may complicate the outcome of this investigation.

Based on the framework of research, the investigation focuses on the data to affirm whether there is a positive relationship between factors affecting recruitment and organizational performance. For that purpose, the themes which had been identified are as follow,

- Theme 1: Wages and working environment
- Theme 2: Sufficient workforce and contract management
- Theme 3: Risks taking and legal considerations
- Theme 4: Challenging market environment
- Theme 5: Government policies
- Theme 6: Trainings and technologies

4.3.1. Themes 1: Wages and working environment

Themes 1 is identified and derived from the combined feedback that had been collected from survey Questionnaire, Part One, question no 8 & 9; Part Two question no 1 & 2. It gives a finding that shows the reasons why local Malaysian is not interested to work in blue-collar labour force of construction industry. It is divided into 2 sections, (a) wage structure, (b) working environment, and (c) public perceptions.

(a) Wage structure

Twelve out of 12 respondents, 100% of the respondents do not agree that the minimum pay of RM 1,500 per month would be able to attract the local Malaysian to work as a construction labour.

“...low wages offered which are not attractive for Malaysians plus the bad and poor working conditions or benefits. The perception of the construction industry is also a factor as it is seen as low paying and physically demanding.” (Excerpt of Respondent A)

“No, it is still way below the attractive wages amount.... increase wages value that the local feels that is on par to be a labour in Singapore.” (Excerpt of Respondent B)

“...low wages and lack of benefits and protection to construction industry professionals had resulted younger generation seeking for other profession...” (Excerpt of Respondent B)

“...Low wages and lack of protection benefits i.e., insurance coverage, exploitation from employer and there is no union to protect all the labours. The minimum wage is not even enough to cover basic monthly expenses, especially in urban areas.” (Excerpt of Respondent B)

“RM 1,500 is too low and cannot attract local Malaysian to work in construction sector.” (Excerpt of Respondent C)

“...labour cost for hiring foreign worker is more economical compared to local worker in long run. Hiring a local workforce is considered a short-term solution to overcome the labour shortage.” (Excerpt of Respondent D)

“..... too little. RM 1,500 for rural area is acceptable, but for metropolitan city like Kuala Lumpur, any amount less than RM 1900 to RM 2,000 per month for a blue-collar worker is not reasonable” (Excerpt of Respondent E)

“No. Local Malaysian not interested. It is far too low under the poverty line. They could easily find a better job that pay higher wages.” (Excerpt of Respondent F)

“.....it is far too low. Even foreign workers are also not interested in such an amount. I am willing to pay RM 4,000 per month if the job done is perfect and no need to rework or having any defect.”
(Excerpt of Respondent G)

“RM 1,500 is too low and cannot attract local Malaysian to work in construction sector.” (Excerpt of Respondent H)

“No way. To attract local involvement in the construction industry, we need to offer at least RM 200 per day salary for them.” (Excerpt of Respondent I)

“I am very sure that a contractor will not be able to get general labour with that kind of wage. RM 1,500 per month? Foreign workers may be possible, but not our local.” (Excerpt of Respondent J)

“ local Malaysian will only work in construction industry if they were paid RM 150 per day (which comes around more than RM 3000 per month), RM 1,500 is non-attractive to our fellow Malaysian.” (Excerpt of Respondent L)

Respondent D, a Senior Project Manager in PLC, a property development company had pointed out that, not only local Malaysian not interested in the construction work, the employer also reluctant to recruit local worker due to higher demand of wages. They would prefer to hire foreign labour.

“.....labour cost for hiring foreign worker is more economical compared to local worker in long run. Hiring a local workforce is considered a short-term solution to overcome the shortage.”
(Excerpt of Respondent D)

(b) Working environment

Malaysian do not want to work in a harsh condition especially when construction industry is branded as 3 “D” industry, which is “Dirty, Difficult and Dangerous”.

“Despite it being a heavily regulated industry with various laws such as Occupational Safety & Health Act, Factories & Machinery Act, Employment Act, etc, construction work still carries the stigma of being a low wage 3D job “Difficult, Dirty & Dangerous” which drives many job seekers away.” (Excerpt of Respondent A)

“...Employers too, must heed the industry’s call to improve on all aspects, that includes providing a safe and healthy working environment, better working conditions, continuous learning and upskilling opportunities, and attractive remuneration.” (Excerpt of Respondent A)

“First of all, monetary gain is low. Secondly, it is a 3 “D” job” (Excerpt of Respondent E)

“...other than low income, people always in mind that construction work not only categorized as 3 “D” job, which is dirty, difficult and dangerous, it also has no future.” (Excerpt of Respondent F)

“In the long run, the construction company needs to improve the pay and working conditions so as to attract the local Malaysian to join the industry.” (Excerpt of Respondent H)

“.....Low wages and harsh working environment. 3 Ds kind of job which is branded dirty, difficult, and dangerous.” (Excerpt of Respondent I)

“.....low-income kind of job that required to work under a very dirty, dangerous and harsh condition at the workplace.” (Excerpt of Respondent J)

“First of all, the salary structures may be able to get easier jobs available with the same salary, so why go through the trouble. Dirty, Difficult and Dangerous.” (Excerpt of respondent K)

“Low wages and 3 Ds, Dirty, difficult and Dangerous.” (Excerpt of Respondent L)

(c) Social perception

Malaysian society and community mostly have a negative perception towards the construction industry. The general public is having the opinions that only uneducated, unskilled person working as a construction labour that mixing around with foreign labours.

“Perception of the construction industry is also a factor as it is seen as low paying and physically demanding.” (Excerpt of Respondent A)

“The environment of the entire industry is not encouraging, being as a consultant or contractor, the over demanding market had caused all these professionals over burn. Besides, we do not get the deserved respect from all parties; the employer will over stress the resources, being you are architect, engineers, Qs (Quantity surveyor) or a contractor. The minimum level of respect seems to fade away. Everyone’s perception working in the construction industry is something not to be proud of. People’s perception is always we cut corners in construction and corruption when dealing authorities and always not professional when dealing with works. Besides, low wages and lack of benefits and protection to construction industry professionals had resulted younger generation seeking for other profession. All these are the main reasons for Malaysian not interested in the construction work.” (Excerpt of Respondent B)

“Local Malaysian stays away from the construction sectors not only because of low income, it also due to the social status.A construction worker always has a poor perception in public eyes. Our society having wrong perception that construction sector is only meant for foreign workers.” (Excerpt of Respondent F)

“Construction works give a low perception in the eye of the public. They look down on construction workers. The social status of

construction worker is very low in the society.” (Excerpt of Respondent F)

4.3.2. Theme 2: Contract management

This is a theme that has been identified regarding cost control and productivity in contract management from Part Two question no.5 and 6 regarding internal factors that affect the recruitment of labour. Due to the purpose to fulfill intentions of slim budget and lean management, property developer will normally outsource their building contract to a main contractor, who will then further sub-contract parcel of projects to a few construction companies that are specialize in certain trades like, piling contractor, building sub-contractor, Mechanical and Electrical (M&E) contractors etc. to reduce costs and risks.

Respondent A, a top management personnel in PLC, has the opinion that in order to maximize productivity and labour requirement, they would sub-contract out a project.

“Based on project scope and labour requirements. If specialized skills are required, we look to employ subcontractors or through a subsidiary company.” (Excerpt of Respondent A)

“Yes, it is more cost saving if we award our development building contract to a subsidiary construction company and the construction company will purchase its building material from another subsidiary. It is cost-saving and more effective by division of nature of business.” (Excerpt of Respondent C)

“The number of labour is determined by the contract sum. We will normally sub-contract our work to contractors in different trades according to the job scope. We can't maintain a big pool of labour because workers are needed according to their trade in different stages. We normally maintain a group of general workers to handle general tasks.” (Excerpt from Respondent H)

(a) Required workforce

The required number of workers varies depending on the job specification in the contract. A building contract for instance involves earthwork, piling, footing, steel works, concrete work, structural, M & E, tiling, plastering, carpenter, installer etc., which could break into 12 to 15 trades. A main contractor cannot employ different trades of skilled or semi-skilled workers and let them idle around the work site while waiting for their turn to perform their special trades, which may take months or years. Therefore, the number of workers is not only determined by the contract sum, but also by the job specifications.

Some property developers do not wish to get involved in construction due to the purpose of keeping a lean management team. Respondent K from a renowned developer had pointed out that,

“The required number of workers depends on the size and value of the contract. We do not involve in construction but only award the contract to main contractor.” (Excerpt of Respondent F)

According to Respondent I, who is a Senior Manager in a renovation project company that deal with installations of high-quality panels, ceiling, and computer raised floor had a different view in terms of the number of foreign labours used in a project,

“Yes and no. It depends on the contract sum, quantity and quality of work. Higher value work may require more skilled workers. Less workers involve for the job; Certain work is not labour intensive but skills intensive.” (Excerpt of Respondent I)

(b) Fulfillment of contract

The analysis on data collection had identified a very important theme that shown, a construction company, once they had entered a contract, they will strive restlessly to complete the job in a stipulated time to ensure continuity,

competency, and sustainability other than real monetary gain. The reason why productivity is measured by profitability here is because the other factors influencing the monetary profit are complicated. In the construction industry, fulfilment of contract, handing over the project successfully after completion is the utmost important task. Any fault, delay, or defect on job done will contribute to a loss to the company either in reputation or financial.

“...affecting on timeline delivery, cash rich contractor will pay much higher wages to get workers to finish the job to avoid penalty from client, this resulted the entire market became employee or labour market where they have the choice to choose who pays them better before deciding working with them, labourers now are spoil with choices of employer.”(Excerpt of Respondent B)

“The delivery of contract is important to avoid LAD fine, nobody willing to pay for the penalty.” (Excerpt of Respondent C)

“We can’t afford to keep changing the contractor or workforce, and it will hinder our handover of project in stipulated time.” (Excerpt of Respondent F)

“... time to recruit new labour will disrupt the targeted completion date. It will incur a huge loss to the company.” (Excerpt of Respondent G)

“...it will jeopardize and prolong the duration of project and affect the completion date. It not only increases costs but also LAD losses.” (Excerpt of Respondent H)

“Yes, we need to complete our job according to the stipulated date stated in the contract. By hook or by crook, we need to complete the task. If we do not have enough of labour, costs incurred when we need to pay overtimes and facing the risk of Liquidated Ascertained Damages.” (Excerpt of Respondent I)

“Due to labour shortage, we now have to change business plan to do jobs that involve less labour, focus more on just supplying material for rent. This directly affect our total revenue.” (Excerpt of Respondent K)

“The problem of shortage of labour had caused the delay in the completion of tasks. The costs escalated due to the delay in time.” (Excerpt of Respondent L)

4.3.3. Theme 3: Risks taking and legal considerations

Theme 4 is identified and derived from survey question Part Two, question no. 1 and 2 under external factors affecting the recruitment of the workforce in the construction industry. It examines the reason behind risk-taking behaviour and their understanding of legal consequences. All PLC and mega projects’ contractors prohibited their contractors from employing illegal foreign workers, only the smaller contractors willing to take the risk of facing legal consequences. It is divided into (a) law abiding and (b) risks taking.

(a) Law abiding

The data shows that PLC, MNC and special projects’ contractors that deal with mega projects have the tendency to abide by the rules and regulations. They refrain their contractors from employing illegal workers to avoid trouble with the authorities.

“We abide by the law and avoid doing so that could harm the company’s reputation and brand image... the government is growingly restrictive in terms of employing illegal workers.” (Excerpt of Respondent A)

“We do not allow main contractor to employ illegal workers.” (Excerpt of Respondent B)

“Yes, our company refrains from recruiting illegal workers.” (Excerpt of Respondent D)

“Multi-National Corporation can’t take such a risk. We have to avoid any legal consequences arising from employing illegal foreign workers. No insurance cover is a huge risk for overseas companies.” (Excerpt of Respondent E)

“We do not take such a risk. When the workforce is big, not only is the fine a very big amount, but the stop-work order or time to recruit new labour will disrupt the targeted completion date. It will incur a huge loss to the company.” (Excerpt of Respondent G)

Respondent I, a senior project manager who is in-charge of interior renovation of MRT stations, data center, and computer raised floor shared the same views of PLC ‘s respondents. They do not employ illegal workers and strictly adhere to the government regulation.

“Yes. We do not employ illegal workers because all big projects require proper documentation, CIDB training, insurance, and a work permit. Foreign workers cannot enter job sites without a working permit.” (Excerpt of Respondent I)

“Legal implications refrain us from employing illegal workers.”
(Excerpt of Respondent K)

“It is troublesome to deal with authority every month end...I do not want to face any legal consequences.” (Excerpt of Respondent L)

(b) Risks taking

4 out of 12 respondents, mostly the owner smaller construction companies do take risks to employ illegal foreign workers due to the worries of late delivery fines, escalation of costs, and performance. Seems only PLC and those companies involve in mega or government initiated projects strictly adhere to the government regulations.

“The contractor has no other alternative but to employ illegal foreign workers when they have a contract in hand. They have project but no workforce...The delivery of contract is important to avoid LAD fine, nobody willing to pay for the penalty. They had no other alternative but to employ illegal foreign workers. Some even pay higher wages to attract them, and it's become unhealthy practice.” (Excerpt of Respondent C)

“Due to the need of the project, we normally employed first, apply later. We will consider in accordance with the need of the job, duration and completion of our project.” (Excerpt of Respondent H)

“We understand the legal consequences, but it is slow to get approval if we follow the government procedures, levy, insurance, health screening take time. We can't afford to wait and lose our contract.” (Excerpt of Respondent H)

Respondent I, a senior project manager who is in-charge of interior renovation of MRT stations, data center, and computer raised floor shared the same views of PLC 's respondents. They do not employ illegal workers and strictly adhere to the government regulation.

“Yes. We do not employ illegal workers because all big projects require proper documentation, CIDB training, insurance, and a work permit. Foreign workers cannot enter job sites without a working permit.” (Excerpt of Respondent I)

“We have no choice, but to be forced to employ illegal workers...Very careful, in case of workplace injury, industry hazard, and responsibility is huge.” (Excerpt of Respondent J)

4.3.4. Theme 4: Challenging market environment

Theme 5, Challenging market environment is being identified and derived from the collected data. All of them suffered from the impact of Covid-19 pandemic and just came out of the negative effects. The problem of labour shortage strikes them when they are working towards recovery. The re-opening of the country border had caused a big number of foreign labour to go back to their home country. There is a vacuum in the workforce. Recruitment of the locals is not possible. The recruitment process takes time and involves huge costs.

Multiple challenges had been identified as (a) Economic factors, and (b) source countries/preferences, come up as what that had been pointed out as below;

(a) Economic factors

The findings from the data collection identified economic environment as one of the important factors that could affect the recruitment of labour for construction industry, which included the fluctuations and depreciation of currency for the designated country (Malaysia) and the source countries, GDP growth, global economic situation etc.

“Covid-19 has stalled many projects progress. It is hard to recruit a workforce during those trying times as we have to consider the cost and laws associated with it. The pandemic has delayed projects and increased the cost over time... A weaker ringgit means higher cost. That is also a reason why workers rather seek for a job elsewhere/in their own country.” (Excerpt of Respondent A)

“...reasons being our currency had been performing poorly and Indonesia economy is flourishing, as such Indonesian do not need risk themselves working illegally in Malaysia to earn currency which don't bring them better value where their own country has sufficient jobs for them. Our currency is performing poorly, and the workers are often being exploited in a non-conducive working environment compared to Singapore or other country which their welfare are more protected.” (Excerpt of Respondent B)

“We face difficulty recruiting sufficient workforce during Covid-19 pandemic and post pandemic. The illegal foreign workers are worried when they were asked to vaccine. They suffered with no job, no income. So, most of them return to their home country when the border was opened... The depreciation of currency, RM and Growth of GDP definitely has an impact on the recruitment. For example, Singapore Dollar had appreciated so much, and Singapore is the first preference of their selection.” (Excerpt of Respondent C)

“... (difficult in) getting work force, wages might be higher due to workers worried about the depreciation (Ringgit Malaysia).” (Excerpt of Respondent D)

“... we have to adhere to strict procedures. Lack of manpower, closing borders and disruption of supply chains had been a huge challenge for us. The situation is better now... Malaysia becomes less attractive as a designated country for foreign workers.” (Excerpt of Respondent E)

“...Very serious. We are facing serious delays due to the shortage of workforce (during Covid-19 pandemic). The situation is getting better now...Malaysia becomes less attractive to country like Indonesia due to their GDP growth in the country.” (Excerpt of Respondent F)

“... foreign workers are willing to go overseas leaving their family because of money. They are seeking better working compensation in other country.” (Excerpt of Respondent G)

“.....The depreciation and fluctuation of ringgit, and better working opportunities in their home country or elsewhere. The foreign workers have other alternative to choose the designated country to work in.” (Excerpt of Respondent I)

“COVID-19 impacted on our recruitment process. We ended up sub-contracting many jobs due to the inability to get foreign workers. This (economic situation) directly affects the take-home pay of these foreign workers. The depreciation directly means lower take home salary for them.” (Excerpt of Respondent K)

“..most of the foreign workers had returned to their home country after the pandemic. The problem of getting a sufficient workforce is very serious and challenging. A lot of foreign workers overstayed, not able to pay levy, they had been blacklisted automatically, from legal become illegal, “turned black”. According to Foreign Workers Centralized Management System (FWCMS), once they left Malaysia, they cannot come back to work here.....the depreciation of Malaysian Ringgit had made the country non-attractive to work in. For example, the Indonesian would rather work in their country due to economic booming over there.” (Excerpt of Respondent L)

(b) Source countries/preferences

According to the data collection, there is a change of labour supply countries. The post Covid-19 pandemic and the change of global economic growth had caused certain migrant labour stop coming to Malaysia. The depreciation of Ringgit Malaysia, the economic growth of neighbouring countries, and better job opportunities elsewhere had caused the disruption of supply of foreign workers. From the excerpts, industry stakeholders would prefer to employ Indonesian workers as first preference even they are more expensive in wages, Bangladeshi as second preference due to their commitment to assignment of task.

“The Indonesian economy has grown rapidly for the past decade as compared to Malaysia. Malaysia is no longer an attractive place for Indonesian construction workers. Most foreign workers are now mainly sourced from Myanmar and Bangladesh...A weaker ringgit means higher cost. That is also a reason why workers

rather seek a job elsewhere or in their own country.” (Excerpt of Respondent A)

“...reasons being our currency had been performing poorly and Indonesia economy is flourishing, as such Indonesian do not need risk themselves working illegally in Msia to earn currency which don't bring them better value where their own country have sufficient jobs for them....Our currency is performing poorly and the workers are often being exploited in a non-conducive working environment compared to Singapore or other country which their welfare are more protected.” (Excerpt of Respondent B)

“...I personally preferred Indonesian workers, they are easy to communicate and most of them are skilled and semi-skilled labour. A lot of them become subcontractors and charge by quantity work done. It is more cost saving and very productive.” (Excerpt of Respondent C)

“...(preferred) Indonesia and Bangladeshi. They really work hard, as they need to send back money to their family. Productivity is higher due to this.” (Excerpt of Respondent D)

“When there is a choice, there is a preference. We have no choice; we cannot be fussy; we just grab what is available in the HR market. Of course, we would prefer those who could communicate, hardworking and willing to work in harsh environments.” (Excerpt of Respondent E)

“Indonesia is more expensive but more skillful and easier to communicate.” (Excerpt of Respondent F)

“I still preferred Indonesian workers, they may be more expensive in term of wages, but their workmanship is better. I don't mind paying more to get the right people for the right job. The situation has changed because they are not coming to Malaysia due to weak

RM and having better alternative in their own country.” (Excerpt from Respondent G)

“Indonesian can communicate in Malay. Indonesian only doing their skilled jobs like carpenter, steel works, and plasterers. Other foreign labour is cheaper but without skill. Recruitment cost for Indonesian worker is higher.” (Excerpt from Respondent H)

“The depreciation and fluctuation of ringgit and better working opportunities in their home country (Indonesia) or elsewhere. We look at experience, productivity, and whether they are willing to work hard. We prefer Indonesian and Bangladeshi.” (Excerpt from Respondent I)

“Big scale’s project no choice but needs to use Bangladeshi. I use labours from India, mostly Punjabi. Punjabi are more polite, hardworking, responsible, and not much social problem. Indonesian workers are more skillful, not easy to control. Because of their skills, they prefer to involve themselves as sub-contractors.... There is a shift from Indonesia to Bangladeshi, Pakistan, and Sri Lankan. Indonesia facing a lot of harassment and problem from enforcement, they prefer to go back to the home country with skills. Those skills are obtained from Malaysia. Our country had been treated as a training ground.” (Excerpt of Respondent J)

“Difficult in finding more skilled workers. Shortage of skilled workers from Indonesia. Ease of getting approval from other source company.” (Excerpt of Respondent K)

“.....to employ Indonesian is more costly. Most of the Bangladeshi are willing to work for overtime and weekends. Indonesian had been here for a long time, and they are mostly skilled and semi-skilled labour after a long stay..... I would prefer Bangladeshi, because they can work under harsh environment, hardworking and

follow instruction. Indonesian workers are more skillful, but their agency fee is very expensive.” (Excerpt of Respondent L)

4.3.5. Theme 5: Government policies

This theme was identified from the popped-up issues during the interview and feedback to various questions. It is divided into (a) Present policy, and (b) short term and long term strategies.

The majority of the construction industry’s stakeholders are disappointed with the government recruitment policies. The theme was captured in the question of *“Do you think the present government policy on recruiting foreign workers that lead by Ministry of Homan Affairs in One Stop Center (OSC) instead of the Ministry of Human Resources could effectively solve the labour shortage problem? If not, why?”*

(a) Present policy

The excerpts from the respondent are as follows,

“Evidently, efforts by the government to resolve the labor shortage have failed to translate into results. As reported by The Edge on 31st October 2022, the Government approved a quota of 467,223. However, only 76,000 labour entries from 12 countries were recorded for the same period. Citing from news sources, a main contributing factor to the continued acute foreign labor shortage is the arduous application process that has not been revised to mitigate the extraordinary situation the country is facing. “(Excerpt of Respondent A)

“It is not about which Ministry, it is about the system, policies and execution of these policies and system. Is a total failure, change too frequently, inconsistency and too many red tapes.” (Excerpt of Respondent B)

“In my opinion, no matter who is leading the One Stop Center, no different at all. The red tape is still the same, the process is still complicated, and it does not meet the demand of the market. The government needs to know what is actually facing by the market or particularly the construction industry. My opinion is as follow, (i) simplify the application process, (ii) prohibit the monopoly of HR agency (iii) More channel to apply (iv) The procedure to recruit foreign worker must reach a consensus with the government of the source country to avoid delay in the recruitment process.” (Excerpt of Respondent C)

“As a stakeholder in the industry, I don’t care which ministry takes the lead in OSC. What we want is to get our problem solved and the foreign workers could arrive in Malaysia after 30 days as claimed by the minister. Our industry could not afford to wait for 6 months, which is happening now.... We could not bear the increase in costs, especially agent fees, we paid RM 1,500 per head to get a quota and were yet unsure about the number of foreign workers that could be approved. The increment for minimum pay is an extra cost to the contractor. The red tape is killing everybody. Our industry wishes that the OSC could provide fast track or “green lane” approval for genuine cases but not one Stop and “stopped” by various agencies in the OSC.” (Excerpt of Respondent E)

“The current procedure is not effective at all. The red tape, corruption practices, ever-changing policy had created unnecessary confusion among the industry stakeholders. The recent suggestion by the government to directly recruit foreign workers is impossible to solve the problem. The government is not consistent in the recruitment policy.” (Excerpt of Respondent F)

“The concept is good, but too much red tape and corruption. I don’t care about which ministry is incharge, we need to see the end result. They both failed in deliver their job.” (Excerpt from Respondent G)

“I think so. The Ministry of Home Affairs should only involve in issuing work permits, safety screening and domestic security. They do not know the actual situation. Whereas the Ministry of Human Resources understand the real situation facing by the industry, it will be more effective to solve the problem.” (Excerpt from Respondent I)

“No, the recruitment policies are not consistent, it not only too troublesome, time consuming, it also incurs a lot of unnecessary costs. To solve the problem, government agencies should reduce all the unnecessary red tapes, cut of the third parties' agent, transparent, and fast approval.” (Excerpt of Respondent J)

“The change could not contribute to an effective management of foreign labour recruitment exercise. It is not effective. The Ministry of Human Resources is the authority that has all the statistics and data. Ministry of Home Affairs do not have the data to play an effective role.” (Excerpt of Respondent L)

Out of total 12 respondents, one withheld his opinion. 9 respondents were pessimistic about the change of leading Ministry in the OSC that tackles the application of foreign workers' recruitment exercise. Only 1 of the respondents, Respondent H, is optimistic that the current practice is more effective.

“The approving authority shifted to Ministry of Home Affairs is more effective. It cut of a lot of time-consuming red tapes.”
(Excerpt of Respondent H)

Whereas Respondent K is neutral regarding the efficiency of the recruitment exercise, and wanted to see the outcome of the changes.

“.....Possible but need to see the effectiveness later. As many red tapes hamper the recruitment process... Need to be simple and avoid using agents.” (Excerpt of Respondent K)

(b) Short term and long term strategies

The theme was identified from the collected data. It gave some useful information and suggestions on the short-term and long-term approaches, especially in recruitment of workers to solve the problem of labour shortage.

“Increasing wages and improving work benefits are short-term measures that can be considered but it increases the operating cost of a project that hurts project margins. Long-term measures are improving the training provided to workers. Another way is to explore other technology such as modular buildings which may not require as much labour to decrease the project cost.” (Excerpt of Respondent A)

“The fastest way to mitigate shortage of labour is to bring in sufficient resources asap with the assistance from multiple government agencies to reduce all the red tapes during the foreign labour application process and reduce the fees charges. In the long term, raise the minimum wages to locals who are willing to work in the construction industries and also explore advanced construction technologies and materials that use the least of human resources. Quoting example like Japan, technology plays an important role in construction site, material use requires least workforce. It is time Malaysia to move out from labour intensive construction methodology.” (Excerpt of Respondent B)

“To solve the short-term problem, we need to recruit foreign workers and legalize the existing illegal worker in Malaysia. But in long run, we need an effective formula in recruitment of foreign workers, for example extend their permit duration to more than 10 years, and better education system that not only emphasize in academic achievement for locals.” (Excerpt of Respondent C)

“In the long term, the government needs to enhance more programs, training and improve skilled level local workforce. The

government may also introduce incentives to companies for hiring local workforce. This will encourage the company to engage more of the local workforce rather than continuing to recruit foreign workers in terms of cost benefits. On the other hand, higher wages and better accommodation would be the way to attract local workforce.” (Excerpt of Respondent D)

“The government needs to be more proactive, having more business-friendly policies to govern the progress and growth of the construction industry. Government needs to engage with the stakeholders of the industry, outline the short-term and long-term strategies to tackle the problem.” (Excerpt of Respondent E)

“The best short-term measure is to recruit from overseas, open up more source countries. In long-term, we must change the mindset of our local Malaysian with better pay, benefits, and improve working conditions.” (Excerpt of Respondent F)

“The government needs to set up a committee to look into the problem thoroughly. The labour shortage problem has not only affected the construction industry but across the board, every sector.....You can't settle the problem by private initiatives. Unlike other sectors, the construction industry is a labour intensive sector that can't shift to robotic or automation systems, it involves huge costs.” (Excerpt of Respondent G)

“Lesser red tape, lower the charges and omit the third-party agent's role in the foreign workers' application procedure. In the long run, construction company needs to improve the pay and working conditions so as to attract the local Malaysian to join the industry.” (Excerpt of Respondent H)

“You have to bring in foreign worker as manpower in immediate short term. As for long-term, you cannot rely forever on foreign workers. The construction industry needs to provide trainings and

courses to match the skill and income of white-collar and blue-collar workers.” (Excerpt of Respondent I)

“Immediately ease processes involved in application for foreign labour. Speedy approvals in application.” (Excerpt of Respondent K)

“The best short-term strategy is to recruit more foreign workers, and the long-term measure is to improve the wages and working environment.” (Excerpt of Respondent L)

11 of the respondents had voiced their views on the short-term and long-term measures to curb the problem of labour shortage, while Respondent J response was not relevant, but the answer was only to his immediate action to solve his company’s shortage of labour problem in short term.

4.3.6. Training and Technology

(a) Training

The theme of training had been mentioned many times by the respondents. Most of the training is a safety training program. The program is compulsory for foreign workers when they renew their working permit.

“Safety training is compulsory. Skilled training that includes electrical, plumbing, welding etc. Management training is also provided to leaders to manage the project effectively.....Yes. CIDB but it not particularly effective. CIDB programs are curate primarily for up skilling of construction workers, and not for introductory construction training for non-construction workers. It helps to some extent but it can still be improved further.” (Excerpt of Respondent A)

“We do provide training to our local staff through HRDF, but not skill training. Foreign labour is only engaged for a short period, not worthy for us to train for others. As I mentioned earlier, it is a

waste to train a foreign worker if our company employ them for a short period.” (Excerpt of Respondent C)

“Yes, on job training.....We will send the supervisor for safety seminar to upgrade their workplace safety knowledge. We also sent our workers to CIDB workshop as required by the law.” (Excerpt of Respondent H)

“No. We only train our staff through internship. No. Foreign workers required to attend safety courses as a requirement of CIDB and the government, when it comes to the time of renewal of working permits.” (Excerpt of Respondent I)

“I tried. I wonder why others can do better, but my workers need to do double work. I tried to provide on-the-job training to avoid wastage and double work. No. The workers directly engaged are mostly illegal with skill. Most of the other jobs are awarded to subcontractors.” (Excerpt of Respondent J)

“Yes, we do send our personnel to CIDB/HRDF/DOSH approved training. These programs are important, but I don’t see this easing foreign worker dependency.” (Excerpt of Respondent K)

“Yes. Must, because they are unskilled when they are here for the first year. Normally it is to be trained by a leader through apprenticeship. CIDB provides only safety training for construction workers. HRDF is only for the management staff. It could not ease the dependency of foreign workers because the local are not interested.” (Excerpt of Respondent L)

(b) Technologies

The theme is derived from the survey question of whether the respondents using IBS or I4.0 method to enhance their technology so as to reduce the reliance on the labour force. 6 of the respondents had given their views and feedback on the issue.

“Mostly are using system formwork to reduce use of conventional formwork system. None at the moment, besides using aluminum FWK system” (Excerpt of Respondent B)

“We will try to adopt the IBS method and try to improve ourselves from time to time. The government needs to play an important role to promote the use of Industrial 4.0. This could be done with more engagement with the stakeholders and by giving a tax incentive for those who adopt the use of I4.0. We mostly use prefabrication system for the wall panels. It reduces the manpower in bricklaying and plastering.” (Excerpt of Respondent C)

“My client is using prefabricated building system for high rise and infrastructure. The I4.0 is still not been used in construction site but only designing stage. We use a prefabrication system to reduce the working area at site.” (Excerpt of the Respondent E)

“We are using the IBS system to expedite the work. We use off site prefabricated method and self-designed panels to replace the conventional formwork or metal formwork. We not only use IBS to reduce the intensity of labour, but also modified and designed to add speed to the task. For example, a screw to a metal panel is replaced to a clip so that the trouble to screw and unscrew is replaced with single action. We just need to put the panel in place and clip it before pouring concrete.” (Excerpt of Respondent G)

“We have IBS system, and IR 4.0 digitization programs designed in-house (TAG-IT & ARMS). Both are scaffold management system and inventory and asset management system. Modular scaffolding systems is used to reduce labour workforce.” (Excerpt of Respondent K)

“Normally the IBS used is pre-casting and off-site prefabricated method. I4.0 is too costly for a small-scale company.” (Excerpt of Respondent L)

4.4. Chapter summary

The data collected from the semi-structured interviews is being combined with the gestures, responses, and some in writing (for those who answered in email). The data from 12 stakeholders with different backgrounds, position, and wisdom are those who are active in the construction industry. The 6 themes which are inductively identified during the analysis of data using the thematic method are as follows,

- Theme 1: Wages and working environment
- Theme 2: Sufficient workforce and contract management
- Theme 3: Risks taking and legal considerations
- Theme 4: Challenging market environment
- Theme 5: Government policies
- Theme 6: Trainings and technologies

These themes were a compilation of data that was based on involvements, knowledge, and experiences from the respondents. It had answered most of the questions with their courage and undoubted wisdom that led to the discussion in the next chapter.

Chapter 5

Discussion and conclusion

5.1. Introduction

This chapter discusses the main findings, limitations, implications, and recommendations for the purpose of this study, which is the shortage of labour in Malaysian construction industry. The internal and external factors affecting the recruitment of labour are being identified, explore, and investigated.

5.2. Discussion on major findings

5.2.1. Theme 1: Wages and working environment

Theme 1 on wages and working environments was divided into 3 major topics, (a) Wage structure, (b) Working environments, and (c) Public perception.

The feedback and data obtained from the respondents is being illustrated in table 5.1 as follow;

Table 5.1: Feedback on Theme 1

R	FEEDBACK		
	Wage structure	Working environment	Public perception
A	Non attractive to local	Poor & 3 Ds, need improvement. Employer must initiate effort	Low pay job & physical demanding
B	Non attractive to local	Nil	No respect, industry not to be proud of.
C	Non attractive to local	Nil	Nil
D	Economical to hire foreign worker	Nil	Nil
E	Too low for local (metropolitan & urban)	3 Ds	Nil
F	Under poverty line for local	3 Ds	Sector only meant for foreign worker, low social status
G	Too low for local	Nil	Nil
H	Non attractive to local	Need improvement	Nil
I	Non attractive to local	Harsh & 3 Ds	Nil
J	Non attractive to local	Dirty, dangerous and harsh	Nil
K	Too low for local	3 Ds	Nil
L	Too low for local	3 Ds	Nil

Note: Nil- No answer, or no comment.

The respondents had voiced their opinions which are having similarity to each other's. Low wages, 3 Ds (Dirty, Difficult, and Dangerous) and low social status in public eyes had refrained the locals from working in the construction industry. 9 of the respondents had no opinion on the public perception towards the occupation, but negative facial responses of had been captured during the interview.

5.2.2. Theme 2: Contract management

The theme 2 on contract management identified is divided into 2 main substances, (a) Sufficient workforce and (b) Fulfillment of contract. The feedback from the respondents is being illustrated in table 5.2 as follow;

Table 5.2: Feedback on Theme 2

R	FEEDBACK	
	Sufficient workforce	Fulfillment of contract
A	-determine by scope of work	-subcontract out if special skill required or a subsidiary company
B	-division of job types and nature of contract	-affecting timeline to complete job -engage more worker
C	-the contract value & duration	-costs saving -avoid LAD
D	-subcontract out to building contractor	-completion in time as per sale & purchase agreement
E	-contract sum	-complete in time
F	- depends on size, value and nature of the contract -company do not involve directly in building contract	-complete in time -avoid changing of contractor or workforce to avoid disruption
G	-contract sum and duration	-complete ahead of the time -cost saving for workforce and management overhead
H	-subcontract to different trades according to job scope, do not maintain a pool of labour -only maintain general workers	-insufficient workforces prolong the completion date -increase costs & LAD losses
I	-determine by contract sum, quantity, quality -high value job, needs skill, less labour	-not enough workforce, cost increase - LAD penalty
J	-contract sum and required skills	-LAD , loss of job & opportunity
K	-determine by business contract -supply and install, insufficient workers -depends on contract sum	-change business plan, less labour - supply for rent - affects total revenue
L	Not applicable	Not applicable

Referring to the breakdown of data, the number of worker/labour is determined by the nature of the contract, the job scope, and the requirements. There is always a question of demand (needs) and supply (providers), a sufficient workforce is obtained when both reach an equilibrium to strive for the best outcome. Hence, the achievement of organizational performance is the final mission. Construction companies cannot afford to lose job nor being fined under the LAD clauses. Once the contract is executed, a construction company must deliver its job in the stipulated time with quality and adhere strictly to the terms and conditions of the contract.

5.2.3. Theme 3: Risk taking and legal considerations

This theme was identified as Risk taking and legal considerations. It's divided into 2 majors' groups, (a) Law abiding (b) Risks taking companies. It seems that PLC is law abiding companies. Only the smaller scale companies are willing to take risks and willing to face legal consequences. For smaller companies, in order not to incur monetary losses because of LAD, completion of work is their first priority, and they will try to complete their task in the stipulated time.

The feedback and data obtained from the respondents is being illustrated in table 5.3 in the next page as follow;

Table 5.3: Feedback on Theme 3

R	FEEDBACK	
	Law abiding	Risk taking
A	-avoid jeopardizing reputation and brand image	-No
B	-restrict the main contractor -not to employ illegal worker	-No
C	-No	-no other alternative, forced to employ -offer higher wages, avoid LAD
D	-refrain employment of illegal worker	-No
E	-avoid legal implication - must have insurance coverage	-No
F	-leave it to main contractor	-Main contractor paid higher wages to attract foreign workers regardless of whether they have working permit -try to meet the completion date
G	-Do not take risk -avoid legal implication -will cause huge loss	-No
H	-No	-employ first, apply later -can't afford to wait and lose job
I	-do not employ illegal foreign labour -must have work permit	-No
J	-No	-No choice but to employ -must avoid workplace injury and industry hazard (no insurance)
K	-do not employ illegal foreign worker -avoid legal implication	-No
L	-do not employ illegal foreign labour -avoid trouble with authorities	-No

Note: No-Not law abiding or do not take risk.

The attitude to adhere strictly to the rules and regulation of the government policies is important so as to provide safety precautions, protection to both employer and employee. Proper health care, work sites safety, and insurance coverage are the utmost important to all construction workers. 4 out of 12 respondents are non public-listed companies, they are willing to take risk in order to fulfill their tasks and complete the project in time.

5.2.4. Theme 4: Challenging market environment

The theme 4, Challenging market and environment divided into 2 groups, (a) Economic factors and (b) Source countries/preferences. It was identified when most of the respondents brought up those issues during the survey interviews.

The feedback and data obtained from the respondents is being illustrated in table 5.4 in the next page as follow;

Table 5.4: Feedback on Theme 4

R	FEEDBACK	
	Economic factors	Source countries/preferences
A	-Covid-19 stalled many projects' progress -hard to recruit, delayed & increased costs over time -weaker Ringgit, higher cost	-Malaysia non-attractive for Indonesian -now mainly source for Myanmar & Bangladeshi
B	-Ringgit Malaysia (RM) performed poorly -Indonesia economy flourish	-less value (take home pay) -Indonesia having sufficient job opportunities
C	-difficult to recruit during Covid-19 pandemic & post pandemic -RM depreciated -GDP in neighbouring countries grows	-preferred Indonesian workers -majority skilled or semi-skilled - they become sub-contractors -charged by quantity on job done -cost saving and productive
D	-depreciation of RM	-Indonesian and Bangladeshi -hardworking ,high in productivity
E	-Covid-19, lack of manpower -closing borders, disruption of supply chains for building material, higher costs , & shortage of labour	-take whoever is available -preferred who could communicate, hardworking & willing to work under harsh conditions.
F	-Covid-19 caused shortage of labour -Malaysia no more attractive to foreign workers -Indonesia GDP growth	-Indonesian workers more expensive, skillful -higher levy & agency's charge -easy to communicate
G	-foreign labour willing if they could get better wages in comparison with their home country	Nil
H	-do not have much problem during Covid-19 pandemic -cost increased -wages increased -global economy	-Indonesian can communicate -having more & better skills -foreign workers from other countries cheaper -Indonesian worker recruitment costs higher
I	-depreciation & fluctuation of RM -better opportunity in source countries	-Indonesian & Bangladeshi -experience, hardworking and productive
J	-depreciation of RM -foreign workers have other choice	-Big scale preferred Bangladeshi, easier to recruit, employ according to availability
K	-Covid-19 impacted the recruitment -lost many contracts, sub-contract out -depreciation of RM, lower take-home income	-preferred skilled worker from Indonesia -Indonesian more costly
L	-Covid-19 pandemic and endemic, most of the foreign workers returned home -depreciation of RM, Indonesia economy booming	-Indonesian more skillful -Bangladeshi more obedience, hardworking, & willing to work under harsh condition.

Note: No comment, no answer

The Covid-19 pandemic had caused a lot of damage to the MCI, the outflow of foreign labour due to expiry of their work permit, the loss of life, loss of income,

are the main reasons that they returned to their home countries. The hostile fluctuation of currency, especially the depreciation of Ringgit Malaysia, the economic growth of the source countries had changed the landscape of the foreign workers. Most of the stakeholders preferred Indonesian workers, but now they must look elsewhere to get replacement.

5.2.5. Theme 5: Government policies

The theme 5 of Government policy consists of (a) Application process and (b) Short-term and long-term strategies. The topics repeatedly mentioned by the respondents were the foreign workers recruitment process and the short and long-term strategies that would be able to solve the problem of labour shortage.

The feedback and data obtained from the respondents is being illustrated in table 5.5 in the next page as follow;

Table 5.5: Feedback on Theme 5

R	FEEDBACK	
	Application process	Short-term & long-term strategy
A	-arduous application process	-Nil
B	-system & execution need to be improved -frequently changed, inconsistent, red tapes	-recruit foreign worker (short term) -raise minimum wages for locals (long term)
C	-complicated process, red tapes (i)simplify process (ii)prohibit monopoly of HR agency (iii)more channel to apply (iv)consensus with government (source countries)	-recruit foreign worker (short term) -legalize existing illegal workers -extent permit >10 years -Better education system, not only emphasize academic achievement
D	-No comment	-more training programs, improve skill level (local) -recruit less foreign labour -higher wages and better accommodation for locals
E	-too slow (3-6 months) -red tapes -"greenlane" approval for genuine case	-government more proactive (short term) -more engagement with stakeholders -outline National HR master plan (long term)
F	-not effective -red tapes & corruption -failed	-recruit from overseas (short term) -open more source countries -change mindset of the locals (long term) -better pay, benefits & working conditions
G	-concept is good, too much red tapes -corruption, failed	-set up a committee to study thoroughly -involvement of government is important
H	-expedite the application -reduce red tapes	-improve pay & working conditions (long term) -attract more locals
I	-need to know actual situation facing by the industry	-recruit foreign labour (short term) -training & courses to match the income gap of white-collar & blue-collar (long term)
J	-inconsistent policies, red tapes, time consuming -occurs unnecessary costs, cut off agent's role -transparent, fast approval	-No comment
K	-reduce red tapes, simplify application process -avoid involvement of agent	-ease of complicated processes -speedy approval
L	-MOHR having data & statistics, more effective	-improve wages & working environment.

From the feedback, most of the stakeholders in the construction industry are not happy with the government recruitment process. Red tapes, complicated process, time consuming, involvement of third party's agent, high costs, and inconsistency are the main grievances of the stakeholders. The idea of setting up a committee by the government to outline a Human Resources Master Plan is good for all economic sectors.

We are still far behind other advanced countries with the slow adoption of modern IBS building methods and Industrial 4.0. There is no proper planning in training programs. Government should provide more incentives and CIDB should enlarge their training programs to properly ascertain the skill level of the labour with credentials so that they could earn better wages, especially local Malaysian.

5.2.6. Theme 6: Training and technology

The theme 6 on Training and technology was identified that consists of (a) Trainings and (b) Technologies. This theme was mentioned in the survey interview when the issues were related to the less involvement of the local Malaysian, the shortage of skilled, semi-skilled labours, and the productivity of the workforce.

The feedback and data obtained from the respondents is being illustrated in table 5.5 in the next page as follows;

Table 5.6: Feedback on Theme 6

R	FEEDBACK	
	Training	Technology
A	-CIDB not effective -programs curated primarily for upskilling -needs to improve further	-explore technology such as modular buildings system
B	-Nil	-explore advance construction technologies and materials -reduce dependency on HR -increase speed & efficiency
C	-not worthy to train foreign workers. -They are working for a short term and returning to their home country after expiry of permit.	-IBS method -prefabricated system for wall panels to reduce workforce in bricklaying & plastering.
D	Nil	Nil
E	Nil	Prefabricated building system -I4.0 for design stage
F	Nil	Nil
G	Nil	-IBS -off-site prefabrication system -self-designed panels system
H	-on job training -upgrade safety knowledge -CIDB workshop	Nil
I	-Train by internship and apprenticeship -CIDB courses	Nil
J	-on-the-job training to avoid wastage & double works	Nil
K	-CIDB/HRDF/DOSH training programs	-IBS, I4.0 (TAG-IT & ARMS), scaffolding management system, & modular scaffolding system
L	-apprenticeship -CIDB training	-pre-casting -prefabricated system

Note: Nil- Not applicable

We are still far behind other advanced countries with the slow adoption of modern IBS building methods and Industrial 4.0. There is no proper planning in training programs. SMEs are not interested due to the CAPEX and OPEX. It involves huge investment in short term. Government should provide more incentives and CIDB should enlarge their training programs to proper ascertain the skill level of the labour with credentials so that they could earn better wages, especially local Malaysian.

5.3. Findings summary

The 6 themes that had been identified are derived from the survey questions which had been designed for the purpose to explore the Factors affecting the recruitment. From the findings, Theme 1, Theme 2 and Theme 6 are derived from the data obtained from the Internal Factors affecting the recruitment, whereas Theme 3, Theme 4 and Theme 5 are derived from the External Factors affecting the recruitment.

The six themes had affirmed that the hypothesis of the following,

- (i) There is a positive relationship between internal factors and organizational performance.
- (ii) There is a positive relationship between external factors and organizational performance.

Therefore, there is a positive relationship between the internal factors and organizational performance, and similar results go to the external factors, both factors are having positive relationship.

5.4. Suggestions and recommendations

This study explored and investigated the problem of labour shortage in MCI, involving those who have knowledge, wisdom, and experience in the construction sectors. Based on the current development of recruitment process, we could not come to a conclusion that the government initiatives to bring in foreign workers had managed to solve the problem of labour shortage.

As the country is moving forward to the stage of developing state, there are still a lot of initiatives and efforts that could be done to bring the country to another height.

5.4.1. Human Resource Master Plan

The country needs a thorough and proper planning on human resources. The trend of the HR management had changed tremendously over the years, from basic

interviews, recruitment, and management at a workplace, it had developed into a new concept of Strategic HR management (SHRM), which involves a role which are not only integrated into the core business goals, but also focus on playing a major role in enhance productivity which distinguishes itself from the narrow scope and routine HR practices of an organization (Emeritus, 2022).

Human Resource Management (HRM) includes recruitment and evaluation tasks that would contribute to a significant effect on organizational performance. It also determines the success of an organization in the respective fields (Dhabuwala and Pitroda, 2020). Strategic Human Resource Management (SHRM) has a mechanism that provides a framework for people's management and development practices to a long-term organizational goal, not only the evolving nature of task of individual or within an organization.

Emeritus (2022) had stated that, "SHRM is a process of managing human resources that links the workforce with the core strategies, objectives, and goals of an organization." The government needs to have frequent engagement with the stakeholders to explore the cause, the challenge and the solution of labour shortage, particularly in the MCI. Short-term measures are easy, but long-term measures need to be planned in a more scientific and professional approach.

The proposed Human Resources Master Plan that draft in accordance with SHRM will have in-depth, insight and comprehensive knowledge of the labour shortage problem facing by the industry and plan towards a better strategy for the recruitment of human capital.

5.4.2. Diversity in labour workforce

In short run, as an immediate measure, the labour shortage problem faced by the construction industry especially for unskilled labour, could be solve by encouraging and recruiting the female workers into the job which required less physical strength. Most of the respondents believed that female worker could play a contributing role in works that are less labour-intensive. The female workers especially the spouse of foreign workers could be absorbed into the workforce of

debris cleaning, tiling, bricklaying, and plastering as a measure to recruit sufficient workforce.

There is also a suggestion that, not to leave the existing refugees in Malaysia unattended, with no job, registered them and allow them to work in sectors that need immediate workforce. The United Nations High Commissioner Refugee Agency (UNCHR) which is mandated to safeguard the rights and wellbeing of refugee and asylum seekers worldwide strives to create a safe and secure environment for the refugee and asylum seeker where their basic needs are met while waiting to be accepted in third countries or return home voluntarily. According to the report of UNCHR (2023), the number of refugees residing in Malaysia reached a peak in 2022 with 182,990 refugees and asylum-seekers registered with them in Malaysia. 66% of refugees and asylum-seekers are men and 34% are women.

Although the refugees are allowed to work in the informal sector (Malaysiakini, 2019), but the job opportunity is limited. This suggestion is made on humanitarian grounds so that refugees are allowed to work and earn an income (Bernama, 2022), providing training in construction skills while waiting to migrate to a third country. It also beneficial to Malaysia as a temporary transit country, as the idling manpower is able to turn into productive workforce and it may also be able to solve the short-term problem of labour shortage.

For better management of human resources, the government should register and reassign the existing illegal workers that already in country to the sectors that required urgent manpower. The exercise will ease the problem of labour shortage with lesser waiting time and costs, the construction industry and other sectors could employ these available pools of labour immediately without delays.

5.4.3. Training and technology

Malaysia is a country having an education system which stressed on the academic achievement. The vocational training had not been given much attention. This is a segment of education which had been long neglected. Training and technology

were identified as one of the themes that could solve the problem in the long term.

(a) Trainings

There are training programs designed and geared to meet the demand of economic sectors including construction industry, offered by several public vocational training institutes in Malaysia. The well-known public vocational institutions are Industrial Training Institutes, MARA Vocational Institutes, National Youth Skills Institutes and Malaysian Building Academy (Abdul-Aziz, 2002 as cited in Abdul Rashid, et al., 2008). Technical and Vocational Education and Training (TVET) should be given more attention by the government and encourage more enrollment from the school leavers. TVET is an education and training which provides both school-based, work-based, and training in learning context related to occupations in various sectors of economic through formal and informal learning methods (TVET, 2021).

In the Malaysian TVET forum, "Unlocking the economy through Technical and Vocational Education and Training" held on 24 January 2019 at Hotel Istana, Kuala Lumpur, Harry Tan Huat Hock, Secretary-General, National Union of the Teaching Profession (NUTP) suggested that the minimum wage should be raised to RM 1,500. He is of the opinion that the employer should find a solution to add value to the unskilled workers to match the level of wages which he considered high for current unskilled labour (TVET, 2019).

Promotion, training, and incentive on the use of Industrial Building System (IBS) would encourage Malaysian construction stakeholders to explore into the application and usage of IBS in their future projects. The quality of IBS constructed buildings had substantially proven to have better quality in comparison with those was built by conventional methods (Ali et al., 2012). The adoption of new building methods like the IBS, and the application of technology in Industrial 4.0, will strengthen the attraction and retention power of the sector. It will abolish the negative perception of the industry, so as able to attract more involvement of the locals Malaysian to join the workforce.

As the costs of labour goes up, construction companies are looking at effective methods to become more efficient. Technology, new materials, and new building techniques are likely to play a greater role in the construction process. The adopted new technologies and building techniques will lead to significant changes in the planning and execution of construction projects (Bahr & Laszig, 2021). In future, the construction industry will not be able to cope with the huge demand if they do not find an alternative solution to replace conventional building methods. The industrialized building system (IBS) is a irresistible long term solution for the construction industry in terms of improvement of productivity, quality, durability, and cost (IEM, 2001, as cited in Kadir et al., 2006).

With the introduction of IBS and I4.0, the conventional building methods that have heavy reliance on the labour will soon become obsolete. The guidance, encouragement, tax relief, incentive, and financial assistance from the government to transform into the digitalization of I4.0 era are needed. Most of the construction companies do not have the capital resources to venture into the new technology.

5.4.4. Environmental, Social, and Governance (ESG)

ESG metrics are forming the special criteria of business development in term of sustainability and resilient. It is not a mere trend in financial reporting and the construction industry will soon learn that they are not exempt from this development trend.

Robert (2021), mentioned that the engineering and construction industries that have high reliance on labour are strongly associated with social, training, health and safety issues. ESG concerns also inevitable, the industry not only facing challenges in recruiting sufficient labour, but it also opens to a lot of exposes given the size and complexity of contract. Governance has long been a hot topic due to the need to engage with public and private stakeholders and to prevent bribery and corruption.

The selection of designs and building materials is closely related to the environmental perspective of ESG. It had a significant effect, a square design and

environment friendly type of building is not only cost saving, it also could be built in a hurdle free manner, without fancy design, fancy cutting edges or curves that incur extra cost and time. The more complicated the design of a building, the more skilled and semi-skilled workers are needed to perform the special tasks.

5.5. Limitations

There are limitations in this study despite the survey interviews conducted on those who are still active in the industry. Due to the fact that the survey is conducted in Klang Valley only, the actual situation of labour shortage in rural areas or other states might not be as serious as the urban city. Areas outside of metropolitan areas could have different scenarios or other differing factors that would affect the outcome to this research study.

Most of the respondents are known to the researcher, even though their responses are fair, genuine, and unbiased, they may respond in a way that gives answers that suit the background and thinking of the researcher. But, due to the facts that this study is performed qualitatively using grounded theory and thematic method, strangers would not like to spend time taking the trouble to answer the survey questions. 4 out of 12 respondents were too busy with their work schedules and requested to answer the survey questions in writing and email.

Finally, the topic is too broad; construction industry covers more than 30 trades. These focuses on the problem of labour shortage should be further scaled down to a special trade or special segment of construction industry. The scope is too broad and construction industry consists of too many different trades that required special skills. Demand and the usage of the construction workers and their wages vary from their role and specific skills. The construction works progress ranging from structural, architectural, finishing, machine operating, and M&E works, it requires different skills, and they were paid in accordance with the specific function. In term of compensation, the heavy machine operator and M&E workers getting highest wages in comparison to other trades. Whereas the proportion of foreign workers to local also differ through various stage.

In future, in order to solve the problem of labour shortage effectively, the study should further scales down and focuses on special trades which had different degree of labour shortage, skill, working culture, characteristic, and diverse workforce from different counties. Neoclassical theory is an economic theory that needs more research discovery, especially the role and the effect to the economic environment if there were an intervention of “invisible hand” in the system.

5.6. Conclusion

The finding has shown that there is a positive relationship between the factors affecting the organizational performance in the construction industry. It is also concluded that the labour shortage problem in MCI and factors affecting the recruitment of sufficient labour are facing most volatility in recruitment, management, and retention of human capital.

Most of the workers in manufacturing, servicing, agriculture, and other sectors are doing routine and stereotype kind of daily works, but as for the construction industry, the changes in working conditions, working environment, management, and contract specifications, their workforce is facing a lot of uncertainty. The division of labour in accordance with different skills, trades, and contract durations had made human resources management a huge challenge to the stakeholders. Not all construction works can be carried out simultaneously. The portion of piling work might take 6 months, the footing structural works may take up 3 months, the steel works may take a year, and the other trades may have to wait for 2 years when structural building is ready, different skills and trades move in and out had made retention of skilled workers impossible. It becomes very volatile and needs a high degree of excellence in project management.

The result extracted from the themes had shown how the internal and external factors affecting the recruitment of labour influence the construction industry’s performance. The internal and external factors that affected the organizational performance of a construction company also been identified. The best possible

solutions to the problem of labour shortage in short term and long run also been discussed.

Despite of the assessment on factors affecting the recruitment of labour, which would contribute to the success recruitment of sufficient workforce to enhance the organizational performance, but other factors that were not mentioned which surrounding politics, economics, social, and technology are the substances that could not be ignored. In the long run, with the interference of government efforts, the demand and supply theory, the Environmental, Social, and Governance (ESG), and the actual labour market will eventually reach equilibrium.

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APPENDICES

Appendix 1

Respondent A QUESTIONNAIRE

The questionnaire is intended to collect the views, suggestions, and feedback from the entrepreneurs and higher management persons who involve in the Malaysian construction industry. The questionnaire divides into 3 main sections, the opening, the central, and the closing questions. The opening questions are intended to do a basic coding for the respondents, the central questions are the main data that would be able to contribute to the research, and the closing questions are intended to obtain extra information and feedback from the respondents.

PART ONE

1. What is the background of your company?
 - (a) Public Listed company
 - ~~(b) Private company~~
2. What is the nature of business of your company?
 - (a) Infrastructure & building contractor
 - (b) Property Developer
 - ~~(c) Consultant~~
 - (d) Sub-sectors

Note: *Consultant is architect, engineer, planner etc*

Sub sector is Renovation, building maintenance, communication tower builder etc.

3. What is your position in the company?
 - (a) Top management (~~CEO, Managing Director, Executive Director, general manager etc.~~)
 - ~~(b) Project Management (Project manager, supervisor, consultant etc.)~~
 - (c) Entrepreneur (Owner of business, sub-sector)
4. What are your years of experience in the sector related to the Malaysian Construction Industry (MCI)?
 - (a) Less than 5 years
 - (b) 5 – 10 years
 - (c) Above 10 years
5. What is your total current contract in value?
 - (a) Less than RM 10 million
 - (b) RM 10 million – RM 50 million
 - (c) RM 50 million – RM 100 million
 - (d) Above RM 100 million

6. How many construction workers that your company engaged in the current project (direct employment)?
Approximately 375 pax

7. How many construction labour that your company engaged in the current project through “sub-contractor system”?
More than 2,000 pax

8. Do you think the increment of minimum wages to RM 1,500 per month could attract the local workforce in construction industry?
Yes, along with the hope that perception on construction jobs will improve and local Malaysian will see that construction work is not only a viable option, but a very rewarding prospect.

9. What is your opinion and suggestion that the construction industry could attract more local workforce especially the semi-skilled, unskilled labour to get involved in the sector?
A holistic solution addressing both the supply & demand of local laborers must be ratified and adopted by all stakeholders.
The Government must improve the employability of the young local workforce by providing quality vocational programs that is aligned to the current market demands. Government should also incentivize hiring locals over foreigners with tax breaks, grants, or other non-financial gratification that is mutually beneficial to both employers & local employees.
Employers too, must heed the industry’s call to improve on all aspects that includes providing a safe and healthy working environment, better working conditions, continuous learning and upskilling opportunities, and attractive remuneration.

10. Do you think the present government policy on recruiting foreign workers that lead by Ministry of Homan Affairs in One Stop Center (OSC) instead of the Ministry of Human Resources could effectively solve the labour shortage problem? If not, why?
Evidently, efforts by the government to resolve the labor shortage has failed to translate into results. As reported by TheEdge on 31st October 2022, the Government approved a quota of 467,223. However, only 76,000 labour entries from 12 countries were recorded for the same period.
Citing from news sources, a main contributing factor to the continued acute foreign labor shortage is the arduous application process that has not been revised to mitigate the extraordinary situation the country is facing.

PART TWO

1. INTERNAL FACTORS:

1. What is the main reason that our Malaysian not interested in construction work?

Despite it being a heavily regulated industry with various laws such as Occupational Safety & Health Act, Factories & Machinery Act, Employment Act, etc, construction work still carries the stigma of being a low wage 3D job “Difficult, Dirty & Dangerous” which drives many job seekers away. Local Malaysian sees construction as a low/non-skilled underpaid job with the perspective that low income derived (min. RM 1,500) from this is insufficient to survive cost of living in Malaysia.

2. In your opinion, what is the main cause of labour shortage that is being faced by construction industry? What is the percentage of foreign labour against local Malaysian employed by your company?

Firstly, strict foreign immigration policy. It is getting challenging to obtain work permits for foreign workers. Furthermore, low wages offered which are not attractive for Malaysians plus the bad/poor working conditions/benefits. Perception of the construction industry is also a factor as it is seen as low paying and physically demanding.

3. Is the problem of shortage of labour affects your contract delivery and to what extent it affects your company performance?

Yes, it affects the work progress. It constantly forces us to look out for alternatives to fill in the holes to keep up with and meet the project milestones.

4. What is in your opinion that the best short-term and long measures to solve the shortage of labours in construction industry?

Increasing wages and improving work benefits are short-term measures that can be considered but it increases the operating cost of a project that hurts project margins. Long term measures are improving the training provided to workers. Another way is to explore other technology such as modular buildings which may not require as much labor to decrease the project cost.

5. How do you determine the number of required workforce in a construction project and the system like direct employment, sub-contract system, sub-sectors, and employment through subsidiary companies used by your company?

Based on project scope and labor requirements. If specialized skills are required, we look to employ sub-contractors or through a subsidiary company.

6. Did your company diversify into sub-sectors to reduce the burden of costs or for the purpose of better management?

Yes

Note: *Property developer handles its project by diversified into a construction company, where the main contractor handles its project by division of tasks, and division of trades in order to avoid direct engagement in labour or human resources management.*

7. Do you provide industrial building and construction training for your construction labour? If yes, what kind of training?

Yes. Safety training is compulsory. Skilled training that includes electrical, plumbing, welding and etc. Management training is also provided to leaders to manage the project effectively.

8. Does your company provide or arrange training programs under the CIDB, HRDF or other agencies? Whether the program could ease the dependency of foreign labour or enhance their skills? If not, why?

Yes. CIDB but not particularly effective. CIDB programs are curated primarily for upskilling of construction workers, and not for introductory construction training for non-construction worker. It helps to some extent but it can still be improved further.

9. What type of technology that your company using to improve the organizational performance? Industrial Building System (IBS) or digitalization programs under Industrial 4.0 (I4.0)?

Prefabricated building system is most commonly used.

Note: *Industrial Building System is pre-casting, prefabrication building system, and latest building technology etc.*

Industrial 4.0 is digitalization of building or infrastructure project management and building technology.

PART THREE

2. EXTERNAL FACTORS:

1. Would you consider employing illegal foreign labour (without proper permit/documentation) to work at your construction project?

No. We abide by the law and avoid doing so that could harm the company's reputation and brand image.

2. Would you consider the legal implication if you were employing illegal foreign labour and whether the legal consideration refrain your decision to recruit illegal foreign labour?

Yes. The government is growingly restrictive in terms of employing illegal workers.

3. Do you agree with the statement that our construction industry once heavily depends on Indonesia as a source country, but now the role had been taken over by other countries? Why and what contributed to this situation?

Agree. The Indonesian economy has grown rapidly for the past decade as compared to Malaysia. Malaysia is no longer an attractive place for

Indonesian construction workers. Most foreign workers are now mainly sourced from Myanmar and Bangladesh.

4. Did the Covid-19 cause your company difficulty recruiting sufficient workforce and what is the situation in the post pandemic era?

Yes. Covid-19 has stalled many project progress. It is hard to recruit workforce during that trying times as we have to consider the cost and laws associated with it. The pandemic has delayed projects and increased the cost over time.

5. Do you think the depreciation of currency (Ringgit Malaysia) and the growth of GDP in source countries have any impact on recruitment of foreign labour? (*Economy consideration? Currency fluctuation? GDP of the source country?*)

Yes. A weaker ringgit means higher cost. That is also a reason why workers rather seek for a job elsewhere/in their own country.

6. Do you think that the current recruitment procedure in accordance to government policies is efficient and able to solve the problem of labour shortage? Do you think the current government policies that imposed minimum pay of RM 1,500 and open more labour source countries could solve the problem in the long run?

No. It is not efficient. If the Malaysian economy does not recover steadily and the ringgit continue to depreciate against other currencies, it does not solve the issue.

7. What is your preference in recruiting foreign labour from the particular source countries? (Like Indonesia, Bangladesh, Pakistan, and Sri Lanka etc.) Why? Is it evaluated according to recruitment costs or productivity?

recruitment cost plays a role in recruiting foreign labor. However, skilled foreign labor is much preferred as they are able to produce more at a much lower cost.

8. What do you think of the role of female foreign workers in the construction industry? What type of construction work that involve female worker? And what is their contribution to the sector?

I believe in equal opportunities. Unskilled female workers works on cleaning while skilled female workers could work on tiling, painting and other tasks that are physically less demanding.

9. What do you think if government register the existing refugees in Malaysia and offer them working permit especially in construction industry? (At present, there is no government agency, except United Nation High Commission for Refugees (UNHCR), to issue refugee's card and they are not allow to work in Malaysia)

It's an idea worth consideration. Instead of leaving them jobless and unable to sustain themselves, it could productively strengthen their skills and limit the hassle of recruiting foreign workers from my perspective.

Note:

According to UNCHR (2023), the number of refugees residing in Malaysia reached a peak in 2022 with 182,990 refugees and asylum-seekers registered with them in Malaysia. Some 158,160 are from Myanmar, 23,280 Chins, and 28,760 from other ethnic groups from conflict-affected areas or fleeing persecution in Myanmar. The remaining individuals are 24,820 from 50 countries. 66% of refugees and asylum-seekers are men, 34% are women, and 48,500 children below the age of 18.

This suggestion is made on a humanitarian ground so that refugees allowed to work and earning an income, providing training of construction skill while waiting to migrate to a third country. It also beneficial to Malaysia as a temporary transit country, as the idling manpower is able to turn into productive workforce, and it may also be able to solve the short-term problem of labour shortage.

APPENDIX 2

Respondent B QUESTIONNAIRE

The questionnaire is intended to collect the views, suggestions, and feedback from the entrepreneurs and higher management persons who involve in the Malaysian construction industry. The questionnaire divides into 3 main sections, the opening, the central, and the closing questions. The opening questions are intended to do a basic coding for the respondents, the central questions are the main data that would be able to contribute to the research, and the closing questions are intended to obtain extra information and feedback from the respondents.

PART ONE

1. What is the background of your company?
(a) **Public Listed company** (b) Private company
 2. What is the nature of business of your company?
(a) Infrastructure & building contractor (b) **Property Developer**
(c) Consultant (d) Sub-sectors
- Note:** *Consultant is architect, engineer, planner etc*
Sub sector is Renovation, building maintenance, communication tower builder etc.
3. What is your position in the company?
(a) **Top management (CEO, Managing Director, Executive Director, general manager etc.) Project Director**
(b) Project Management (Project manager, supervisor, consultant etc.)
(c) Entrepreneur (Owner of business, sub-sector)
 4. What are your years of experience in the sector related to the Malaysian Construction Industry (MCI)?
(a) Less than 5 years
(b) 5 – 10 years
(c) **Above 10 years**
 5. What is your total current contract in value?
(a) Less than RM 10 million
(b) RM 10 million – RM 50 million
(c) RM 50 million – RM 100 million
(d) **Above RM 100 million**
 6. How many construction workers that your company engaged in the current project (direct employment)? **None**
 7. How many construction labour that your company engaged in the current project through “sub-contractor system”? **None – we award to Main Contractor only**

8. Do you think the increment of minimum wages to RM 1,500 per month could attract the local workforce in construction industry? **No, is still way below the attractive wages amount**
9. What is your opinion and suggestion that the construction industry could attract more local workforce especially the semi-skilled, unskilled labour to get involved in the sector? **Increase wages value that the local feels that is on par to be a labour in Singapore**
10. Do you think the present government policy on recruiting foreign workers that lead by Ministry of Homan Affairs in One Stop Center (OSC) instead of the Ministry of Human Resources could effectively solve the labour shortage problem? If not, why? **Is not about which Ministry, is about the system, policies and execution of these policies n system. Is a total failure, change too frequently, inconsistency and too many red tapes**

PART TWO

1. INTERNAL FACTORS:

1. What is the main reason that our Malaysian not interested in construction work? **The environment of the entire industry is not encouraging, being as a consultant or contractor, the over demanding market had caused all these professionals overburn. Besides, we do not get the deserved respect from all parties, the employer will over stress the resources, being you are architect, engineers, Qs or a contractor. The minimum level of respect seems getting fade away. Everyone in perception working in the construction industry is something not to be proud off. People's perception are always we cut corners in construction and corruption when dealing authorities and always not professional when dealing with works. Besides, low wages and lack of benefits and protection to construction industry professional had resulted younger generation seeking for other profession. All these are the main reasons of Msian not interested in the construction work.**
2. In your opinion, what is the main cause of labour shortage that is being faced by construction industry? What is the percentage of foreign labour against local Malaysian employed by your company? **Low wages and lack of protection benefits i.e. insurance coverage, exploitation from employer and there is no union to protect all the labours. The minimum wage is not even enough to cover basic monthly expenses especially in urban area.**
3. Is the problem of shortage of labour affects your contract delivery and to what extent it affects your company performance? **Definitely affecting on timeline delivery, cash rich contractor will pay much higher wages to get workers to finish the job to avoid penalty from client, this resulted the entire market became employee or labour market where the have the choice to choose who pays them better before deciding working with them, labourers now are spilit with choices of employer.**

4. What is in your opinion that the best short-term and long measures to solve the shortage of labours in construction industry? **The fastest way to mitigate shortage if labour is to bring in sufficient resources asap with the assistance from multiple government agencies to reduce all the red tapes during the foreign labour application process and reduce the fees charges. In long term, raise the minimum wages to locals who is willing to work in the construction industries and also explore into advance construction technologies and materials that use the least of human resources. Quoting example like Japan, technology plays an important role in construction site, material use requires least workforce. It is time Malaysia to move out from labour intensive construction methodology.**
5. How do you determine the number of required workforce in a construction project and the system like direct employment, sub-contract system, sub-sectors, and employment through subsidiary companies used by your company? **The size of the project, the profit margin able to enjoy from the project, the punctuality of collection from client.**
6. Did your company diversify into sub-sectors to reduce the burden of costs or for the purpose of better management? **Exploring into conducting our own trading for construction materials to reduce the construction cost**

***Note:**Property developer handles its project by diversified into construction company, where the main contractor handles its project by division of tasks, and division of trades in order to avoid direct engagement in labour or human resources management.*

7. Do you provide industrial building and construction training for your construction labour? If yes, what kind of training? **No**
8. Does your company provide or arrange training programs under the CIDB, HRDF or other agencies? Whether the program could ease the dependency of foreign labour or enhance their skills? If not, why? **No, not required at the moment**
10. What type of technology that your company using to improve the organizational performance? Industrial Building System (IBS) or digitalization programs under Industrial 4.0 (I4.0)? **Mostly are using system formwork to reduce use of conventional formwork system. None at the moment besides using alum fwk system**
- 9.

***Note:**Industrial Building System is pre-casting, prefabrication building system, and latest building technology etc.
Industrial 4.0 is digitalization of building or infrastructure project management and building technology.*

PART THREE

2. EXTERNAL FACTORS:

1. Would you consider employing illegal foreign labour (without proper permit/documentation) to work at your construction project? **We do not allow main contractor to employ illegal workers.**
2. Would you consider the legal implication if you were employing illegal foreign labour and whether the legal consideration refrain your decision to recruit illegal foreign labour? **Yes to both**
3. Do you agree with the statement that our construction industry once heavily depends on Indonesia as a source country, but now the role had been taken over by other countries? Why and what contributed to this situation? **Yes, reasons being our currency had been performing poorly and Indonesia economy is flourishing, as such Indonesian do not need risk themselves working illegally in Msia to earn currency which don't bring them better value where their own country have sufficient jobs for them.**
4. Did the Covid-19 cause your company difficulty recruiting sufficient workforce and what is the situation in the post pandemic era? **Yes**
5. Do you think the depreciation of currency (Ringgit Malaysia) and the growth of GDP in source countries have any impact on recruitment of foreign labour? (*Economy consideration? Currency fluctuation? GDP of the source country?*) **Yes. Our currency are performing poorly and the workers are often being exploited in a non-conducive working environment compare to Singapore or other country which their welfare are more protected**
6. Do you think that the current recruitment procedure in accordance to government policies is efficient and able to solve the problem of labour shortage? Do you think the current government policies that imposed minimum pay of RM 1,500 and open more labour source countries could solve the problem in the long run? **No**
7. What is your preference in recruiting foreign labour from the particular source countries? (Like Indonesia, Bangladesh, Pakistan, and Sri Lanka etc.) Why? Is it evaluated according to recruitment costs or productivity? **Indonesia, their skills had been proven to be more reliable compare to others**
8. What do you think of the role of female foreign workers in the construction industry? What type of construction work that involve female worker? And what is their contribution to the sector? **Female foreign workers do play a role in the construction industry however their contribution would not be too significant since most of the time they are engage mostly doing general cleaning and housekeeping works. Hardly female workers are task to carry out skillful trades related works.**

9. What do you think if government register the existing refugees in Malaysia and offer them working permit especially in construction industry? (At present, there is no government agency, except United Nation High Commission for Refugees (UNHCR), to issue refugee's card and they are not allow to work in Malaysia) **Yes but will only temporary solve the problem due to all these refugees are not skilled worker.**

APPENDIX 3

Respondent C QUESTIONNAIRE

The questionnaire is intended to collect the views, suggestions, and feedback from the entrepreneurs and higher management persons who involve in the Malaysian construction industry. The questionnaire divides into 3 main sections, the opening, the central, and the closing questions. The opening questions are intended to do a basic coding for the respondents, the central questions are the main data that would be able to contribute to the research, and the closing questions are intended to obtain extra information and feedback from the respondents.

PART ONE

2. What is the background of your company?
(a) Public Listed company (b) Private company
3. What is the nature of business of your company?
(a) Infrastructure & building contractor (b) Property Developer
(b) Consultant (d) Sub-sectors

Note: *Consultant is architect, engineer, planner etc*

Sub sector is Renovation, building maintenance, communication tower builder etc.

4. What is your position in the company?
(a) Top management (CEO, Managing Director, Executive Director, general manager etc.)
(b) Project Management (Project manager, supervisor, consultant etc.)
(c) Entrepreneur (Owner of business, sub-sector)
5. What are your years of experience in the sector related to the Malaysian Construction Industry (MCI)?
(a) Less than 5 years
(b) 5 – 10 years
(c) Above 10 years
6. What is your total current contract in value?
(a) Less than RM 10 million
(b) RM 10 million – RM 50 million
(c) RM 50 million – RM 100 million
(d) Above RM 100 million
6. How many construction workers that your company engaged in the current project (direct employment)?

Around 350 workers.

7. How many construction labour that your company engaged in the current project through “sub-contractor system”?

More than 1,500

8. Do you think the increment of minimum wages to RM 1,500 per month could attract the local workforce in construction industry?

RM 1,500 is too low and cannot attract local Malaysian to work in construction sector.

9. What is your opinion and suggestion that the construction industry could attract more local workforce especially the semi-skilled, unskilled labour to get involved in the sector?

Construction is a labour intensive and high wages sector. The “Kongsi-Kong” or general worker’s wage per day is at the minimum of RM 80 per day, which come up to more than RM 2,000 per month excluding overtime and working on public holidays.

10. Do you think the present government policy on recruiting foreign workers that lead by Ministry of Homan Affairs in One Stop Center (OSC) instead of the Ministry of Human Resources could effectively solve the labour shortage problem? If not, why?

In my opinion, no matter who is leading the One Stop Center, no different at all. The red tape still the same, the process is still complicated, and it does not meet the demand of the market. The government needs to know what is actually facing by the market or particularly the construction industry. My opinion is as follow, (i) simplify the application process, (ii) prohibit the monopoly of HR agency (iii) More channel to apply (iv) The procedure to recruit foreign worker must reach a consensus with the government of the source country to avoid delay in the recruitment process.

PART TWO

(I) INTERNAL FACTORS:

1. What is the main reason that our Malaysian not interested in construction work?

The wages is too low.

2. In your opinion, what is the main cause of labour shortage that is being faced by construction industry? What is the percentage of foreign labour against local Malaysian employed by your company?

For the recruitment of foreign workers, the process is too tedious and complicated. Due to the sophisticated requirements and process, the coordination with the source country never reach a consensus, the approval of OSC is useless. Approval obtained but no worker. It took more than 6 months for them to arrive.

3. Is the problem of shortage of labour affects your contract delivery and to what extent it affects your company performance?

Yes, we would not able to meet the completion date and contract delivery. LAD penalty will be a loss to our company.

4. What is in your opinion that the best short-term and long-term measures to solve the shortage of labours in construction industry?

To solve the short-term problem, we need to recruit foreign workers and legalize the existing illegal worker in Malaysia. But in long run, we need an effective formula in recruitment of foreign workers, for example extend their permit duration to more than 10 years, and better education system that not only emphasize in academic achievement for locals.

5. How do you determine the number of required workforce in a construction project and the system like direct employment, sub-contract system, sub-sectors, and employment through subsidiary companies used by your company?

Yes, our company yearly turnover more than RM 1 billion, we diversify to tourism sector, building material supplier, contractor and online trading to decentralize the workload of HR management. Therefore as I told you earlier, our direct employed around 350 people, but under the sub-contract system is around 1,500 people.

6. Did your company diversify into sub-sectors to reduce the burden of costs or for the purpose of better management?

Yes, it is more cost saving if we award our development building contract to a subsidiary construction company and the construction company will purchase its building material from another subsidiary. It is cost saving and more effective by division of nature of business.

Note: *Property developer handles its project by diversified into a construction company, where the main contractor handles its project by division of tasks, and division of trades in order to avoid direct engagement in labour or human resources management.*

7. Do you provide industrial building and construction training for your construction labour? If yes, what kind of training?

We do provide training to our local staff through HRDF, but not skill training. Foreign labour is only engaged for a short period, not worthy for us to train for others.

8. Does your company provide or arrange training programs under the CIDB, HRDF or other agencies? Whether the program could ease the dependency of foreign labour or enhance their skills? If not, why?

As I mentioned earlier, it is a waste to train a foreign worker if our company employ them for a short period.

9. What type of technology that your company using to improve the organizational performance? Industrial Building System (IBS) or digitalization programs under Industrial 4.0 (I4.0)?

We will try to adopt the IBS method and try to improve ourselves from time to time. The government needs to play an important role to promote the use of Industrial 4.0. This could be done with more engagement with the stakeholders and giving tax incentive for those who adopt the use of I4.0. We mostly use prefabrication system for the wall panels. It reduces the manpower in bricklaying and plastering.

Note: *Industrial Building System is pre-casting, prefabrication building system, and latest building technology etc. Industrial 4.0 is digitalization of building or infrastructure project management and building technology.*

PART THREE

(II) EXTERNAL FACTORS:

1. Would you consider employing illegal foreign labour (without proper permit/documentation) to work at your construction project?

The contractor has no other alternative but to employ illegal foreign workers when they had contract in hand. They have project but no workforce.

2. Would you consider the legal implication if you were employing illegal foreign labour and whether the legal consideration refrain your decision to recruit illegal foreign labour?

The delivery of contract is important to avoid LAD fine, nobody willing to pay for the penalty. They had no other alternative but to employ illegal foreign workers. Some even pay higher wages to attract them and its become unhealthy practice.

3. Do you agree with the statement that our construction industry once heavily depends on Indonesia as a source country, but now the role had been taken over by other countries? Why and what contributed to this situation?

The labour market is very special. For construction sector, most of the stakeholders preferred Indonesian workers because of their skill. But due to cost saving, they preferred Bangladeshi for semi-skilled and unskilled tasks so as to save costs. And Malaysian government only allowed Indian to work in the construction of high tension cable.

4. Did the Covid-19 cause your company difficulty recruiting sufficient workforce and what is the situation in the post pandemic era?

Yes, we face difficulty to recruit sufficient workforce during Covid-19 pandemic and post pandemic. The illegal foreign workers are worry when they were asked to vaccine. They suffered with no job, no income. So, most of them return to home country when the border was opened.

5. Do you think the depreciation of currency (Ringgit Malaysia) and the growth of GDP in source countries have any impact on recruitment of foreign labour? (*Economy consideration? Currency fluctuation? GDP of the source country?*)

The depreciation of currency, RM and Growth of GDP definitely has impact on the recruitment. For example Singapore Dollar had appreciated so much, and Singapore is the first preference of their selection.

6. Do you think that the current recruitment procedure in accordance to government policies is efficient and able to solve the problem of labour shortage? Do you think the current government policies that imposed minimum pay of RM 1,500 and open more labour source countries could solve the problem in the long run?

No. Unless Malaysian government having a long-term planning on human resources policy.

7. What is your preference in recruiting foreign labour from the particular source countries? (Like Indonesia, Bangladesh, Pakistan, and Sri Lanka etc.) Why? Is it evaluated according to recruitment costs or productivity?

Yes, as mentioned earlier, I personally preferred Indonesian workers, they are easy to communicate and most of them are skilled and semi-skilled labour. A lot of them become sub-contractor and charging by quantity work done. It is more cost saving and very productive.

8. What do you think of the role of female foreign workers in the construction industry? What type of construction work that involve female worker? And what is their contribution to the sector?

Yes, but work like carpentry works, concrete works, and steel works which require more physical strength is not suitable.

9. What do you think if government register the existing refugees in Malaysia and offer them working permit especially in construction industry? (At present, there is no government agency, except United Nation High Commission for Refugees (UNHCR), to issue refugee's card and they are not allow to work in Malaysia)

This is a good suggestion, but it is just for a short term solution. After all, a lot of Myanmar refugees are working in restaurant, coffee shops and eateries. Legalize them will have a better control and we could ensure they could earn a living here.

Transcript based on recording and written points: 24 February 2023, 3:30 pm-5 pm.

APPENDIX 4

Respondent D QUESTIONNAIRE

The questionnaire is intended to collect the views, suggestions, and feedback from the entrepreneurs and higher management persons who involve in the Malaysian construction industry. The questionnaire divides into 3 main sections, the opening, the central, and the closing questions. The opening questions are intended to do a basic coding for the respondents, the central questions are the main data that would be able to contribute to the research, and the closing questions are intended to obtain extra information and feedback from the respondents.

PART ONE

1. What is the background of your company?
(b) Public Listed company (b) Private company

2. What is the nature of business of your company?
(c) Infrastructure & building contractor (b) Property Developer
(c) Consultant (d) Sub-sectors

Note: *Consultant is architect, engineer, planner etc*
Sub sector is Renovation, building maintenance, communication tower builder etc.

3. What is your position in the company?
(a) Top management (CEO, Managing Director, Executive Director, general manager etc.)
 Project Management (Project manager, supervisor, consultant etc.)
(c) Entrepreneur (Owner of business, sub-sector)

4. What are your years of experience in the sector related to the Malaysian Construction Industry (MCI)?
(a) Less than 5 years
(b) 5 – 10 years
 Above 10 years

5. What is your total current contract in value?
(d) Less than RM 10 million
(e) RM 10 million – RM 50 million
(f) RM 50 million – RM 100 million
(g) Above RM 100 million

6. How many construction workers that your company engaged in the current project (direct employment)?

My company do not have direct engagement of construction worker (labour) as all the project will be tender and awarded to main contractor (main contract) in entire package.

For main contractor, total 400 workers under direct engagement.

7. How many construction labour that your company engaged in the current project through “sub-contractor system”?

Two high-rise projects were under construction starting from year 2020.

First project is 604 units of service apartment with 42 units of shops.

The total labour in this project, approximately 250 people.

Second project is 1202 units of service apartment with 46 units of shops.

The total labour in this project, approximately 400 people.

8. Do you think the increment of minimum wages to RM 1,500 per month could attract the local workforce in construction industry?

Yes, it will attract. However, to my experience, local / Malaysian not interested to work as construction labour simply because it is rough in nature of work.

9. What is your opinion and suggestion that the construction industry could attract more local workforce especially the semi-skilled, unskilled labour to get involved in the sector?

In current industry practice, there are many skilled labour are foreigner. Labour cost for hiring foreign worker is more economical compare to local worker in long run. Hiring local workforce is considered short term solution to overcome the labour shortage.

In long term, government to enhance more programme, training and improve skilled level local workforce. Government may also introduce incentive to company for hiring local workforce. This will encourage the company to engage more local workforce rather than continuing to recruit foreign workers in term of cost benefits. On the other hand, higher wages and better accommodation would be the way to attract local workforce.

10. Do you think the present government policy on recruiting foreign workers that lead by Ministry of Home Affairs in One Stop Center (OSC) instead of the Ministry of Human Resources could effectively solve the labour shortage problem? If not, why?

Yes. Foreign worker not subject to the standard employment right.

PART TWO

(a) INTERNAL FACTORS:

1. What is the main reason that our Malaysian not interested in construction work?

Difficult and long hours of working wages not attractive

2. In your opinion, what is the main cause of labour shortage that is being faced by construction industry? What is the percentage of foreign labour against local Malaysian employed by your company?

Due to permit expired cannot renew and need to go back. 1 local 10 foreign

3. Is the problem of shortage of labour affects your contract delivery and to what extent it affects your company performance?

Yes, Cannot complete on time need to hire third party with higher wages to cope. Exceed budget and profit.

4. What is in your opinion that the best short-term and long measures to solve the shortage of labours in construction industry?

To extend all work permit for five years and experience workers to continue extend their permit.

5. How do you determine the number of required workforce in a construction project and the system like direct employment, sub-contract system, sub-sectors, and employment through subsidiary companies used by your company?

Based on the rate and work backwards. If shorter duration more workers required.

6. Did your company diversify into sub-sectors to reduce the burden of costs or for the purpose of better management?

Yes put more division of trades and division task

Note: *Property developer handles its project by diversified into construction company, where the main contractor handles its project by division of tasks, and division of trades in order to avoid direct engagement in labour or human resources management.*

7. Do you provide industrial building and construction training for your construction labour? If yes, what kind of training? No

8. Does your company provide or arrange training programs under the CIDB, HRDF or other agencies? Whether the program could ease the dependency of foreign labour or enhance their skills? If not, why?

No. will not ease the dependency of foreign labour. Hard to get local to participate in the program.

9. What type of technology that your company using to improve the organizational performance? Industrial Building System (IBS) or digitalization programs under Industrial 4.0 (I4.0)?

No use system formwork to expedite like Mivan and Kum Kang. Mostly in high rise . High rise not applicable. We don't use IBS as we do high rise mostly 30 floors above. We don't have the personnel and technologies in IBS

Note:*Industrial Building System is pre-casting, prefabrication building system, and latest building technology etc.*

Industrial 4.0 is digitalization of building or infrastructure project management and building technology.

PART THREE

(a) EXTERNAL FACTORS:

1. Would you consider employing illegal foreign labour (without proper permit/documentation) to work at your construction project? **No**

2. Would you consider the legal implication if you were employing illegal foreign labour and whether the legal consideration refrain your decision to recruit illegal foreign labour? **Yes our company refrain from recruiting illegal workers**

3. Do you agree with the statement that our construction industry once heavily depends on Indonesia as a source country, but now the role had been taken over by other countries? Why and what contributed to this situation? **Yes. Because if Indonesia stop supplying workers we still got other source.**

4. Did the Covid-19 cause your company difficulty recruiting sufficient workforce and what is the situation in the post pandemic era? **Yes. All workers need to screen for Covid 19 negative only allow to work.**

5. Do you think the depreciation of currency (Ringgit Malaysia) and the growth of GDP in source countries have any impact on recruitment of foreign labour? (*Economy consideration? Currency fluctuation? GDP of the source country?*) **Yes getting work force wages might be higher due to workers worried on the depreciation.**

6. Do you think that the current recruitment procedure in accordance to government policies is efficient and able to solve the problem of labour shortage? Do you think the current government policies that imposed minimum pay of RM 1,500 and open more labour source countries could solve the problem in the long run? **Yes. Yes minimum wages. And more labour source . yes**

7. What is your preference in recruiting foreign labour from the particular source countries? (Like Indonesia, Bangladesh, Pakistan, and Sri Lanka etc.) Why? Is it evaluated according to recruitment costs or productivity? **Indonesia and Bangladeshi. They really work hard as they need to send back money to their family. Productivity is higher due to this.**

8. What do you think of the role of female foreign workers in the construction industry? What type of construction work that involve female worker? And what is their contribution to the sector? **Female workers for cleaning works. Indonesia**

female workers. Contribution in cleaning the building for handing over purpose . As main cleaning company hire Indonesia female workers due to lower wages and contractor can get at a lower price.

9.What do you think if government register the existing refugees in Malaysia and offer them working permit especially in construction industry? (At present, there is no government agency, except United nation High Commission for Refugees (UNHCR) to issue refugee's card and they are not allow to work in Malaysia)

Can, to alleviate labour shortage.

Note:

According to UNCHR (2023), the number of refugees residing in Malaysia reached a peak in 2022 with 182,990 refugees and asylum-seekers registered with them in Malaysia. Some 158,160 are from Myanmar, 23,280 Chins, and 28,760 from other ethnic groups from conflict-affected areas or fleeing persecution in Myanmar. The remaining individuals are 24,820 from 50 countries. 66% of refugees and asylum-seekers are men, 34% are women, and 48,500 children below the age of 18.

This suggestion is made on a humanitarian ground so that refugees allowed to work and earning an income, providing training of construction skill while waiting to migrate to a third country. It also beneficial to Malaysia as a temporary transit country, as the idling manpower is able to turn into productive workforce, and it may also be able to solve the short-term problem of labour shortage.

Respondent E QUESTIONNAIRE

The questionnaire is intended to collect the views, suggestions, and feedback from the entrepreneurs and higher management persons who involve in the Malaysian construction industry. The questionnaire divides into 3 main sections, the opening, the central, and the closing questions. The opening questions are intended to do a basic coding for the respondents, the central questions are the main data that would be able to contribute to the research, and the closing questions are intended to obtain extra information and feedback from the respondents.

PART ONE

1. What is the background of your company?

- (a) Public Listed company (b) Private company

2. What is the nature of business of your company?_

- (a) Infrastructure & building contractor (b) Property Developer
(c) Consultant (d) Sub-sectors

Note: *Consultant is architect, engineer, planner etc*

Sub sector is Renovation, building maintenance, communication tower builder etc.

3. What is your position in the company?

- (a) Top management (CEO, Managing Director, Executive Director, general manager etc.)
(c) Project Management (Project manager, supervisor, consultant etc.)
(b) Entrepreneur (Owner of business, sub-sector)

3. What are your years of experience in the sector related to the Malaysian Construction Industry (MCI)?

- (c) Less than 5 years
(d) 5 – 10 years
(e) Above 10 years

4. What is your total current contract in value?

- (f) Less than RM 10 million
(g) RM 10 million – RM 50 million
(h) RM 50 million – RM 100 million
(i) Above RM 100 million

5. How many construction workers that your company engaged in the current project (direct employment)?

NIL

6. How many construction labour that your company engaged in the current project through “sub-contractor system”?

NIL

7. Do you think the increment of minimum wages to RM 1,500 per month could attract the local workforce in construction industry?

The wages of RM 1,500 per month is too low. RM 1,900 to RM 2,000 is reasonable, especially in urban area. But, this is for blue-collar worker only. There is no shortage in white-collar project management personnel.

8. What is your opinion and suggestion that the construction industry could attract more local workforce especially the semi-skilled, unskilled labour to get involved in the sector?

A better salary scale, provide special training for the locals. It could be done with training and certification to motivate the worker through intangible gains, and tangible gains by monetary rewards according to grading. We need a properly planned training program and encourage the stakeholders of construction industry to participate in such program.

9. Do you think the present government policy on recruiting foreign workers that lead by Ministry of Home Affairs in One Stop Center (OSC) instead of the Ministry of Human Resources could effectively solve the labour shortage problem? If not, why?

As a stakeholder in the industry, I don't care which ministry take the lead in OSC. What we want is to get our problem solved and the foreign workers could arrive in Malaysia after 30 days as claimed by the minister. Our industry could not afford to wait for 6 months which happening now.
We could not bear with the increase in costs, especially agent fees, we paid RM 1,500 per head to get a quota, and yet unsure about the number of foreign workers that could be approved. The increment for minimum pay is an extra cost to the contractor. The red tape is killing everybody. Our industry wishes that the OSC could provide fast track or “green lane” approval for genuine cases but not one Stop and “stopped” by various agencies in the OSC.

PART TWO

1. INTERNAL FACTORS:

1. What is the main reason that our Malaysian not interested in construction work?

First, monthly income is too low and not encouraging. Secondly, local Malaysian doesn't see future in this sector. The wage is not equivalent to compensate their efforts and hard works. Of course, 3 Ds kind of job also pushing local Malaysian away from this industry.

2. In your opinion, what is the main cause of labour shortage that is being faced by construction industry? What is the percentage of foreign labour against local Malaysian employed by your company?

The labour shortage that we are talking about is the blue-collar labour. We don't have shortage in project management staffs which are majority local Malaysia with professional qualifications. The main course is the mindset, education system, and lacking of government initiatives. For semi-skilled and unskilled labour, I would say, foreign workers constitute about 90% of the total workforce.

3. Is the problem of shortage of labour affects your contract delivery and to what extent it affects your company performance?

Yes, it not only a monetary loss, it also tarnished the reputation and good name of the company.

4. What is in your opinion that the best short-term and long-term measures to solve the shortage of labours in construction industry?

The government needs to be more proactive, having more business friendly policies to govern the progress and growth of the construction industry. Government needs to engage with the stakeholders of the industry, outline the short-term and long-term strategies to tackle the problem.

5. How do you determine the number of required workforce in a construction project and the system like direct employment, sub-contract system, sub-sectors, and employment through subsidiary companies used by your company?

Firstly, the contract's value. Secondly, the nature of work and thirdly, the duration of contract.

6. Did your company diversify into sub-sectors to reduce the burden of costs or for the purpose of better management?

No. I am a consultant as Corporate Advisor to overseas MNC. But my client will normally sub-contract certain parcel of works to local Malaysian companies.

Note: *Property developer handles its project by diversified into a construction company, where the main contractor handles its project by division of tasks, and division of trades in order to avoid direct engagement in labour or human resources management.*

7. Do you provide industrial building and construction training for your construction labour? If yes, what kind of training?

No. It's up to the individual sub-contractor.

8. Does your company provide or arrange training programs under the CIDB, HRDF or other agencies? Whether the program could ease the dependency of foreign labour or enhance their skills? If not, why?

No, under the present system, foreign workers only attend safety course in order to renew their working permit.

9. What type of technology that your company using to improve the organizational performance? Industrial Building System (IBS) or digitalization programs under Industrial 4.0 (I4.0)?

My client is using pre-fabricated building system for high rise and infrastructure. The I4.0 is still not been used in construction site but only designing stage. We use prefabrication system to reduce the working area at site.

Note: *Industrial Building System is pre-casting, prefabrication building system, and latest building technology etc. Industrial 4.0 is digitalization of building or infrastructure project management and building technology.*

PART THREE

2. EXTERNAL FACTORS:

1. Would you consider employing illegal foreign labour (without proper permit/documentation) to work at your construction project?

No. MNC can't take such a risk.

2. Would you consider the legal implication if you were employing illegal foreign labour and whether the legal consideration refrain your decision to recruit illegal foreign labour?

We have to avoid any legal consequences arise from employing illegal foreign workers. No insurance cover is a huge risk for overseas companies.

3. Do you agree with the statement that our construction industry once heavily depends on Indonesia as a source country, but now the role had been taken over by other countries? Why and what contributed to this situation?

Yes. Indonesian does not really work as construction site now. They are either the sub-contractor or skilled workers now. Indonesian is having a better opportunity in their home country. The salary income is no more attractive to them.

4. Did the Covid-19 cause your company difficulty recruiting sufficient workforce and what is the situation in the post pandemic era?

Yes, we have to adhere to strict procedures. Lack of manpower, closing borders and disruption of supply chains had been a huge challenge for us. The situation is better now.

5. Do you think the depreciation of currency (Ringgit Malaysia) and the growth of GDP in source countries have any impact on recruitment of foreign labour? (*Economy consideration? Currency fluctuation? GDP of the source country?*)

Malaysia becomes less attractive as a designated country for foreign workers.

6. Do you think that the current recruitment procedure in accordance to government policies is efficient and able to solve the problem of labour shortage? Do you think the current government policies that imposed minimum pay of RM 1,500 and open more labour source countries could solve the problem in the long run?

No, the government procedure had caused disappointment among the stakeholder. The application process took too long, the costs too high. The minimum pay is not effective

7. What is your preference in recruiting foreign labour from the particular source countries? (Like Indonesia, Bangladesh, Pakistan, and Sri Lanka etc.) Why? Is it evaluated according to recruitment costs or productivity?

When there is a choice, there is a preference. We have no choice, we cannot fussy; we just grab what is available in the HR market. Of course, we would prefer those who could communicate, hard working and willing to work in harsh environment.

8. What do you think of the role of female foreign workers in the construction industry? What type of construction work that involve female worker? And what is their contribution to the sector?

Yes, we must utilize the available workforce here. They can do something light that do not require physical strength.

9. What do you think if government register the existing refugees in Malaysia and offer them working permit especially in construction industry? (At present, there is no government agency, except United Nation High Commission for Refugees (UNHCR), to issue refugee's card and they are not allow to work in Malaysia)

The suggestion is good for short term so as the refugees can get a proper decent work to earn a living here. We can't allow them here and leave them unattended idling here and there. They will create social unrest if not govern properly. We should give them the approval to work before being accepted by another country.

Transcript based on recording and written points: 6 March 2023, 12:30 pm- 4:30 pm at Grand Harbour Restaurant, KL.

APPENDIX 6
Respondent F
QUESTIONNAIRE

The questionnaire is intended to collect the views, suggestions, and feedback from the entrepreneurs and higher management persons who involve in the Malaysian construction industry. The questionnaire divides into 3 main sections, the opening, the central, and the closing questions. The opening questions are intended to do a basic coding for the respondents, the central questions are the main data that would be able to contribute to the research, and the closing questions are intended to obtain extra information and feedback from the respondents.

PART ONE

1. What is the background of your company?

- (a) Public Listed company (b) Private company

2. What is the nature of business of your company?

- (a) Infrastructure & building contractor (b) Property Developer
(c) Consultant (d) Sub-sectors

Note: *Consultant is architect, engineer, planner etc*

Sub sector is Renovation, building maintenance, communication tower builder etc.

3. What is your position in the company?

- (a) Top management (CEO, Managing Director, Executive Director, general manager etc.)
(b) Project Management (Project manager, supervisor, consultant etc.)
(c) Entrepreneur (Owner of business, sub-sector)

4. What are your years of experience in the sector related to the Malaysian Construction Industry (MCI)?

Above 10 years

5. What is your total current contract in value?

Above RM 100 million

6. How many construction workers that your company engaged in the current project (direct employment)?

Other than project management team, we have zero construction worker.

7.How many construction labour that your company engaged in the current project through “sub-contractor system”?

More than 1,500 construction labours employed by the main contractor.

8.Do you think the increment of minimum wages to RM 1,500 per month could attract the local workforce in construction industry?

No. Local Malaysian not interested. It is far too low under the poverty line. They could easily find a better job that pay higher wages.

9,What is your opinion and suggestion that the construction industry could attract more local workforce especially the semi-skilled, unskilled labour to get involved in the sector?

To increase the pay.

10. Do you think the present government policy on recruiting foreign workers that lead by Ministry of Homan Affairs in One Stop Center (OSC) instead of the Ministry of Human Resources could effectively solve the labour shortage problem? If not, why?

The current procedure is not effective at all. The red tapes, corruption practices, ever-changing policy had create unnecessary confusion among the industry stakeholders. The recent suggestion by the government to direct recruit foreign workers is impossible to solve the problem. The government is not consistent in the recruitment policy.

PART TWO

(a) INTERNAL FACTORS:

1.What is the main reason that our Malaysian not interested in construction work?

3 Ds, Dirty, difficult and Dangerous, and low income is the main problem that refrains our Malaysian to work in this industry.

2. In your opinion, what is the main cause of labour shortage that is being faced by construction industry? What is the percentage of foreign labour against local Malaysian employed by your company?

Construction works give a low perception in the eye of the public. They look down on construction workers. The social status of construction worker is very low in the society. We do not employ foreign labour, I do not have opinion on the percentage, but their involvements are huge.

3. Is the problem of shortage of labour affects your contract delivery and to what extent it affects your company performance?

The labour shortage problem do has a bad impact especially in efficiency, quality, productivity, and complete the contract in time. We can't afford to keep changing the contractor or workforce, and it will hinder our handover of project in stipulated time.

4. What is in your opinion that the best short-term and long-term measures to solve the shortage of labours in construction industry?

The best short term measure is to recruit from overseas, open up more source countries. In long-term, we must change the mindset of our local Malaysian with better pay, benefits, and improve working conditions.

5. How do you determine the number of required workforce in a construction project and the system like direct employment, sub-contract system, sub-sectors, and employment through subsidiary companies used by your company?

The required number of workers depends on the size and value of the contract. We do not involve in construction but only award the contract to main contractor.

6. Did your company diversify into sub-sectors to reduce the burden of costs or for the purpose of better management?

We don't diversify because of management risks. We might be able to save 10% only. Not worth for us to take the risk.

Note: *Property developer handles its project by diversified into a construction company, where the main contractor handles its project by division of tasks, and division of trades in order to avoid direct engagement in labour or human resources management.*

7. Do you provide industrial building and construction training for your construction labour? If yes, what kind of training?

No. We leave it to the contractor.

8. Does your company provide or arrange training programs under the CIDB, HRDF or other agencies? Whether the program could ease the dependency of foreign labour or enhance their skills? If not, why?

No.

9. What type of technology that your company using to improve the organizational performance? Industrial Building System (IBS) or digitalization programs under Industrial 4.0 (I4.0)?

No. The contractor and consultant decide the use of building method.

Note: *Industrial Building System is pre-casting, prefabrication building system, and latest building technology etc. Industrial 4.0 is digitalization of building or infrastructure project management and building technology.*

PART THREE

(b) EXTERNAL FACTORS:

1. Would you consider employing illegal foreign labour (without proper permit/documentation) to work at your construction project?

This is the task of main contractor. They can't avoid engaging with illegal foreign worker so as to get enough manpower to execute their

2. Would you consider the legal implication if you were employing illegal foreign labour and whether the legal consideration refrain your decision to recruit illegal foreign labour?

I would say our main contractor had no choice but to take the risk due to their responsibility to complete their task in accordance with the required specification of contract to complete the job in stipulated time. Failure to handover will cost them paying penalty to us.

3. Do you agree with the statement that our construction industry once heavily depends on Indonesia as a source country, but now the role had been taken over by other countries? Why and what contributed to this situation?

Yes, but now Indonesia economy is doing well with a lot of job opportunities in the country. They do not wish to come here anymore.

4. Did the Covid-19 cause your company difficulty recruiting sufficient workforce and what is the situation in the post pandemic era?

Serious... Very serious. We are facing serious delay due to the shortage of workforce. The situation is getting better now.

5. Do you think the depreciation of currency (Ringgit Malaysia) and the growth of GDP in source countries have any impact on recruitment of foreign labour? (*Economy consideration? Currency fluctuation? GDP of the source country?*)

Yes, Malaysia becomes less attractive to country like Indonesia due to their GDP growth in the country. Currency fluctuation, economic situation, and international politics. For example, due to the poor economic situation of the country, Sri Lanka government requested Malaysian government to accept 1,000 workers from the country to work in Malaysia.

6. Do you think that the current recruitment procedure in accordance to government policies is efficient and able to solve the problem of labour shortage? Do you think the current government policies that imposed minimum pay of RM 1,500 and open more labour source countries could solve the problem in the long run?

No. Neither efficient nor effective. Yes, as I mentioned earlier.

7. What is your preference in recruiting foreign labour from the particular source countries? (Like Indonesia, Bangladesh, Pakistan, and Sri Lanka etc.) Why? Is it evaluated according to recruitment costs or productivity?

Indonesia is more expensive but more skillful and easy to communicate.

8. What do you think of the role of female foreign workers in the construction industry? What type of construction work that involve female worker? And what is their contribution to the sector?

Yes, they could be assigned to do not so physical or intensive

9. What do you think if government register the existing refugees in Malaysia and offer them working permit especially in construction industry? (At present, there is no government agency, except United Nation High Commission for Refugees (UNHCR), to issue refugee's card and they are not allow to work in Malaysia)

Yes, this is a good suggestion. But you need to check the law whether refugee allow to work at residing country. To implement this, you need high level approval. They should be allowed to earn their bread and butter while waiting to be accepted in third country.

APPENDIX 7

Respondent G QUESTIONNAIRE

The questionnaire is intended to collect the views, suggestions, and feedback from the entrepreneurs and higher management persons who involve in the Malaysian construction industry. The questionnaire divides into 3 main sections, the opening, the central, and the closing questions. The opening questions are intended to do a basic coding for the respondents, the central questions are the main data that would be able to contribute to the research, and the closing questions are intended to obtain extra information and feedback from the respondents.

PART ONE

1. What is the background of your company?

- (c) Public Listed company (b) Private company

2. What is the nature of business of your company?

- (d) Infrastructure & building contractor (b) Property Developer
(e) Consultant (d) Sub-sectors

Note: *Consultant is architect, engineer, planner etc*

Sub sector is Renovation, building maintenance, communication tower builder etc.

3. What is your position in the company?

- (d) Top management (CEO, Managing Director, Executive Director, general manager etc.)
(e) Project Management (Project manager, supervisor, consultant etc.)
(f) Entrepreneur (Owner of business, sub-sector)

4. What are your years of experience in the sector related to the Malaysian Construction Industry (MCI)?

- (f) Less than 5 years
(g) 5 – 10 years
(h) Above 10 years

5. What is your total current contract in value?

- (i) Less than RM 10 million
(j) RM 10 million – RM 50 million
(k) RM 50 million – RM 100 million
(l) Above RM 100 million

6. How many construction workers that your company engaged in the current project (direct employment)?

500

7.How many construction labour that your company engaged in the current project through “sub-contractor system”?

3,500

8.Do you think the increment of minimum wages to RM 1,500 per month could attract the local workforce in construction industry?

No, impossible. It is far too low. Even foreign worker also not interested in such amount. I am willing to pay RM 4,000 per month if the job done is perfect and no need to rework or having any defect.

9.What is your opinion and suggestion that the construction industry could attract more local workforce especially the semi-skilled, unskilled labour to get involved in the sector?

You can only attract locals with high pay, good reward, and better prospects. Of course, we need to change their mindset too.

10.Do you think the present government policy on recruiting foreign workers that lead by Ministry of Homan Affairs in One Stop Center (OSC) instead of the Ministry of Human Resources could effectively solve the labour shortage problem? If not, why?

The concept is good, but too many red tapes and corruption. I don't care about which ministry is in charged, we need to see the end result. They both failed in deliver their job.

PART TWO

(ii) INTERNAL FACTORS:

1.What is the main reason that our Malaysian not interested in construction work?

Other than the project management team, Malaysian not interested to work as a construction labour. Those with skills would rather become a small time renovation contractor which earns a lot more money. And they enjoy the status as a “boss” or businessman.

2.In your opinion, what is the main cause of labour shortage that is being faced by construction industry? What is the percentage of foreign labour against local Malaysian employed by your company?

The main cause was mentioned just now, low income, no reward, and no future for the locals. The other reason for foreign workers is because our construction industry been disrupted by Covid-19, most of the foreign worker had returned to their home country. 85% vs 15% locals.

3. Is the problem of shortage of labour affects your contract delivery and to what extent it affects your company performance?

Yes, most of the work site cannot function. We are worry about the cash flow and how to sustain the huge workforce.

4. What is in your opinion that the best short-term and long-term measures to solve the shortage of labours in construction industry?

The government needs to set up a committee to look into the problem thoroughly. The labour shortage problem is not only affected the construction industry but across the board, every sectors.

You can't settle the problem by private initiates. Unlike other sectors, construction industry is a labour intensive sector that can't shift to robotic or automation system, it involves huge costs.

5. How do you determine the number of required workforce in a construction project and the system like direct employment, sub-contract system, sub-sectors, and employment through subsidiary companies used by your company?

The size of the contract and value of the project determine the approaches on whether to divide it into different packages under specific vehicle or subsidiary or sub-contract out.

6. Did your company diversify into sub-sectors to reduce the burden of costs or for the purpose of better management?

No. I would rather sub-contract out my project so as I do not need to bear a lot of overheads or Operation Expenditure (OPEX).

Note: *Property developer handles its project by diversified into a construction company, where the main contractor handles its project by division of tasks, and division of trades in order to avoid direct engagement in labour or human resources management.*

7. Do you provide industrial building and construction training for your construction labour? If yes, what kind of training?

No.

8. Does your company provide or arrange training programs under the CIDB, HRDF or other agencies? Whether the program could ease the dependency of foreign labour or enhance their skills? If not, why?

No. The sub-contractor will do it.

9. What type of technology that your company using to improve the organizational performance? Industrial Building System (IBS) or digitalization programs under Industrial 4.0 (I4.0)?

We are using IBS system to expedite the work. We use off site pre-fabricated method and self designed panels to replace the conventional formwork or metal formwork. We not only using IBS to reduce the intensity of labour, but also modified and designed to add speed to the task. For example, a screw to a metal panel is replaced by a clip so that the trouble to screw and unscrew is replaced with single action. We just need to put the panel in place and clip it before pouring concrete.

Note: *Industrial Building System is pre-casting, prefabrication building system, and latest building technology etc. Industrial 4.0 is digitalization of building or infrastructure project management and building technology.*

PART THREE

(ii) EXTERNAL FACTORS:

1. Would you consider employing illegal foreign labour (without proper permit/documentation) to work at your construction project?

No. We do not take such a risk.

2. Would you consider the legal implication if you were employing illegal foreign labour and whether the legal consideration refrain your decision to recruit illegal foreign labour?

When the workforce is big, not only the fine is very big amount, the stop work order or time to recruit new labour will disrupt the targeted completion date. It will incur a huge loss to the company.

3. Do you agree with the statement that our construction industry once heavily depends on Indonesia as a source country, but now the role had been taken over by other countries? Why and what contributed to this situation?

Yes. I still preferred Indonesian workers, they may be more expensive in term of wages, but their workmanship is better. I don't mind to pay more to get the right people for the right job. The situation has changed because they are not coming to Malaysia due to weak RM and having better alternative in their own country.

4. Did the Covid-19 cause your company difficulty recruiting sufficient workforce and what is the situation in the post pandemic era?

Yes, but we had gone through the worst period. The situation is better and improving now.

5. Do you think the depreciation of currency (Ringgit Malaysia) and the growth of GDP in source countries have any impact on recruitment of foreign labour? (*Economy consideration? Currency fluctuation? GDP of the source country?*)

Of course, foreign workers are willing to go overseas leaving their family because of money. They are seeking better working compensation in other country.

6. Do you think that the current recruitment procedure in accordance to government policies is efficient and able to solve the problem of labour shortage? Do you think the current government policies that imposed minimum pay of RM 1,500 and open more labour source countries could solve the problem in the long run?

The government policies are not efficient because they keep changing the rules and regulation to recruit foreign workers. The construction industry stakeholders find difficult to meet the ever-changing requirements.

7. What is your preference in recruiting foreign labour from the particular source countries? (Like Indonesia, Bangladesh, Pakistan, and Sri Lanka etc.) Why? Is it evaluated according to recruitment costs or productivity?

As I said earlier, I would prefer Indonesian, but I can't choose now, we take whatever is available. We need workforce to carry on with our project. When we have sufficient workforce then only we could talk about efficiency and productivity.

8. What do you think of the role of female foreign workers in the construction industry? What type of construction work that involve female worker? And what is their contribution to the sector?

The female workers' role had been neglected for a long time. We should recruit more female labour to do tilling, plastering, M&E and etc. Then we could recruit more people.

9. What do you think if government register the existing refugees in Malaysia and offer them working permit especially in construction industry? (At present, there is no government agency, except United Nation High Commission for Refugees (UNHCR), to issue refugee's card and they are not allow to work in Malaysia)

The idea is good if we have a good governance system. What I am worry is, if we create an agency, government agency to register the refugees, and provide them with jobs, our country will attract more refugees to come here. I am worry; worry that there will be a domino effect, which may attract an influx of refugee.

This is a serious issue that needs a lot of engagement and brainstorming. Even we do it in a humanitarian ground; it also cannot solve the problem of shortage in manpower for a long term. We haven't reached the stage of emergency yet. We still do not need their involvement.

Transcript based on 2 interviews and written points: 6 February, 2023, 10 am to 11:30 am and, 3 March 2023, 10.00am- 12 pm
at Seringin Residences, KL.

APPENDIX 8

Respondent H QUESTIONNAIRE

The questionnaire is intended to collect the views, suggestions, and feedback from the entrepreneurs and higher management persons who involve in the Malaysian construction industry. The questionnaire divides into 3 main sections, the opening, the central, and the closing questions. The opening questions are intended to do a basic coding for the respondents, the central questions are the main data that would be able to contribute to the research, and the closing questions are intended to obtain extra information and feedback from the respondents.

PART ONE

1. What is the background of your company?

- (a) Public Listed company (b) Private company

2. What is the nature of business of your company?

- (h) Infrastructure & building contractor (b) Property Developer
(i) Consultant (d) Sub-sectors

Note: *Consultant is architect, engineer, planner etc*

Sub sector is Renovation, building maintenance, communication tower builder etc.

3. What is your position in the company?

- (a) Top management (CEO, Managing Director, Executive Director, general manager etc.)
(b) Project Management (Project manager, supervisor, consultant etc.)
(c) Entrepreneur (Owner of business, sub-sector)

4. What are your years of experience in the sector related to the Malaysian Construction Industry (MCI)?

- (b) Less than 5 years
(c) 5 – 10 years
(d) Above 10 years

5. What is your total current contract in value?

- (m) Less than RM 10 million
(n) RM 10 million – RM 50 million
(o) RM 50 million – RM 100 million
(p) Above RM 100 million

6. How many construction workers that your company engaged in the current project (direct employment)?

I am currently having about 30 workers under my direct employment.
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7.How many construction labour that your company engaged in the current project through “sub-contractor system”?

I am currently engaging about 250 workers through the “sub-contractor” system.

8.Do you think the increment of minimum wages to RM 1,500 per month could attract the local workforce in construction industry?

No. It is too low for the local Malaysian, RM 1,500 is only for the foreign workers.

9.What is your opinion and suggestion that the construction industry could attract more local workforce especially the semi-skilled, unskilled labour to get involved in the sector?

In order to attract the local workforce, the industry must provide higher pay, yearly bonus, especially monetary rewards. Company also has to provide more benefits, team building activities, and taking care of their welfare. We normally host annual dinner with lucky draws.

10.Do you think the present government policy on recruiting foreign workers that lead by Ministry of Homan Affairs in One Stop Center (OSC) instead of the Ministry of Human Resources could effectively solve the labour shortage problem? If not, why?

The approving authority shifted to Ministry of Home Affairs is more effective. It cut of a lot of time consuming red-tapes.

PART TWO

(i)INTERNAL FACTORS:

1.What is the main reason that our Malaysian not interested in construction work?

Malaysian not interested in construction work because of low salary income. Only income, the main factor.

2. In your opinion, what is the main cause of labour shortage that is being faced by construction industry? What is the percentage of foreign labour against local Malaysian employed by your company?

A lot of fellow Malaysian had gone overseas to work as foreign worker there, they either work in construction, agriculture, or servicing lines. Our proportion of labour is 90% foreigner, 10% local. Most of the local are involve in project management or supervising tasks.

3. Is the problem of shortage of labour affects your contract delivery and to what extent it affects your company performance?

Yes, it will jeopardize and prolong the duration of project and affect the completion date. It not only increases costs but also LAD losses.

4. What is in your opinion that the best short-term and long-term measures to solve the shortage of labours in construction industry?

Lesser red tape, lower the charges and omit the third party agent's role in the foreign workers' application procedure. In the long run, construction company needs to improve the pay and working conditions so as to attract the local Malaysian to join the industry.

5. How do you determine the number of required workforce in a construction project and the system like direct employment, sub-contract system, sub-sectors, and employment through subsidiary companies used by your company?

The number of labour is determined by the contract sum. We will normally sub our works to contractors in different trades according to the job scope. We can't maintain a big pool of labour because workers are needed according to their trade in different stages. We normally maintain a group of general worker to handle general tasks.

6. Did your company diversify into sub-sectors to reduce the burden of costs or for the purpose of better management?

My company diversified into sub-sector through a formation of subsidiary company according to job scope so as we could control the costs and it could engage other job while waiting for their job task. Plasterers and painters only perform their task after other job had been carried out.

Note: *Property developer handles its project by diversified into a construction company, where the main contractor handles its project by division of tasks, and division of trades in order to avoid direct engagement in labour or human resources management.*

7. Do you provide industrial building and construction training for your construction labour? If yes, what kind of training?

Yes, on job training.

8. Does your company provide or arrange training programs under the CIDB, HRDF or other agencies? Whether the program could ease the dependency of foreign labour or enhance their skills? If not, why?

We will send the supervisor for safety seminar to upgrade their workplace safety knowledge. We also sent our workers to CIDB workshop as required by the law.

9. What type of technology that your company using to improve the organizational performance? Industrial Building System (IBS) or digitalization programs under Industrial 4.0 (I4.0)?

We are using the conventional system now. We would only improve when they is a necessity in order to save costs. No. We don't use IBS method. It is costly.

Note: *Industrial Building System is pre-casting, prefabrication building system, and latest building technology etc. Industrial 4.0 is digitalization of building or infrastructure project management and building technology.*

PART THREE

(ii) EXTERNAL FACTORS:

1. Would you consider employing illegal foreign labour (without proper permit/documentation) to work at your construction project?

Due to the need of the project, we normally employed first, apply later. We will consider in accordance to the need of the job, duration and completion of our project.

2. Would you consider the legal implication if you were employing illegal foreign labour and whether the legal consideration refrain your decision to recruit illegal foreign labour?

We understand the legal consequences, but it is slow to get approval if we follow the government procedures, levy, insurance, health screening take time. We can't afford to wait and lose our contract.

3. Do you agree with the statement that our construction industry once heavily depends on Indonesia as a source country, but now the role had been taken over by other countries? Why and what contributed to this situation?

Most of the Indonesian had become sub-contractor with their knowledge and experience now. Most of them are skilled and semi-skilled labour in comparison with others foreign workers. The Indonesian workers now prefer to work at home country due to their market environment with strong GDP growth.

4. Did the Covid-19 cause your company difficulty recruiting sufficient workforce and what is the situation in the post pandemic era?

Yes, we face difficulty to recruit sufficient workforce after the Covid-19 pandemic. We lay off our workers during the pandemic due to movement control order (MCO) because we can't proceed with work regularly. A lot of them went back to home country when the market opened in 2022.

5. Do you think the depreciation of currency (Ringgit Malaysia) and the growth of GDP in source countries have any impact on recruitment of foreign labour? (*Economy consideration? Currency fluctuation? GDP of the source country?*)

Yes. I agreed.

6. Do you think that the current recruitment procedure in accordance to government policies is efficient and able to solve the problem of labour shortage? Do you think the current government policies that imposed minimum pay of RM 1,500 and open more labour source countries could solve the problem in the long run?

Not effective at all. The recruitment charges too high, a construction company need to spend hundred over thousand just to get the approval of foreign workers. The recruitment through legal channel is challenging, the foreign worker may turn "illegal" working for others construction companies. The minimum pay is not attractive. Depending on foreign workers will never able to solve the problem in long run.

7. What is your preference in recruiting foreign labour from the particular source countries? (Like Indonesia, Bangladesh, Pakistan, and Sri Lanka etc.) Why? Is it evaluated according to recruitment costs or productivity?

Indonesian can communicate in Malay. Indonesian only doing their skilled jobs like carpenter, steel works, and plasterer. Other foreign labour is cheaper but without skill. Recruitment cost for Indonesian worker is higher.

8. What do you think of the role of female foreign workers in the construction industry? What type of construction work that involve female worker? And what is their contribution to the sector?

Yes, they can work in canteen, or less physical required job like general worker, plasterer or tiler.

9. What do you think if government register the existing refugees in Malaysia and offer them working permit especially in construction industry? (At present, there is no government agency, except United Nation High Commission for Refugees (UNHCR), the UN Refugee Agency to issue refugee's card and they are not allow to work in Malaysia)

If I were the government, I will do a thorough survey on the refugees. They should be given jobs, earn enough to live in our country. I believe, by doing this, we could reduce the burden of social cost. They had been left unattended, work as petty trader, doing illegal activities that may cause social unrest. We must consider the fact that they need to feed the family. We could not allow them become a idling human resources which also may bring harm to our society. We must provide the job opportunity to them before they are accepted in third country.

Transcript based on recording and written points: 13 February 2023, 4:15 pm-5pm.

APPENDIX 9

Respondent I QUESTIONNAIRE

The questionnaire is intended to collect the views, suggestions, and feedback from the entrepreneurs and higher management persons who involve in the Malaysian construction industry. The questionnaire divides into 3 main sections, the opening, the central, and the closing questions. The opening questions are intended to do a basic coding for the respondents, the central questions are the main data that would be able to contribute to the research, and the closing questions are intended to obtain extra information and feedback from the respondents.

PART ONE

1. What is the background of your company?

- (d) Public Listed company (b) Private company

2. What is the nature of business of your company?

- (j) Infrastructure & building contractor (b) Property Developer
(c) Consultant (d) Sub-sectors

Note: *Consultant is architect, engineer, planner etc*

Sub sector is Renovation, building maintenance, communication tower builder etc.

3. What is your position in the company?

- (d) Top management (CEO, Managing Director, Executive Director, general manager etc.)
(e) Project Management (Project manager, supervisor, consultant etc.)
(f) Entrepreneur (Owner of business, sub-sector)

4. What are your years of experience in the sector related to the Malaysian Construction Industry (MCI)?

- (e) Less than 5 years
(f) 5 – 10 years
(g) Above 10 years

5. What is your total current contract in value?

- (q) Less than RM 10 million
(r) RM 10 million – RM 50 million
(s) RM 50 million – RM 100 million
(t) Above RM 100 million

6. How many construction workers that your company engaged in the current project (direct employment)?

30 pax.

7.How many construction labour that your company engaged in the current project through “sub-contractor system”?

200 pax.

8.Do you think the increment of minimum wages to RM 1,500 per month could attract the local workforce in construction industry?

No way. To attract local involvement in the construction industry, we need to offer at least RM 200 per day salary for them.

9.What is your opinion and suggestion that the construction industry could attract more local workforce especially the semi-skilled, unskilled labour to get involved in the sector?

White-collar work not short of people. For blue-collar worker only there is a shortage. If we want to attract local workforce, first, we need to provide better income, better working environment, no extra overtime work, six days' week. 9am to 5 pm kind of work, not working on Sunday, and rest on public holidays. For example in Hong Kong, there are no foreign construction worker in the sector. The Hongkie installer is getting HK Dollar per day as their wages.

10.Do you think the present government policy on recruiting foreign workers that lead by Ministry of Homan Affairs in One Stop Center (OSC) instead of the Ministry of Human Resources could effectively solve the labour shortage problem? If not, why?

I think so. Ministry of Home Affairs should only involve in issuing work permit, safety screening and domestic security. They do not know the actual situation. Whereas the Ministry of Human Resources understand the real situation facing by the industry, it will be more effective to solve the problem.

PART TWO

(D)INTERNAL FACTORS:

1.What is the main reason that our Malaysian not interested in construction work?

Low wages and harsh working environment. 3 Ds kind of job which is branded dirty, difficult and dangerous.

2. In your opinion, what is the main cause of labour shortage that is being faced by construction industry? What is the percentage of foreign labour against local Malaysian employed by your company?

Construction sector is a non-attractive sector. As I said earlier, low wages and working in a harsh environment is the main reason. Others could earn equivalent income in other sectors. I would say about 95% dominance by foreign workers.

3. Is the problem of shortage of labour affects your contract delivery and to what extent it affects your company performance?

Yes, we need to complete our job according to the stipulated date stated in the contract. By hook or by crook, we need to complete the task. If we do not have enough of labour, costs incurred when we need to pay overtimes and facing the risk of Liquidated Ascertained Damages (LAD).

4. What is in your opinion that the best short-term and long-term measures to solve the shortage of labours in construction industry?

You have to bring in foreign worker as manpower in immediate short-term. As for long-term, you cannot rely forever on foreign workers. The construction industry needs to provide trainings and courses to match the skill and income of white-collar and blue-collar workers.

5. How do you determine the number of required workforce in a construction project and the system like direct employment, sub-contract system, sub-sectors, and employment through subsidiary companies used by your company?

Yes and no. It depends on the contract sum, quantity and quality of work. Higher value work may require more skilled workers. Less workers involve in the job; Certain work is not labour intensive but skills intensive.

6. Did your company diversify into sub-sectors to reduce the burden of costs or for the purpose of better management?

Normally we sub-contract out the labour intensive portion of work. The reduction in costs might not be able to compensate the lost of skilled, semi-skilled workers.

Note: *Property developer handles its project by diversified into a construction company, where the main contractor handles its project by division of tasks, and division of trades in order to avoid direct engagement in labour or human resources management.*

7. Do you provide industrial building and construction training for your construction labour? If yes, what kind of training?

No. We only train our staff through internship.

8. Does your company provide or arrange training programs under the CIDB, HRDF or other agencies? Whether the program could ease the dependency of foreign labour or enhance their skills? If not, why?

No. Foreign workers only required to attend safety course as a requirement of CIDB and government when comes to the time of renewal working permit.

9. What type of technology that your company using to improve the organizational performance? Industrial Building System (IBS) or digitalization programs under Industrial 4.0 (I4.0)?

None. Costs saving, no requirement, and probably no right people.

Note: *Industrial Building System is pre-casting, prefabrication building system, and latest building technology etc. Industrial 4.0 is digitalization of building or infrastructure project management and building technology.*

PART THREE

(ii)EXTERNAL FACTORS:

1. Would you consider employing illegal foreign labour (without proper permit/documentation) to work at your construction project?

No, our sub-contractor employs some illegal workers.

2. Would you consider the legal implication if you were employing illegal foreign labour and whether the legal consideration refrain your decision to recruit illegal foreign labour?

Yes. We do not employ illegal worker because all big projects require proper documentation, CIDB training, insurance, work permit. Foreign worker cannot enter job site without working permit.

3. Do you agree with the statement that our construction industry once heavily depends on Indonesia as a source country, but now the role had been taken over by other countries? Why and what contributed to this situation?

Most of the Indonesian workers had gone back. They won't come to Malaysia if there were other choices. Malaysian weak currency performance had drawn them away from coming to Malaysia. At the moment, Bangladeshi is available, cheaper, and easier to recruit.

4. Did the Covid-19 cause your company difficulty recruiting sufficient workforce and what is the situation in the post pandemic era?

Our project mostly mega projects dealing with government initiatives, once the market is opened, we do not have enough workers due to this short-term booming.

5. Do you think the depreciation of currency (Ringgit Malaysia) and the growth of GDP in source countries have any impact on recruitment of foreign labour? (*Economy consideration? Currency fluctuation? GDP of the source country?*)

Yes, as I mentioned earlier, the foreign worker have other alternative to choose their designated country to work in.

6. Do you think that the current recruitment procedure in accordance to government policies is efficient and able to solve the problem of labour shortage? Do you think the current government policies that imposed minimum pay of RM 1,500 and open more labour source countries could solve the problem in the long run?

No. In construction industry, everybody is getting more than the so-called minimum pay. It can't solve the problem in the long run.

7. What is your preference in recruiting foreign labour from the particular source countries? (Like Indonesia, Bangladesh, Pakistan, and Sri Lanka etc.) Why? Is it evaluated according to recruitment costs or productivity?

We look at experience, productivity, and whether they are willing to work hard. We prefer Indonesian and Bangladeshi.

8. What do you think of the role of female foreign workers in the construction industry? What type of construction work that involve female worker? And what is their contribution to the sector?

They can do non-physical or labour intensive work like plastering, tiling, painting, plumbing and M&E but training required.

9. What do you think if government register the existing refugees in Malaysia and offer them working permit especially in construction industry? (At present, there is no government agency, except United Nation High Commission for Refugees (UNHCR), the UN Refugee Agency to issue refugee's card and they are not allow to work in Malaysia)

Yes, no issue. This is a good suggestion. I support the idea regardless they are legally nor illegally entered to Malaysia. This is good on humanitarian ground. They can earn their living, learn some skills.

7. How many construction labour that your company engaged in the current project through “sub-contractor system”?

More than 50. 12 to 14 sub-contractors.

8. Do you think the increment of minimum wages to RM 1,500 per month could attract the local workforce in construction industry?

Answer: I am very sure that a contractor will not able to get a general labour with that kind of wages. RM 1,500 per month? Foreign worker may be possible, but not our local.

9. What is your opinion and suggestion that the construction industry could attract more local workforce especially the semi-skilled, unskilled labour to get involved in the sector?

Answer: Higher wages and better working environment.

10. Do you think the present government policy on recruiting foreign workers that lead by Ministry of Homan Affairs in One Stop Center (OSC) instead of the Ministry of Human Resources could effectively solve the labour shortage problem? If not, why?

Answer: No, the recruitment policies are not consistent, it not only too troublesome, time consuming, it also incur a lot of unnecessary costs. To solve the problem, government agencies should reduce all the unnecessary red tapes, cut of the third parties agent, transparent, and fast approval.

PART TWO

(D)INTERNAL FACTORS:

1. What is the main reason that our Malaysian not interested in construction work?

Answer: Low wages, poor perception of the society.

2. In your opinion, what is the main cause of labour shortage that is being faced by construction industry? What is the percentage of foreign labour against local Malaysian employed by your company?

Answer: Of course, it started with low income kind of job that required to work under a very dirty, dangerous and harsh condition at the workplace. I engage about 95% of foreign workers.

3. Is the problem of shortage of labour affects your contract delivery and to what extent it affects your company performance?

Answer: Delays in project, complaint from the employers and owners, penalties, and to an extent that lost a contract.

4. What is in your opinion that the best short-term and long measures to solve the shortage of labours in construction industry?

Answer: Short term measure is to recruit who ever available in the market, but need to take risk of going against the rules and regulations.

5.How do you determine the number of required workforce in a construction project and the system like direct employment, sub-contract system, sub-sectors, and employment through subsidiary companies used by your company?

Answer: In every project, there are more than 12 to 14 sub-contractors from different trades.

6.Did your company diversify into sub-sectors to reduce the burden of costs or for the purpose of better management?

Answer: Not at the moment.

Note: *Property developer handles its project by diversified into construction company, where the main contractor handles its project by division of tasks, and division of trades in order to avoid direct engagement in labour or human resources management.*

7.Do you provide industrial building and construction training for your construction labour? If yes, what kind of training?

Answer: I tried. I wonder why others can do better, but my workers need to do double work. I tried to provide on-job training to avoid wastage and double work.

8.Does your company provide or arrange training programs under the CIDB, HRDF or other agencies? Whether the program could ease the dependency of foreign labour or enhance their skills? If not, why?

Answer: No. The workers direct engaged are mostly illegal with skill. Most of other jobs is awarded to sub-contractors.

9.What type of technology that your company using to improve the organizational performance? Industrial Building System (IBS) or digitalization programs under Industrial 4.0 (I4.0)?

Answer: No, it is normally used by big project.

Note: *Industrial Building System is pre-casting, prefabrication building system, and latest building technology etc.*

Industrial 4.0 is digitalization of building or infrastructure project management and building technology.

PART THREE

(II)EXTERNAL FACTORS

1.Would you consider employing illegal foreign labour (without proper permit/documentation) to work at your construction project?

Answer: We have no choice, but forced to employ illegal workers.

2.Would you consider the legal implication if you were employing illegal foreign labour and whether the legal consideration refrain your decision to recruit illegal foreign labour?

Answer: Very careful, in case of workplace injury. Industry hazard, responsibility is huge.

3. Do you agree with the statement that our construction industry once heavily depends on Indonesia as a source country, but now the role had been taken over by other countries? Why and what contributed to this situation?

Answer: Not really. Big scale project no choice but needs to use Bangladeshi. I use labours from India, mostly Punjabi. Punjabi are more polite, hard working, responsible, and not much social problem. Indonesian workers are more skillful, not easy to control. Because of their skills, they prefer to involve themselves as sub-contractor.

4. Did the Covid-19 cause your company difficulty recruiting sufficient workforce and what is the situation in the post pandemic era?

Answer: I don't see any problem.

5. Do you think the depreciation of currency (Ringgit Malaysia) and the growth of GDP in source countries have any impact on recruitment of foreign labour? (*Economy consideration? Currency fluctuation? GDP of the source country?*)

Answer: This is not a problem but frequent disturbance from enforcement agencies. Indonesian had gone back to their home country due to safety issues.

6. Do you think that the current recruitment procedure in accordance to government policies is efficient and able to solve the problem of labour shortage? Do you think the current government policies that imposed minimum pay of RM 1,500 and open more labour source countries could solve the problem in the long run?

Answer: Ok. Red tapes, procedures and corruption are the problem faced by employers. RM 1,500 is not relevant in recruitment exercise. Local Malaysian nor foreign workers. Construction sector is paying more for their workers.

7. What is your preference in recruiting foreign labour from the particular source countries? (Like Indonesia, Bangladesh, Pakistan, and Sri Lanka etc.) Why? Is it evaluated according to recruitment costs or productivity?

Answer: As for my industry, I preferred Indonesian workers. They are very skillful in construction. Indonesian workers are very high in productivity. Recruitment cost is similar.

8. What do you think of the role of female foreign workers in the construction industry? What type of construction work that involve female worker? And what is their contribution to the sector?

Answer: Construction female workers are mostly Indonesian. They involve in concrete-mixing, painting, tilling, brickwork. Not carpentry.

9. What do you think if government register the existing refugees in Malaysia and offer them working permit especially in construction industry? (At present, there is no government agency, except United Nation High Commission for Refugees (UNHCR), the UN Refugee Agency to issue refugee's card and they are not allow to work in Malaysia)

Answer: I don't think so. A lot of them not register as refugee. A lot of them involve in business in our country. They are petty traders and illegal workers. There are countless of so-called refugees that didn't register with UNHR. As long as they do not create social unrest, the government lay low to face the issue. It is good to legalize them, provide them with job opportunities. They need to survive, to feed their family. They may involve in illegal activities for survival purpose.

Note:

According to UNCHR (2023), the number of refugees residing in Malaysia reached a peak in 2022 with 182,990 refugees and asylum-seekers registered with them in Malaysia. Some 158,160 are from Myanmar, 23,280 Chins, and 28,760 from other ethnic groups from conflict-affected areas or fleeing persecution in Myanmar. The remaining individuals are 24,820 from 50 countries. 66% of refugees and asylum-seekers are men, 34% are women, and 48,500 children below the age of 18.

This suggestion is made on a humanitarian ground so that refugees allowed to work and earning an income, providing training of construction skill while waiting to migrate to a third country. It also beneficial to Malaysia as a temporary transit country, as the idling manpower is able to turn into productive workforce, and it may also be able to solve the short-term problem of labour shortage.

APPENDIX 11

Respondent K QUESTIONNAIRE

The questionnaire is intended to collect the views, suggestions, and feedback from the entrepreneurs and higher management persons who involve in the Malaysian construction industry. The questionnaire divides into 3 main sections, the opening, the central, and the closing questions. The opening questions are intended to do a basic coding for the respondents, the central questions are the main data that would be able to contribute to the research, and the closing questions are intended to obtain extra information and feedback from the respondents.

PART ONE

1. What is the background of your company?

- (y) Public Listed company (b) Private company

2. What is the nature of business of your company?

- (l) Infrastructure & building contractor (b) Property Developer
(c) Consultant (d) Sub-sectors

Note: *Consultant is architect, engineer, planner etc*

Sub sector is Renovation, building maintenance, communication tower builder etc.

3. What is your position in the company?

- (j) Top management (CEO, Managing Director, Executive Director, general manager etc.)
(k) Project Management (Project manager, supervisor, consultant etc.)
(l) Entrepreneur (Owner of business, sub-sector)

4. What are your years of experience in the sector related to the Malaysian Construction Industry (MCI)?

- (k) Less than 5 years
(l) 5 – 10 years
(m) Above 10 years

5. What is your total current contract in value?

- (z) Less than RM 10 million
(aa) RM 10 million – RM 50 million
(bb) RM 50 million – RM 100 million
(cc) Above RM 100 million

6. How many construction workers that your company engaged in the current project (direct employment)? 20

7.How many construction labour that your company engaged in the current project through “sub-contractor system”? **250**

8.Do you think the increment of minimum wages to RM 1,500 per month could attract the local workforce in construction industry? **Yes**

9.What is your opinion and suggestion that the construction industry could attract more local workforce especially the semi-skilled, unskilled labour to get involved in the sector? **Higher salary and better benefits.**

10.Do you think the present government policy on recruiting foreign workers that lead by Ministry of Homan Affairs in One Stop Center (OSC) instead of the Ministry of Human Resources could effectively solve the labour shortage problem? If not, why? **Possible but need to see the effectiveness. As many red tapes hamper the recruitment process**

PART TWO

(I)INTERNAL FACTORS

1.What is the main reason that our Malaysian not interested in construction work? **First of all the salary structure, may other easier jobs available with same salary, so why go thru the trouble. Dirty, Difficult and Dangerous.**

2.In your opinion, what is the main cause of labour shortage that is being faced by construction industry? What is the percentage of foreign labour against local Malaysian employed by your company? **Main caused, many red tape, agents in between charging exorbitant amounts of money, ministry making it difficult to apply so Agents/middleman/runner end up mushrooming to fill the gap.(Direct: 90%local 10% foreign) (indirect-sub-con 80%foreign, 20% local)**

3.Is the problem of shortage of labour affects your contract delivery and to what extent it affects your company performance? **Due to labour shortage, we now have change business plan to do jobs that involve less labour, focus more on just supplying material for rent. This directly affect our total revenue.**

4.What is in your opinion that the best short-term and long measures to solve the shortage of labours in construction industry? **Immediately ease processes involved in application for foreign labour. Speedy approval on application.**

5.How do you determine the number of required workforce in a construction project and the system like direct employment, sub-contract system, sub-sectors, and employment through subsidiary companies used by your company? **In our industry, there is a common ratio used, 20% local Management, 80% foreign workers. It also depends on location of jobs, some oil 7 gas plants only allow locals to work, hence the structure changes here.**

6. Did your company diversify into sub-sectors to reduce the burden of costs or for the purpose of better management? **Yes, we converted our business to 2 sectors, 1- Mainly dry-hire of equipment 2- Labour supply. By doing this we now don't have the obligation of a supply and install contract.**

Note: *Property developer handles its project by diversified into construction company, where the main contractor handles its project by division of tasks, and division of trades in order to avoid direct engagement in labour or human resources management.*

7. Do you provide industrial building and training for your construction labour? If yes, what kind of training? **No**

8. Does your company provide or arrange training programs under the CIDB, HRDF or other agencies? Whether the program could ease the dependency of foreign labour or enhance their skills? If not, why? **Yes we do send our personal to CIDB/HRDF/DOSH approved trainings. These programs are important, but I don't see this easing foreign workers dependency.**

9. What type of technology that your company using to improve the organizational performance? Industrial Building System (IBS) or digitalization programs under Industrial 4.0 (I4.0)? We use both. **We have IBS system, and IR 4.0 digitization programs designed in-house (TAG-IT & ARMS). Both are scaffold management system and inventory and asset management system. Modular scaffolding systems.**

Note: *Industrial Building System is pre-casting, prefabrication building system, and latest building technology etc. Industrial 4.0 is digitalization of building or infrastructure project management and building technology.*

PART THREE

(II) EXTERNAL FACTORS

1. Would you consider employing illegal foreign labour (without proper permit/documentation) to work at your construction project? **No.**

2. Would you consider the legal implication if you were employing illegal foreign labour and whether the legal consideration refrain your decision to recruit illegal foreign labour? **Legal implications refrain us from employing illegal workers.**

3. Do you agree with the statement that our construction industry once heavily depends on Indonesia as a source country, but now the role had been taken over by other countries? Why and what contributed to this situation? **Yes. I would think, Indonesians have now better opportunities at home contribute to this.**

4. What in your opinion is that caused a shift in source countries to supply construction workers? **Difficulty on finding more skill workers. Shortage of skilled workers from Indonesia. Ease of getting approval from other source company.**

5. Did the Covid-19 cause your company difficulty recruiting sufficient workforce and what is the situation in the post pandemic era? **Yes COVID-19 impacted our recruitment process. We ended up sub-contracting many jobs due to the inability to get foreign workers.**

6. Do you think the depreciation of currency (Ringgit Malaysia) and the growth of GDP in source countries have any impact on recruitment of foreign labour? *(Economy consideration? Currency fluctuation? GDP of the source country?)* **Yes, for sure. This directly affect the take home pay of these foreign workers. The depreciation directly means lower take home salary for them.**

6. Do you think that the current recruitment procedure in accordance to government policies is efficient and able to solve the problem of labour shortage? Do you think the current government policies that imposed minimum pay of RM 1,500 and open more labour source countries could solve the problem in the long run? **No. I think the current minimum salary should be increased. Policies imposed should be easy not just seem to be easy. Removal of agents/runner etc will definitely make the application process easier.**

8. What do you think of the role of female foreign workers in the construction industry? What type of construction work that involve female worker? And what is their contribution to the sector? **Will be good to involve female. Jobs like Tiling works, Plastering works are job which are easily done by female workers.**

9. What do you think if government register the existing refugees in Malaysia and offer them working permit especially in construction industry? (At present, there is no government agency, except United Nation High Commission for Refugees (UNHCR), the UN Refugee Agency to issue refugee's card and they are not allow to work in Malaysia) **That will be a good idea but needs to be regulated and control well. Regardless we are seeing a huge UNHCR working illegally already.**

Note:

According to UNCHR (2023), the number of refugees residing in Malaysia reached a peak in 2022 with 182,990 refugees and asylum-seekers registered with them in Malaysia. Some 158,160 are from Myanmar, 23,280 Chins, and 28,760 from other ethnic groups from conflict-affected areas or fleeing persecution in Myanmar. The remaining individuals are 24,820 from 50 countries. 66% of refugees and asylum-seekers are men, 34% are women, and 48,500 children below the age of 18.

This suggestion is made on a humanitarian ground so that refugees allowed to work and earning an income, providing training of construction skill while waiting to migrate to a third country. It also beneficial to Malaysia as a temporary transit country, as the idling manpower is able to turn into productive workforce, and it may also be able to solve the short-term problem of labour shortage.

APPENDIX 12

Respondent L QUESTIONNAIRE

The questionnaire is intended to collect the views, suggestions, and feedback from the entrepreneurs and higher management persons who involve in the Malaysian construction industry. The questionnaire divides into 3 main sections, the opening, the central, and the closing questions. The opening questions are intended to do a basic coding for the respondents, the central questions are the main data that would be able to contribute to the research, and the closing questions are intended to obtain extra information and feedback from the respondents.

PART ONE

1. What is the background of your company?

- (a) Public Listed company (b) Private company

2. What is the nature of business of your company?

- (m) Infrastructure & building contractor (b) Property Developer
(c) Consultant (d) Sub-sectors

Note: *Consultant is architect, engineer, planner etc*

Sub sector is Renovation, building maintenance, communication tower builder etc.

3. What is your position in the company?

- (a) Top management (CEO, Managing Director, Executive Director, general manager etc.)
(b) Project Management (Project manager, supervisor, consultant etc.)
(c) Entrepreneur (Owner of business, sub-sector)

4. What are your years of experience in the sector related to the Malaysian Construction Industry (MCI)?

- (n) Less than 5 years
(o) 5 – 10 years
(p) Above 10 years

5. What is your total current contract in value?

- (dd) Less than RM 10 million
(ee) RM 10 million – RM 50 million
(ff) RM 50 million – RM 100 million
(gg) Above RM 100 million

6. How many construction workers that your company engaged in the current project (direct employment)?

I am currently having about 200 workers under my direct employment.

7.How many construction labour that your company engaged in the current project through “sub-contractor system”?

I am currently engaging about 100 workers through the sub-contractor.

8.Do you think the increment of minimum wages to RM 1,500 per month could attract the local workforce in construction industry?

No. Not attractive at all. The local not interested.

9.What is your opinion and suggestion that the construction industry could attract more local workforce especially the semi-skilled, unskilled labour to get involved in the sector?

To attract the local semi-skilled and unskilled labour, the minimum pay should be RM 150 per day, which make up to about RM 3,000 per month.

10.Do you think the present government policy on recruiting foreign workers that lead by Ministry of Homan Affairs in One Stop Center (OSC) instead of the Ministry of Human Resources could effectively solve the labour shortage problem? If not, why?

The change could not contribute to an effective management of foreign labour recruitment exercise. It is not effective. Ministry of Human Resources is the authority that having all the statistic and data. Ministry of Home Affairs do not have the data to play an effective role.

PART TWO

(I)INTERNAL FACTORS

1.What is the main reason that our Malaysian not interested in construction work?

Low wages and 3 Ds, Dirty, difficult and Dangerous.

2. In your opinion, what is the main cause of labour shortage that is being faced by construction industry? What is the percentage of foreign labour against local Malaysian employed by your company?

The main cause of labour shortage is low wages. No attractive enough. Malaysian might be able to accept dirty and difficult job if the pay is good and attractive. Our proportion is 80% foreigner, 20% local.

3. Is the problem of shortage of labour affects your contract delivery and to what extent it affects your company performance?

The problem of shortage of labour had caused the delay in completion of task. The costs escalated due to delay in time.

4. What is in your opinion that the best short-term and long-term measures to solve the shortage of labours in construction industry?

The best short-term strategy is to recruit more foreign workers, and the long-term measure is to improve the wages and working environment.

5. How do you determine the number of required workforce in a construction project and the system like direct employment, sub-contract system, sub-sectors, and employment through subsidiary companies used by your company?

The number of workers, especially the blue-collar workers is determined by the project value and build up size of the project.

6. Did your company diversify into sub-sectors to reduce the burden of costs or for the purpose of better management?

Yes. The contract will be handled by others and it is calculated on job done. Our company could reduce costs especially on overheads and project management.

Note: *Property developer handles its project by diversified into a construction company, where the main contractor handles its project by division of tasks, and division of trades in order to avoid direct engagement in labour or human resources management.*

7. Do you provide industrial building and construction training for your construction labour? If yes, what kind of training?

Yes. Must because they are unskilled when they are here for the first year. Normally it is to be train by a leader through apprenticeship.

8. Does your company provide or arrange training programs under the CIDB, HRDF or other agencies? Whether the program could ease the dependency of foreign labour or enhance their skills? If not, why?

CIDB provides only safety training for construction workers. HRDF is only for the management staff. It could not ease the dependency of foreign workers because the local are not interested.

9. What type of technology that your company using to improve the organizational performance? Industrial Building System (IBS) or digitalization programs under Industrial 4.0 (I4.0)?

The IBS. Normally the IBS used is pre-casting and off-site prefabricated method. I4.0 is too costly for a small scale company. It could speed up the work in a faster pace and result in earlier job done. I4.0 is still new and costly for Malaysian companies.

Note: *Industrial Building System is pre-casting, prefabrication building system, and latest building technology etc. Industrial 4.0 is digitalization of building or infrastructure project management and building technology.*

PART THREE

(II) EXTERNAL FACTORS

1. Would you consider employing illegal foreign labour (without proper permit/documentation) to work at your construction project?

No. It is troublesome to deal with authority every month end.

2. Would you consider the legal implication if you were employing illegal foreign labour and whether the legal consideration refrain your decision to recruit illegal foreign labour?

Yes, I do not want to face any legal consequences.

3. Do you agree with the statement that our construction industry once heavily depends on Indonesia as a source country, but now the role had been taken over by other countries? Why and what contributed to this situation?

Yes, because to employ Indonesian is more costly. Most of the Bangladeshi are willing to work for overtime and weekends. Indonesian had been here for a long time, and they are mostly skilled and semi-skilled labour after a long stay.

4. Did the Covid-19 cause your company difficulty recruiting sufficient workforce and what is the situation in the post pandemic era?

Yes, most of the foreign worker had returned to their home country after pandemic. The problem of getting sufficient workforce is very serious and challenging. A lot of foreign workers overstayed, not able to pay levy, they had been blacklisted automatically, from legal become illegal, "turn black". According to Foreign Workers Centralised Management System (FWCMS), once they left Malaysia, they cannot come back to work here.

5. Do you think the depreciation of currency (Ringgit Malaysia) and the growth of GDP in source countries have any impact on recruitment of foreign labour? (*Economy consideration? Currency fluctuation? GDP of the source country?*)

Yes, the depreciation of Malaysian Ringgit had made the country non-attractive to work in. For example, the Indonesian would rather work in their country due to economic booming over there.

6. Do you think that the current recruitment procedure in accordance to government policies is efficient and able to solve the problem of labour shortage? Do you think the current government policies that imposed minimum pay of RM 1,500 and open more labour source countries could solve the problem in the long run?

The current procedure is not sufficient or effective to solve the problem. The minimum pay being imposed upon the weak currency and condition laid down by source country. It is still low and unattractive. Open more labour source countries would only able to solve the short-term problem of labour shortage.

7. What is your preference in recruiting foreign labour from the particular source countries? (Like Indonesia, Bangladesh, Pakistan, and Sri Lanka etc.) Why? Is it evaluated according to recruitment costs or productivity?

I would prefer Bangladeshi, because they can work under harsh environment, hardworking and follow instruction. Indonesian workers are more skillful, but their agency fee is very expensive.

8. What do you think of the role of female foreign workers in the construction industry? What type of construction work that involve female worker? And what is their contribution to the sector?

Yes, they can play a role as a general worker and cleaning services at the site.

9. What do you think if government register the existing refugees in Malaysia and offer them working permit especially in construction industry? (At present, there is no government agency, except United Nation High Commission for Refugees (UNHCR), the UN Refugee Agency to issue refugee's card and they are not allow to work in Malaysia)

Yes, that will be a better controlled and managed. If not, they will cause social unrest. Most of the refugees are very lazy, especially the Rohingya.

Transcript based on recording and written points: 20 February 2023, 6 pm-6:30 pm.