A STUDY ON THE KEY SKILLED LABOUR SHORTAGE FOR THE SUSTAINABILITY OF THE CONSTRUCTION INDUSTRY IN SRI LANKA

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ASIA e UNIVERSITY

2024

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A Thesis Submitted to Asia e University in
Fulfilment of the Requirements for the
Doctor of Business Administration

April 2024

ABSTRACT

The construction industry, through effective management processors and sustainable development principles, can produce benefits across all economic, social, and environmental elements. Skilled workers, particularly for the construction industry, are considered a primary resource that can have a direct bearing on the success of construction projects. The intriguing, complex and schedule driven nature of the industry is often subject to varying levels of complications mostly emanating from labour related issues, invariably causing implications for performance, viability, and sustainability. Construction globally is considered as a vibrant manufacturing industry considerably contributing to national economies in addition to providing employment to vast numbers of people. From a Sri Lankan perspective the industry is considered a key segment contributing well over 7% to the nations GDP. After the end of three decades of hostility and limitations to economic growth and development, the last two decades has recorded significant progress particularly in the construction sector with vast numbers of foreign investors also showing a keen interest and providing ample competition to the local real estate developers. With the surge of the industry, the shortfalls of the "Labour force" has emerged as a serious detriment with simultaneous effects also highlighting limitation of "Skilled Labour" as a serious drawback to the local construction sector. This has resulted in the identification of a substantial array of contributory reasons and the importance of finding solutions to the problems to ensure the continuation and momentum of the construction industry. Therefore, the purpose of this review considering all factors, is objectively focused in studying from a broader aspect the shortage of skilled workers and underlines the seriousness of the problem of not being able to attract the youth, unemployed and career seekers to train, retain and importantly set in place proper secondary and formal education systems in line with Sri Lankan construction industry wants. Findings will make it possible for policy makers, industry professionals, practitioners, and future researchers to use this as a reliable foundation for further analysis and studies.

Keywords: Construction industry, labour shortage, skilled labour

APPROVAL

This is to certify that this thesis conforms to acceptable standards of scholarly presentation and is fully adequate, in quality and scope, for the fulfilment of the requirements for the Doctor of Business Administration.

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……
Dr Khairul Nizam Mahmud
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Chairman, Examination Committee
30 April 2024

DECLARATION

I hereby declare that the thesis submitted in fulfilment of the Doctor of Business Administration degree is my own work and that all contributions from any other persons or sources are properly and duly cited. I further declare that the material has not been submitted either in whole or in part, for a degree at this or any other university. In making this declaration, I understand and acknowledge any breaches in this declaration constitute academic misconduct, which may result in my expulsion from the program and/or exclusion from the award of the degree.

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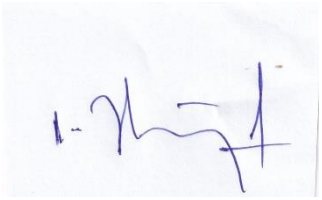

Signature of Candidate: **Date**: 30 April 2024

ACKNOWLEDGEMENTS

This research would not have been possible without the cooperation, assistance and understanding of many people. I am grateful for the positive and encouraging comments received particularly during my proposal defense from Prof. Dr. Juhary Ali, Dean at Asia e University and my academic supervisor, Associate Professor Dr Sentosa Ilham.

Whilst expressing my deepest gratitude to all the lecturers who guided and inspired me during the initial periods of the study, I write in particular to place on record my sincere thanks for the continued encouragement and motivation received commencing from the point of undertaking this doctoral study from the head of Cambridge College Colombo Sri Lanka, Dr. Lewie Zavio Diasz. If it wasn't for his continued encouragement, I would not have ventured nor would have completed this study. In addition, special mention must be made to lecturer, motivator, and my inspirator Mr. Mahen Muttiah for the patience and professionalism displayed to complete this study by being there to go through endless drafts of my work. I am also grateful to the research and development team at Vanguard survey for supporting my work and sharing their valuable knowledge. Sincere thanks also to Management and staff of the construction firms selected for the study and for their unending cooperation throughout.

A sincere and a grateful thanks in particular to my wife for her strength and encouragement on many of the despairing occasions, and for the support and inspiration of my two daughters, friends and fellow researchers for their help and motivation and everyone else who contributed for the successful completion of this thesis.

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LIST OF ABBREVIATION

ILO	International Labour Organization
AJE	American Journal of Engineering
DfEE	Department of Education and Employment
UKCES	UK Commission for Employment and Skills
AGC	Association General Corporation of USA
CIDA	Construction Industry Development Authority
CBSL	Central Bank of Sri Lanka
MSDVT	Ministry of Skills Development and Vocational Training
ACRA	Advanced Construction Training Academy
TVEC	Territory, Vocational and Education Commission
TVET	Territory, Vocational and Education and Training Commission.
IPS	Institute of Policy Studies
IBRD	International Business Research and Development
SLBFE	Sri Lanka Bureau of Foreign Employment
ICTAD	Institute of Construction Training and Development
SLDCS	State Development and Construction Corporation
DCS	Department of Census and Statistics
CEDEFOP	European Center for Development of Vocational Training

CHAPTER 1

INTRODUCTION

1.0 Background of the Study

The construction sector is a significant driver of economic development and is known to be one of the most rapidly evolving industries in the world. It is dependent on technology and people, though continuously struggling with significant workforce challenges (Greene & Whyte, 2009). However, reliance and dependence are more about people. It is a given fact that most workers lack the basic skills required by the industry (Attanayake, 2012). Skilled employee shortages occur when employers cannot shortlist workers with the required skill set in the accessible labour market, and skill surpluses occur when the supply of necessary skills is higher than the demand (Brunello & Wruuk, 2019). Various studies have revealed the industry to be plagued with a multitude of issues and challenges (Liston & Pongpeng, 2003).

The extensive studies of construction projects clearly establish the varying degrees of factors to be the primary causes for project failure (Nzekwe et al., 2015). These can be attributed primarily to contractors and workers lacking key skills, including dishonourable conduct (Chang, 2013). Most of these factors are easily identifiable, enabling to list them in order of importance affecting project failure among many other reasons, such as owner discontent, monetary losses, time overrun, health, safety and effects on the environment, poor work quality, and ensuing defects (Gomrang & Pongpeng, 2022).

Though the industry is heavily reliant upon the skills of labourers, it is incomprehensible to understand that there has been hardly any attempt to identify the performance of workers or measure the same either quantitatively or qualitatively in

the construction industry of Sri Lanka (Fernando & Gunarathne, 2016). This has resulted in a lack of standardization for hiring workers and establishing a mechanism to know the level of their capabilities, the absence of which has caused serious challenges and complications to the industry (Chan, Chiangn, & Wong, 2006). Skilled labour is a key element in the development and progress of construction projects, and their efficiency is a critical quality of productivity that needs specific attention for effective project execution (Hussain & Xuetong, 2020). The importance the industry should place to recognize this fact must be in an unformed way for the continuity and sustainability of the industry (Green, Machin, & Wilkinson, 1998).

Among various vocation shortfalls affecting the construction industry globally (Pribadi, Soekiman, Soemardi, & Wirahadikusumah, 2007) the shortfall of key skilled labour from a Sri Lankan context is the serious undersupply of skilled masons, carpenters, electricians, plumbers, and painters, causing grave concerns to the industry (Fernando & Gunarathne, 2016). Therein, this study is limited to skilled labourers who are currently working as masons, carpenters, electricians, plumbers, and painters in building construction projects located in the western province of the country. And to objectively come up with a framework to understand reasons why the industry is finding it difficult to increase the number of skilled workers, retain and what needs to be done to improve their availability. The study also entails, importantly, understanding and exploring why the youth are not interested in pursuing careers in the construction sector.

A serious concern remains considering the conceivable fact, that only limited studies and published research are available to explore and address the skilled labour shortages affecting the construction industry (Utting, 2010). Most research is limited

to tenuous factors and is devoid of a broader understanding of the actual problems related to the skill shortage affecting the construction industry, (Silva, 2018). This situation has further contributed to the increase in key skill shortages, causing significant concerns to the industry even on a global scale (Beechler & Woodward, 2009; Deloitte et al., 2009).

The published studies in most instances only focus on general and casual issues such as remuneration, health and safety (Silva, 2018), largely contributing to the gaps in the findings. The absence of clear information and findings to highlight the actual reasons for the key skill shortage has resulted in no definite and plausible corrective action being initiated in Sri Lanka or other affected countries (Agalawatta, 2018). Notable gaps and the absence of actual causes directly associated with the skill shortages of workers affecting the industry remain unsolved, which are specifically addressed in this study, including the measures for mitigating the absence and shortage of key skills and finding plausible answers.

In considering the mentioned details, the objective of the findings will be to introduce suitable methodology to find plausible reasons for the mentioned research areas that will enable the Sri Lanka construction industry to mitigate the key skilled labour shortage issue.

1.1 Problem Statement

The construction industry in Sri Lanka is seriously faced with a human capital shortage which has grown beyond from a mere management issue to a national problem (Fernando et al., 2016). Though the issue has become the central focus more than ever at every industry forum, it's evident the lack of ability to clearly understand and conceptually analyze the skill shortage factor from a local industry context

(Basnayake & Premathilaka, 2015). The quality of the workforce being a crucial determinant of organizational success, the advantages skilled workers bring are unprecedented given the nature of the industry which is predominantly reliant on and accepted as a labor-intensive industry (De Silva et al., 2008).

The resurgence of the economic conditions and the ensuing improvements is anticipated to bring about changes and increased opportunities for the industry and accordingly higher levels of challenges. The most demanding of them all being the scarcity of a knowledgeable, skilled, and professional workforce (Silva et al., 2018). One of the key issues identified has been the lack of acceptance of skills provided by workers and the demand for skills in the ever-changing and modernizing construction sector (ILO, 2015). The causes of this mismatch have affected in many ways including unavailability of information on standard labour trends and skills required, the standard skill level being way below, the inadequacy of meeting industry demands and the qualifications, and, in many cases, glaringly being unable to match recognized standards (Wright et al., 2001). Although many studies in the past critically identified the shortage of skilled labour in the construction industry and its impact and effects both locally and internationally, there have been far, and few detailed studies done to analyze and come up with plausible mitigating counteractions (Jayawardane & Gunawardane, 1998). In addition, in most instances, the research has revolved mainly around gender issues and social implications, with none or little emphasis paid to specific labour issues including their analysis and investigations through formal feedback systems (Praveen, Niththiyananthan, Kanarajan & Dissanayake, 2011).

Given this background, it is perceived this research will enable to unearth the answers to the research question of "**A Study on the Key Skilled Labour Shortage for the Sustainability of the Construction Industry in Sri Lanka".** Therefore, it is

important to consider the present context of the industry to identify precincts and to set in place counteractive measures in order to uplift the industry to meet future challenges. An average standard construction project is usually carried out to set objectives, such as cost, quality, and timelines as anticipated by the client, which to a significant extent relies on the performance of the workforce (Basnayake & Premathilaka, 2015; Praveen et al., 2013).

1.2 Objectives

The primary objective of this study is to explore the issues related to the shortage of human capital (skill shortage), causal factors, and corrective measures that can be introduced in Sri Lanka utilizing already available secondary data in the form of surveys, data, published reports, and articles. The process will make it possible to focus on the shortcomings of past studies and understand the causes of skill shortages affecting the construction industry. The study can also include methods to investigate the possibility of making Sri Lanka a hub for skilled labour supply to the Middle East and other countries, with considerations of how to enable skilled labour at a lower cost, a requirement very much a demand of the industry. Further, objective studies can be undertaken to establish mechanisms for foreign exchange earnings, inclusive of consideration of females to be included in skilled construction professions as an alternative option for housemaids. Females for crafts especially covering Masonry, painting and electrical with the possibly of carpentry with designing skills could well be a breakthrough in seeking alternate labour for the industry.

The main objectives of the study to understand the key skilled labour shortage for the sustainability of the construction industry of Sri Lanka.

- How the construction industry should respond and what type of mechanisms should be adopted to enact sustainability and solve the problem.

- What will make the skilled workers remain to sustain the construction industry.
- What mechanisms should the government and policy makers adapt to improve skilled labour supply for the sustenance of the construction industry.
- What should be done to attract the youth to join and sustain the construction industry.

It is perceived the importance and the necessity of this study to be timely and extremely appropriate given the importance of the construction sector to the economy of Sri Lanka.

1.2.1 A Skilled Worker by Definition

Workers who possess specific skills are considered an important segment of the human resource, who occupy critical positions in leadership/management, professional or technician/associate professional positions (ILO, 2014). Skilled workers are considered as employees who have specific and special skills, training, backed with knowledge that they can apply to their chosen area of work (Agapiou, Price, & McCaffter, 1994). Workers have the opportunity to learn skills through work experience, on-the-job training, apprenticeship programs or from formal education (Jayawardena, Seneviratne & Jayasena, 2007).

In the construction industry, a skilled workforce is considered a crucial factor that can spell the success or failure of a project. Their knowledge, training capability, and experience a pivotal consideration for the development and improvement of the industry (Gunawardena & Jayawardena, 2005). Therefore, skilled workers are considered an integral critical part of the success, development, growth, and sustainability of the ever-expanding construction industry (Ahamed, Houque & Sobuz, 2017).

Given the fact that manpower is considered the most important resource for any industry, the above arguments enumerate the importance of “Skilled Labour” in today’s context more than ever before.

1.2.2 Identifying the Important Skill, Craft/Trade Segments of the Construction Industry

Detailed studies carried out globally involving construction firms from the EU, UK, USA, Middle East, Africa, and Asia have revealed as one commonality the most important and crucial crafts and trades in the construction industry to be Masonry, Electrical, Plumbing, Carpentry and Painters (AJC, 2015). While it’s a given fact several other crucial skills are important to the industry, the dependability of the industry in many ways is on the trades and crafts that have been specified (Gunawardena & Jayawardena, 2001). Similarly, from a Sri Lankan perspective, the local construction industry also records an acute shortage of skilled workers, with a severe scarcity of masons, electricians, plumbers, carpenters, and painters among other skill sets (Fernando & Gunaratna, 2016).

Third world and developing countries, in particular, find these issues to compromise and further complicate the general problems they face such as socioeconomic pressures, continuing resource scarcity and industry limitation (Chen, 1998). Invariably, these issues give way to even larger problems due to the lack of procedures and systems to counter such issues, mainly due to poor investment planning, inconsistent government policies, and priorities that STEMS from sociological, economic, and politicization elements (Chan, Cheung, & Tam 2005). The construction industry has been facing skill shortages, which is not a new phenomenon, affecting even developed nations, which has become a serious and recurrent issue (DfEE, 2000 as cited in Andrew et al., 2004). Studies carried out in the USA have

revealed a wide range of labour shortages mostly in the skilled sector of the industry (Azeez, Gambatese & Hernandez, 2019). During the last three decades, the UK has been at the behest of the issue where the shortfall of labour is reported to be much more than in most other countries (Healy et al., 2011). Even though many corrective education reforms have been set in place covering even preliminary school curriculums, the skill shortage has not abated even in countries like South Africa (Rasool & Botha, 2011).

This clearly indicates the crucial need to carefully seek systematic policy changes at the highest levels of the industry. Research and detailed studies should be encouraged continuously to find answers and the changes required to improve the situation.

1.2.3 Lack of Critical Skill Wants for Construction Works and Their Ensuing Effects

The effects which have been far and wide have resulted in serious concerns in many countries, where in Australia, projects either get delayed or even sometimes abandoned due to a lack of employees (Deegan, 2008 as cited in Healy et al., 2011). The construction industry with an acute shortage of skilled workers faces shortages mostly due to Plumbers, Electricians, Masons, Painters, and Carpenters, among other skill sets (Fernando & Gunaratna, 2016). This issue has resulted in delays in construction work, and poor-quality outputs, causing increases to project costs, whereas even in countries like India with an estimated 36 million plus large workforce, it is faced with challenges to planned infrastructure and development programs (Heikkila, 2012).

Based on the above discussion points, it is conclusive that skill shortage is a serious problem the construction industry is plagued with. In most of the developed

nations, this problem is addressed by bringing in skilled workers from developing countries (ILO 2021). For instance, large-scale projects like Commonwealth Games 2010 in Delhi, were possible to be completed by hiring skilled labour from Bangladesh and the Philippines (Srivastava, 2016). The workers in most instances are hired from countries where labour is cheap and readily available in comparison to India which has a chronic shortage of skilled labour (ILO, 2016). This has given rise to a continuous movement of people and skilled labour across borders in line with the demands of specific industries such as the construction sector (ILO, 2016).

Difficulties and problems such as mentioned above, have been an inherent fact that has caused immense drawbacks to the construction industry over a long period (Pribadi et al., 2007). However, the skill shortage has superseded most of the other issues with telling effects becoming a recurrent problem, particularly over the past three decades (Gunawardane & Jayawardena, 2005). The increasing demand, the workload of the construction industry and often the biased one-sided competition by foreign contractors, lack of appropriate education methods, the acute skill-shortage of trained workers, time constraints, and lack of formal training facilities including the associated high costs are some of the identified pressing issues (Pribadi, Soekiman, Soemardi, & Wirahadikusumah, 2007).

As a result of these problems, even developing nations like Malaysia face challenges in their construction industry (Hamid et al., 2018). To develop the capacity to become self-sustainable and independent in construction activities, the Malaysian government took several initiatives to control the above problems by imposing tightened immigration control systems in setting quotas on unskilled foreign labourers coming into Malaysia for work purposes (Anderson, 2019). This is because of the rapid population increase and improvements to education and worker skills

necessitating the implementation of such initiatives, **(**Gunawardane & Jayawardena, 2005).

Shortage of critical skills will not only affect industry progress but will also bring associated issues such as socio-economic effects for many nations from labour migration and unskilled worker infiltrations (Kim et al., 2018). The ensuing effects of migrant workers as reported in many instances impact both sectoral and project performance, which include substandard workmanship, poor quality and disregard for safety (Atakul et al., 2018). Hence, it is crucial to recognize these issues and identify solutions to the negatives of using migrant workers (Hamid et al. 2020).

1.2.4 Global Construction's Conundrum

The skill and knowledge shortage are a phenomenon that has increasingly become a global issue with severe effects on infrastructure delivery and affordable construction programs in every known related sphere (Orando & Isbariye, 2018). The impact is severely felt since construction is a labor-intensive business, complex and inherent with specific characteristics and behest with uncertainty in nature, where specific skills are not those to be just found like other parts of economies but innate with both backward and forward growth linkages intricately dependent on expansion, maturity and decline (Osei, 2013).

Compounding the issue further, the availability of new construction workers has been substantially reduced, with training programs being slow to restart after pandemic-driven safety concerns leading to their suspension (Stephany et al., 2020 Jorda et al., 2020). The dearth and the shortfall with continued difficulties to attract the international workforce is expected with the net migration levels falling in most nations, further accelerated due to COVID-19 restrictions. Between the years 2016 and 2021, as per published statistics, international workers, from a million plus, recorded

a reduction to a low of 244,000 workers (Mckinsey, 2022). In Sri Lanka the importance of effecting necessary changes to the current education and tertiary training methods with the involvement of the state sector and the professional bodies linked to the industry and setting in place corrective action, has taken the spotlight with its importance being highlighted globally (World Bank, 2021). Many studies have increasingly revealed the shortage and want of specific technical skills and improvements for existing workers, especially in Masonry, Carpentry, Plumbing, Electrical, and paintwork (Oseghale et al., 2015).

Improvements in Sri Lanka to the available educational mediums, particularly through tertiary teaching mechanisms, must be further strengthened to produce skilled workers for the construction sector to negate the skilled labour shortage through customized practical and academic teaching and training programs (TVEC, 2023 Tec, 2021). Tertiary-level education contributing to the upliftment of skills covering a broad spectrum of professions is also meant to produce professional categories of workers (Rasool & Botha, 2011), including through globally accredited programs key skilled workers, particularly for the construction sector in the like of masons, plumbers, carpenters, electricians and even painters (Manoharan, Dissanayake, Pathirana, Deegahawatura & Silva, 2021). This is further substantiated by the industry in most instances dependent to a greater extent on sourcing its labour requirements from such educational institutions in line with the industry's wants (Ministry of Skill Development & Vocational Education, 2020).

According to the published data for the year 2020, the Construction Outlook Survey by Associated General Contractors, more than 70% of construction firms experienced difficulties in sourcing their labour wants due to shortages of key skills experienced across most of the construction sectors (AGC, 2020). This indicates the