
# SCHOOL OF POSTGRADUATE STUDIES

## THE INFLUENCE OF ORGANISATIONAL CULTURE ON LOCAL CONTRACTOR PROJECT PERFORMANCE FACTORS IN ZAMBIA

BY

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## DECLARATION

I, **Kabwe Janis**, hereby declare that this work is my own and that the work of other persons utilised in this dissertation has been duly acknowledged. This work presented here has not been previously presented at this or any other university for similar purposes.

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## SUPERVISOR'S RECOMMENDATION

I hereby confirm that the dissertation written by **Kabwe Janis** has been checked and read through by myself; it meets the minimum standard of the University and is therefore recommended for examination.

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## UNIVERSITY OF LUSAKA RECOMMENDATION

On behalf of the University of Lusaka and having checked, read and examined the dissertation written and submitted by **Kabwe Janis,** is hereby Approved/ Not Approved.

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# DEDICATION

This PhD thesis is dedicated to my late father (Lt. Col. Kabwe Pupe Edwin), my late mother (Wendy Sampa Mattick), my late brother (Jimmy Kabwe) and my children (Chabota and Chipego).

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# LIST OF ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| ABCEC | Association of Building and Civil Engineering Contractors |
| ACEZ | Association of Consulting Engineers of Zambia |
| ADB | African Development Bank |
| AICD | African Infrastructure Country Diagnostic |
| AIMO | Associação Industrial de Moçambique Maputo |
| ANEMM | Associação Nacional das Empresas Metalúrgicas e Metalomecânicas |
| CEEC | Citizens Economic Empowerment |
| CEO | Chief Executive Officer |
| CIDB | Construction Industry Development Board |
| CIDB | Construction Industry Development Board |
| CII | Construction Industry Institute |
| CIMP | Construction Industry Master Plan |
| CVF | The Competing Values Framework |
| DB | Design and Build |
| DPW | Department of Public Works |
| EPC | Engineering, Procurement and Construction Contract |
| ERB | Engineers Registration Board |
| FIC | Financial Intelligence Center |
| FIDIC | Federation Internationale des Igenieurs-Conseils |
| GDP | Gross Domestic Product |
| GIZ | Deutsche Gesellschaft für Internationale Zusammenarbeit |
| IJAIEM | International Journal of Application or Innovation in Engineering and Management |
| IJARM | International Journal of Academic Research in Management |
| IMEC | International Program in the Management of Engineering and Construction |
| INDECO | Industrial Development Corporation |
| IPC | Interim Payment Certificate |
| JCDC | Journal of Construction in Developing Countries |
| LDCs | Least developed countries |
| MIPPGP | Ministry of Personnel, Public Grievances and Pensions |
| MLGH | Ministry of Local Government and Housing |
| MOU | Memorandum of Understanding |
| NASSC | National Association of Small-Scale Contractors |
| NCC | National Council for Construction |
| PACRA | Patent and Company Registration Agency |
| PBSRG | Performance-Based Studies Research Group Internal Research Documentation |
| PEP | Politically Exposed Person |
| PE | Procuring Entities |
| PI | Performance Indicators |
| PICI | Presidential Infrastructure Champion Initiative |
| PIDA | Infrastructure Development in Africa |
| PM | Project Manager |

| | |
|---|---|
| PMI | Project Management Institute |
| PPP | Public-Private Partnership |
| PWC | Price Water House Coopers |
| QSRB | Quantity Surveyors Registration Board |
| RDA | Road Development Agency |
| RMB | Rand Merchant Bank |
| SADC | Southern African Development Community |
| SME | Small and mid-size enterprises |
| ToP | Theory of Performance |
| TQM | Total Quality Management |
| UCI | The University of California, Irvine |
| IK | United Kingdom |
| UN | United Nations |
| UNHCHS | United Nations Centre for Human Settlements |
| UNRWA | United Nations Relief and Works Agency |
| USA | United States of America |
| USC | University of South California |
| VFM | Value for Money |
| ZCCM | Zambia Consolidated Copper Mines Limited |
| ZCO | Zambian Construction Organisation |
| ZEMA | Zambia Environmental Management Authority |
| ZIA | Zambia Institute of Architects |
| ZIMVCO | Zambia Industrial and Mining Corporation |
| ZPPA | Zambia Public Procurement Authority |

# LIST OF DEFINITIONS OF TERMS

**Organisational Culture:** Organisational culture involves the shared social experience of the group (Schein, 2004); people's tendency to rely on leaders to make critical decisions (Preuss and Lautsch, 2002), the degree to which less powerful members of an organisation or institution accept and expect unequal power distribution -Power distance (Hofstede, Hofstede, and Minkov, 2004). Therefore, this study considered organisational culture to encompass Leadership, Shared Values, Decision-making and Power Distance as they pertain to construction projects.

**Project Performance:** Project performance entails meeting specific milestones, goals, or undertakings based on the project parameters stipulated and intended aims or objectives (Chitkara, 2005) and evaluated using an assortment of performance indicators from several dimensions (groups) such as time, cost, quality, client satisfaction, client changes, business performance, health and safety (Cheung et al. 2004; DETR, 2000).This study considered project performance in terms of time, cost and quality.

**Local Contractor:** According to the Public Procurement Act No. 8 of 2020, "local bidder or supplier" means a non-citizen bidder or supplier registered to undertake business activities in the Republic of Zambia according to the relevant written law. However, this study considered Local Contractors to be Zambian firms registered and owned by Zambians, also defined as Citizen bidder or Supplier by the Public Procurement Act No. 8 of 2020.

**Construction Industry**: Concerned with erecting buildings and infrastructure, with sub-sectors namely buildings and infrastructure. Buildings are classified into residential and non-residential, whilst infrastructure comprises transport, agriculture and water/sanitation (International Labour Organisation, 2020). Also, it includes the built environment, an on-site assembly such as repairs, professional services like management, architecture, design, facilities management (The Pearce Report, 2003). "Construction industry " *means the broad aggregation of industries in various sectors of the economy which participate in construction works; whilst construction works " means the erection, extension, installation, repair, maintenance, retrofitting, renewal, renovation, rehabilitation, alteration, conversion, restoration, refurbishment, upgrading, dismantling or demolition of all types of building and engineering infrastructure and includes temporary and any preparatory works required to undertake the works (*National Council for Construction (NCC) Act No. 10 of 2020, p.8). Therefore, this study utilised terms such as the built environment, building industry, infrastructure development industry to describe the construction industry.

# ABSTRACT

Project performance can be affected by many factors, among them organisational culture. The main objective of this study was to establish the influence of organisational culture on Local Contractor performance on construction projects in Zambia. The study employed a wide-range review of the extant literature to obtain secondary data on performance factors that highly influence project performance and Local Contractors' challenges on construction projects. Leadership, shared value, decision-making, and power distance represented organisational culture, while performance factors encompassed project time, cost, and quality. The philosophy underpinning this study was pragmatism, hence adopting the mixed-methods approach. The target population was 383, comprising clients, consultants and contractors; the Taro Yamane formula was utilised to determine a random sample of 196. A questionnaire survey was conducted, and it yielded 123 respondents. The collected data were analysed using the Statistical Package for the Social Sciences (SPSS), particularly descriptive and inferential statistics. Multiple regression analysis was employed to assess the influence of organisational culture on construction performance, while thematic analysis was adopted to analyse qualitative data. At analysis, the hypotheses decision was based on comparing the calculated p-values and the standard p-value (0.05), a threshold level of significance. The null hypotheses were rejected as per the standard rule in instances where the calculated p-value was less than the threshold of 0.05. The analysis of the relationship between project performance and the three variables: Leadership, Shared values and Decision-making, revealed p-values of 0.00, while that of the relationship between power distance and project performance yielded a p-value of 0.982. The study concluded that the factors that influence the performance of Local Contractors include: (i) Time-related, such as change order/scope changes, lack of technical skills, construction mistakes, contract modification and corruption. (ii) Cost-related, including poor planning and scheduling, inadequate cost estimates prepared, inadequate control procedures and mistakes during construction during the construction phase and (ii) Quality-related, comprising client lacking relevant knowledge, corruption, disruption of project management continuity and inadequate project planning. Concluded further was that organisational culture has a significant influence on Project Performance factors; and that the challenges that Local Contractors encounter in the construction industry were corruption, lack of technical expertise, lack of access to finance, poor organisational culture and low competitiveness. Thus, the study made some recommendations which included that Local Contractors pay close attention to time, cost and quality, which are critical, competing factors of construction project management. Tradeoff optimisation, among them, within the project scope, is necessary to enhance overall construction project performance; Local Contractors must maintain a well-trained workforce; Procuring Entities/Clients must secure funding and rein-fence it before commencement and contract award the procurement process; Local Contractors must dedicate attention to leadership, shared values and decision-making by allowing employees to voice their concerns, reward excelling employees and investment in training programmes. The study adds to the body of knowledge on how organisational culture influences factors that drive the performance of contractors on construction projects, with the understanding that most studies focus on Time, Cost and Quality only.



**Keywords**: *Organisational Culture, Construction Projects, Local Contractors, Performance, Triple constraints, Construction Challenges*

# CHAPTER ONE

# INTRODUCTION AND BACKGROUND

## 1.1. Introduction

Chapter one provides the introduction and background of the study, giving reasons why such a study was a necessary undertaking. The chapter proceeds to highlight the research problem, research objectives, research questions, the scope of the study, delimitations and significance of the study. Further, the chapter outlined the justification and the limitations for the study.

## 1.2. Background of the Study

The construction industry makes a meaningful contribution to the economic productivity of a country (Mirawati et al. 2015) as construction projects create a strong construction industry and are among the critical promoters for the economy's growth. According to Murie (2007), on a global scale, the construction industry is gigantic and contributes about three trillion United States Dollars (USD) to the economic growth of the global community. Banaitiene and Banaitis (2012) argue that construction projects are heterogeneous and enormously complex, and the complexity is obtained from the fact that the construction industry contains many parties – clients, contractors, consultants, stakeholders, shareholders, regulators and others, which exposes the construction industry to an uncertain environment. Historical evidence reveals that projects underperform despite the high growth rate and extensive project management skills (Thompson, 2012). According to Lepartobiko (2012), developing countries have a higher rate of poor project performance than industrialised countries. Construction projects in the Gaza Strip are plagued by numerous complications and complex issues pertaining to the critical project aspects of time, money, and quality. These issues are reported to be leading to some clients' dissatisfaction with the finished job (Shaban, 2008). The Kenyan construction sector has several obstacles, including capital restrictions, contractor complacency, a lack of quality assurance, corruption, unequal distribution, irregular changes in building material pricing, inexperienced contractors, and occupational health and safety hazards (Wawira, 2016). According to Zulu and Chileshe (2008), contractors' performance in Zambia appears to be below expectations due to multiple incomplete or delayed local projects, and their poor performance has far-reaching ramifications for their competition. The consistency in performance patterns indicates that contractors failing to achieve project objectives remain an area of concern in the construction sector. According to the National Council for Construction (NCC) (2004) and Ngomi (2017), Local Contractors in Zambia are notorious for abandoning, postponing, or providing subpar work.

Further, Ngomi (Op. Cit.) discloses that the attitude of the Local Contractor is a significant source of concern and that corruption, a lack of dedication to the projects, including project tendering procedures, and delayed payment were among the causes that contributed to project abandonment. This study also established that incompetence, lack of experience, and leadership skills resulted in poor site and time management and inaccurate estimates. The NCC (2006) alluded to an increased number of substandard works in Zambia's construction industry as contractors have continued to exhibit failure to meet one or more, if not all, the three constraints of time, cost and quality, considered as the rule and not the exception in construction projects (Baloi and Price, 2003). There have been allegations that Local Contractors fail to perform due to a lack of opportunity to develop their capacity as foreign contractors dominate the industry. Foreign contractors' domination is due to local contractors' inadequacies and inefficiencies (Ministry of Works and Supply, 2012). Local Contractors' inability to meet project targets negatively impacts their competitiveness and results in clients' preference to engage foreign contractors they view as better performing. The Zambian sector of construction has a high number of contractors from China and South Africa (RDA, 2015) who have a larger share of construction contracts in Zambia. For instance, despite over 90% of the registered contractors being Zambian, foreign contractors accounted for over 70% of all ongoing projects by the end of 2015 (NCC, 2015). The perception is that this scenario results from the competitive nature of the construction industry, which gives foreign contractors an upper hand as they are perceived to have more experience and capacity.

Furthermore, the construction industry is regarded as a money-pit as it experiences many cases of corruption and misappropriation of project funding, leading to project delay (Ngomi, 2017, Sichone, 2016). Construction projects exceed their planned objectives, incur extra costs, and compromise client satisfaction, and as a result, the project would experience suspicion, litigation, arbitration, cash-flow problems, and a general feeling of trepidation among clients, consultants, and contractors (ibid). Despite many studies into the factors that influence contractor performance, construction projects have continued to suffer underperformance. The challenging nature of business, construction inclusive, has resulted in many companies struggling to stay afloat in a competitive global market (Bolboli and Reiche, 2014). Some of the challenges include the growing universal price competition and the satisfaction of many stakeholders' demands (Bolboli and Reiche, 2013, Ibarra-Cisneros et al., 2020). One of the leading challenges that managers encounter is establishing an influential organisational culture, which is essential for improving performance and productivity (Kaouache et al., 2020). Business growth depends on the organisation's ability to improve performance, hence the need to focus on features that can help improve an organisation's performance (Bendak et al., 2020). Not having an influential organisational culture is the leading cause of poor performance (Wziątek-Staśko et al., 2020). Therefore, managers in business setups need to know the relevance of organisational culture to improve their organisation's productivity

and performance (Reino et al., 2020). Thus, management has a responsibility to pay attention to aspects that can assist in improving performance in the construction industry to achieve successful project performance in the current competitive business environment. Riding on the findings of Kaouache et al. (2020), organisations' management team needs to consider the culture of their respective firms when designing and implementing key business strategies.

In addition, considering that numerous individuals with multiple backgrounds oversee, operate, and are in charge of construction projects' general set-up and organisation, the project team's performance closely ties to their cultural background. Cultural differences could generate conflicts relating to individual communication, which decline construction organisations' capacity to achieve project objectives (Tijhuis, 2011, Ankrah, 2005). There is a view that culture is an essential basis of management practice, and some scholars have examined it as a critical success factor of a construction project (Kwan, 2001, Walker, 2002 and Cheung, 2012). Also, the belief is that cultural differences could create conflicts concerning individual communication, which weakens the capacity of construction organisations to achieve project objectives (Ankra, 2005). Researchers contend that the poor performance of the construction industry is due to inappropriate project organisation structures and ineffective leadership (Nyangilo, 2012). Such studies on culture demonstrate the growing awareness in the construction industry of the necessity of culture and its role in project performance outcomes. Magee (2002) contend that in the absence of the assessment of the impact of organisational culture, practices within organisations, such as performance management, could be counterproductive as the dual are interdependent, and change in one influence the other. However, the extant literature on organisational culture within the construction industry is limited (Ankrah 2007). Developed countries account for the majority (95%) of the studies in organisational theory, while only 5% are related to the developing nations (Farashahi et al., 2005 cited by Ahmad, 2012). Literature suggests that organisational culture plays an essential role in project management's success or failure, and as a project-based industry, the construction industry needs more insight into culture's effect on contractors' performance (Choi et al., 2010). This awareness notwithstanding, the nature of the implied relationship between organisational culture and performance of Local Contractors in Zambia remains unclear since few studies provide empirical evidence. Few studies have focused on culture at the project level (Zillante and Zhuo, 2012), and unfortunately, culture and performance have not taken root at the construction industry's organisational level (Cain, 2004). Considering the need for continuous improvement in the construction industry, addressing the industry's obstacles and uncertainties (due to the changing environment) would establish a means to assess construction organisations (Maloney and Federle 1993). Thus, it is derived from the existing literature that organisational culture plays an essential role in project success or failure and hence, this study focuses on analysing the influence of organisational culture on the performance of

Local Contractors, intending to improve performance, especially in the context of the Zambian construction industry. The statement of the problem follows:

### 1.3. Statement of the Problem

The construction industry provides a platform for competition for contractors (Edum-Fotwe et al. 2001). As such, organisations are increasingly considering ground-breaking systems to improve products and processes to improve customer satisfaction and competitive performance in the existing scenario (Patyal and Koilakuntla, 2018). To better understand the performance of Zambian contractors, the researcher looked at some historical events of the construction industry. In the 1990s, the Zambian construction industry boasted of Zambia Industrial and Mining Corporation (ZIMCO) group of companies, the Industrial Development Corporation (INDECO) group of companies or the Zambia Consolidated Copper Mines (ZCCM). INDECO and ZCCM jointly formed ZIMCO, which until its unbundling and subsequent privatisation of the individual corporations, was the second-largest corporation in Africa (Nsabika, 2002). Furthermore, Nsabika (2002) elucidated that the changing nature of the marketplace and the liberalisation and privatisation programmes of the early 1990s had a fundamental implication on how construction contractors practised their entrepreneurship activities. The privatised companies became increasingly well-informed about construction products and demanded more price and quality. Thus, quality and delivery remain the most critical factors in the market. Since 1991, Infrastructure developments through public sector construction projects have been the core business in Zambia. However, despite scoring primary success goals in public construction projects, many complaints continued about how projects were executed. The Auditor General`s reports (2016; 2015; 2014; 2013; 2012; 2011) presented irregularities in public sector construction projects. To this end, Banda (2018) also reported irregularities ranging from schedule overruns, poor workmanship, abandoned works, budget overrun, lack of client satisfaction, uncompleted works, failure to commence works and failure to submit claims for certification.

In addition, Zulu and Chileshe (2008) contend that Zambian contractors' unsatisfactory performance had huge implications on their competitiveness. Studies reveal that Local Contractors experienced several barriers to competitive participation in construction tenders due to lack of openings and chances for business or to tender; delayed or non-payment, budget allocation; competition; access to technical skills, funds and credit; political interference; equipment; procurement; performance; registration procedures; interpretation of the NCC law; technology selection and contractor development framework (NCC, 2004)

Furthermore, the Auditor General`s reports (2014) indicated that following an investigative inspection of the named projects, it was revealed that contractors abandoned works in various districts after being paid advance payments. Further observed that contractors failed to submit payment claims on executed work for certification, making it impossible to ascertain their value. Perhaps this could be attributed to the absence of the project site managers or engineers. Thus, this scenario eliminates the sense of accountability for public funds on the part of the contractors. The lack of skilled labour cannot be underrated when addressing Zambian contractors' challenges. Also, the Zambia Construction Analysis Report (2014) and Construction Review online (2017) highlighted that the construction sector extensively exhibits an insufficient supply of specialists, fewer skill levels of new graduates and a skilled labour force. Thus, assessing Zambia's infrastructure development contracts has been challenging and would remain out of reach for local Small and Medium Enterprises (SMEs) until they build their capacity to deliver on projects. Local Contractors cannot take on significant national projects due to their capacity. Many do not have organisational structures that ensure technical support and project management (RDA,2015). In addition, some contract monitoring found weaknesses in the management of projects as there was a failure to complete works within contractual time and abandonment of some projects by contractors; the report also highlighted irregular payment to a named contractor before signing the contract (Auditor General, 2013). The NCC also undertook a random inspection and revealed many projects facing challenges, most of which were schedule postponements and site abandonment (NCC, 2018). Such scenarios are common in Zambia; contractors abandon the site due to various reasons. Sometimes their reasons for leaving the construction sites are valid, for instance, where a contractor is not paid for the works done despite numerous reminders. In other cases, contractors utilise all their credit lines; hence no option but to abandon the site. Thus, there are so many factors that need consideration when undertaking construction projects and the following section reviews extant literature to identify the project performance factors of construction projects.

Nevertheless, there have been efforts by the Zambian government to ensure an enabling environment for Local Contractors in the construction industry by setting up policies such as the Citizens Economic Empowerment (preferential procurement) Regulations, the Public Procurement Act, 2008 (superseded by the Procurement Act No.8 of 2020), and institutions such as the National Council for Construction (NCC) and the Zambia Public Procurement Authority-to ensure transparency, accountability, honesty, impartiality and public confidence in the procurement process, (National Assembly, 2014). An additional policy is the 20% subcontracting policy, allowing Local Contractors to participate in construction projects awarded to foreign bidders up to K30Million (RDA, 2015, Musonda, 2018, Zambia Daily mail, 2019). Such policies' general goal is to contribute to sustainable economic development by building

capacity in Zambian-owned companies. However, Local Contractors complain that the compulsory subcontracting policy is not working according to the intended purpose (Muya et al., 2014). The rationale behind building capacity in Zambian-owned companies is that when citizens participate in infrastructure projects, and the reinvestment of the earned revenue into the economy. The expected result is revamping the economy and subsequently uplifting living standards.

On the other hand, awarding all contracts to foreigners brings about situations where most of the revenue realised is externalised for their countries' benefit, depriving the nation of much-needed income and subsequent development (Musonda, 2018). Some local contractors have failed to live up to their clientele' expectations to deliver fit for purpose construction projects despite these progressive efforts. After being awarded huge contracts, some Local Contractors have betrayed their clientele's trust with their tendencies to sell contracts to foreign contractors or abandon the construction site prematurely (NCC, 2017, Mvula and Mwape, 2015). Kaliba et al. (2013) argue that many Small and Medium Enterprises (SMEs) contractors would not progress or grow even with the reservation pronouncement to subcontract 20 per cent of the main contracts as most SMEs only had an interest in receiving money more than performing the work. The result of this is the preference by foreign contractors for paying off some subcontracting SMEs while the main contractor executes the entire works. Thus, much to the displeasure of clients/end-users, construction companies and consulting firms, many developments experience wide-ranging delays and exceed the initial time, cost, and quality expectations. Therefore, the following was the statement of the problem:

Despite the much-acquired knowledge and government efforts to create an enabling environment for Local Contractors in the construction industry, it appears some Local Contractors in Zambia have continued to exhibit failure to perform. Many studies have focused on time, cost and quality factors, but organisational culture is scarcely considered a significant influencer of project performance, which this study sought to evoke.

### 1.5. Research Objectives

Research objectives permit the researcher to operationalise the research question, stating the steps the researcher intends to take to answer it (Saunders et al., 2016). Therefore, this study had the following objectives to keep the study focused and within the relevant context.

#### 1.5.1. Main objective

The study's objective was to establish the influence of organisational culture on the performance of Local Contractors on construction projects in Zambia.

### 1.5.2. Specific Objectives

To achieve the main objective, specific objectives of this research were to:

(i) Identify the project performance factors of Local Contractors on construction projects;

(ii) Assess the influence of organisational culture (Leadership, shared values, decision- making and power distance) on the performance of Local Contractors of construction projects;

(iii) Establish the challenges that Local Contractors encounter on construction projects;

(iv) Determine how Local Contractors can improve their organisational culture on construction projects.

## 1.6. Research questions

Research questions give the researcher permission to state the matter or problem and what the research project seeks to find, explain, and answer (Saunders et al., 2016). Therefore, the following were the research question for this study.

### 1.6.1. The Specific questions of the study

The following specific research questions guided the study:

(i) What are the project performance factors of Local Contractors on construction projects?

(ii) How does organisational culture influence the performance of contractors on construction projects?

(iii) What challenges do Local Contractors encounter on construction projects?

(iv) How can Local Contractors improve their organisational culture on construction projects?

## 1.7.Scope and delimitation of the study

The study focused on assessing the influence of organisational culture on Local Contractor performance factors on infrastructure undertakings within the Zambian construction sector. The study was also confined to the factors that influence the performance of Local Contractors, and their challenges were considered in this study. Furthermore, considering that the construction industry is broad, the study included contractors who undertake Civil Engineering and Building projects in Zambia.

## 1.8. Significance of the Study

This study would identify some factors which influence Local Contractor performance. Further, establishing the influence of culture on Local Contractor performance would assist in understanding why local contactors find challenges in managing construction projects within the requirements of the contract. This study would further help identify specific ways to empower the Local Contractors, resulting in

employment creation, GDP contribution, and general livelihood improvement. Additionally, this study would further serve as a guide to various procuring and regulatory bodies such as Zambia Public Procurement Authority (ZPPA), Road Development Agency (RDA), Ministry of Infrastructure; National Council for Construction (NCC), Citizens Economic Empowerment (CEEC) and the Engineers Registration Board (ERB) on how to assist the Local Contractors engaged in construction projects. Lastly, the study would add to project management and organisational culture's influence on contractor performance.

### 1.9.Justification

This study was necessary as the construction industry is very competitive; it is "survival of the fittest", where only the strong can survive. As mentioned earlier, despite 95% of all contractors being Zambians, most of the projects are being awarded to foreign contractors. There is a need to appreciate the causes of this situation to equip Local Contractors to equip themselves better. Furthermore, this study will help address contractors' poor work culture and improve Performance among Local Contractors by encouraging participation in construction projects. This study is likely to produce useful information to solve these issues. Further, the study contributes to the body of knowledge in culture and factors influencing Local Contractor performance on construction projects.

### 1.10. Limitations

The study limitations included difficulty retrieving questionnaires from respondents due to the outbreak of the Covid-19 pandemic. In addition, some respondents either forgot to respond or misplaced the questionnaires due to working on a rotation basis. Other respondents, especially contractors, had little interest in the study. However, this did not affect the quality of the survey as the flaws in collecting data from some respondents were mitigated by other questions that received a higher response rate.

### 1.11. Thesis Structure

This thesis consists of eight chapters. Chapter one articulates the study's background by outlining the problem, the significance of the study, the scope of the study, the main objective and specific objectives of the research and the delimitations and limitations of the study. Furthermore, chapter two constitutes a detailed literature review, addressing the research objectives and analysing the existing literature to answer the research questions. After this, chapter three developed the theoretical framework and the conceptual framework used in the study. Chapter four comprised the research methodology adopted in the study and highlighted the research philosophy following this. This chapter also presented the research design and method for collecting the data. Chapter five was mainly concerned with data presentation, analysis and discussion of results and included descriptive analysis of demographic data and appropriate

tools to interpret data. Next was chapter six, which consisted of a discussion of results, whereas chapter seven presented the findings; and finally, chapter eight brought forth the conclusion and recommendations.

### 1.12. Chapter summary

Chapter one provided the introduction and background of the study, giving reasons why such a study was a necessary undertaking. The chapter highlighted the study's research problem, objectives, questions, scope, delimitations and significance. Further outlined in this chapter was the justification for and the limitations. In addition, a summary of the chapter arrangements in the thesis was presented to guide the study. The second chapter (Chapter Two), Literature Review, follows.

# CHAPTER TWO

## LITERATURE REVIEW

### 2.1. Introduction

The first chapter (Chapter One) presented the introduction of the study. Hence, Chapter two presents a detailed review of the extant literature on contractor performance in the construction industry. The chapter defined project performance and examined project performance of construction industries in developed countries, developing countries and underdeveloped or Least Developed Countries. This chapter identified the factors that influence Local Contractor performance, and in the interest of establishing the influence of organisational culture on Local Contractor performance, the chapter defined and analysed the organisational culture. Further, the chapter identified and discussed the challenges contractors encountered in the construction industry.

### 2.2.Project performance

Project performance is difficult to define (Fouché and Rolstads, 2010). Chitkara (2005) defined performance as meeting specific milestones, goals, or undertakings based on the project parameters stipulated and intended aims or objectives. Performance refers to increasing productivity, improving service delivery, or achieving the best results in critical organisational operations (Mullins, 2005). For decades, measuring project performance has been difficult for the construction industry; scholars have developed various models and approaches to assess project performance. Different performance indicators may be adopted to measure projects, such as planned schedule (time), workmanship, budget, buyers' fulfilment, client changes, business performance, health and safety (Cheung et al. 2004; DETR 2000). Another technique of evaluating the performance of the construction of undertakings is through two typical indicators; the first relates to the employer, operators, stakeholders, and the general public, who perceive project performance from a macro perspective. The second group consists of the client and the contractor, who examine project performance from a micro perspective (Pheng and Chuan 2006). Usually, performance dimensions might include indicators and can be modified by various project factors. According to existing Project Management literature, novel models of project performance should be multi-dimensional (Todorovics et al., 2015). Chen (2015) contends that project performance relies on leadership skills, organisational control processes, and the perceived relevance of past performance. To measure performance in organisations, researchers employ various performance, including profitability/financial measures, value creation, customer satisfaction (Zingheim and Schuster, 2007; Razalli, 2008), and competitiveness are measures of organisations' performance (Ambastha and Momaya, 2004). Some identify four different perspectives of achieving project success: "seeking the best match",

“being adaptive and open”, “keeping the team focused”, and “preparing for opportunities”. Success may stem from factors of project context rather than sector and complexity, which is the belief of different practitioners (Molaei et al. (, 2019). Also, innovation is critical to performance and getting a competitive advantage (Naranjo, Jimenez and Sanz, 2011; Zingheim and Schuster, 2007). In the UK, innovation enhances construction services and is also a performance measure (Business Enterprise and Regulatory Reform 2008). Another performance measure is business process re-engineering (Muthu, Whitman and Cheraghi 1999; Weerakkody and Currie, 2003). Further, marketplace orientation and service flexibility measure performance in service firms (Akimova 2009, Aranda 2003). Besides, job satisfaction can also contribute to an organisation’s success by having a customer-centric approach and work-related interactions (Bulgarella, 2005). Thus, strides should be made to establish employee needs to achieve job satisfaction in any organisation.

However, according to Yang et al. (2009), contractor performance is evidence of a contractor fulfilling their contract’s responsibilities. In most cases, project success is usually determined by the three components of project management success, namely time, cost, and quality (Harrison and Lock, 2004). Not meeting time and cost can lead to a significant project delay and cost overrun (Aftab et al., 2012). Thus, to define and quantify project performance, it is essential to determine the project goals and the indicators as this form the basis for determining the factors that affect project performance. The following is an overview of the project performance of contractors in the construction industry around the world.

### 2.3 Global project performance

Despite the global expansion of the construction sector, there have been many shortcomings in terms of time, cost, and quality, and a survey conducted by the Federation Internationale des Igenieurs-Conseils (FIDIC) revealed that construction quality failure is a global issue (Rumane, 2011). According to a survey, barely about 2.5 per cent of infrastructure undertakings worldwide are successful (completed on time, within budget, and with excellent customer satisfaction) (Construction Industry Institute (CII), 2015). Construction companies worldwide struggle to deliver services on time, on budget, and with great customer satisfaction (Performance Based Studies Research Group – PBSRG, 2016). More research revealed that, contrary to widespread assumption, contemporary countries have an advantage over undeveloped countries in terms of poor performance due to larger expenditures and higher technology levels (Liu, 2016). A global study revealed that only two and a half per cent (2.5) of infrastructure developments were believed successful in terms of scope, cost, schedule, and business, whilst ranging between twenty-five per cent to fifty per cent encompassed wastage in coordinating labour on a project. Inefficiency in management accounted for between $15.6 and $36 billion of owners' annual cost, and an expenditure of approximately United States Dollars (USD) four billion to twelve billion per year to

resolve disputes and claims, (Construction Industry Institute (CII), 2015). Indeed, these archives raise concern and require the attention of scholars in establishing the means of making improvements, considering that colossal sums of money are invested in construction projects, much of which may be tax payer's money.

Furthermore, the construction sector meets difficulties despite expanded professional education and training (Egbu, 2008; Goff, 2014). Projects have become more significant and challenging to manage as the number of participants has expanded, the importance of legal contracts has increased, and all actors in the supply chain are segregated in silos, resulting in greater complexity (CII, 2015, Kashiwagi et al. 2009). It appears that the industry is having difficulty recognising the root cause of its problems and has not found an effective enough remedy to address a large number of underperforming projects (in terms of on time, on budget, with high customer satisfaction). This is due to the engagement of various parties, including system and material makers, owners/owner project managers, procurement employees, general contractors/subcontractors, general contractors and subcontractor project managers (Rivera and Kashiwagi, 2016). Similarly, construction projects in Palestine have reported poor performance (UNRWA, 2006 and 2007). Although the industry is regarded as the engine of national economic development in Indonesia, there is low competitiveness among the local construction firms (Pamulu, 2010). The Indonesian government implemented specific legislation relating to quality management systems to make the construction sector competitive (Willar, 2012). Indeed, low competitiveness in construction tenders is one of the persistent issues. Local Contractors cannot favourably compete with giants of the construction industry who seem to be more experienced and exposed than the Local Contractors.

Furthermore, Ofori (1991) highlighted that the construction sector had not met the necessary benefits to the stakeholder. In addition, Ofori (2001) believed that the construction sector in many developing countries had had challenges to provide a foundation for social and economic development and improved living conditions for the general population due to the contractors' poor technical and managerial skills. Miller and Lessard (2000) revealed that eighteen per cent of sixty extensive engineering and infrastructure undertakings, with an approximated capital of USD one billion undertaken in the timeline covering the 1980s and 2000s, sustained extensive cost escalations. Merrow et al. (1988) considered forty-seven "megaprojects" in the construction environment and established that just four were on budget, with an average cost overrun of eighty-eight per cent. Also, Morris and Hough (1987) established cost overruns on large projects. Besides, Flyvbjerg et al. (2003) contend that infrastructure/construction projects are not short of cost overruns. The construction industry is a sector that involves significant risk minimum profit and has a significant track record of client dissatisfaction. Some of the risks in the

construction sector are due to political, legal, financial and cultural complexities (Jha and Devaya, 2008). Arguably, these risks contribute to the attainment of project expected outcomes and hence the need to create modalities for their management to change the status quo of client dissatisfaction.

Consequently, several researchers have recommended the need for the construction industry striving to improve its capacity and effectiveness in delivering built and civil engineering products to support national economic growth and social development (Ofori (2000) and CIB (1998). Studies have also highlighted the critical need to improve developing countries' construction industries by forecasting relations amongst building undertakings, built environment expansion, and the wide-ranging involvement of national development (Kumaraswamy, 2006; Kumaraswamy et al., 2002; Ofori, 2006). Many countries have recognised the importance of improving the construction industry at various socio-economic development levels. Thus, many have formed dedicated agencies to administer the industry's continuous improvement (Ofori, 2000). Indeed, the agencies formulate policies and regulate construction activities, which is necessary to ensure that contractors operate within the confines of the law, improve their performance and give value for money to the client.

However, successful realisation of socio-infrastructure development, inclusive of education centres, clinics and health-related structures, water and sanitation systems, rests on the competitiveness of construction services. Assuming that construction services are experiencing bottlenecks or not able to boost supply in response to any surge in demand, everything else being equal, expenses and related-cost would rise, lowering the output of physical assets for a given nominal investment outlay (Cheelo and Liebenthal, Op. Cit). As a result, Local Contractors must adjust their attention and improve their competitiveness regarding the construction services they provide. In emerging and impoverished countries, the building sector requires substantial structural and cultural adjustments by leaving the traditional construction practices and procedures behind and adopting modern approaches (Kumaraswamy, 2006; Kumaraswamy et al., 2002; Ofori, 2000a). An example is the UK, where the Key Performance Indicators (KPIs), including time, cost, quality, client satisfaction, change orders, business performance, health and safety, are utilised to measure project performance. Implementing KPIs involves deciding what to measure, collecting data and calculating the KPIs. However, section 2.4 focuses on the performance of contractors in developed countries as follows.

### 2.4 Project performance in developed countries

Developed nations are industrialised, high-income, more economically developed, advanced, and sovereign states with a higher performance of their developed economy and advanced technological infrastructure than other less industrialised nations (Asian Development Bank, 2014). However, since the study could not cover all the listed countries, selected countries were considered based on the

availability of literature. Therefore, the selected countries included the United Kingdom (UK), United States of America (USA), Canada and Australia for the study.

However, the United Kingdom (UK) of Great Britain and Northern Ireland was the sixth-largest country by GDP in 2019, with Great Britain being the first industrialised country in history (The World Bank, 2021). Further, available literature indicates that the UK hosts many construction projects and that there has been extensive and significant research on the construction industry. Evidence of this is how the UK is the origin of a particular study in the nineties, which exposed construction non-performance (Latham, 1994). The Latham report revealed that the construction industry performance in the United Kingdom (UK) was considered wasteful compared to other industries. The report further pointed out that the construction industry did not deliver value for the customers. In part, this outcome was the industry's unusual nature, where, different from a production line; each building is a one-off. However, the nature of contracting arrangements meant that it could have been an adversarial industry with a substantial probability of disputes. Thus, the research referred to the construction sector as 'ineffective', 'adversarial', 'fragmented' and 'incapable of delivering for its customers' (ibid).

Moreover, Kashiwagi et al. (2008) argue that the outcomes of the Latham report of 1994 caused construction academia and the construction industry to consider establishing ways to improve the situation by integrating academic research and industry practices. Despite their attempts, researchers in the construction industry could not increase its performance. Three years down the line, John Egan was commissioned to develop a task force and study the industry's performance. Although Sir Latham and Egan pursued changing how construction industry academics remained separated from the construction industry and actual tests, the construction industry saw minimal improvements (Chikuni and Hendrik, 2012; Oyele et al., 2012; Gregory et al. 2005; Bernstein, 2003). Infrastructure development in the UK was generally professed as poor (Egan, 1998), although, to a level, this perception was based on anecdotal evidence. The reports necessitated performance measurement to help organisations assess how well they have done retrospectively, and more importantly, how well they are currently doing (and would be doing in future) so that through benchmarking, they could identify areas in which they were underperforming and take remedial action (Ankrah and Proverbs, 2005). Indeed, contractors ought to assess themselves on a regular basis to ascertain areas that require improving. Measuring their performance would contribute to their upgrade in terms of their registration grade with the National Council for construction as they would know when to move to superior grade and access substantial contracts.

Furthermore, UK projects were over budget, over time, and not producing the full benefits (Flyvbjerg, 2018). Nevertheless, more research in the UK has documented that construction performance is showing minor improvements from 2000 to 2011 in certain areas, but continues to suffer in others (Kashiwagi,

2013) as the industry exhibited the following:

(i) Overall customer satisfaction increased from 63% to 80%;
(ii) Customer satisfaction for projects over 5M Euros was at 73%;
(iii) Projects completed on time increased from 28% to 45%;
(iv) Projects completed on budget increased 50% to 63%; and
(v) Contractor profitability declined to 5% from 7% in 2010.

Besides, in North America, Maher and McGoey-Smith, (2006) indicated that large infrastructure projects are often significantly over budget, for instance, the Boston Central Artery system, whose initial cost was $3 billion and was heading towards $15 billion, as it reached completion. Studies in the United States of America (USA) have shown construction non-performance (Kashiwagi, 2013), and according to Lepatner (2007), construction performance in the USA exhibited the following:

(i) Productivity had decreased by eight per cent annually;
(ii) Construction companies had the second-highest failure and bankruptcy rate of ninety-five per cent;
(iii) Over 90 per cent of transportation construction jobs were over budget;
(iv) Almost 50 per cent of the time was unexploited on the job site;
(v) There was wastage of 25 per cent to 50 per cent of project inputs;
(vi) Management inefficiency costs owners between $15.6B and $36B per year;
(vii) United States Dollars ($)4million to $12Billion was expended to resolve disputes and claims. PWC, 2009 also supported this; and
(viii) Major infrastructure projects typically overrun costs by 50%.

In continuation, other research in the USA revealed that the most critical delays were coding-related delays followed by design-related delays and construction-related delays (Ahmed S.M. et al. 2002). Meanwhile, Canada has also experienced construction cost overruns and schedule delays. This scenario is prevalent in high-profile infrastructure projects; for example, the Spadina subway extension project was $400M over budget (Kalinowski, 2015); the case was similar with the construction of the city hall, which exhibited cost overruns (Shuttleworth, 2014) and the Union Station cost overruns, (Peat, 2015). Global evidence submits that the bigger the project, the higher the probability of going over budget and missing its targets. The consequences encompass the country administration's financial deficits and a loss of public confidence that the government can meet its commitments.

Moreover, Alinaitwe (2009) cited a lack of planning and efficient Canadian procedures. Further noted was that construction estimates are often underquoted, leading to low-profit margins, inefficiencies and

claims. Similar to other countries analysed before, there appears to be a limited capability to secure significant capital projects in Canada. Moreover, the lack of government policies to facilitate industry competitiveness has contributed to the performance challenges.

In addition, Australia also exhibits some issues with contractor performance. Studies have identified that construction interruptions frequently occur on enormous developments, bringing about situations where the client gets their completed project later. This scenario impacts the project's cost, duration, and quality. Also, contractor delay of projects could impose an incapacitating consequence on everyone in participation since this is oftenly the cause of confrontational relationships, apprehension and distrust between parties (Lessing, 2017). From the contractors' point of view, the misunderstanding amongst construction firms and consultants is a cause of concern. It may appear biased, but the literature revealed that a client could cause many delays blamed on the design team. Even though it was rated lower, the absence of communication and coordination between all parties is significant, and relationships decline (ibid). The Australian Construction Industry is currently facing skills shortages in all trades. As an industry focused on its workforce skill, there is concern that Australian quality and productivity would be inhibited both at the national and international level. There are issues relating to employment, skill retention, shortages of skilled workforce that have been influenced by the economy's changes, the random and irregular cyclical nature of the construction industry (Taylor, 2004). In the same vein, Cole (1998) established, from a report based on the construction industry's future, that building and engineering contractors' evidence shows the concern of declining skills amongst site staff. The performance of contractors would be affected due unavailability of the relevant skills needed to deliver projects successfully. The following section addressed the performance of contractors in developing countries.

### 2.5 Project performance in developing countries

Generally, countries are developing when a significant level of industrialisation relative to their populations is not achieved and, in most cases, exhibit a medium to a low standard of living (UNFPA, 2018). Developing countries' clients, governments, and communities are dissatisfied with the industries' performance and procedures and practices (Ofori, 1991). Despite its importance, the construction sector of developing countries has failed to make progress in the last decade as there have not been new works or breakthroughs in knowledge (Ofori, 2018). Many projects fail to meet their objectives and performance parameters or never reach completion (Williams, 2015). For instance, in India, the accessibility and the proliferation of megaprojects for infrastructure development has resulted in the construction industry gaining prominence; however, construction project performance has not been encouraging (Iyer and Jha, 2006). In Malaysia, the construction sector faces long-lasting difficulties,

including poor schedule and cost performance, construction waste, poor productivity, and over-dependent foreign workers (Aftab et al., 2012). Studies indicate that just 20.5% of the public projects and 33.35% of the private sector projects were completed on time (Akintoye et al., 2009). Malaysia exhibited failures on several large construction projects, including cracks in columns supporting a highway flyover, leading to road closures and heavy traffic disruption; a hospital which had to be closed a few months after its opening due to a defective air-conditioning system and another public office building which was seven years behind schedule (The Straits Times, 2004; Ahmad, 2004). According to Toh and Aliagha (2011), there is a lack of investigation on construction cost factors in Malaysia.

In addition, construction projects in Brazil are also exposed to many external and internal factors that directly affect the cost of work (França, 2018). Compared to expected values, public works exhibit poor performance evidenced by cost escalation and untimely delivery (Santos et al., 2015). Moreover, a study on the causes of cost increases and deadlines in municipal public building works concluded that 72% of the 145 works evaluated presented a cost increase (Santos Opt Cit). The case of **c**onstruction projects in Egypt is that they usually experience construction performance challenges (Aziz, 2016). This may also apply to other countries aside from Egypt; performance challenges need to be identified and prioritised to mitigate them accordingly.

Similarly, Kenya has witnessed a substantial increase in stalled projects resulting in the overall poor performance of the construction industry. Over 70% of the initiated projects face the challenge of meeting the completion time, with 50% of them having a high probability of cost escalation (Nyangilo, 2012). Although the Kenyan construction industry has well-trained consultants and industry regulations, infrastructure developments do not always meet their goals. There are countless projects with a price overrun, overdue deadline, and poor quality, resulting in collapsed buildings in various parts of the country, high maintenance costs, dissatisfied clients, and even not functional facilities (Kibuchi and Muchungu, 2012). Previous studies indicate that a project's failures are mainly related to problems in performance (Osoro, 2016). Historical events and experiences in the industry show that medium to large projects have a high failure rate, the consequences of which could be expensive and lengthy, with the worst results leading to undesirable litigation engagements (Nyangilo, opt; Lepartobiko, 2012; Kibuchi and Muchungu, 2012; Takim and Akintoye, 2002; Mhando and Mrema, 2005). Indeed, medium to large construction projects are at a higher risk of failure due to the many parties that may be involved. The public assumes they have a high contract sum and that some stakeholders could benefit through kickbacks and bribes, especially at the execution or payment stage. These projects risk failing since they may incur more finances than initially planned, arising from various factors, for instance, scope changes leading to cost increases.

However, according to Oyedele (2018), construction projects in Nigeria encounter capital flight, capital stagnation, and capital sink problems. 'Capital flight' happens due to material importation and technical inputs of infrastructure activities, whilst 'Capital sink' remains an output of improper planning, mis-procurement, wrong project location, and over-design. Conversely, inflated contract sums and abandoned projects resulting from poor cash flow are components of 'Capital sink'. In addition, 'Capital stagnation' is when a project has a time over-flow more than needed. Nevertheless, Nigeria seems not to have a succession plan; hence, the numerous under-utilisation of completed projects.

Furthermore, there is a record of structures collapsing in Nigeria due to poor quality on the contractor's part, which accounts for one of the biggest causes of fatalities, especially in Lagos city; for example, a five-Storey building under construction in Lagos collapsed, claiming the lives of 35 people (Kiganda, 2016). On September 12, 2014, a Six-Storey building (guest house) collapsed and killed 116 people in Lagos. Authorities of Lagos cited negligence under the Public Service Rule as the cause of such cases. Apart from taking note of the cause of the collapse or poor quality, the regulators should identify all key players within a building construction project and allocate individual legal duties. A construction project executed based on preliminary building design usually results in a weak and poor-quality finished structure, which affects the contractor and all the stakeholders. The lives of the occupants of the facility would be at risk.

Moreover, many abandoned projects are littered everywhere in Nigeria due to inadequate preparation (Oyedele, 2013; Ubani and Ononuju, 2013; Amade, 2014). A number of capital-intensive developments stall and fail at different development stages, while others poorly deliver intended services. In public sector projects, the issue of failure to complete construction tasks as prescribed has consistently caused displeasure to the entire group of stakeholders in the construction industry (Olapade and Anthony, 2012; Amade, 2014). In March 2010, the president instituted an investigation into cases of abandoned Federal Government projects in Nigeria and revealed that approximately 11,886 abandoned projects required approximately Naira 7.78 trillion to complete. The report indicated that the Nigerian government not embarking on any new project would still take an equivalent of over five years, budgeting about Naira 1.5 trillion annually to get them completed bearing in mind the non-inclusion of cost overruns and delays (Amade, 2014). According to Olanipekun et al. (2017), most public buildings in Nigeria depict evidence of unsuccessful execution. The subsequent effects include schedule and cost overruns, low-quality projects and outright abandonment. In addition, according to Hanson et al. (2003), in South Africa, clients were affected mainly by poor quality and contractor incompetence. Thus, customer satisfaction was negatively affected, and eventually, contractor performance and reputation were affected (Gharakhani et al., 2013). Indeed, in many projects' the quality of final works or product have a bearing

on the satisfaction of the one undertaking the project. Thus, inferior quality products would be produced when a contractor is incompetent. This scenario affects the reputation of that contractor leading to them not securing construction contracts in the future.

### 2.6 Project performance in the least Developed (LDCs)

The least developed counties (LDCs) or underdeveloped countries (UDCs) are countries of the most negligible revenue, experiencing extreme structural hindrances to controllable growth. LDCs have low human assets and are highly vulnerable to economic and environmental shocks. As of 2020, forty-seven countries were selected by the United Nations as least developed countries (LDCs) (United Nations (UN), 2021). The construction industry in the least developed countries, such as Nepal and Cambodia, are faced with a cost overrun, delay, and quality not meeting the standards expected in public works (Niraula et al., 2005). Only a few selected projects were completed within budget and time. Most public infrastructure development projects in Nepal and Cambodia were undertaken through foreign assistance. However, there is no incorporation of other project delivery systems to improve the efficiency of infrastructure development.

Moreover, contractors in Tanzania face a difficult growth path as they are underdeveloped (Bjorklof et al. 1992; UNCHS, 1996; Samson, 2003). Some of the difficulties include but are not limited to lack of education and training, fluctuating workload, delays in payments, lack of equitable contract documents, weak financing, lack of plant and equipment, poor corporate management and lack of commitment to construction, poor corporate prospects owing to small size and competitive market, bureaucratic contract award and administration procedures, weak institutions to provide support to and seek the welfare of the firms, and lack of support from the government (Muya, 2014, Wells, 1986; MoW, 1991; UNCHS, 1996; BICO and KAPSEL, 2000; CRB, 2002, Samson 2003). Besides, foreign companies dominate most of the construction activities in the Tanzanian construction industry. Thus, enterprises must employ strategies that heighten performance to regain a competitive edge. However, local firms in the construction industry of Tanzania lack competency in performance (Materu, 2000). This case is similar to that of Mozambique; while there is high demand for civil and heavy construction in Mozambique and a perceived steady growth in the coming years, there is a weak supply response from the domestic construction firms and the building materials industry. Foreign construction firms generally undertake construction services because of their size and experience in international markets. Few Mozambican firms have penetrated the market, and the ones who have managed to do so, typically find themselves performing low value-added works (Nhabinde et al., 2012). Thus, despite the potential for Mozambican firms to participate in the current construction boom while capturing part of the value-added chain efficiently by contributing to the construction materials industry's growth, the growth may represent a

lost opportunity for the construction materials industry Mozambique (ibid). The presence of indigenous companies and local inputs is minimal to nonexistent.

The market segment is close to a bilateral monopoly, allowing for collusion among suppliers and bid-rigging. The leading contractors hail from South Africa, China and Portugal, who make use of the network they have with foreign investors/markets and have the benefit to secure rewarding contracts (ANNEMM, 2000 and Lopes, 2006, AIMO, 2010). Their external/foreign influences tend to give them an advantage and make them more flexible in sourcing inputs and accessing financial resources. The previous statement explains their competitive advantage over indigenous companies that may not have that sort of high-level network. In the following section, the literature review dwells on Local Contractors' performance in Zambia.

### 2.7 Project performance factors of construction projects

According to Alqahtani (2015), construction projects are executed to achieve specific goals. A project's objectives would include completion on schedule, within budget, and delivery of acceptable quality to the client, and these objectives are typically specified during the project start stage and serve as yardsticks for the project's success. On the other hand, projects must consider many aspects to function well. For example, one of the success aspects of construction projects is risk management (Liu et al., 2010). Risk management entails defining, analysing, and deciding on the best course of action to minimise risks while accomplishing company objectives. All relevant elements in the construction risk management process are included in mitigating the risks and ensuring proper project implementation (ibid). Tserng et al. (Tserng et al., 2009) contend that risk management must be applied throughout the construction project's life cycle, from the inception to commissioning. Perhaps more than others, the construction sector is exposed to more risk due to the uncertainty within construction project development. Risk Management in construction projects is critical for achieving a project’s schedule, budget, quality, safety, and environmental sustainability targets. A Project manager can evaluate the outcome of managing project risk through the following criteria: time, cost, quality, scope, resource, and activity (Radujkovi and Sjekavica, 2017). Indeed, this proposed measure would encourage close monitoring of project parameters by project managers such that appropriate measures are in place to manage each risk.

Furthermore, health and safety practices are psychological and social activities related to working circumstances, practices, and the working environment (Alinaitwe, 2010). According to the Occupational Safety and Health Administration (OSHA), worker safety protects workers from accidents, injuries, and dangers from the occupational workplace, unsafe environment. According to Ghazali et al. (2014), safety in civil engineering is the method of safeguarding the health of individuals who develop, operate, maintain, and demolish engineering works and those affected by those works. Thus, the success of a

construction project is based on their health and safety practices, as contractors with sound health policies and conditions are more likely to complete their projects and evaluate projects more effectively (Taofeeq et al., 2020).

Also, coordination among clients, consultants and contractors is essential for successful project completion. Mwanaumo (2013) highlighted that key construction stakeholders take a commercial approach rather than professionalism such that the quality of design details given to contractors by project designers is usually inadequate. In addition, human factors, including Site management practices, Equipment holding, Communication, and labour relations, influence the project's performance outcomes (Gunduz and Almuajebh,2020). This should be carefully looked in on construction projects and ensure that all necessary inquiries are made available to promote successful implementation. Further, studies suggest that clients regularly monitor and control contractors' performance (Birrell, 1988).

However, Pheng and Chuan (2006) highlight that people make an essential contribution to the determination of the performance of projects. Human factors encompass specific group and organisational factors that influence project goals by indirectly determining the behaviour of project team members (Thevendran et al., 2004). These factors can be educational background, professional competence, physical health, emotional intelligence, and work experience (Taofeeq and Adeleke, 2019). Group factors can be referred to as leadership styles, communication methods, coordination, and empowerment, while organisational factors are corporate policies, procedures, and management styles. Understanding human factors can help construction companies' contractors and project managers utilize the available resources effectively (Taofeeq et al., 2020). Therefore, there is a need to pay more attention to human factors to implement construction projects successfully.

Additionally, Taofeeq et al. (2020) established that the educational background of contractors is vital to the effectiveness and successful completion of construction projects. The excellence of administrative employees allocated to a contract reflects deeply on the Technical Skills of a contractor. Contractors with higher qualifications (degrees) and a professional body, for instance, the chartered institute of building and civil engineers, perform effectively well while supervising projects (Taofeeq et al., 2020). Employee development is another crucial influence on the performance of contractors; in this regard, Onuka (2017) claims that the absence of training and re-training programs in construction companies usually yields an absence of skill, unproductivity, and ineffectiveness. Therefore, without a training policy provided by contractors, performance problems remain in existence. Besides, Simushi and Wium (2020) identified similar factors such as project-specific experience, past decisions on the external and internal organisation environments, community acceptability, project start, client budgets, and the client's

procurement requirements. This study highlighted that these factors were among the root causes of projects failure, such as project delay, if not properly managed.

Nevertheless, the Project Management Body of Knowledge (PMBOK) acclaimed that each project is governed by time, cost and scope (the triple constraints) and represented by a framework for evaluating these competing demands (Marchewka, 2000, PMBOK,2004, and Baker,2007). Time, cost and quality are competitive and require project managers' control measures for project success (Larson et al., 2011). There is a consensus regarding the success of projects, which entails that projects should be functional, obligated to add strategic value, and must have achieved their delivery targets (Cambell and Baker, 2007). Thus, not adhering to quality would result in the client rejecting the finished product (Barad and Raz, 2000). Moreover, King and Manu (2019) suggest that time, cost, quality, and organisational culture play substantial roles in project management. Kerzner (2006) indicated that the organisations' goals might not be accomplished if the organisations overlook critical aspects such as change requests in scope, project complexity, project risks, organisational restructuring, technological changes and financial planning. The literature points out that tradeoffs must be considered, and priorities must be set to realise strategic decisions. Hence, usually, successful project performance is determined by: time, cost, and quality (Harrison and Lock, 2004). Given the preceding, this study categorised the performance factors as time, cost and quality, and the following section focuses on specific project performance factors of contractors on construction projects.

### 2.7.1. Time-related project performance factors

Completing developmental undertakings needs adherence to the stipulated time of the agreement, which is amongst the yardsticks of measuring a successful project; despite its proven importance, many projects have failed to achieve this critical objective (Memon, Rahman, and Azis, 2012). When a project experiences extra time to finish and goes beyond its original planned duration, whether compensated for or not, this constitutes a delay (Alkhathami,2004, Mohamad, 2010, Al-Hejji, 2006). Project interruption negatively affects both the owner and contractor, either in lost revenues or extra expenses. It often advances the contentious issue of delay obligation, resulting in conflicts that frequently end up in the courts. However, project schedule postponements transpire in almost every construction undertaking, and the extents of such interruptions vary from one undertaking to the other. Selected undertakings exceed planned schedule by a few days and others more than 12 months; hence, defining the actual causes of delay is essential to minimise associated costs in any construction project (Hendrickson and Au, 2003). Early identification of the causes enables the contractor to plan for the next course of action in good time. Thus, finishing projects with less time and cost is decisive for planning a project.

Nevertheless, in Vedat and Eirgash's (2018) view, fast-tracking the project's schedule results in additional cost because of the lessening inactivity duration, which involves using other resources. When there is a delay in the project schedule, project managers could undertake the time-cost trade-off problem (TCTP), which supports acquaintance with the established time–cost options that would guarantee the ideal program under precise conditions (ibid). The Asian Development Bank (2018) highlights that the goal of delivering a project on time is an essential element of Value for Money (VFM). When a project is provided promptly or when a process is completed rapidly, greater value is created for all stakeholders. For instance, a road project completed early provides an economic benefit, security, or other value to the community it serves. It increases the investment return to the executing agency and hastens the project and payment cycle to the successful bidder. Likewise, a project delivered late loses significant value (Asian Development Bank, op. cit). However, the interruption and postponement of schedules remain a global issue and occur when the contracts/agreements progress behind schedule (Sambasivan and Soon, (2007) cited in Mukuka et al., 2015). The cause may be by any party to the agreements/contract and may directly result from one or more circumstances (Abbas, 2006). Egan's study acknowledged a lack of leadership in integrating academic research and industry practices also to cause continual low performance (Egan, 1998). Indeed, leadership plays a significant role in a project as most project workers rely on the leader’s guide to perform and execute the project to its expected standard. However, leaders need to have a track record of having worked in the industry on projects of similar nature and unquestionable experience.

On the other hand, Lessing (2017) contends that in Australia, the core delay-causing factors on large construction projects include: the unpredictable state of the site; suspension of drawing creation; rescheduling in issuing instructions, unhurried revision and approval of drawings by developers; unclear and inadequate details of the drawings. There was a particular concern that participants did not have much of a concern about the plant and equipment category and that there was a shortage of skills and low productivity of human resources (ibid).

However, performance lag could be attributed to (i) poor reliability concerning the existence of contractors on the market, their size, reputation and certification; (ii) the Value Added Tax (VAT) level and associated reimbursement delays; (iii) multiple and lengthy bureaucratic procedures associated with state ownership of land which raises the costs of access to land in urban areas, increasing informality and hampering the development of the housing market; (iv) inadequate government procurement codes; (v) limited access to credit; (vi) lack of qualified workforce; (vii) limited use of modern technology; (viii) delays and bureaucratic barriers for importing raw materials, and (ix) policy and institutional fragmentation (ANEMM, 2000, Lopes, 2006, AIMO, 2010, cited in Nhabinde et al. 2012).

Further, Agaba (2009) states that delays in infrastructure development may be due to mediocre sketches and specifications and problems associated with management and supervision. El-Razek et al. (2008) reveal that delayed payments, coordination difficulty, and poor communication were significant causes of delay in Egypt. Meanwhile, Sambasivan and (Soon, 2007) reported that poor planning, poor site management, inadequate supervisory skills of the contractor, delayed payments, material shortage, labour, equipment availability and failure, poor communication, and reworks were the most significant causes of delays in the Malaysian Construction Industry. Not only this, researchers Kouskili and Kartan (2004) recorded the foremost factors affecting cost and time overrun as inadequate/inefficient equipment, tools and plant, unreliable sources of materials on the local market, and site accidents.

On the other hand, Hirsch and Catchim (2012) believed in humans' inability to predict the future, thus delaying the project as they could not predict accurate completion time. Their assertions show how sceptical they were to the idea of setting up plans for the future and implementing project ideas efficiently. However, researchers have argued that there is no construction project without risk as, in most instances, they are unpredictable. Among such researchers, Hirsch and Catchim (Op. Cit) view risks as manageable, minimisable, could be shared, transferrable, or acceptable, yet cannot be ignored. Indeed, there are many ways construction risks can be addressed; one of the ways is insurance.

According to Butcher and Sheehan (2010), from the customer's perspective, numerous essential behaviours define outstanding contractor performance, and a number of performance-related facets are input/ "lead" factors or attitudes and behaviour instead of untainted construction competence. These include, but are not limited to, delighting the customer's stakeholders, upholding and honouring company agreements, bringing into line with the customer's culture, knowledge transfer to the group, and proving a keen understanding of the customer's business. This behavioural understanding has led to a change in the way customers interact with their first-tier contractors. By managing at this level, customers can vary and influence how their contractors develop as businesses (ibid).

In continuation, according to Aziz et al. (2016), Keane et al. (2015), and Jarkas et al. (2015), the main reasons for construction projects delays include inadequate and poor supervision of construction site, problems due to inefficient working of subcontractors, issues of planning and scheduling, contractors lacking experience, changes in design during the construction phase, late delivery of materials, unpredictable geological conditions, difficulties and shortages in providing materials, equipment, and manpower, delays in payment from owners, contractors' monetary problems, design deficiencies, excessive bureaucracy and paperwork in obtaining work permits, harsh weather conditions, economic loss due to inflation or fluctuation, and slow pace toward decision-making processes.

Besides, for the Zambian scenario, Kaliba et al. (2009) established that the persistent reasons for the interruption of Road developmental undertakings included delaying of payments, financial challenges (on the end of client and constructor/builder), contract alteration, material procurement, tough economy; changes in design drawings, staffing problems, equipment unavailability, poor supervision, construction mistakes, poor coordination on-site, changes in specifications, labour disputes, and strikes. Indeed, it is common for clients sometimes to change their scope amid the project, leading to scope creep. In the same way, the unavailability of skilled personnel affects project execution as experts are scarce.

Also, according to Sichone (2016), there is evidence that because construction projects are usually money pits, where funds are swallowed up' without achieving the required project objectives, this causes a delay in the project, as the construction team tries to raise the lost funds to complete the project. He further noted that delays also arise due to the lack of background or documented evidence in risks assessments/uncertainties and not taking corrective actions to mitigate the identified risks. Thus, in developing a plan for the unaccounted-for risks on an ongoing project, time extension arises, leading to schedule overruns.

### 2.7.2. Cost-related project performance factors

Cost performance is the magnitude to which the general conditions encourage completing a project within the estimated cost plan (Bubshait and Almohawis, 1994). Salter and Torbett (2003) indicated that cost change was the usual measure of design performance. Cost performance is confined to the tender sum and the overall cost that a project incurs from inception to completion. It includes any costs that arise from variations, modification during the construction period, and the cost arising from the legal dues, like litigation and arbitration. Cost performance is measured in terms of unit cost, percentage of net variation over final cost (Chan and Tam, 2000). Cost variance is indispensable in construction performance measurement as it is the basis for information regarding the question of whether the project is over or under budget. The cost influences the project's performance; hence the need for prudent cost management cannot be overemphasised. Managing costs on a project includes planning, estimating, budgeting, financing, funding, managing, and controlling costs so that the project can be completed within the approved budget (PMBOK, Op Cit). However, studies have indicated poor performance in terms of project costs, as they are often exceeded, and further studies have been dedicated to establishing the specific or generic causes of poor cost performance on construction projects (Skitmore and Wilcock 1994; Cheung et al. 2008).

Moreover, a global survey by PwC (2012) revealed some of the major contributors to project cost escalation, and these included: poorly compiled cash flow forecasts during project planning and unrealistic or poor adherence to critical path deadlines. A similar study, Creedy (2005), established the

features influencing the cost overrun in highway development to encompass changes in design, variations in tender contract price; the quantity increased measure, latent condition, removal and replacement of unsuitable material due to faulty design, and environmental issues as per local conditions. Change orders influence the project's performance, particularly on the cost of a project, resulting in scheduling delays and low productivity (Kermanshachi et al., 2019). In addition, Datta (2002 established that the causes of cost escalation were a delay between the planning stage and actual implementation of large infrastructure projects.

However, Le-Hoai et al. (2008) ranked the three top causes of cost overruns in developing countries, particularly in Vietnam, as inflation, erroneous quantity take-off, and labour cost increase due to environmental restrictions. Further, among many reasons for cost overruns; the founding causes are usually linked to the initial phases, project planning/design, which consist of; thoughtless approximation of project materials, alterations to terms of references, project schedule changes, scope changes, unexpected site conditions, rising costs of materials and labour (primarily due to inflation), and or unforeseen events (Pourroustam and Ismail, 2011). Other leading grounds for cost overrun are mainly related to change orders, contract mistakes, and drawings changes (Haseeb et al. op. cit). Furthermore, causes could be categorised into four (4) core descriptions: Technical, Economic, Psychological and Political. Technical explanations for cost overruns included an error in forecasting price, poor design and implementation, changes in scope, inappropriate organisational structure, bad decision-making, and a planning process (Cantarelli et al., 2013). Economic causes include an absence and wasteful usage of resources, unavailability of a dedicated funding process, poor contract management, and undefined strategic behaviour. Psychological explanations are founded on the optimism bias among local officials and the cognitive bias of people. Political causes are under-estimated intentionally to elevate acceptability opportunities, strategic misrepresentations such as indiscipline, no commitment, coordination, political pressure, and unbalanced information (ibid).

Notwithstanding this, a myriad of cost overruns transpires during the construction phase, in which many unforeseen factors are imagined over the conception/design stages (Chan and Kumaraswamy, 1997). At this stage, complete details of the projects are unknown. However, as projects progress into the construction phase, features comprising irresponsible site management and supervision, low speed of decision-making, and client-initiated variations have reportedly been some of the most noteworthy causes of cost overruns in the construction phase of projects (Trost and Oberlender 2003; Iyer and Jha 2005). These factors primarily relate to the project manager (Frimpong et al., 2003). Hence, a precise understanding of these factors and protocols of responsibility-sharing for effective management among the key stakeholders is not widespread. Although tools and techniques implemented to control these

factors play an essential role, understanding the root cause and their potential impacts in managing them from clients, consultants, and contractors is the key to success in cost performance.

Furthermore, studies regarding completed projects in Ghana revealed that the five common issues impacting project cost performance were difficulties issuing monthly payments by charged agencies, poor contractor management, material procurement, poor technical performance, and escalation of materials prices (Frimpong et al. 2003). In further studies, Jackson (2002) revealed critical aspects causing cost overrun encompassing insufficient project planning and management, unexpected ground condition, design development, lack of information, estimating method, time limit, commercial pressure, procurement route and external factor. On the other hand, Koushki et al. (2005) found that contractor-related problems, material-related problems and owners' financial constraints were the leading causes of cost overrun in Kuwait's Private residential projects. Indeed, lack of planning or poor planning leads to negative results on a project, in that the projects may end up experiencing cost overruns. Also, contractors face financial constraints, primarily when they cannot obtain credit facilities or the cost of borrowing is high.

Meanwhile, Iyer et al. (2005) acknowledged the factors which unfavourably affected the cost performances of projects in India and recorded the leading grounds for conflict among project participants as a deficiency in knowledge, presence of flawed project, climatic conditions, interruption in decisions, tough competition at tender stage and short bid preparation time. Other essential features causing delay include original contract duration being too short, shortage of labour, delay in material delivery, the low productivity level of labourers, and delay in progress payments by owner (Doloi et al. 2012); Desai and Bhatt, 2013). Conflict among project participants derail projects due to the project being unable to move forward as parties do not agree on the course of action, s parties would be focused on resolving the difference. In such a scenario, parties ought to settle differences in the shortest possible time.

Similarly, Kaliba et al. (2009) determined that budget escalation of Zambia construction undertakings resulted from unfavourable weather, scope changes, environment protection, mitigation costs, schedule interruptions, strikes, technical challenges, and inflation. Scope changes in the middle of the project are usually experienced, as clients demand more and more from the contractor without considering the cost implications. It is also common for workers to go on strike, especially where foreign and some local companies are concerned; these are regarded as payers of low wages to their workers, hence the common practice (Kaliba op. cit). Bubshait and Al-Juwait, (2002) presented a similar collection of issues in Saudi Arabia: weather, number of projects going on at the same time, social and cultural impacts, project location, lack of productivity standards in Saudi Arabia, level of competition, supplier manipulation,

economic stability, inadequate production of raw materials by the country, absence of construction cost data. They observed that these factors are experienced in almost every construction project.

### 2.7.3. Quality-related project performance factors

Quality is the entirety of features required by a product or service to satisfy a given need or fitness purpose (Parfitt and Sanvido 1993). According to Ferguson and Clayton (1988), quality represents interpreting the requirements of the designer, contractors and regulatory agencies, and the client in the construction industry. Managing quality on construction projects should translate into maintaining the building activities at the required standard to obtain customers' satisfaction, bringing long-term competitiveness and business survival for the companies (Tan and Abdul-Rahman, 2005). Suffice to say; Quality management is critically required for a construction company to sustain itself in the current construction market, which is highly challenging and competitive. The emphasis on quality in the construction industry conforms to established requirements. According to Ganaway (2006), requirements are the notable features of a product, process, or service specified in the contractual agreement, including any specification that defines the nature of those products, processes, or services determined initially by the client. To complete a project that meets the owner's quality expectations, all parties must understand the expectations, incorporate them into the contract price and other contract documents to the most considerable extent possible, and commit in good faith to carry them out (ibid). Quality is among the most frequent in non-conformance to standards in a construction site, and the causes of poor quality in construction projects have been identified (Rahman et al., 2000). For instance, King and Manu (2019) attributed the failure of performance to inadequate project time, several scope changes, insufficient control, poor communication, sketchy stakeholder communication, socio-cultural and political interferences and lack of top management support. An additional cause is corruption or unethical behaviour by the construction industry parties (Rahman et al., 2007). The consequence of the increase in unethical issues in the construction industry (corruption and demand for kickbacks by consultants before certification of works) is the perception that contractors/construction companies, and the owners are the primary culprits. As a result, the blame for the defective finished works is placed on the said contractors; whilst overlooking the two other leading players, the clients and the technical consultants may contribute to the project's defects.

Further, Kasun and Janaka (2006) mentioned a subcontractor's role as another factor contributing to construction deficiency. A subcontractor's role is critical on construction undertakings, especially when most of the site work is completed by subcontractors. When there are several sub-contractors on the project, the main contractor focuses on management and coordination and may find challenges to check, oversee, and control the subcontractors' works. A subcontractor's role, which majorly places the task of

supervision and responsibility on the main contractor in construction projects, can therefore add to poor workmanship. Industry stakeholders agree that insufficient skilled human resources are the most crucial concern in construction. A select few construction companies opt to hire temporary unskilled workers and consequently cause a fault in attaining the stability of associated quality issues. Thus, the nonexistence of staff experiences and competency contributes to poor workmanship as productivity cannot be achieved without adopting better work practices (Kasun and Janaka, op. cit). Additionally, the suitability of construction equipment can influence the workmanship quality in construction; the use of the wrong equipment on a task may result in unacceptable quality (ibid).

In addition, inadequate funding bears as a ground for insufficient allocation of costs in construction projects—for example, the difficulty to price labour within a reasonable degree of precision. Contractors who do not prepare sufficient budgets for projects would attempt to reduce labour costs to save money for materials to meet their targets. As a result, the labour supplied would be insufficient to complete a project, leading to poor workmanship and construction defects (Kasun and Janaka, 2006). Likewise, (Atkinson 2009) reveals that insufficient time causes rushed construction projects execution.

Further, Abbas (2006) established that the different languages between the foreign labourers and local supervisors or vice versa cause communication failure on a site contributes to quality failures because most foreign employees cannot speak local languages fluently. Consequently, raising misunderstanding on work scope then led to poor quality. According to Kaliba (Op. Cit), more of the causes of substandard quality include the following: clients' lack of relevant knowledge; disruption of project management continuity; inadequate and inconsistent release of project funds by clients; inadequate inspections; inadequate project planning; inadequate supervision of subcontractors by the main contractors; inadequate or wrongly applied specifications; incompetence and lack of capacity by contractors to execute works in terms of human, plant or machinery and financial resources; incompetence of some consultants; lack of project coordination by the client, contractor and consultant; local government pressures; time lapse between assessment, procurement and implementation of projects; poor financial management by contractors; poor sub-contractor performance; project location; and size of projects.

In continuation, the absence of know-how regarding the proper method of material preserving and structures and knowledge of the standard building materials used by the consultant and contractors can contribute to building defects. Another situation is where contractors compromise the specifications of materials and methodology, for example, substandard grade of concrete against the consultants' specifications, without the consultants' and client's awareness or permission (Danso and Antwi, 2012). This scenario would result in poor quality of finished products and may even affect the infrastructure's structural integrity.

Moreover, Kaming et al. (1997) identified scarcity of equipment and supervision interruptions as factors influencing productivity in the Indonesian construction industry. However, in some cases, the Local Contractors' attitude towards the construction projects is to blame for the failure to perform as the abandoned project sites despite receiving payment for the works or materials (Nyirenda, 2015). In addition to the Iron Triangle, Iyer (2005) and Bubu (2015) identified Seven (7) broad different aspects that affect the smooth execution of construction projects as follows: output, operator/employer's satisfaction, regulatory and community satisfaction, people, health and safety, innovation and learning and environmental issues. Scholars such as Ankra (2005), Nyangilo (2012), and Choi et al. (2010) presented a broad spectrum of problems, indicating that the leading causes of poor construction project management performance vary from country to country and depend on their construction culture.

### 2.8 The phenomenon of culture

Historically studies related to culture are rooted in anthropology and social anthropology (Ankrah, 2007). According to Hatch (1993), anthropologists have dealt with the cultural phenomena more outrightly than any other group of scientists or scholars. Therefore, it is logical in studying this phenomenon, irrespective of the context, that the anthropological perspectives are examined. Literature has recorded many different definitions of culture, and evidence of this is in excess of definitions available. One of such definitions is a pattern of basic assumptions invented, revealed, or developed by a particular group as they learn to deal with the problems of external adaptation and internal integration (İbrahimoğlu, 2014). According to Hofstede (2001), "the collective programming of the mind" differentiates the affiliates of a group or class of people from another. In addition, Hofstede (2010) highlighted that since culture is attained from individuals residing in the same social environment, it is often understood to be a social phenomenon.

Further, culture constitutes shared values, customs, beliefs, and perceptions collectively accepted by followers of the same grouping and not written (Daft, 2010). Comprehensive organisational performance is an aggregate result of mutually co-existing factors (Huragu et al., 2019), yet according to Daft (2000), it is an entity's ability to accomplish goals through effective and efficient resources. Thus, to be successful, an organisation needs to find the right combination and balance between and amongst some of the critical variables that include: capital and financing, core competencies, leadership and leadership style, plant and equipment, information communication technology, markets and marketing initiatives and the right products for the right markets. Notably, culture falls into the non-tangible category as its value cannot be readily determined in monetary terms as other investments can be, such as in the re-capitalisation of plant and equipment. In the view of Lundy and Cowling (1996), culture represents *"the way we do things around here"* they emphasise that culture in any organisation is priceless and cannot be attached to any monetary value terms. Thus, how people behave, establish working systems,

procedures and routines to follow, and how everyone can formally or informally agree to follow these processes to become the norm result from the culture. The word culture may apply to any human category, such as an organisation, a profession, an age group, an entire gender, or a family (Hofstede, 2001). This perspective is imperative as it clearly illustrates that culture applies to the Construction Project Organisation (CPO) context.

Moreover, in the dynamic perspective of Erez and Gati (2004, the various levels of culture influence each other in a 'top-down, bottom-up' fashion, such that inconsistencies between levels may instigate change and cultural adaptation or lead to conflict. This interpretation is that although culture is often portrayed as homogeneous because of sub-groups into the broader collectivity, sub-cultures are likely to exist in the more general culture (Goodenough, 2003; Erez and Gati, Op Cit).

### 2.8.1 Organisational culture

A basic definition of organisational or corporate' culture is necessary to provide a point of departure in the quest to understand the phenomenon. Organisational culture evolves from the notion that companies are clusters of people collaborating and working together to reach specific objectives that any single individual cannot reach (Mullins, 2005). Construction projects may also be considered organisations or multi-organisation establishments (Cherns and Bryant, 1984), and a foundation for the effective functioning of an organisation apply, including a common objective and an appropriate corporate culture that is congruent with the environment (Thompson, 1993). The origin or evolution of organisational culture is said to be among many ideas. Climate surveys relating to organisations conducted in the 1970s suggest that an organisation's culture is a sophisticated approach to understanding individual members' beliefs and attitudes about their respective organisations (Brown, 1998). Brown (Op Cit)) noted that organisational culture may have originated from studies of climates, national cultures, human resource management, and conviction approaches that emphasise the organisation's rational and structural nature to not fully explain organisational behaviour. Organisational culture is also said to originate from, amongst many, the work of Deal and Kennedy (1982), where organisational culture is considered central to organisational success instead of factors such as structure, strategy, or politics. This viewpoint led to a shift in focus from national cultures to more emphasis on culture within organisations, as it was professed to suggest a non-mechanistic, flexible and imaginative approach to understanding how organisations work (Brown, 1998). Consequently, organisational culture is considered the great "cure-all" for most organisational problems (Wilson, 1992).

Further, Martins and Martins (2003) expound organisational culture as a system of shared meaning amongst members, distinguishing the organisation from other organisations. However, Arnold (2005) explains it as the distinctive norms, beliefs, principles and ways of behaving that combine to give each

organisation its distinct character. Based on the preceding definitions, it is learned that organisational culture differentiates one organisation from another. In simpler terms, organisational culture is similar to the meaning of personality to an individual (Johnson, 1990). Additionally, Schein (1985) defines organisational culture as a pattern of basic assumptions invented, discovered, or developed by a given group as it learns to cope with its problems of external adaptation and internal integration that has worked well enough to be considered valid and therefore, to be taught to new members as the correct way to perceive, think, and feel concerning those problems.

Meanwhile, according to Hofstede (1991), organisational culture consists of created assumptions, ackno wledged styles of doing things and transferred to its new members. New personnel would have to succe ssfully deal with their environment, with less conflict with others owing to the company principles, vie ws, rites, mythologies, and signs to reinforce the core assumptions of organisational culture, leading to a new belief system. Brown (Op Cit) also addresses organisational culture as the pattern of beliefs, values and learned ways of coping with experience that has developed during an organisation's history and tends to be manifested in its material arrangements and the behaviours of its members. This suggests that organisational culture is articulated to shape how organisational members behave. The framework of values, norms, beliefs, attitudes, principles, and assumptions may be unwritten or unspoken behaviour that describes how things get done; to give the organisation its unique character (Brown, Op. Cit). Organisational culture is also described as the "distinctive constellation of beliefs, values, work styles, and relationships that distinguish one organisation from another". In other words, organisational culture includes those qualities of the organisation that give it a particular climate or feel. As a result, the distinct attributes of an organisation may manifest through four dimensions, namely power, role, achievement and support (Harrison, 1993).

Besides, Allaire and Firsirotu (1984) believed that cultural anthropologists had proposed many different and complex theories. The first distinction is between theories that interlock culture into the systems of society (sociocultural) and those in which culture is an ideational system (a system of ideas) conceptually and analytically distinct from the social system. Further, the study of culture could also be approached from the levels of observing the phenomenon (Erez and Gati, 2004) or from a converging or diverging standpoint (Abu Bakar, 1998). Also, culture could be regional (Hofstede, 1984), countrywide (Trompenaars and Hampden-Turner, 1997; Hofstede, 2001), industrial (Riley and Clare-Brown, 2001), organisational (Peters and Waterman, 1982; Deal and Kennedy, 1982; Hampden-Turner, 1994; Handy, 1995; Hofstede, 1997) as well as at the occupational level (Root, 2002; Rameezdeen and Gunarathna, 2003; Ankrah and Langford, 2005). An additional set of perspectives in culture research is the convergence or divergence perspective (Abu Bakar, 1998), focusing on finding commonalities or

differences in cultural characteristics. This situation is called 'glocalisation' (consequential from globalisation and localisation) regarding this dilemma of convergence or divergence (Trompenaars and Hampden-Turner, 1997). Martin (1992) suggests integrating, differentiation and fragmentation perspectives in organisational culture research, meaning that there are many approaches adopted in cultural studies, there is a need to identify and justify any such approaches to avoid ambiguity and over-generalisation. Indeed, this study appreciated and acknowledged the value of countrywide ethnical cultures on infrastructural developments, and that handling project begs awareness regarding the policies/guidelines developed by different national cultures and occupational groupings. However, relevant and specific theories of culture underpinning the study were discussed more deeply in chapter three, theoretical and conceptual framework. The following section presents the types of organisational culture.

### 2.9 Types of organisational culture

Extant literature indicates that culture types in organisations are classified as clan culture, adhocracy culture, hierarchy culture, and market culture (Quinn and Rohrbaugh, 2011, Fiordelisi, 2014; Sok et al., 2014; Wiewiora et al., 2014). In early studies, Quinn and Rohrbaugh (1983) recognised that high-achieving companies face balancing acts in two folds: the first was focus, where selected firms were effective when they focused on the internal processes, whilst others were effective when they maintained a competitive external positioning. The second was stability, where some organisations showed efficiency when they demonstrated flexibility and adaptability while others succeeded because they ran by stability and control. Figure 2.1 illustrates the Competing Values framework developed by these researchers.

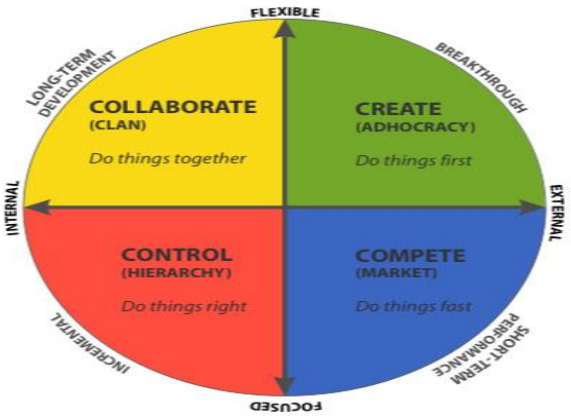


**Figure 2. 1 The Competing Values Framework (CVF)**

Source: Adapted from Cameron and Quinn (2011)

Furthermore, after their theoretical analysis, Zammuto et al. (1999) and Bradley and Parker (2006) presented that the dual dimensions of competing values map out four significant types of organisational culture. These scholars submitted a variety of organisational cultures using the Competing Values Framework, a tool that addresses an organisation's internal and external environments compared with its competing demands and between its control and flexibility. The conflicting strains institute the two axes of the competing values structure. Companies that possess an interior emphasis focus on integration, information management and communication, whereas organisations with an external focus emphasise growth, resource acquisition and interaction with the external environment. Dimension of conflicting demands encompasses organisations fixed on control, stability and cohesion, and flexibility, which emphasises adaptability and spontaneity. Therefore, organisations must establish the most appropriate balance between the four culture types to achieve optimal organisational management. The four culture types are presented as follows:

### 2.9.1 Clan Culture

As per the values matrix, collaborate (clan) is comparable to Control (hierarchy) in that there is an inward focus with concern for integration. However, collaboration (clan) emphasises flexibility and discretion rather than the stability and control of Control (hierarchy) and Compete (market) organisations. Collaborate (clan) organisations functioned similarly to family members; hence the name, and they appreciated cohesion, a humane working environment, group commitment, and loyalty. Companies were made up of semi-autonomous teams that could appoint and fire their affiliates, and staff were encouraged to shape how things would get done. Furthermore, Thomas et al. (2002) adopted the traditional 'Competing Values Framework' model and the instrument developed by Cameron and Quinn (1999) to assess the project culture of thirteen Australian construction projects. The findings indicated that clan type cultures were positively correlated with quality outcomes. Clan culture functions more in terms of equality rather than seniority or hierarchical roles, facilitating better collaboration and making work a more welcoming experience for some personnel. A company with a clan culture exhibits close relationships among co-workers and managers. All company associates are like a family and are comfortable with one another. Clan culture eliminates hierarchies and creates a more supportive work environment where upper management employees are likewise involved and valued. They are likely to use open and informal communication. This type of environment is free from a high number of management levels, as employees seem to be peers and family. The following section gives insight into the Adhocracy Culture.

### 2.9.2 Adhocracy Culture

According to Fekete (2001), adhocracy is similar to Collaborate (clan) in that they concentrate on flexibility and discretion; however, they do not share the same inward focus. Instead, they are similar to Create (adhocracy) in their external focus and concern for differentiation. Adhocracy organisations hold flexibility in high esteem, adaptability and flourish in what would have earlier been viewed as unmanageable chaos. High-tech corporations such as Google are classical Create (adhocracy). Google creates innovative web tools, taking advantage of entrepreneurial software engineers and cutting-edge processes and technologies. Their capability to quickly develop new services and capture market share has made them front-runners in the marketplace and forced the less agile competition to play catch-up. Tseng (2010) reported a significant favourable influence of adhocracy and hierarchical cultures on performance. Similar results were obtained by Calciolari, Prenestini, and Lega (2018). However, Fekete and Bocskei (2011) established that clan and adhocracy cultures were significant positive predictors of performance. Innovation and growth are the main goals for adhocracy cultures. And the faster the growth is, the better. Team members challenge the status quo and constantly find ways to improve, innovate, and develop new services and offerings. You have an adhocracy for companies where staff constantly find ways to improve services or roll out new offerings. However, this makes it hard to focus on a single aspect as there is constant innovation. Market Culture is presented in 2.10.3 as follows:

### 2.9.3 Market Culture

In market culture, the core values that dominate the market culture type are competitiveness and productivity, which can be achieved by emphasising external positioning and control. Additionally, the postulation concerns the outward environment not being benign yet not hostile; hence consumers are fastidious and interested in value. Another basic premise relates to having a definite purpose and an aggressive strategy leading to productivity and profitability (Mukogo, 2018). The philosophy is primarily competition and goal-oriented. It has a focus on productivity, profitability, market share, penetration and winning. The expectation is that leaders should be intensely energetic, hardworking, challenging and demanding competitors (Cameron and Quinn, 2011). The orientation of market culture leans toward the environment outside the organisation, unlike internal affairs.

Moreover, the concentration is on connections with those outside the company such as suppliers, customers, contractors, licensees, unions and regulators. The downside of Market culture lies in the unavailability of innovation or a supportive environment. Lui (2009) defines market orientation as the organisational culture that promotes customer-centric awareness and respects the buyers' superior expectations of the function of products. Thus, it leads to putting customer needs first in all operations

and growing the market for the firm. In the construction project set-up, the interpretation would be that the organisational culture promotes awareness about the client, has superior value for clients, and puts clients' needs first in all operations, resulting in a growing market for the company. However, there is a similarity to the control (hierarchy) as it equally appreciates stable processes and control. However, there is an external orientation and value differentiation over integration against an inward focus. For instance, this was necessitated by the challenges from foreign countries that required firms in the USA to search for a more effective business style in the USA. Having an outward focus, competitive (market) organisations focus on relationships, including transactions with suppliers, customers, constructors, unions, legislators, consulting firms and regulators. They effectively apply the external relations with the idea that they should be successful. Compete (market) organisations are concerned with competitiveness and productivity by emphasising partnerships and positioning. In this regard, corporate culture is competition, where performance results speak louder than process (Fekete, op. cit). With this background, this study believed that contractors' Project Managers should provide the construction team members with defined clients' requirements at times.

Moreover, there is a need to direct adequate time to project team members to pursue the premium resources, allow ample time to execute a project flawlessly and deliver it to the finest of the entire team's ability. Thus, enabling teams to recognise the need to prioritise projects, have a special appreciation for their clients, and create lasting business relationships. Morgan and Vorhies (2018) support the indirect positive relationship between market culture and market performance through customer satisfaction. Market culture closely affects fiscal performance through innovation. Seo et al. (2010) argue that all types of culture are significant predictors of performance, whilst Chatman et al. (2014) determined that all the four types of organisational culture based on CVF have a significant favourable influence on performance.

### 2.9.4 Hierarchy Culture

Hierarchical organisations are usually large, bureaucratic corporations that exemplify stability, control, internal focus and integration. Standardisation, control, and a well-defined structure for authority and decision making are valued. Influential leaders in hierarchical cultures can organise, coordinate, and monitor people and processes (Quinn, op. cit). They are positive influences on performance, Tseng (2010). Calciolari, Prenestini, and Lega (2018) affirms this, yet Zhang and Zhu (2012) found conflicting evidence with regard to hierarchical culture but testified a positive and significant impact of both adhocracy and market cultures on performance. Fekete and Borski's (2011) results were that hierarchical culture negatively influences financial performance. Indeed, bureaucracy in firms may not be productive as it may lead to postponing crucial decisions relating to projects. For construction projects, this may be

one of the contributing factors to the stagnation of projects. According to Stangel (2016), hierarchal cultures have been around since ancient times. Societies such as ancient Egypt based their society around a pharaoh. Power was cascaded in a pyramid structure. While things have changed a lot since the first pharaohs, hierarchal companies continue to use the same visual structure – with a single person (the CEO) at the very top. In a hierarchal structure, there is only one way up, such that decision-makers do 80% of the talking in meetings or group sessions. The staff know what they need to do to proceed with the organisational ladder, giving them a sense of purpose. It motivates them to develop their skills to reach the next stage on the ladder. In hierarchal cultures, authority is straightforward and gives staff direction. As already alluded to, Hierarchies depend on stability and control; a supervisor establishes clear expectations and sets daily tasks for their workforce. However, rigid hierarchies can make employees accept everything their superiors tell them and nod along to ideas that they would generally find implausible, especially right where companies forbid members of staff to critique the ideas of high-ranking officials (ibid). Hierarchal structures could therefore be preventing personnel from performing at their best.

### 2.10 Organisational culture in various organisations

Paarlberg and Perry (2007) investigated values management, connecting employee values with company objectives. Hence, according to their research, employees are inspired by strategic values to a ranking that reflects their internal affective, normative, and task-oriented values and a division of prevailing values that positively affect the organisation's performance. Further, Kashiwagi et al. (2004) highlighted a dearth of leadership in the construction industry and linked the project delivery process to a management culture rather than a leadership culture, stating that using a leadership-oriented method reduced inefficiencies improved performance. This is an argument favouring a more dedicated leadership style, a viewpoint supported by Chan and Chan (2005), who believe that transformational leadership is required to achieve improved results.

Moreover, Harris and Ogbonna's (2014)'s study focused on leadership style, organisational culture, and company success in the United Kingdom. The nature of the link was investigated in this study, and empirical data was presented that reveals the current corporate culture mediates the relationship between leadership style and performance. A descriptive quantitative research approach was clearly used; as a result, a thousand-unit multi-industry sample was drawn from the database of registered United Kingdom citizens. Medium and large-sized animals are suitable. Companies were chosen using a systematic random selection approach, with appropriate units chosen based on various parameters, including company turnover, registration date, and employee count. Participative leading, supportive leadership, and instrumental leadership were the three leadership styles identified as impacting project performance.

Nevertheless, Farh, Hackett, and Liang (2017) performed a cross-organisational sample of 163 supervisor/subordinate dyads from mainland China for a study on Chinese organisations. They looked at how power distance and Chinese tradition had a role in the relationship between perceived organisational support and work results. Each firm's managers and subordinates received questionnaires (workers were recruited from twenty-seven (27) enterprises in Beijing and Tianjin). Dorfman and Howell (1988) devised a six-item power distance measure for usage in Taiwan, which they employed. According to the study's findings, power distance limits organisational support for its personnel, resulting in worse performance and productivity.

Additionally, Robert et al. (2016) undertook a study on Empowerment and Continuous Improvement in the United States, Mexico, Poland, and India: Predicting Fit based on the Dimensions of Power Distance and Individualism. The scholars tested the compatibility of empowerment and continuous improvement processes with national culture, using data from employees of a single corporation having operations in the United States, Mexico, Poland, and India. The authors predicted that some cultures' practices would be more congruent than others and that value congruence would lead to job satisfaction, using the theoretical constructs of individualism, collectivism, and power distance. Thus, it can be deduced from their research that when people are empowered, organisational productivity rises, resulting in improved performance.

On the other hand, Williamson (2018) researched Canada on the implications of extending employee decision-making on company value contributions in an informal reward setting. According to the study, employee participation in decision-making allows employees to use their private knowledge, which can lead to better decisions for the organisation and, as a result, improved performance. Preuss and Lautsch (2002) inspected the effect of employee engagement and job insecurity on members of staff satisfaction and commitment in the United States. They adopted data sets which encompassed evidence retrieved from the staff, managers, and government sources from fifteen hospitals in the Metropolitan Region of the USA to test these issues. According to their investigation, staff pleasure and promise endure as long as the kind of employee-engagement promoted their input and influence in their positions, and management is viewed as making demonstrable attempts to improve the future security of workers' jobs. They concluded that incorporating employee ideas and information improves organisational flexibility, product quality, and efficiency.

Similarly, Meyer, Stanley, Herscovitch, and Topolnytsky (2002) discovered a substantial positive link between effective commitment and job involvement in a study. The authors used meta-analyses to inspect the relationships between affective, continuance, and normative commitment to the organisation; the relationships between the three types of commitment and the variables identified as their antecedents and

correlated in the Three-Component Model (Meyer and Heppard, 2015). The strongest and most favourable correlations were found between organisational-relevance (attendance, performance, and organisational citizenship behaviour) and employee-relevance (stress and work-family conflict) outcomes and affective commitment, resulting from employee participation in decision making. However, Torka, Schyns, and Looise (2010) compared studies conducted in and outside North America and found much overlap, but they also advised that more systematic primary research on cultural differences is needed.

Furthermore, most recently, Ingosi and Juma (2020) undertook a study to understand the influence of project organisational culture on project performance and specifically focused on NGOs located in Nairobi County. Their findings indicated a substantial positive correlation amid decision making, culture and project performance. Additionally, a significant positive correlation between leadership culture and project performance was detected, whereas there was a negative correlation between shared values and project performance and power distance-culture and project performance.

### 2.11 Organisational culture and Local Contractor performance on construction projects

Construction projects create new value in society (Winch, 2010). Thus, the management of construction projects is not a meek task – and it becomes even more complicated when there are dozens of firms involved in the construction process (Collins, 2014). Organisational culture is the central resource organisations possess to conserve their competitive advantage (Sinclair and Sinclair, 2009, Barney, 1991). Thus, the prevailing literature point toward the notion that there exists a correlation amidst organisational culture and performance (Kemp and Dwyer, 2001). Over the years of empirical research, scholars have established profuse relations between organisational culture and organisational performance. Several researchers and authors presume a relationship between organisational culture and corporate performance, and some of these research studies have established evidence of such a linkage and thus determined that it does exist (Denison 1990, Kotter and Heskett 1992, Petty et al. 1995 and Wilderom and van den Berg 2000). Coffey and Debby (2010) demonstrated a successful link between organisational culture and performance and identified particular cultural factors in organisations that appear to be significantly responsible for achieving successful outcomes. Whilst previous corporations were either oblivious of culture's importance or believed it was too difficult to manage; they currently distinguish that it can be used for competitive advantage. Some organisations have understood this concept. By leveraging their culture of modernisation in the product and internal processes, they have survived despite the farfetched competition. They have been able to attempt new and profitable markets. However, other critical reviews of the methodologies and findings of such research challenge such conclusions (Lim 1995).

Nevertheless, using culture strategically requires a company to first and foremost understand its culture (Tharp, 2009). Organisational culture serves the leader by fostering the value system created by them to both serving and incoming members. The critical view of culture at an organisational level is influenced by those responsible (leaders) for making procedures, standards and norms. Tharp (Op. Cit) emphasises that employing culture for the improvement of performance involves matching culture or attributes to organisational goals. Culture consists of two components: values and performance; the relationship between the two is that, while values are believed to be less tangible, there is a massive amount of evidence that higher performance results would be obtained through good values. Thus, in many organisations, culture regulates the firm's innermost and outside environment to pursue solutions to its concerns, such as performance and survival (Joseph and Kibera, 2019).

Moreover, Fellows and Liu (2013) argue that culture guides behaviours and adjust the culture. The consequence of this is the promotion of the enlightenment of organisational members and the generation of new answers to the performance-oriented questions in the firm. Leadership, communication, organisational processes, structures, systems, and the distinctive definition of success in the views of particular organisations represent the organisation's culture. Values and beliefs decide structures and systems created in an organisation and the people's behaviour in relation to one another (Fellow and Liu, Op. Cit). Some Cultures focus on achieving quick results whilst long-term cultures focus on balanced development and give more attention to future results (Bukowski and Rudnicki, 2019). However, staff performance determines the success of any workplace (Lee et al., 2018); and this applies to modern organisations due to the dramatic economic environment changes, constant improvements in technology, and competition amongst businesses.

Consequently, culture alone highly impacts the ethical perception, yet insufficient to explain the different behaviours exhibited in similar circumstances. The level of integration of an individual impacts the correlation of these two concepts. Besides, these individualistic conditions, such as age, sex, religion, etcetera, also influence ethics perception and attitude, and equally direct and indirect impact of ethics on the culture is available, which occasionally occurs in the interaction of different variables, which is "ethical" as meaning that the person (Christie, 2003). According to Hunt and Vittel (1986), cultural norms and values affect perceived ethical situations, alternatives, results, and possibilities (Hunt and Vittel, 1986). Ethical perception has a crucial role in ethical decision-making (Wittmer, 2000).

In addition, another perception is that an individual’s competencies are derived from their families, and these competencies will, in turn, affect society (Türkeri, 2010). Having the contradictory end of this continuum in a social order, competence to make ethical decision depend on the family in which persons are raised. Each person's moral background and senility gives an opportunity to comprehend the

consequences arising from their behaviours upon the others (Rest, 1994). This is one of the motives diverse cultures to produce different ethical frames. Different moral views generate unalike values (Srnka, 2004). These ideas are accredited within a society where the conduct of individuals strays from the normal, acceptable and considered within these values' framework. Therefore, values and attitudes upset an individual's priorities (Elashmawi and Harris, 1984). Construction industry performance will be affected by their values and attitude towards the given task and their general attitude. If their values dictate that laziness is unacceptable, they will do everything possible to work hard and avoid being lazy. Ethics and values are not far apart, in that when Local Contractors exhibit good ethics, chances of improved performance will increase (ibid).

Furthermore, studies have shown that cultural elements differentiate between the best corporations and those just average. The average return for corporations with high culture and engagement is 50% higher profitability than those that do not have. The goal is not performance but an organisation that connects its people to the customers who express appreciation for that connection to purchase its products or services. Thus, values come first, and performance in financial measures, such as higher profitability, comes about due to aligned and delivered values connecting with the customer (McLoughlin and Miura, 2018). Besides, most of the literature concerning organisational culture hails from the last three decades of the 20th century. The notable papers include scholars such as the following: (Hofstede, 2007, Sułkowski, 2012, Sikorski, 2012, Cameron and Quinn, 2003, Black, 2003, and Boddy, 2011).

Indeed, many scholars emphasise that organisational culture is one of the indicators of the success of an organisation. The activity of the organisation, its efficiency and effectiveness in achieving its goals depend on the relationship between a few essential elements: employees and their qualifications, organisational structure, and culture. People shape the former two factors, and the organisational structure can be treated as permanent and unchangeable. In contrast, organisational culture is formed by the everyday conduct of the members of the organisation (Burkiewicz and Knap-Stefaniuk, 2020). As members of an organisation interact, they eventually form a culture through sharing ideas and norms. The team members usually work together on tasks and spend more time on tasks, sharing values.

In continuation, although management theories have availed different kinds of organisational cultures, there are no ready-made programs of organisational culture that can be adapted to the particular needs of an institution. Every business develops its own specific organisational culture. Particular institutions may be part of a specific culture typology, but the final shape depends only on themselves, and the decisive factor is a human being. However, mixed findings have been reported in the literature; Joseph and Kibera (2019) advance the argument that organisational culture supports strategy execution and acts as a shield against competitive imitation, thereby leading to superior performance outcomes. An

assessment of the organisational culture profile of construction companies in Thailand revealed that Thai contracting companies neglect to focus on innovation, growth and response acquisition and that the hierarchy culture is predominant, followed by market, clan and adhocracy (Novana and Ogunlana, 2006). Studies in the United States (US) revealed that construction companies' cultural features and profile lean towards strong clan culture (Oney-Yazic et al. 2007). Thus, the organisational and project management cultures affect the project manager's performance, and any changes may affect the outcomes of the projects (Alqahtani op. cit).

## 2.12 Improving organisational culture

Culture is critical to the organisation's long-term success KPMG, (2021). There is a need to manage or change the culture among Local Contractors to improve overall performance. However, while many organisations recognise this need, they don't always know where to start or tackle it. KPMG (2021) point out that organisations must align people and risk to avoid disjointed change that may result in a fragmented impact. An organisation's culture must be considered people and risk to ensure a unified approach and mindset. People and risk are closely intertwined, and robust risk culture is primarily influenced by an embedded organisational culture and vice versa. Thus, organisations need to take stock of their advancement, a re-examination of their culture expedition and address gaps to promote and embed an effective and resilient culture. Moreover, some strategies can be adopted to improve organisational culture, and these may include the following:

### 2.12.1 Recognition of team members

It is essential to motivate employees by recognising their efforts. Inspired workmates/staff may possess an ownership and responsibility culture (Engelen et al., 2014). When employees develop a sense of ownership and responsibility culture, their commitment to the organisation advances and there is no need for close supervision (Nwibere, 2013). Recognising all team members' efforts has a far-reaching, beneficial impact on organisational culture as individuals begin to comprehend how they are a part of a whole when everyone on the team celebrates the accomplishments of others. Important indicators like employee engagement, retention, and productivity improve when a company makes recognising team members as a component of its culture. Incorporating recognition into company culture requires a daily activity, not just reserving it for important milestones or work anniversaries (Taofeeq et al., 2019). In addition, leaders need to regularly encourage team members to use social appreciation and monetary recognition. Providing consistent social recognition consumes a significant business impact: Organisations that invest in social recognition have a four-fold boost in stock prices, a two-fold increase in NPS scores, and a two-fold improvement in personal performance (Williams, 2015).

In addition, it is necessary to contemplate applying point-based recognition schemes that allow employees to quickly accumulate large point balances (Rhodes, 2015). Instead of receiving the ordinary mugs or long service trophies, they would enjoy looking forward to redeeming their points for an individually significant gift. Recognition and expression of gratitude must be associated with business values and specific acts to encourage other cultural attributes. In many instances, most employees are more inclined to repeat typical behaviour when rewarded (Vincent and Manuel, 2017). Thus, Local Contractors should consider ensuring that rewards programs are incorporated in their organisations. This will enable their operatives to be more determined and dedicated to delivering fit for purpose end products.

### 2.12.2 Employee Feedback

Shuttleworth (2014) states that it is essential to create a culture that values employee feedback and encourages staff participation; inability to do likewise would result in lost income and demotivated workforces. Hence, the early steps include the gathering of feedback using the right listening technologies, such as pulse surveys and workplace chatbots, that make it easy for employees to share how they're feeling in the moment. Then examine the data to identify what's working and what isn't in your company and act while the information is still relevant. This strengthens company culture and has other benefits, such as increased employee satisfaction and profitability. As per Clutch survey (2018), 68 per cent of members of staff who receive regular feedback are satisfied with their positions, while Gallup discovered that firms with managers who receive feedback on their strengths are 8.9% more profitable.

More so, it is important to ensure that as an organisation, being observant to more subtle forms of feedback can identify cultural shortcomings and receive feedback using the ways described above (Kaur, 2013). For example, dedicate attention to employees' body language, as it can reveal a lot even when they aren't willing to discuss it. Video conferences can help keep this nonverbal communication channel open if you work with a remote team. Managers must use all their meetings with employees to collect and respond to feedback while also acting as valued mentors (Chen, 2015). Indeed, in a more practical sense, Local Contractors need to allow all employees to voice out any issues that may be pending and may influence their welfare on the construction project. This ensures clear communication between the supervisors and the general workers. When the communication is clear, and workers can speak freely, this creates a positive work environment and may improve the workers' morale, contributing to good performance.

### 2.12.3 Forge connections between members

Creating an adversity-resistant corporate culture necessitates strong links between team members, but forming those bonds can be difficult with more remote and terse communication. Even when working remotely, encouraging cooperation and participating in team-building events are two excellent strategies to bring your team together and improve communication (Mudzvokora, 2016). Hence, look for, and support shared personal interests among team members, particularly individuals from various generations who would otherwise find it difficult to connect. This can open up new avenues for empathy and understanding, which are crucial for better communication, innovation, and even resolving conflict (Rhodes, 2015). This is necessary for construction project sites as people are committed to producing their best when they have a sense of belonging in many ways. The bonds created may contribute to their commitment and, ultimately, their performance.

### 2.12.4 Focus on learning and development

Workers who are constantly learning and firms who engage in employee development create great workplace cultures. Training initiatives, coaching, and assigning new duties to staff are excellent methods to demonstrate your commitment to their success. A learning culture significantly impacts the bottom line (Mudzvokora, 2016). In addition, Guru et al. (2013) summarised that learning and development are necessary as it enhances the knowledge and skills of staff to undertake duties within the corporate establishment. Majeed and Shakeel (2017) postulate that training and development positively relate to the company's effectiveness impacts the efficiency of the staff and is essential for the organisation's productivity and efficiency. As a human resource management instrument, it aids the company's growth. Training and development could also grow the staff skills and abilities, upgrade the organisation's efficiency, and increase the relationship amongst the staff. Farooq (2011) expressed that workplace projects improved with training programs and suggested adopting or organising more active training curricula. Indeed, local contractors could welcome this to make a difference in delivering development undertakings.

### 2.12.5 Focus on company culture

Internal conflict is likely to occur when an employee's viewpoint differs; hence, companies should hire for culture and reinforce it during and after the onboarding process (Brinkhoff, 2018). The company's values must be shared, and practices and processes must be taught. When hiring, focus on cultural fit, ensuring that information on what matters to the applicant and why they want to work for your organisation is extracted. However, such questions should not be used as the primary criterion for evaluating a candidate, as thriving companies retain an open mind to new ideas that can help keep their culture fresh (Mudzvokora, 2016). Companies should also prioritize creating social interactions during

the onboarding process to have the information they need to understand your company's culture and values. These bonds will remain for the duration of the employee's employment with the organisation, ensuring that cultural values are continually reinforced (Rhodes, 2015). Agreeably, workers should be informed of what is expected to shape the norms and values at a project site. When this is done right at the beginning of the project, the workers understand the culture, and through regular contact, they will keep this in mind. Local Contractors should invest in key personnel who will constantly remind the workers of their expectations. Such could be through daily safety talks or monthly site meetings.

### 2.13 Work culture in the construction industry

According to Daft (2000), an entity's capability to accomplish goals through effective and efficient utilisation of resources portrays the firm's functionality. Thus, people's performance in an organisation is affected by many things, including work culture (Kazmi et al., 2008). According to Robbin (2002), work cultures contain values, attitudes, behaviour, intention, and results, using instruments, working systems, technology, and language. Culture is closely linked to the values and the environment that lead to the meaning and philosophy of life, influencing the attitudes and behaviour at work. In addition to this, work culture communicates clothing choices, talking style, things spoken about, the interaction, whether informally in the lunchroom or more formal group meetings (Green, 2005). Within the construction industry itself, culture is considered to be about the industry's characteristics, approaches to construction, the competence of craftsmen and people who work in the industry and the strategies, goals and values of the organisations within which they work (Ankrah et al. 2009). Hofstede (1983) categorised cultural layers to classify people according to the habits of their environment: (a) Countrywide, based on a country, (b) Local level (regional), and ethnic, and or religion, and or language, (c) difference sex level (gender), (d) generation level, such as parents with young children, (e) social levels, associated with education, and occupation or profession and (f) clusters of the organisation or company. Perhaps, this could have formed the basis for Fong (2004) to highlight that people internalize cultural models set forth by the government and enact them in their everyday lives. She also argues that cultural models have acute psychological effects because the failure to achieve goals set forth by cultural models "causes suffering while attaining these goals causes happiness. The internalisation of a particular cultural model may profoundly affect individual perceptions. These perceptions have deeply affected relations between foreign and local employees, mainly the Chinese.

Also, cultures develop from basic implicit assumptions regarding what groups of people share that regulate their perceptions, feelings and behaviour in adapting to the surrounding nationalities (Abdul et al. 2010). Cultures are essential in deciding project delivery outcomes, as noted by Ankrah et al. (Op. cit), and as he determined that diverse cultural orientations might influence project delivery and eventual

performance outcomes. Notwithstanding this, there are other workplace relationships; myriad relationships include alliances, friendships, group collaborations and modes of conflict and competition (Chang 2014). In the following section, the study looks at the work culture of Local Contractors in the construction industry of Zambia.

### 2.14 The work culture of Local Contractors in the construction industry of Zambia

Mkandawire (2015) defines Zambian culture and elaborates that it is a collection of behaviours, practices, values, attitudes, beliefs, laws, morals, procedures and other common ways of doing things as exhibited by Zambians that can be transmitted from one generation to another and that these practices are subject to modifications by members of the society as it changes. Indeed, the Zambian community comprises many groups, families and extended families. However, Dinnwinddy (1979) pointed out that the Zambian extended family drained the successful businessman, limiting his capacity to re-invest.

Moreover, Mwansa (2018) highlights that Zambia's work culture leaves much desired. It is demonstrated by the unwillingness of many Zambian employees in various public institutions and private organisations to perform their work within the planned time cost and quality. Despite engineers and contractors priding themselves on being problem solvers, this is often balancing disparate, competing constraints. It can be noted that many firms face a challenge that defies finding an optimal, lasting resolution. For example, there have been numerous reports from the NCC of contractors abandoning projects; the CoST initiative also recognized that mismanagement during construction could lead to undermining of social and economic benefits (NCC, 2017, COST, 2010). The COST (2010) investigation on public infrastructure revealed that just a single undertaking was delivered within the original contract period from all the sampled projects—all the other sampled projects experienced contract overruns, typifying the experiences of most projects in Zambia. On average, the sampled projects experienced contract schedule overruns of 137%. This may indicate some inadequacies in the execution of projects. There had been cases in which the NCC had withdrawn practicing licenses from contractors guilty of misconduct.

Further, Chang (2014) presented a case study of the Zambian firm, which showed that personal relationships helped provide emotional and inspirational support for employees. Their admiration of the Chief Executive Officer (CEO) and the soft power extended from his authority provided further inspiration to employees striving for upward mobility at the firm. However, on average, employees at the Chinese firm emphasized technical skills and complementary skills over personality traits more than employees at the Zambian firm. The Chinese emphasise ongoing economic growth, owing to its primary economic growth and development. Therefore, Chinese leaders are pressured to keep economic growth to ensure social stability. In this case study, the Chinese perceived their situations as an inevitable part of China's efforts to reach the same level as the United States of America (USA). They also perceived

their sacrifices as part of an effort to improve their lives, the lives of their families and future generations (ibid).

To add on, foreign contractors, for instance, the Chinese, are generally perceived as hardworking and committed to their work because they have been influenced by their culture, which demands a very high commitment and hard work (Chang,2014). Meanwhile, the opposite can be said about the Zambian contractors as, unfortunately, Zambia's construction industry has witnessed an unprecedented fall in construction project delivery standards; projects are reported to be poorly conceived, badly planned, and executed unprofessionally. There have been instances where when Local Contractors get the advance payment, they abandon the projects and enrich themselves and forget about the project's goal. Local Contractors seem to lack the understanding that, as citizens, they ought to contribute to the country's economic growth, but this can only be possible if they offer quality services (Musonda, 2017). This kind of behaviour exhibited by Local Contractors can be linked to some of the cultural aspects among Zambians. In support of this, Dinnwinddy (1979) revealed that the most apparent internal constraint to developing Zambia private enterprise lies in the local traditions of many Zambian people. While there have been efforts to empower Local Contractors, with a view that as part of the African culture, if the Local Contractors are empowered, they will, in turn, empower a more comprehensive network of family members through the provision of employment, education as well as business capital, thereby contributing to poverty alleviation as well as economic development, the challenge is that some lack the discipline and foresight to run the business sustainably.

Furthermore, NCC has had challenges to meet one of its objectives of promoting Zambian contractors as most of the ones who seem to be excelling are foreign contractors. Besides, most Zambian construction companies ended up being sub-constructed companies (National Assembly, 2014). Arguably, foreign contractors are still not utilizing have also been reported to avoid sub-contracting Local Contractors due to performance issues. As a result, Local Contractors still complain about not enjoying a national cake share in construction projects. Furthermore, literature previously identified that most Zambia projects are costly, lengthy, and usually completed late (Kaliba et al., 2009). Indeed, studies have cited that numerous construction companies have abandoned their construction sites, resulting in project delay and ultimately termination of the contract. In addition, there have been extreme concerns raised by NCC inspectors over the substandard works by some contractors, resulting in the substandard quality of finished works**.** On account of this, the general community and many interested partakers have regretted the delayed handover of projects and prevalent quality shortfalls on construction projects (NCC Annual Report, 2006). As a result, the Zambian Government, in many instances, terminated such contracts as they seemed to be a public letdown.

Furthermore, some instances have seen contractors being paid and given several extensions until the contract expired; unfortunately, despite receiving support from Government, some Local Contractors have continued to fail to meet contractual obligations of completing and handing over the projects (Musonda, 2017, Kaliba et al. 2010, Zambia Green Jobs, 2017). Indeed, Local Contractors' bad work attitude needs to be addressed and mitigated and efforts directed to curtail this behaviour by contractors to avoid the Government's loss of colossal sums of money through shoddy works and uncompleted projects. Notably, an organisation's success depends on the organisational culture since it holds individuals together and instils vigour, a new spirit to the organisation and its employees, and serves as a guide (Gulcag, 2014). As such, there is a need for employees to understand the organisational culture within construction companies in the industry. Additionally, dedication to unison among the organisation and its members is the way forward. Further, in the view of Kotter and Haskett (1997), there is a close association between workplace culture and performance; in that individual company, performance various features influence performance, amongst them was a good and conducive organisational climate, how comfortable and safe a person feels while carrying out the work according to their profession. Thus, a person's working behaviour is impliedly (direct) or impliedly (not directly) influenced by the value of organisational culture manifested into the work culture.

### 2.15 The Challenges of Managing Construction Projects

The construction industry inevitably faces many challenges (Ahn et al., 2010). Some of the challenges are new to the industry, while others are centuries old (Muir, 2005). According to Edgar (2021), a challenge is a problem or difference amid the prevailing situation/condition, the desired situation or a deviation from a norm, standard, or status quo. Managing projects comprises many activities that must be performed; (Pinto, 2007), and each project is a unique endeavour to produce particular end products or any end-product of a development process around specific timelines, cost and quality constraints (PMBOK, 2017). Thus, each project is unalike with the last as each possesses its definite period, a definite kickoff and deadline within which the deliverables need to be produced to meet a specified customer requirement (ibid). Thus, project management does not stand as a "one size fits all" approach; as it involves a "common-sense approach," it must acclimatise to the changing project conditions; the rules of engagement for effectively managing projects are learned (Irefin, 2013). The developed construction sector also faces challenges, with approximately 1/3 (a third) of the customers complaining that their projects generally overran the allocated budget (Jackson, 2002; Olawale and Sun, 2010). The continued deterioration in the performance of the construction industry and the increasing quality challenges facing the sector resulted in so much apprehension amongst scholars (Alinaitwe, 2009; Seranatne and Wijesiri, 2008; Beathan et al., 2004; Yasamis and Mohammadi, 2002; Anumba 88 et al.,

2002; Abdulhadi, 1997). Another study identifies an additional challenge of managing construction projects: balancing the complex elements of time, cost, scope and people; consumer fulfilment, employer variations, and health and safety (Cheung et al. 2004). Flyvbjerg et al. (2003) identified that a noteworthy problem was cost overrun, where nine of ten projects were confronted with overrun ranges of fifty (50%) to one hundred per cent (100%).

Further, many construction businesses have experienced challenges over time. For example, Chinese construction companies have problems executing international projects due to the lack of exposure and understanding of some foreign standards: the mitigation measure for cost and time performance issues in international projects is to ensure knowledge sharing of standards (Lei et al., 2017). Indeed, to a large extent, the lack of or little understanding of standards leads to projects being executed but not to the stakeholders' acceptance, rendering the project unsuccessful. Therefore, contractors must be cognizant of the standards of every region they operate. Challenges such as shortage of human resources skills, inadequate administration and site management, unsuitable leadership, and equipment failure have contributed to construction delays in many countries. For instance, in the United Arab Emirates (UAE), one of the world's areas where such factors have been recorded (Faridi and El Sayegh, 2006). In the Gaza strip, Enshassi et al. (2009) found that it is usually challenging to coordinate among parties involved, thus delaying the project. In the same vein, a study conducted in Palestine (UNRWA, 2006) found that local construction projects experienced challenges such as unavailability of materials, excessive amendments to designs and drawings, poor coordination among respondents, ineffective monitoring and feedback, and lack of leadership skills.

Moreover, the assessments of various projects across the African continent, take the case of Tanzania, South Africa, Botswana, Zimbabwe, Zambia, Malawi, Mozambique, and Angola, where they create a picture of project failures across public and private sectors (Rwelamila, 2000, 2010a; Rwelamila and Phungula, 2009; Segawa and Ngowi, 2009, and Graham and Englund’s, 2004). Reportedly, the majority of failed projects depict the following:

(i) Wasteful projects - projects failing to meet budget and schedule expectations;
(ii) Weak impact on customers/stakeholders - projects unable to meet technical specifications, unable to address customer/stakeholders needs, and unable to create projects that satisfy clients’/stakeholders’ requirements;
(iii) Ineffective development strategy - projects not achieving significant commercial success (private sector) or development programs/projects unable to attain developmental goals (public sector); and

(iv) Unmaintainable potential - projects unable to open new markets or new product lines or assistance to develop new technology (private sector) and projects cannot improve the living standard, offer improved infrastructure or aid the creation of an advantageous environment for foreign direct investment.

Still, lack of skilled labour is among the difficulties facing the African construction industry. There have been cases when construction opportunities rise in African countries. Some contractors have forced experienced labour sources from other counties, demanding too high remuneration (Infrastructure Consortium for Africa, 2015). According to Price Waterhouse Coopers – (PWC) (2014), bribery and corruption are also deterrents to infrastructure investment in Africa. The PwC's 17th Annual Global CEO Survey discovered that Chief Executive Officers (CEOs) in Africa and Latin America, and the Middle East are more apprehensive about bribery and corruption than those in the rest of the world. Despite developing new policies and regulations in many jurisdictions, corruption and security concerns continue to be significant challenges in some countries.

Moreover, corruption is allied with the loss of talent in public institutions; thus, government effectiveness; inspires hiring based on nepotism, cronyism, and patronage, not merit, reducing public institutions' quality. In a corrupt environment, noticeable is the pointless bureaucracy, creating further opportunities for bribes. Therefore, enforcement of contracts and property rights is weak (PWC, 2015).

Besides, Ijewereme (2015) contends that Nigeria also grieves from escalating volumes of corruption. Companies implementing infrastructure undertakings meet threats of uncertainty with regards to safety, especially in the Niger Delta area and the north, where militant group Boko Haram targets international immigrants working in the country. Staff safety is not always the only security concern, as certain regions are also experiencing threats to physical infrastructures, such as the pipeline vandalism experienced in the Niger Delta. Energy policy reviews and revisions to legislation in many countries, particularly Uganda, Tanzania, and Nigeria, are intended to provide a more transparent process to reassure international investors that corruption is being addressed (PWC, 2016). Similarly, Okoye et al. (2015) reveal that the challenges facing construction practice in Nigeria are increasingly growing at an alarming rate. It has grown from mere technical and environmental issues to highly dynamic management challenges. The study identified and ranked the challenges facing the management of construction projects in Nigeria and revealed that time, cost, quality, and safety remain the top management challenges.

Meanwhile, the Kenyan construction industry challenges such as capital constraints are some of the significant challenges entrepreneurs meet in the construction sector. Besides, it appears there is complacency amongst the constructors as they tend to settle for what they have attained. Furthermore, the construction industry encounters many bottlenecks in quality assurance, as evidenced by collapsing

buildings and constructions on road reserves and public utility spaces. Moreover, corruption, unfair distribution of construction projects, erratic building materials and inexperienced contractors are common.

In continuation, occupational health and safety challenges in the construction industry of Kenya have been increasing, thus contributing to the delay of project completion time and, to a small extent, the increase in construction costs (Wawira 2016). However, in Egypt, delays in construction projects have been among the most common problems causing many adverse effects on the project and its participating parties (Abd et al., 2014). Other challenges were the lack of adherence to contract conditions or type, awarding the project to the lowest bid price, and fluctuating prices (Alexandria Engineering Journal, 2016).

Nevertheless, reports in the Southern African Development Community (SADC) region have revealed several cases of poor project delivery arising from ineffective procurement systems, lack of competence of the industry planners, those who manage and execute projects (Hindle and Rwelamila, 1993). Moreover, regional infrastructure projects face stagnation; 95 per cent of targeted projects remain incomplete (Regional Infrastructure Development (RID): Short Term Action Plan Assessment, 2019. The most significant challenge has continued financing the infrastructure projects, whether through private-sector investment or donor financing. With governments not carrying the entire infrastructure development cost, the region mainly depends on external financing to implement infrastructure projects. Additional challenges in the area include, but are not limited to, the following: Project lacking commercial value, risky business environments - political instability, corruption, and weak financial systems; an inadequate regulatory, institutional and policy framework; and a lack of regional harmonisation (Dube, 2013). Local Contractors have been unable to take advantage of existing procurement preferences in legislation for varying reasons, including lack of capacity and finance (ibid).

### 2.16 Challenges of managing construction projects in Zambia

The construction industry in Zambia is similar to other construction industries worldwide. The types of projects and contracts employed in Zambia are typical in many other countries in the region. However, the Zambia Development Agency (ZDA) (2014) indicated that Zambia is faced with challenges in implementing projects. The report categorically stated that infrastructure developments managed by the government often ran above costs planned, behind timeline and changes to the project cost were often at the government's expense. For example, the RDA report (2016) highlighted that some projects experien ced slow progress due to constrained cash flow.

Similarly, National Assembly (2014) cited clients' lack of commitment, such as the Zambian Government,

which has not paid contractors on various infrastructure projects within the contractual period, as a significant challenge. Consequently, the fourth session of the eleventh national assembly appointed a committee on communications, transport, works and supply to undertake a study of the construction sector in Zambia vis-a-vis the participation of Local Contractors because of the public outcry of Local Contractors who felt excluded from fully participating in this sector, despite the growth in the construction sector. On the ground, the situation in the industry was such that a lot of the construction companies excelling in Zambia were of foreign origin companies, and many Zambian construction companies ended up becoming sub-constructed companies. There was limited research by the National Council for Construction on possible mitigation measures for construction-related challenges, which companies could rely on to improve their output. Also highlighted are the inadequate consultancy services and many cases of misapplication of Procurement methods in Zambia, which lead to some of the other challenges experienced in the industry, National Assembly (Op Cit). In addition, Kawimbe (2020) cited a few of the challenges local construction companies encounter: difficulty getting work, difficulty getting payment from the client, especially the local and central government, deficiency in experience amongst the firm's line of business, and absence of managerial skills, experience and poor corporate governance structures. Others included corruption, nonexistence of financing, poor record-keeping and misapplication of funds. However, other reasons included an absence of knowledge of differentiating the business from personal capital, nepotism and dearth of qualified staff, buying of jobs, change in the type of work and size of the Work Programme. Therefore, he resolved that the local contractors would continue being unsustainable and their performance unsatisfactory without the government's intervention. To mitigate these challenges among local contractors in Zambia, the government and other related agencies need to review the policy concerning the capacity building of local contractors. The following is a list of some of the challenges that Local Contractors face in Zambia:

### 2.16.1 Perceptions of lack of capacity

There were perceptions of inadequate capacity among the Zambian construction companies; an example was the floating of non-complex projects to foreign companies. This denies Zambian companies the opportunity to participate (National Assembly, Op. Cit). Moreover, the perception that local contractors lack the competencies to undertake large contracts exists among many procuring entities. A competency comprises well-defined behaviours that provide a structured guide enabling the identification, evaluation and development of the behaviours in individual members of staff (Chan and Mohan 2009). In practice, what a person needs to be successful at their work, including relevant knowledge, skills, abilities, and attributes, defines competency. Context-specific qualities are correlated with high-level job performance and can serve as a standard against which to measure job performance, develop, recruit, and hire

employees. Competencies assist organisations to establish means of defining specific requirements for staff members to perform and giving the desired results by the organisation, in line with its culture. Having competencies defined in the organisation allows employees to know what they need to be productive. When properly defined, competencies allow organisations to evaluate the extent to which employees demonstrate behaviours and the grey areas (Dubois and Rothwell 2006)—defining the areas where employees are lacking allows organisations to establish capital; they may need to assist the staff to develop and learn those competencies. Competencies can distinguish and differentiate one organisation from its competitors, and they can provide a structured model to include management practices all-throughout the Company. Organisations that align their recruiting, performance management, training and development and reward practices reinforce critical behaviours and values of the organisation in future (Dubois and Rothwell, 2007). Undeniably, some contracts awarded to foreign contractors could be executed by Local Contractors. Some Local Contractors could perform as good as the foreign contractors, but they have not been given more opportunities. Clients must allow Local Contractors to contribute and participate in projects for their further improvement and experience. However, this perception can only be changed if contractors deliver fit for purpose products. The works must speak for them.

### 2.16.2 Inadequate access to finance

Generally, local contractors face the challenge of access to finance. The high-risk nature of construction makes banking institutions perceive that construction companies are a high credit risk; hence it is challenging for contractors to access finance (Uriyo et al., 2004). Fatoki and Garwe (2010) stated that lack of financial support is the second-highest contributor, preceded by education and training that causes local businesses to fail. According to NCC (2004), contractors face challenges accessing credit and finance facilities. Thwala and Mvubu (2008) also agree that banks subject contractors to unreachable interests and financial risk management charges that make contracts unprofitable in the absence of collateral. Most local construction companies, especially those that depend on the Government as clients, are not ideal borrowers. There is a consideration that indigenous constructors are high risk because their client, the Government, does not pay on time. Therefore, it is risky for banks to provide any form of credit when the borrower does not know when they would pay back. As a result, Local Contractors encounter challenges to access finance and other banking facilities (National Assembly, Op. Cit). According to the Private Infrastructure Advisory Facility (PPIAF) (2017), lack of financial resources is a significant challenge in Zambia as even the more prominent local companies do not have the monetary capital to pre-finance works. Local borrowing is problematic and pricey since loans to road contractors are high risk. Most companies operate with small overdraft facilities concerning turnover. Over the past

few years, bigger regional and foreign contractors displaced local companies in their base market for the more noteworthy infrastructure development contracts, as they have access to supplementary financing and equipment.

### 2.16.3 Limited technical and managerial skills

Local Contractors face the challenge of a lack of management skills and the skill set of senior management. As a result, most of them do not hold practical experience and familiarity with being employed and the industry's intricacies. Additionally, they were deficient in familiarity with various plant and equipment, coupled with the tools and techniques for planning, scheduling and controlling construction operations. This state of affairs is consistent with Sichombo (2009), whose findings on a technical audit in the construction industry revealed that much needs to be done to improve construction personnel produced in Zambia.

### 2.16.4 Lack of access to plant and equipment

Most Local Contractors consisted of small workforces and undertook small and straightforward projects due to limited access to plant and equipment. Therefore, Local Contractors tended to act as sub-contractors on medium to larger projects, particularly road projects. Record indigenous/citizen firms pursued labour-intensive projects that provide low value-adding services to clients, with little product and service quality differentiation (National Assembly, Op. Cit). Without plant and equipment, contractors cannot execute projects on time as every project requires an essential list of plant and equipment. Therefore, the submission by the National assembly is valid.

### 2.16.5 Document preparation

Local Contractors experience difficulties in preparing responsive bids (National Assembly, Op. Cit). Hence the need to enhance Local Contractors' capacity to prepare tender documents through continuous professional development and seminars. Local Contractors need more training and awareness programmes on tender preparation. The Zambia Public Procurement Authority may consider enhancing their training to Local Contractors and collaborate with relevant professional bodies and the NCC.

### 2.16.6 Corruption

According to section (2) of the Anti-Corruption Act No.3 of 2012, ‘corrupt’ means the soliciting, accepting, obtaining, giving, promising or offering of a gratification by way of a bribe or other personal temptation or inducement or the misuse or abuse of public office for advantage or benefit for oneself or another person, and “corruption” shall be construed accordingly. The count of received reports regarding suspected corruption represented 39% of the total number of reports received by the Financial Intelligence Center (FIC) in 2017, and cases of corruption continued to be allied to public procurement

contracts. They were often perpetrated by Politically Exposed Person (PEPs) or their associates (Government of the Republic of Zambia (GRZ), 2017, GRZ,2020). Corruption in public infrastructure procurement was associated to weak governance in legal, regulation, policy and institutional capacity. The nature of the construction industry and how infrastructure services were being operated created structural vulnerabilities that encouraged corruption. In some instances, long delays are caused by officials demanding payment to certify works resulting in the expected infrastructure services not being realised and thus creating pressure on existing services. Other ills of corruption include poor-quality infrastructure, higher maintenance costs, and a shorter life span of the physical infrastructure (National Assembly, Op. Cit). Corruption in the construction industry is indeed an area of great concern. Stakeholders need awareness programmes and regular workshops targeted at discouraging such vices.

Additionally, suspected procurement corruption mainly occurred when the Private Sector was contracted to undertake Government works. The attraction to procurement corruption is believed to be the large sums involved and the difficulty in detection due to collusion and management override. The main methods of procurement corruption are direct bidding and subsequent variation of contract sums that take away the value of tendering works (Hamoonga, 2018). Indeed, Direct bidding may aid corruption as they usually involve large sums of money. Due to a desperate need to secure the contract, prospective contractors may attempt to lure the evaluators/regulators or designated officers by offering monetary gifts and all forms of appeasement. At the same time, representatives of the developer may also request some form of gratitude expression from the would-be contractor. Thus, to curb corruption, ensuring that all procurement processes for construction projects are as transparent, fair, regulated and competitive as possible is necessary. In the view of Kenny (2007), efforts towards lowering corruption instances begin with the Republic, being the customer, attempting to counter corruption, preparation and costing activities accurately. Also, output-based and community-driven approaches are potential means to reducing corruption. However, of necessity would be complementing them with different interventions, including publication of procurement documents, independent and community oversight, physical audit, and public-private anticorruption partnerships.

### 2.16.7 Delayed payments

Most contractors also face the challenge of delayed payment by the client, especially the Government, as it usually does not pay contractors on various infrastructure projects within the contract period (National Assembly, Op. Cit). If payment to the contractor is delayed, the effect is that the contractor cannot secure materials on-time pay workers and statutory obligations. The issue of delayed payment affects the entire procurement plan of the contractor. Therefore, it is of great importance that payments are made within reasonable timelines to support the function of the project.

## 2.17 Proposed mitigation measures to challenges of managing construction projects

Mitigation measures, in this study, means to prevent, reduce or control adverse effects of the identified challenges on project performance. The literature review has highlighted that engaging a contractor for construction is a high-risk business activity involving a complex interaction amongst the client, consultants, contractors, and consideration of the tools, types of equipment, and materials (Windapo, 2013; Seeley, 1986). Consequently, high specialisation is needed as it is virtually impossible to meticulously run a construction firm short of the requisite project management knowledge (Muazu and Bustani, 2004, Freeman, 2011). Therefore, the project manager is a critical resource for achieving construction project objectives, and it is their overall responsibility to initiate, plan, design, execute, monitor, control, close a project. The project manager is also responsible for completing the project within time, cost, and quality to succeed. However, many construction projects face many challenges, as highlighted before (Giri, 2019). These challenges stand in the way of the project manager successfully executing their tasks. For instance, in a situation where payments are delayed, the Project Manager may not procure construction inputs. Similarly, not having access to plant and equipment may put that entire project at a standstill, affecting project goals. Hence, the following are the proposed mitigation measures based on existing literature:

### 2.17.1. Project Management competencies

As mitigation to the challenges highlighted above, contractors require project management techniques to accomplish their construction project tasks (Passenheim, 2009; Baily et al., 2008; Gollenbeck, 2008). Rightly put, contractors need to have adequate project management competencies if performance improves. Unfortunately, many contractors can perform better, but they lack qualified personnel. Thus, the first mitigation measure ensures that Local Contractors retain qualified project personnel to address the lack of capacity to handle complex projects. Since construction projects are primarily about balancing critical project constraints of time, cost, and quality (Attalla et al., 2000), contractors must enhance capacity building for the key personnel to have the requisite competencies. There is a need to improve the critical personnel's technical skills in the construction industry, especially among Local Contractors, through appropriate and nonstop training programs related to construction projects performance to address the perceived lack of capacity and poor document preparation. These plans could enlarge their knowledge and give assistance towards understanding project management techniques and processes. In addition to this, there is a need to explore more paths to develop and improve engineers' managerial skills to improve construction projects' performance. One way would be to enhance or introduce practical and well-organized training courses in scheduling, time, cost, quality, and cultural aspects. The lessons would yield successful construction projects, such as resource availability, planned through project duration, availability of high experience and qualification personnel, appropriate plant and equipment, and raw

materials used in construction projects. Also, the training system would assist in improving construction time performance. The construction regulatory bodies should continue innovating and conducting tailor-made training programs for Local Contractors. There is a need for more effort towards encouraging a total cultural transformation so that Local Companies could gain a competitive advantage against foreigners. In addition, there should be more efforts in benchmarking. Thus, the Local Contractors need to acquire an array of skills such as business and expertise as they were expected to deal with people at strategic, technical, and operational levels.

### 2.17.2. Improved project financing and use of alternative procurement methods

Regarding access to finance, a better institutional and legal framework would encourage lowering prices for financial services, increasing the availability of project finance. The availability of project finance at affordable interest rates is fundamental for a sustained take-off of construction projects (Nhabinde et al., 2012). Indeed, lack of access to finance is a significant cause of delayed projects and substandard performance. Therefore, there is a need for project financers and construction clients to ensure that at the planning stage, they provide those finances for the projects are available and that they prepare a payment plan for the project, with strict adherence to the program. Moreover, some initiatives have been implemented to help Local Contractors access invoice discounting and loans from banks. In this regard, an example of the initiatives would be that of RDA and National Road Fund Agency (NRFA) entering into a Memorandum of Understating (MOU) with Stanbic Bank Zambia for Local businesses to access finances (NRFA, 2017, Lusaka Voice, 2013). In addition, RDA has been promoting the implementation of PPPs in the Road Sector. For instance, the Agency signed a Concession Agreement with Messrs. Groupe European de Development (GED) Projects Africa Zambia Limited, for the Financing, Design, Build, Operate and Tolling of the construction of Kasomeno to Kasenga to Chalwe to Mwenda Road Project (85km) in Luapula Province, under the Private Public Partnership (PPP) model at an estimated cost of US$180 million and a concession period of 25 years. Other PPPs include Chilanga to Chirundu, Chingola to Solwezi Road and the Ndola to Kasumbalesa road, which is still under consideration (RDA,2019). Such initiatives assist in project finance and must be enhanced, and more financing alternatives need to be explored.

Meanwhile, the extensive financial input and political leadership surrounding mega infrastructure projects pose a challenge to developmental projects (Nsefu,2021). Hence, this alternative procurement and financing mechanism present the opportunity to bring technical expertise, financing initiatives, and innovation to partner with the government to enhance infrastructure development and contribute to sustainable human development in Zambia. This scenario presents an opportunity for PPP in energy

infrastructure development (ibid). However, such project financing initiatives would require effective risk management due to their complexity, magnitude, and value.

Moreover, most contractors are frequently criticised for inadequate progress as a result of incapacitated Managers and their inability to plan projects adequately, according to contractual requirements (Oladimeji and Ojo, 2012; Aniekwu and Audu, 2010; Muazu and Bustani, 2004; Saleh, 2004; Achuenu et al. 2000, Kaliba, 2009). However, this author believes that the same planning for Local Contractors should be emphasised for clients, primarily the Government, to honour the payment claims on time. The issue of delayed payment can be seen as a result of the failure to plan for the construction project and a failure to secure financing on the part of the clients. Thus, an additional mitigation measure is planning on both the contractor and the developers/clients. Preparation is central to project management to meet time, requirements and cost (Passenheim, 2009). Planning defines the activities and actions, time and cost targets, and performance milestones, resulting in successful project objectives (Teslang, 2004; Ubani et al., 2010). In advanced nations, construction firms incorporate planning as they are aware that well-prepared, prudently monitored and controlled contracts directly impact the performance and profitability of the contract and the entire company (Harris and McCaffer; 2005). Indeed, this applies to construction projects as detailed planning reduces the time and cost of the projects. However, some of the specific proposed mitigation measures to the challenges that Local Contractors encounter on construction projects include the following:

### 2.17.3. Enhance cultural change and ethical behaviour

Organisational culture is essential to influencing employee engagement and performance and considers the changing cultural factors in an organisation. Culture transformation generally describes radical and not minimal change. It is not easy to achieve as it is complicated, challenging and may take a while. Cultural change may be revolutionary and comprehensive initiatives to modify the entire business's lifestyle, regular and incremental efforts but are created to cumulate to reshape the entire organisational culture considerably. The efforts are restricted to radically altering particular subcultures or cultural ingredients of the general differentiated culture. Implementing culture change requires involvement through the key phases;' unfreezing' pre-existing tradition and' refreezing' the newest. Internal communication is crucial in supplying a life-change message (Dom and Ahmed, 2019). Cultural changes lead to a better government capable of producing policies tackling issues such as corruption, hence the need to enhance education (Akbar and Vujić 2014; Auti and Skitmore 2008).

An example of achieving this would be through deliberate government policies around corruption, which could upsurge the benefits of honesty conduct, grow the probability of detection and punishment, and increase the penalties levied on those found wanting (Rose-Ackerman, 1996). However, measures like

these generally need substantive law reform and more transparency. (Tabish and Jha, 2012) demonstrate a positive correlation between “corruption-free indicators” and professional standards, transparency, fairness of punishment, procedural and contractual compliance. (Vee and Skitmore, 2003). Ethical behaviour in the construction industry is promoted through the ethical guidelines and policies of private organisations and professional bodies and the leadership of public sector procurement agencies. Kenny (2012) specifies that transparency in public procurement remains a critical practice for tacking corruption, and it would be essential in reducing or even eradicating political corruption, that is, the handling of guidelines, institutions and procedural rules in the allocation of finances, or other resources, perpetrated by policy-makers at project phases, namely: preliminary qualification and tender, project execution, and dispute resolution.

In some instances, leaders could advocate for the use of complex technologies that require non-standard procurement (Locatelli, 2016). Besides, corruption affects construction projects' ending up unsettling the delivery of works, with limited social benefit, poor economic returns and over-cost (Wells, 2014), and building poor quality infrastructure in the wrong place. In addition, corruption affects the quality of the project starting from the project preparation, and it continues during its implementation with significant acts of corruption (Wells, 2014). Hence, the need for policies in the construction industry that aim to reduce corruption cannot be overemphasised, especially after noting the findings of Van de Graaf and Sovacool (2014), which demonstrate that corruption encouraged the failure of projects, especially in highly corrupt countries. (Flyvbjerg and Molloy, 2011) reflects the way costs, time and benefits forecasts are deliberately and systematically over-optimistic to promote a project at the expense of another. In exchange, some key decision-makers might obtain bribes, support their campaigns, or both.

### 2.17.4. Application of project management process groups

Management of developments or projects management (PM) involves utilising knowledge, tools, skills, and techniques to achieve the project’s requirements. It is an approach to handling resources to accomplish specific project objectives, as well as it is a way to implement the strategies of organisations (Fiala,2018, Kaiser et al., 2014). This practice has existed since early civilisation. Until 1900 civil engineering projects were generally managed by creative architects, engineers, and master builders. The fifties are considered the birth of modern project management (Kwak, 2003). In the 1950s, organisations started to systematically apply project management tools and techniques to complex engineering projects (Kwak, 2005). The revolution of industries and the transformation from project to mass production project management resulted in the development of essential tools and ideas known and used presently. Henry Fayol inspired modern project management practices (Uzuegbu and Nnadozie, 2015). Around 1920, the Gantt-Charts were introduced, also utilised in modern-day projects. These charts were the

forerunner to many modern project management tools, including the work breakdown structure (WBS) and resource allocation (Cleland and Gareis, 2006). Thus, classical schedule techniques complemented the services of project managers as overseers of the projects arose (Stretton, 1994). In the early 60s, supplementary practices were announced, for instance, the life-cycle cost appraisal, front-end concept formulation C/SCSC (Cost and Schedule Control System Criteria), quality assurance, value engineering and WBS (Work Breakdown Structure) (Baccarini, 1999). The 60s and 70s also witnessed a rising curiosity of intellectuals in project management, and general management theories have been systematically applied to project management (Morris, 1994), such as the system approach (Shenhar, 1997).

Additionally, in construction project management, Project Managers (PMs) combine the traditional tas ks of project managers with the construction industry's knowledge. The diversity of the teams and the p rojects are just two of the challenges a construction Project Manager contends with. Project manageme nt incorporates principles and processes that are universal across myriads of projects. The Project Mana gement Institute (PMI) defines five phases of project management: Conception and initiation, planning, execution, performance/monitoring, and project close (pmi.org, 2020).


**Figure 2. 2 Phases of Project Management**

Source: Eby, (2018), PMI, (2020)

In continuation, according to Eby (2018), the conception stage is the initial beginning of the project to define the project at a comprehensive level. The business case is presented at this stage; research on whether the project is feasible. At this stage, essential stakeholders would have undertaken background investigation to assist when deciding whether the project is worthwhile, and a charter, a document that

initiates a project and summarises the project's purpose and requirements, would be prepared. The planning stage remains crucial to the successful administration of a project and concentrates on developing a roadmap that the project team will follow, and it is where project goal setting occurs by ensuring that they are S.M.A.R.T. (**S**pecific, Measurable, **A**ttainable, **R**ealistic and **T**imely) (ibid). At this stage, the project scope is well-defined, followed by developing a plan for managing the project. This process encompasses identifying the related costs, quality, inputs, and a realistic timetable. In addition, the project plans include establishing baselines or performance measures, which are generated using the scope, schedule and cost of a project. A baseline is essential to determine if a project is on track; hence roles and responsibilities need to be clearly defined for project team accountability purposes. Eby (2018) highlight the following as examples of some of the documents that the PM would generate amid this phase to ensure the project adheres to set parameters:

- Declaration about the scope – Documentation clearly defining the business need, project benefits, objectives, deliverables, and critical milestones. A scope statement may change during the project, with approval by the sponsor and Project Manager
- Work Breakdown Schedule (WBS) –This visual representation breaks down the project's scope into manageable sections for the team.
- Milestones – Identify major goals that require meeting during development and add them to the programming tool.
- Gantt Chart – A visual timeline that you can use to plan out tasks and visualize your project timeline.
- Communication Plan – This is particularly important if your project involves outside stakeholders. Make a communication timetable for deliverables and milestones with the team.
- Risk Management Plan – Identify all foreseeable risks. Common risks include unrealistic time and cost estimates, customer review cycles, budget cuts, changing requirements, and lack of committed resources.

Therefore, based on the PMI (2020) five phases, the planning stage of a construction project is critical to its success. Planning for infrastructure projects is an involving activity, especially when managing and executing infrastructure activities, which encompasses the chosen technology, the definition tasks, the approximation of the required resources and durations for individual tasks, and identifying any interactions among the different work tasks. A good construction plan is a basis for developing the budget and the work schedule. The construction plan is critical in managing construction, even if the program is unwritten or otherwise formally recorded. Thus, a primary and significant output of project planning is a work plan that considers different aspects of each activity and predicts the project status during the

project life cycle (Golpayegani and Emamizadeh, 2007). In addition, it may also be necessary to make organisational decisions about the relationships between project participants and which contractors include on a project. For example, determine the extent of the engagement of sub-contractors during construction planning. When designing a construction plan, it is common to emphasise budget control or schedule control primarily, and selected projects are divided into expense categories with associated costs. In these cases, construction planning is cost or expense oriented. Within the types of expenditure, a distinction is made between costs incurred directly in the performance of an activity and indirectly for the project's accomplishment. For example, borrowing expenses for project financing and overhead items are considered indirect costs.

Scheduling work activities over time is critical for other projects and is emphasised in the planning process. From the practical perspective, project scheduling is necessary for a project and raises the potential of yielding successful project completion and significantly reduction of associated costs (Habibi et al., 2018). In this case, the planner ensures that the proper precedence among activities is maintained and that efficient scheduling of the available resources prevails. Every time a delay occurs, timely consideration and deliberate, specific action on the buyer or construction manager is necessary. It is imperative to identify the responsible agent as early as possible, developing and executing a remedial plan of action. A compelling examination technique for preparing a well-timed assessment of deviations and delays is necessary, making it possible to devise a clear, brief, persuasive position on each of them (PMI, 2020).

Furthermore, the PMI (2020) describes the project execution stage as a phase where deliverables are developed and completed. Also, expected outputs are things including progress reports and site meeting minutes, bring up-to-date, and progress reports. A “kick-off” meeting usually marks the start of the Project. At this phase, project teams involved would have been informed of their responsibilities. Some of the tasks completed during the execution phase include: develop team, assign resources, execute project management plans, procurement management if needed, the Project Manager directing and managing project execution, set up tracking systems, task assignments are completed, status meetings, apprise the schedule, modify project plans as needed. Also, at the execution stage, the team will dispense requirements, implement plans and tasks, set up tracking systems, and keep the schedule up-to-date. This is where records management, contract management, and contract procurement reside.

Project progress is measured to make sure that the project is tracking within the plan. Besides, some of the critical factors impacting successful project delivery include errors and omissions, inadequate time extensions, and varying site conditions. Eby (2018) elucidates that whilst the stage of project monitoring owns a unique set of requirements, the two phases (execution and monitoring) often overlap. The

'monitor' phase measures progress and performance and ensure that all activities align with the project management plan. The PMBOK, 2017 submits similar sentiments. However, PMs would adopt the Key performance indicators (KPIs) to determine if the project is on track, and they would typically pick two to five of these KPIs to measure project performance:

- Project Objectives, which comprises measuring whether a project is on schedule and the budget would meet investor objectives;
- Quality deliverables: this establishes whether specific task deliverables are being met;
- Effort and Cost Tracking: The PMs will account for the effort and cost of resources to assess if the budget is on track. This type of tracking informs whether a project will meet its completion date based on current performance; and
- Project Performance: This monitors changes in the project. It considers the number of issues that arise and how quickly they are addressed. These can occur from unforeseen hurdles and scope changes.

Nevertheless, PMs could need to fine-tune time plans with the capital to ensure the project is on track (Eby, Op. Cit). Thus, considering that one of the indicators is usually adherence to schedule (time), standard procedures emphasise the maintenance of task precedence (resulting in critical path scheduling procedures) or efficiently applying funds. Most multifaceted undertakings need consideration of cost and scheduling overtime, so planning, monitoring and record-keeping must consider both dimensions. In these cases, integrating schedule and budget information is a significant concern. The two primary techniques utilised to schedule tasks include the Critical Path Method (CPM) and Program Review and Evaluation Technique (PERT), which are related methods (Ahuja and Thiruvengadam 2004). Both of these are network-based, derived from the six processes of time management described in the PMBOK® Guide. Such methodologies require a thorough definition of the project's scope before working with the schedule (Kloppenborg, 2008).

### 2.17.5. The partnering of Local Contractors

Many researchers recognise partnering to aid the collective association amongst contributors and improve project performance (Meng, 2012; Hong Kong CIC, 2012). Partnering is a voluntary process by which two or more organisations act as a team to achieve mutually beneficial goals (Nevada Department of Transportation, 2010). Moreover, the integration and building of close relationships in construction projects have not been taken seriously (Meng, 2012). Partnering would be an excellent strategy for Local Contractors to compete with foreign contractors. However, literature regarding partnering in the construction industry of Zambia is scanty.

Further, partnership entails working closely or cooperatively instead of competitively and adversarial. It is a long-term promise between two or more organisations to implement a structured collaborative approach that facilitates teamwork across contractual boundaries to achieve specific business objectives (California Department of Transportation Division of Construction, 2013). This means that the Local Contractors will compete for construction tenders/projects by building harmonious working relationships between stakeholders, bringing common goals and objectives into line, building trust in shared goals, and increasing chances of success. The partnering could be done for specific projects or as a strategic move. Project partnering is based on a single project, while strategic partnering is based on a long-term pledge (Meng, 2012). Non-Contractual partnering is where the partnering arrangement is not legally binding, and it does not change the terms of the contract or the contractual relationships between the parties. Meanwhile, contractual partnering is where partnering principles are incorporated into the construction contract. It is done by either amending the existing traditional contract to make it more partnering friendly or adopting an entire standard partnering contract.

Furthermore, research records that there are many positive outcomes from partnerships. For instance, according to Mirawati et al. (2015), partnering impacts project performance concerning period, price and quality, improvement in profit margins and reducing litigations. Similarly, existing literature has presented that project with adopted partnering is more likely to meet safety, cost, schedule, and quality goals (Ohio Department of Transportation, 2013). Furthermore, Du et al. (2016) echo that partnership could directly facilitate company capability and risk management, improving project performance. In any case, partnering and joint ventures could address the nonexistence of access to plant and equipment as there would be improved capabilities when two contractors join forces in terms of expertise.

### 2.17.6. Joint Ventures

Staying relevant in a competitive industry like construction can be challenging. Landing more extensive and lucrative contracts can help push the needle in the right direction. One of the best ways to do so is by forming a joint venture. Joint ventures (JVs) are well-known in the infrastructure development sector since organisations hunt for resources and expertise to extend opportunities and mutually benefit from the arrangement, particularly for construction projects (Lonsdale et al., 2019). A joint venture (JV) is an enterprise, co-operation or partnership formed by two or more companies, individuals, or organisations, at least one of whom is an operating entity that wishes to broaden its activities to conduct novel and become profitable companies of enduring duration (Kale et al. 2013). In general, the participants share ownership based on more or less equal equity distribution and no one party's absolute dominance. "Operating joint ventures" are partnerships through which two or more firms create a separate entity to carry out a productive economic activity. Each partner fully participates in decision making. Each

partaker to the operating joint venture contributes capital and technology to marketing experience, personnel and physical assets. An operating joint venture is also different from an inter-firm arrangement which does not create a separate entity (ibid). The resource pooling and increased access to alternative contracts can help keep the cash flowing. However, parties should be cautious when joining forces with another company.

Once parties enter into a joint venture, trust and open communication will be crucial to keep the business relationship a successful and profitable one (Benarroche, 2019). Indeed, Local Contractors would benefit from JVs with foreign contractors. They would get prequalified to participate in international contracts and share political, legal, financial, and operational risks with more experienced partners. Also, Local Contractors would have an opportunity to access improved technical know-how, quality and safety standards. Furthermore, projects completed as joint venture improves their track record for their next bid.

### 2.17.7. Subcontracting

Samuel (2009) suggests that sub-contractors commit to contracts to execute portions or parts of contracts. Hence, subcontractors may be a firm or a person engaged by the main contractor to execute specific tasks on a construction project as part of the whole contract and may supply labourers, materials, equipment, tools, and designs (El-Kholy, 2019). According to Mbachu (2008), sub-contractors may be categorised into three types to include following: the ones who undertake specific trades such as paintwork and brickwork (Trade Subcontractors); undertake services requiring specialisation including electrical, plumbing and insulation (Specialist Subcontractors); and labour services only (Labour-only subcontractors). Also, Lew et al. (2018) submit that sub-contractors are only recognised as specialists in implementing selected works. Subcontracting is popular in the construction industry and has been widely adopted (Polat, 2016). There is evidence that sub-contracting is beneficial to projects in existing scholarly literature. Some of the benefits may be the reduction of the direct costs of the construction project, assurance of the excellence of the specialist job and assist in minimising the fiscal burden of general contractors (El-Kholy, 2019; Lew et al., 2018; Choudhry et al., 2012). According to Mudzvokorwa (2016), non-Zambian and Zambian constructors registered with the National Council for Construction (NCC) are the primary undertakers of Zambia's construction activities. Despite this, most Local Contractors cannot compete in bids involving major construction projects on the market; thus, they settle for subcontracting work from large, multinational enterprises. Subcontracts enable skillset transference from prominent, well-established main contractors to small local subcontractors (CIBD, 2013). Subcontracting is very important in providing the Local Contractors' opportunities as it grants the small Local Contractors an opportunity to develop.

Moreover, subcontracting has been on the National council's priority list for construction for some time now. The NCC Annual report of 2017 stressed that in 2018, NCC would enhance compliance by procurement entities to ensure that public contracts are awarded only to foreign companies that enter into partnership with Zambian firms. However, some foreign contractors have had challenges adhering to this policy, a stumbling block in realising the intended turnaround for Local Contractors. According to Mambwe et al. (2020), the obligatory subcontracting policy objective emphasises the transmission of skills and building capacities of local contractors; even though the policy is in place, the implementation of this policy could be complex. Their study proposes that it would be imperative that the procurement and contracting strategies be modified to meet the policy's objectives. The Government of Zambia should thus review the work allocation system method and formulate clear guidelines on implementing the policy. The procurement and contracting strategies should also consider the ever-present adversarial tendencies between main contractors and subcontractors. Indeed, with the support of government policies, subcontracting would yield some positive results for the construction industry. It would be one way of ensuring that contractors have a stake in the construction projects, which account for significant capital investments.

### 2.17.8. Practicing Total Quality Management (TQM)

Quality plays an essential role in construction projects, and a substantial connection between organisational performance and quality management has been established (Barad and Raz, 2000). Kerzner (2006) suggested that the organisations' goals may not be accomplished if the organisations overlook critical aspects such as change requests in scope, project complexity, project risks, organisational restructuring, technological changes and financial planning. Consequently, the thought of quality management guarantees to achieve the required quality for the invention, which is well planned and structured. The workmanship on infrastructure undertakings translates into maintaining the construction works at the required standard to attain customer satisfaction, bringing long-term competitiveness and business endurance (Tan and Abdul, 2005). According to Ahmad (2004), one way of applying TQM is hiring the right human capital with the right competencies to manage output quality. Hence, TQM is totally an obligation within infrastructure companies to sustain themselves in extant, challenging and competitive construction markets. Harris and McCaffer (2001) elucidated that quality management offers the atmosphere within which related tools, techniques, and procedures can be deployed effectively, leading to operational success. Quality management for a construction company is not an isolated activity but intertwined with its operational and managerial processes. Moreover, attainment of satisfactory heights of workmanship in the construction industry has long been a problem.

Further, TQM is helpful to develop a quality focus and improve organisational performance (Goldratt and Cox, 1984). *Countless academics have addressed the acceptance of Total Quality Management (TQM) principles in construction* (Siame, 2015, p.16). There exist different resolutions for applying TQM on construction projects (Jaafari, 1996); two important ones include: meeting the buyer's desired goals-quality assurance (QA) and attaining continuous improvement (CI). Jaafari (1996) also stresses that the application of TQM in construction would lessen project incompleteness as well as defective finished works (discards or revisions) costs and make efficiencies in the respective construction and management processes. This system encompasses each organisation in the enterprise to heighten its productivity. It utterly infuses components of a company and makes functionality a strategic goal and realised via a blended attempt amongst staff to raise client delight through constantly enhancing performance (Bulger et al., 2014).

In addition, TQM concentrates on upgrading procedures, developer/customer and supplier participation, team effort and training to attain client delight, cost-effectiveness, and defect-unfastened work and presents the lifestyle and environment vital for modernisation and improvement of technologies. Pheng (2004), with the aid of case studies, has exposed that the construction industry could replicate total quality management (TQM) with similar benefits. The benefits may be reducing quality costs and better operatives' job satisfaction.

Furthermore, according to Oakland (2004), all quality implementers need to value and appreciate the reputation of the three Cs – Culture, Communication and Commitment from the early TQM frameworks. Culture, mainly organisational culture, plays an essential part in detecting whether organisations are successful or not with their TQM approaches. Also, good communication is vital to success, but the most important of all is commitment, not only from the senior management but from everyone in the organisation, particularly those operating directly at the customer interface. The customer/supplier or 'quality chains' are the core of this TQM model. TQM models are complete at integrating the 'soft outputs' into the four Ps framework to move organisations successfully forward. Based on the extensive work done during the last century, this TQM model provides a simple framework for excellent performance, covering all angles and aspects of an organisation and its operation. In achieving performance, there is a need to use a corporate entity's excellence approach and plan the involvement of people in the improvement of processes. This process has to include:

- Planning – the development and deployment of policies and strategies; setting up appropriate partnerships and resources, and designing in quality;
- Performance – establishing a performance measure framework – a 'balanced scorecard' for the organisation; carrying out self-assessment, audits, reviews and benchmarking;

- Processes – understanding, management, design and redesign; quality management systems; continuous improvement; and
- People – managing the human resources; culture change; teamwork; communications; innovation and learning.

However, to attain successful implementation requires effective leadership and commitment (ibid). Indeed, construction projects require an excellent TQM plan if the expected quality of the finished works is to be met. There is a need for the project team to be aware of the specification of the constituent components of the project, and strict adherence must be enforced. Construction project sites must engage quality personnel to conduct quality checks as well as feedback to project managers. When this is enhanced, many projects will avoid defects and reworks.

### 2.17.9. Government policies on corruption and unethical conduct

In the fight against corruption, there is a need to enhance education and cultural changes leading to government producing policies tackling corruption issues (Akbar and Vujić 2014; Auti and Skitmore 2008). Deliberate government policies could increase the actual benefits, raise the prospect of exposure and castigation, and increase the penalties levied on those found wanting (Rose-Ackerman, 1996). However, measures like these regularly need applicable law reform and more transparency (Locatelli, 2016). Besides, Tabish and Jha (2012) demonstrate a positive correlation between "corruption-free indicators" and professional standards, transparency, fairness of punishment, procedural and contractual compliance. Also, Vee and Skitmore (2003) contend that ethical behaviour in the construction industry is promoted by ethical guidelines and rules of private organisations and professional bodies and the leadership of public sector procurement agencies. In addition, Kenny (2012) indicates transparency in public procurement as a critical practice for fighting corruption.

Additionally, transparency would be essential in reducing or even eradicating political corruption, including manipulating policies, institutions and procedural rules in the allocation of finances, or other resources, perpetrated by policy-makers at project phases: bid pre-qualification, contract execution, and disagreement resolution. In some cases, decision-makers may lobby for the usage of multifaceted technologies that require non-standard procurement (Locatelli, 2016). As a result, corruption affects construction projects' performance leading to the delivery of works with limited social benefit, poor economic returns and over-cost (Wells, 2014), and building poor quality infrastructure in the wrong place. Corruption affects the quality of the project starting from the project preparation, and it continues during its implementation with significant acts of corruption (Wells, 2014). Hence, the need for policies in the construction industry that aim at reducing corruption cannot be over-emphasised, especially after noting the findings of Van de Graaf and Sovacool (2014). They demonstrate that corruption can be a

source of project failure, especially in highly corrupt countries. (Flyvbjerg and Molloy, 2011) demonstrate how costs, time and benefits forecasts are deliberately and systematically over-optimistic to promote a project at the expense of another. In exchange, some key decision-makers might obtain bribes, support their campaigns, or both. Thus, the following were the emerging issues from the literature reviewed:

### 2.18. Emerging issues

Many scholars emphasise that corporate (organisation) culture is one of the indicators of the success of an organisation and that construction projects may also be considered to be organisations or multi-organisation establishments. Moreover, the Project Manager's performance is affected by the organisational culture and the project management culture. Literature brought to light that the construction industry culture is about the industry's characteristics, strategies to construction, the competence of artisans and people who work in the industry and the strategies, goals and values of the organisations within which they work (shared values) (Ankrah et al. 2009, Hofstede, 1991). However, despite literature highlighting that project performance depends on, among many things, leadership competence, employees and their qualifications, organisational structure, and culture (Chen, 2015), there was scanty literature on this subject concerning project performance factors (time, cost and quality).

Additionally, emerging from the literature review was that organisational culture is influenced by leadership and complemented by the organisation's everyday conduct (Burkiewicz and Knap-Stefaniuk, 2020). Consequently, the four different organisational culture types are clan, adhocracy, market, and hierarchy (Quinn and Rohrbaugh, 2011) and a necessity for entities to create the utmost appropriate balance between the four culture types to achieve optimal organisational management. Further, based on a self-motivated perspective of culture espoused by the likes of Erez and Gati (2004), the various levels of culture influence each other in a ‘top-down, bottom-up’ fashion (Power distance), such that inconsistencies between levels may instigate change and cultural adaptation or lead to conflict. The literature review expected to find some insight into how the cultural aspect influences project performance; however, there was insufficient literature on the type of organisational culture among Local Contractors in Zambia.

Nevertheless, the literature analysis revealed that worldwide infrastructure development meets obstacles, particularly in developing and underdeveloped countries, which need massive structural and shifts in culture from traditional construction practices and systems to contemporary approaches (Kumaraswamy, 2006; Kumaraswamy et al. 2002; Ofori, 2000). Previous studies submitted arguments regarding the industry and advanced that it should be "rescued" and enabled to help the ongoing adjustment of national economies and develop the capability and resilience to adapt to future changes (Ofori, 1984). Yet,

shortfalls hamper the construction industry's contributions to national development in expected quality, productivity, and safety levels, often accompanied by time and cost overruns, claims, counterclaims, and prolonged disputes on many significant projects (De Saram, Rahman and Kumaraswamy, 2001). Furthermore, building industry scholars have also highlighted the critical need to advance the infrastructure sectors of developing countries by envisioning linkages between construction industry development, infrastructure development, and the broader role of national development (Kumaraswamy, 2006; Kumaraswamy et al. 2002; Ofori, 2006). Several countries recognise the importance of improving the construction industry's performance at various social and economic development heights, and responsible Agencies were created to administer the industry's continuous development (Ofori, 2000b); however, trends of projects not completed within the set parameters have continued, hence suggesting the dearth of improvement.

Furthermore, the literature review has revealed that corruption and the demand for kickbacks were persistent leads to project time delays, cost overruns and shortfalls in quality and that few studies have focused on aligning these to culture and performance factors. On the other hand, regarding the assumed ideas that wealthy countries have a significant advantage of higher performance and quality, the literature review revealed that it was not the case and demonstrated that many countries worldwide have similar issues concerning performance. Similarly, the subject of the interrelated project indicators of time, cost and quality was met with the understanding that they need a balance or trade-off to achieve efficient overall control over project performance and that an increase or decrease in one affects the others.

In addition to this, the literature identified some of the common problems in project performance as lack of access to finance, low project turnover, unregistered operators in the construction sector, low quality work, lack of accountability, lack of inclusion of local construction sector operators, and the problem of contractors not meeting this requirement. These issues have been reappearing in many world regions, despite the improved technology and acquired knowledge in project management. Also, the researcher found little literature or studies relating to these issues, primarily associated with organisational culture project performance. Hence the following section reveals the knowledge gaps.

### 2.19. The knowledge gaps

Based on the literature review and the emerging issues, several studies dwelled on management styles and the applicability of management techniques in the past. Although it is acknowledged that organisational culture plays an essential role in project management's success or failure, studies assessing its influence on Local Contractor performance factors of time, cost and quality were few. Moreover, it was expected to find some related studies into assessing the influence of organisational culture features such as leadership, shared values, decision making and power distance on Local Contractor project

performance in Zambia; however, area-specific studies of this nature have not been comprehensively appraised with regard to construction projects in Zambia. Hence the need for further probe of the subject to fill this gap.

## 2.20. Chapter Summary

This chapter presented a detailed review of the extant literature on the performance of contractors in the construction industry. The chapter defined project performance and then looked into project performance of construction industries in developed countries, developing countries and underdeveloped or Least Developed countries. This led to identifying the factors that influence Local Contractor performance and establishing the influence of organisational culture on Local Contractor performance. Some of the factors identified included inadequate project time, several scope changes, insufficient control, poor communication, sketchy stakeholder communication, socio-cultural and political interferences and lack of top management support. Further, the chapter defined and analysed the organisational culture coupled with the challenges encountered in the construction industry. Some of the challenges that Local Contractors encounter included; lack of capacity, limited technical and managerial skills, lack of access to plant and equipment, corruption**,** delayed client payment, and difficulties accessing financing. Further, the potential mitigation measures were subcontracting, partnering among Local Contractors, and joint ventures were proposed measures as per existing literature. Chapter three describes the theoretical and conceptual framework.

# CHAPTER THREE

## THEORETICAL AND CONCEPTUAL FRAMEWORK

### 3.1.Introduction

While Chapter two presented a concise literature review. In this chapter, the theoretical framework was developed and gave an overview of the factors that influence the performance of Local Contractors on construction projects. Furthermore, this chapter explained the conceptual framework utilised.

### 3.2.Theoretical Framework

Theories clarify, envisage, and comprehend phenomena and, in many cases, challenge and spread existing knowledge within the limits of critical bounding assumptions. The theoretical framework is the arrangement that can embrace or support a theory of a research study; it is the 'plan' or a guide for research (Grant and Osanloo, 2014). The theoretical framework familiarizes and pronounces the theory that explains why the research problem under study exists (Abend, 2008). The theoretical framework illustrates how researchers define their study philosophically, epistemologically, methodology and analytically (Grant and Osanloo, 2014). Ravitch and Carl (2016) concur that the theoretical framework assists researchers in situating and contextualizing formal theories into their studies as a guide and positions their studies in a scholarly and academic fashion.

Moreover, the theoretical framework links the problem under study and the research design and data analysis plan. It directs the data accrued for a particular study (Lester, 2005). It also aids scholars in discovering the appropriate approach, analysis tools and procedures for their research inquiry and makes research findings more meaningful and generalizable (Akintoye, 2015). Imenda (2014) posits that research without the theoretical framework is a deficient inaccurate direction for the pursuit of suitable literature and scholarly discussions of the findings from the research. For other scholars in the field of inquiry, the theoretical framework provides a shared worldview or lens to support one's thinking about the problem and data analysis (Grant and Osanloo, 2014). The theoretical framework guides and ought to resonate with every aspect of the research process from the definition of the problem, literature survey, methodology, presentation and discussion of the findings, and the conclusions drawn. Simon and Goes (2011) and Maxwell (2004) aver that theoretical framework deepens the essence of the study.

Therefore, according to the University of South California (USC), 2020, this framework mentioned in this chapter should reveal an appreciation of philosophies relevant to the study topic and relate to the broader areas of the considered knowledge. A theoretical framework stipulates choices of critical variables that influence a phenomenon of interest and highlights the need to examine how those main variables might differ and under what situations. By its applicative nature, good theory in the social

sciences is of value precisely because it fulfils one primary purpose: to explain the meaning, nature, and challenges associated with a phenomenon, often experienced but unexplained in the world in which we live, so that researchers and all alike may use that knowledge and understanding to act in more informed and effective ways. Given the preceding, the following section presents the theories underpinning this study.

### 3.2.1. Theory of Performance

Elger (2007) presented that the justification for a Theory of Performance (ToP) was that humans could accomplish extraordinary accomplishments, and worthy accomplishments are produced from high-level performance. A ToP informs organisations' learning by examining the "level of performance". The performance theory emphasises that the current performance level rests on six aspects: Context, stage of knowledge, skill set, identity, personal factors, and fixed factors. The theory proposes three axioms for the practical improvement of performance: the attitude (state of mind) of a performer, immersion in an inspiring setting, and engagement in reflective practice (Elger, 2007). *Performers' mindset* comprises activities that evoke positive emotions. For instance:

- setting challenging goals
- allowing failure as a natural part of achieving high performance
- provision conditions in which the performer feels the right amount of safety

In addition, *immersion* in a physical, social, and intellectual setting could elevate performance and stimulate personal and professional development. Activities consist of social interactions, disciplinary knowledge, active learning, emotions (both positive and negative), and spiritual alignment. On the other hand, Reflective *practice* refers to activities that support people to concentrate and acquire knowledge from practices—for instance, looking at the present-day performance, noting accomplishments, analysing strengths and areas for improvements, analysing and developing identity, and improving levels of knowledge. This theory contends that the results of high-level performance include:

(i) Quality intensifications - outcomes or products are more effective in meeting or exceeding stakeholders' expectations;
(ii) Cost decreases - the amount of effort or financial resources to produce a result goes down; the amount of waste goes down;
(iii) Capability increases - the ability to tackle more challenging performances or projects increases;
(iv) Capacity increases - the ability to generate more throughput increases;
(v) Knowledge increases - depth and breadth of knowledge increases;

(vi) Skills increase - abilities to set goals, persist, maintain a positive outlook and increase the breadth of application and ineffectiveness; and

(vii) Identity and motivation increase - individuals, develop more sense of who they are as professionals; organisations develop their essence.

The theory of performance helps contractors in the construction industry to learn, understand and improve performance factors (time, cost and quality) on construction projects. Moreover, ToP is grounded in the behavioural sciences and anthropology as this aids entities to appreciate for instance, the current performance level with regards to stage of knowledge, stages of skills, level of identity, personal factors, as well as fixed factors. In Construction, ToP could be applied to project performance which is mainly measured in terms of cost, time and quality, as already alluded. This rationale makes this theory relevant to establishing the influence of organisational culture on local contractor project performance factors.

### 3.2.2. Hofstede's Cultural Dimension Theory

Hofstede created four dimensions in 1980 and a fifth in 2001. They are the avoidance of ambiguity, independence against communism, power distance, masculinity versus femininity, and long-term versus short-term orientations. Businesses all throughout the world can use the framework as cultural guidance. Indecision (uncertain) avoidance reflects the degree to which a culture feels threatened or uneasy in the face of uncertain and ambiguous events. It is the degree to which people are at ease in the presence of ambiguity and ambiguity (Hofstede, 2011). According to Hofstede (2011), people in societies develop coping methods to deal with the stress caused by excessive uncertainty. According to Warner-Sderholm (2012), avoiding uncertainty is the magnitude of the strife of members to avoid uncertainty by relying on established norms, rituals, and bureaucratic procedures. People with high uncertainty avoidance cultures aim to limit the chance of unplanned occurrences that could negatively affect an organisation's or society's operations and improve the success of such effects (Hofstede and Minkov, 2010). The degree to which individuals are integrated into groups is referred to as individualism culture. It reflects the individual's preference compared to the group (Ghemawat and Reiche, 2011). Individualistic cultures prioritize individual aims above group goals, according to Hofstede, Hofstede, and Minkov (2010), whereas collectivistic cultures prioritize group goals over individual ones. Hofstede and Minkov (2010) explain that collectivism is the degree to which persons are united into organisations, whereas individualism is the status to which relations amid persons are untied; everyone is expected to look after themselves. Power distance is the degree to which less powerful members of an organisation or institution accept and expect unequal power distribution (Hofstede, Hofstede, and Minkov, 2004). Members of high-power distance accept status differentiation and expect to be respected by their superiors (Ghemawat and

Reiche, 2011). These status differentiations could exist within the organisation, but they may be based on age, social class, or family role.

On the other hand, cultures with power distance on the lower end are less comfortable with differences in the organisational hierarchy or social class, and everyone in the organisation participates in decision making (Ghemawat and Reiche, 2011). Generally, thus, Hofstede's theory is the framework of the cultural dimension for cross-cultural communication developed by Geert Hofstede. It illustrates the effects of a society's culture on the values of its members and how these values relate to behaviour, using a structure derived from factor analysis. Therefore, this study adopted this theory to understand that a team executes construction projects; hence, local contractors would apply this theory in their day-to-day activities. In addition, construction teams comprise individuals who are integrated into groups; hence, less powerful members of an organisation or institution accept and expect unequal power distribution was relevant to the study.

### 3.2.3. Edgar Schein's management theory

This theory concentrates on the culture within an organisation. Based on this theory, gatherings interrelate within the group culture in the same way that organisations operate within the organisation's culture. Schein (2004) defines organisational cultures as patterns of shared basic assumptions that a group learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel concerning those problems. Also, organisational culture demonstrates the values and beliefs which offer expected behaviours that employees may follow (Schein, 1992). It is an invisible social strength, and empirical evidence suggests that organisational culture significantly influences market-oriented behaviours, market and financial performance (Homburg and Pflesser, 2000), attitudes of employees as well as organisational effectiveness (Gregory et al., 2009), and according to Zheng, Yang and McLean, (2010), it makes more contribution to knowledge management as well as organisational effectiveness than organisational strategy and structure. In the view of O'Reilly, Chatman, and Caldwell (1991), organisational culture strongly influences staff behaviour above prescribed measurement mechanisms, actions, and authority. Hence, it is a powerful means to prompt desired organisational outcomes.

Further, Schein (2004) argues that “culture formation is always, by definition, a striving toward patterning and integration” and claims that the founder (Leader) or entrepreneur imposes their assumptions and beliefs, thus establishing the culture of the organisation. Schein (Op Cit) describes 3-levels of culture: (i) artifacts, (ii) espoused beliefs and values, and (iii) underlying assumptions. In continuation, artefacts embody the physical appearance of culture. Examples of artefacts include vision,

morals and assignment statements, company maps, the workspace and directorate offices, and dress codes. Schein (2004) includes organisational myths, legends, ceremonies and conversation patterns on this degree of lifestyle. He opines that the artefacts provide the unfinished functionality to realise standard lifestyle given that they are symbols of the lifestyle and are a challenge to the observer's interpretation, bias and projections.

Figure 3.1. illustrates the three levels.

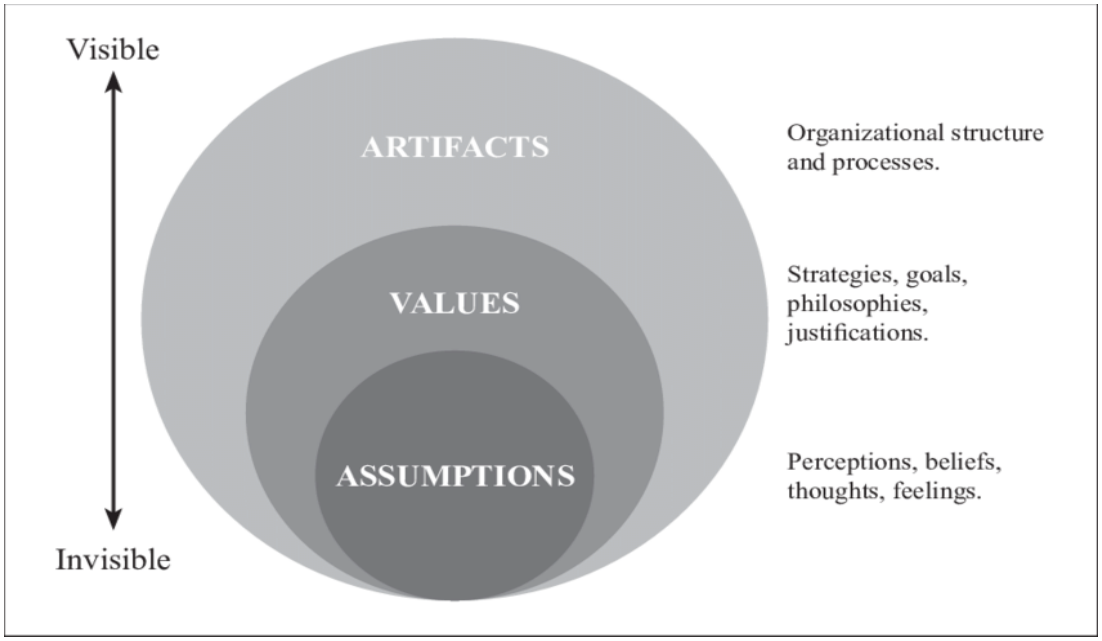


**Figure 3. 1 Schein's three levels of culture**

Source: Schein, (2004)

On the other hand, espoused views and values result from group learning, in which values and beliefs are tested by applying them to solve problems and accomplish group tasks. When a belief is tested and fails to solve a problem, it is discarded, and a new belief is adopted. Over time, a belief or value shows reliable results when applied to accomplishing tasks or solving problems and is shared by the group. Schein describes this process as social validation, meaning that the beliefs and "values are confirmed only by the shared social experience of the group" (Schein, 2004). Espoused beliefs and values are usually unwritten, but they can take the form of a written creed, ideology or philosophy. Schein further contends that beliefs or values develop only due to showing "reliable results" when solving problems (Schein, Op Cit). He orates that people would adopt unusual actions, for instance, blaming and distorting our memories to preserve their underlying assumptions to prevent cognitive dissonance. That is why organisational change is so complex; it requires that we excavate the subconscious to bring underlying assumptions to light, examine them and then challenge them (Dorianne, 2016).

Nevertheless, this model of culture was helpful in this study as it was the understanding of the author that Local Contractors operate in organisations in which the three layers are present in that, indeed, as construction organisations, they exhibit artefacts such as the vision, shared morals and task statements, organisation charts, the physical workspace and executive offices, and dress codes. In the same way, espoused beliefs and values are seen the way construction project teams come together to apply their values and beliefs to accomplish group tasks. Moreover, Local Contractors also work with their assumptions about behaviour in a project setup and the organisation in general.

### 3.2.4. The triple constraints theory

In project management, a particular project operates within the boundaries of scope, time, and cost, and all these elements establish the product's quality. (LaPrad, 2018). The triple constraints are also known as the Iron Triangle. According to Pinto (2010), the concept of the Iron Triangle is a fundamental aspect of how project success is understood. The Iron Triangle represents the essential criteria by which practitioners determine if the project is being delivered by the completion date, within budget, and to some agreed level of quality, performance or scope. The Iron Triangle has become the standard for routinely assessing project performance. Any shift in one factor will invariably affect the other two. The main gain of maintaining the Triple constraints in mind during the project development process is that the project team will adapt to the changing conditions that the projects encounter daily and still complete the development process in time (Cambridge Network, 2021). Indeed, these components play a critical role in project performance management. Project managers closely monitor them to ensure a balance, and none is neglected. Neglecting any of them would be detrimental to the projects. In simple terms, the iron triangle illustrates the competing forces on a project. Indeed, in practical terms, time, cost and quality are critical aspects of projects. They are all valuable and need at most care. Projects that manage these three are said to be successful. The reality, however, is that one of the three will suffer for the two. The typical state of affairs is that one of these forces is fixed, and the other two will vary in inverse proportion to each other. For example, time is usually fixed (let us say completion of the project within 18 months), and the financial position of the finished works will depend on the cost or resources available. Similarly, if working to a fixed level of quality, the project's cost will largely depend on the available time (if you have longer hours to work, you can do it with fewer people). Figure 3.2. illustrates the triple constraints or the iron triangle.

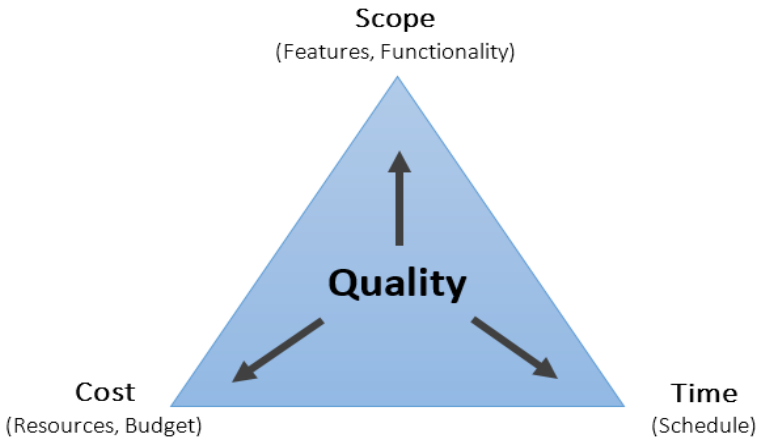


**Figure 3. 2 The triple constraints**

Source: The Cambridge Network, (2021)

In continuation, the notion of the Triangle is an active means of communicating the interrelatedness of these main success criteria. It is typically presented as a triangle with the criteria on the vertices. The movement of one measure, for example, in response to client requirements or resource limitations, can put pressure on the other criteria. Failure in one constraint would likely lead to negative pressure on one or both of the other two (Mokoena et al., 2013). This is sometimes expressed as "good, fast or cheap-pick two" (Van Wyngaard et al., 2012). Misunderstanding or misinterpreting the Iron Triangle can lead to project failure despite effective management of all other aspects (Mokoena et al., 2013). Effectively managing the Iron Triangle is central to project success. Managing project activities is somewhat subject to the project setting, with different emphases in different scales of projects (Besner and Hobbs, 2006). Reliance on the Iron Triangle increases when complexity and lack of certainty increase costs and time.

Besides, more extensive and costlier projects tend to increase the usage of practices focusing on greater time and cost control (Papke-Shields et al. 2010). The Iron Triangle may be used more commonly as projects become more prominent and publicised. The Triangle may become more attractive in times of complexity as it offers a simple, unambiguous, and reassuringly straightforward performance measure. However, this concept has received some criticisms from some scholars. For instance, van der Hoorn and Whitty (2015) critiqued its validity concerning the means practitioners accomplish projects. They submit that the Iron Triangle is one of many project management artefacts that reinforce thinking unaligned with the lived experience of projects. They further oppose that the Iron Triangle simplifies the perception of project work experienced by project managers due to practitioner anxiety about the impossibility of complete control over project outcomes.

Nevertheless, Pollark et al. (2018) establish significant relations amongst schedules, budgets, and quality, verifying these concepts as the vertices on the Iron Triangle. These relations were significantly more

robust than relations to alternatives, such as Scope, Performance, or Requirements. This study has incorporated the project triangle (cost, time, and quality) since these factors are more tangible for the project's stakeholders to assess project success, as highlighted in the literature review.

### 3.3. The Conceptual Framework

Conceptual frameworks are structures that the scholar has faith in that could most appropriately expound the evolution of the phenomenon to be studied (Camp, 2001). The conceptual framework is necessary for conducting a study as it offers the strength of established concepts that can be adapted to the subject of study. The weakness of any framework is its limitations in explaining factors that have not yet found their way into the mainstream discipline. For example, the economics framework has difficulties considering the influence of culture, values, attitudes, social interactions and the like (Fox, 2003, P. 5). The conceptual framework is organised logically to display the association of ideas in a study (Grant and Osanloo, op. cit). Remarkably, it displays the series of actions the investigator intends to undertake in an investigation (Dixon, Gulliver and Gibbon, 2001). The framework makes it easier for the scholars to design and define the problem concepts in the study (Luse, Mennecke and Townsend, 2012). Miles and Huberman (1994) opine that conceptual framework can be 'graphical or narrative, showing the key variables or constructs to be studied and the supposed associations. Indeed, these were the guidelines that this study's conceptual framework follows. The idea was to demonstrate how the theories informed the research and how the researcher perceived the different variables of culture and performance. Another reason for the conceptual framework was defining the study in diagram form and simplifying the lengthy explanation. The conceptual framework highlights the independent variable and the dependent variables. Therefore, Figure 3.3. illustrates the conceptual framework for this study.

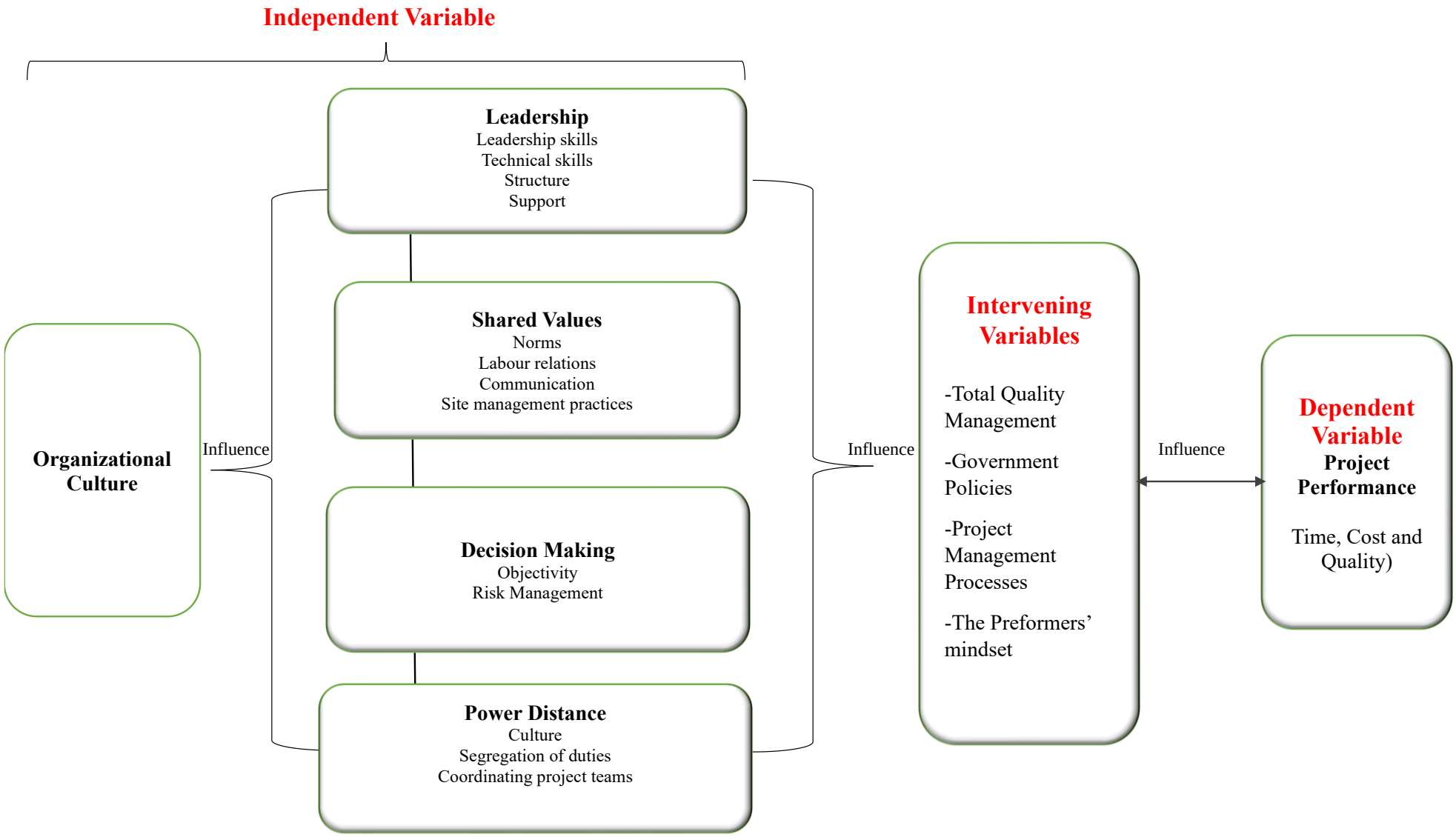


**Figure 3.3. Conceptual Framework** Source: Author, (2021)

### 3.4. Operationalisation of the Concepts

According to Jonker and Pennink (2010), operationalisation is the procedure for converting hypothetical ideas to concepts viewed in empirical reality. It is the process through which (abstract) concepts are translated into (measurable) variables in the social sciences. Kaur (2013, P. 36) states that *there are different variables: independent and dependent variables, intervening variables, active and attribute variables, continuous, discrete and categorical variables, extraneous variables and demographic variables.* This study utilised the independent variable and dependent variables to explain the phenomenon. According to Shukla, Satishprakash. (2018), an independent variable is altered or controlled in a scientific experiment to test its effects on the dependent variable and serves as the precursor, whereas the dependent variable is the consequent. A dependent variable is that which is being measured or tested in an experiment and is dependent on the independent variable. The independent and dependent variables may be regarded as cause/effect. If the independent variable is altered, an effect is realized in the dependent variable. Noteworthy is that the values of the two variables could vary in an experiment and is recorded. The difference is that the experimenter controls the independent variable's value, while the dependent variable's value only changes in response to the independent variable (ibid). The difference is that the experimenter controls the independent variable's value, while the dependent variable's value only changes in response to the independent variable. Consequently, Figure 3.3. was tailored to the conceptualisation that organisational culture is the independent variable.

In this study, successful completion or failure of project performance depended on the organisational culture of the Local Contractor in terms of leadership, shared values, decision-making and power distance. On the other hand, the intervening variable intervenes or mediates between the independent and dependent variables; in this case, intervening variables included total quality management practices, government policies, project management processes and the performers' mindset, Local Contractors. Meanwhile, the dependent performance variable was operationalised as a time, cost, and quality tradeoff. Where organisational culture is concerned,Total Quality Management will have much influence on the expected outcomes. When TQM is well understood and implemented in the organisation, it will lead to better motivation of employees in terms of involvement,commitment, team work and customer satisfaction (Tan and Abdul, 2005). Whereas Government policies will direct the practice of the construction industry and define how projects are managed and ultimately have an impact on project performance; for instance where policies are weak and fragmented, that would culminate into inefficient project delivery. In addition, Project Management Processes provide best practice that lead to effective delivery of projects with the out aim of achieving project success. However, this is twofold, as poor project project management processes may have a negative impact on organisational culture thereby

affecting the project performance. Further, taken from ToP, the Performer's mindset relates to benchmarking and basically assits organisations to attain highest level performance through learning from the best performers in the construction industry.They then aspire to reach those levels of performance or even surpass them. Therefore, organisations of performers'mindsets that are open to change would eventually improve project performance. The conceptual framework variables relating to organisational clture are expanded as follows:

### 3.4.1. Leadership

In the first instance, Edgar Schein's theory presented three levels of culture, which are necessary for effective leadership. Edgar Schein's organisational culture model illustrated that those basic assumptions shape values, and the values shape practices and behaviour, which is the visible part of the culture. When the culture is strong, leaders take the lead in shaping and supporting it and are referred to as 'representative managers' as they spend much time thinking about the culture's values, heroes, and rituals (Deal and Kennedy, 2000). A corporate entity's core values originate from the leaders and progress into a leadership style. Subordinates will be led by these values and the behaviour of leaders, such that the conduct of both parties should become increasingly in line. An organisation's culture is established and solid as healthy, united behaviours, values, and beliefs are developed. Leaders need to show appreciation for their function in upholding a company's philosophy. In return, it ensures stable behaviour amongst members of the firm, reducing conflicts and creating a healthy working environment for employees (Urrabazo, 2006). A healthy work environment thereby aids successful performance.

Moreover, values and beliefs decide structures and systems created in an organisation, and the behaviour of the people behave in relation to one another (Fellows and Liu, 2013). Thus, Leadership was explained as conduct, such as starting the foundation for the group followers to finish a task. A leader is the focal point or nucleus of a grouping's activity, a tool for goal achievement with a particular personality, a method of persuading and power, and the art of persuading compliance (Ingosi and Juma, 2020). Leadership is essential in an organisation since it leads to improved performance by team members, boosts motivation and morale among members, and aids in responding to change (Chan and Chan, 2005). Based on the definition, leadership promotes organisational performance by instilling responsibility and accountability among the organisation's members and raising an organisation's worth. This definition reveals that leadership promotes the performance of organisations by imparting accountability and liability amongst affiliates and promoting a company's worth. Thus, people rely on leadership to reach set goals and concentrate on 'maintenance requirements' of the organisation (the need for members to fit and operate together and having, for example, common norms) and 'task needs' (the need for affiliates to make progress toward attaining their mutual goals). Therefore, leadership requires a well-established

and aligned structure that can support ordinary employees executing duties at the project site (Chan and Chan, 2005).

### 3.4.2. Shared Values

In continuation, in Schein's theory, confirmation of views and standards is by the shared social experience of the group (Schein, 2004). (in this case, views represent beliefs whilst standards represent values). Studies also reveal that employees guided by the same norms and values in their organisation exhibit improved performance (Hofstede, 2007). Shared value leverages a corporate establishment's capital, expertise, and ingenuity to address issues that interact with its business (Harris and Ogbonna, 2014). Strategic distinction aims to take care of these difficulties at the project site so that the rest of the market does not. The term was coined in 2011 by Harvard professors Michael Porter and Mark R. Kramer in their Seminal Study 'Building Shared Value,' and the business world have since adopted it. Government and non-profits can embrace shared value policies and think, and both can be essential partners in achieving successful and sustainable change at large (Ingosi and Juma, 2020). All organisations must advance and apply and put into practice their mutual morals. They serve as a guide for organisational decision-making and an ethical compass for organisational action. Shared values consist of ideas within an organisation designed by the company leadership and subsequently adopted by the organisation's other members (Farh et al., 2017); when acting and communicating for the company, the entire population of the organisation's staff share and adhere to the ideals which make site management more manageable, as already alluded to by Hofstede (2007). Indeed, this is not different on construction projects.

### 3.4.3. Decision Making

Moreover, among many things, Hofstede's cultural value dimensions also assess people's tendency to rely on leaders to make critical decisions (Preuss and Lautsch, 2002). Leaders and managers at the top of the organisational structure make decisions (Torkaet al., 2010). Decision-making is defined as how managers identify organisational challenges and strive to fix them (Kemelgor, 2012). According to Harris and Ogbonna (2014), decision making entails identifying and objectively picking among various possibilities depending on inclination. Hence, it encompasses a wide range of activities that are all intermediate steps between thinking and action and serve as precursors of conduct. Hofstede (2007) states that decision-makers and managers must allow themselves to be involved in all labour relation issues that happen at the project site to smooth the project. This process of making decisions permits chief executives and directors to generate options, evaluate each alternative, and choose the best alternative or solution to the problem through the risk management process (Harris and Ogbonna, 2014). Many studies in strategic decision-making depict the process as logical stages, phases, or routes. Several difficulties to

a correct definition of the issue under consideration have been identified: Attention to results rather than causes, selective perception, and problem-solving (Torkaet al., 2010).

### 3.4.4. Power Distance

Organisational culture is formed by the everyday coordination and conduct of the organisation members (Burkiewicz and Knap-Stefaniuk, 2020). Power distance (PD) is described as *"the extent to which the less powerful members of a country's institutions and organisations expect and accept unequal distribution of power"* (Hofstede, 1994, p. 28). Power distance is one of Hofstede's cultural value dimensions that assesses people's tendency to rely on leaders to make critical decisions (Preuss and Lautsch, 2002). Individuals in cultures with a narrow power distance (for example, Australia, Austria, Denmark, Ireland, and New Zealand) expect and accept more consultative or democratic power relations, and they relate to one another as equals regardless of their formal status. In cultures with a vast power distance (for example, Malaysia, Guatemala, Panama, the Philippines, Mexico, Venezuela, and China), the less powerful accept authoritarian or paternalistic power relations. It is a modulator of empowerment and team participation affected by power distribution (Paarlberg and Perry, 2007). In a high-power distance scenario, empowerment has little impact on team involvement; therefore, ordinary employees have fewer opportunities to be empowered. Besides, PD entails segregation of duties at the project site to avoid duplication and centralization of power, as per Hofstede (1994). With segregation of duties, it is easier to coordinate the activities of various teams on the project, which in turn leads to objectives being achieved on time (Chan, 2005). Power distance is essential for healthy relations, interactions, and communication between managers and employees. Low power distance improves the quality of relationships, interactions, and communication between school administrators and teachers, while high power distance decreases them. Khatri (2009) concluded that (i) employees in a high-power distance context are unwilling to participate in decisions and are content with their managers making decisions and giving them instructions, which they follow passively. (ii) jobs are narrowly and tightly specified, giving the employees limited discretion. (ii) a communication occurs vertically downwards, with no horizontal communication. Overall, communication is weak. There is an extensive communication gap between superiors and subordinates because it is hard to air their views. (iv) power distance offers the managers limitless power and control over subordinates. Workers, in turn, have an absolute submissive attitude. (v) older and senior employees get respect from junior employees, not because of former's competence but due to their age and long tenure in the firm (vi) in a high-power distance culture, decisions are made by a few at the top autocratically. Further, because of little resistance from lower-level employees, decisions are made and implemented faster in a high-power distance organisation.

However, due to lack of input from lower-level employees and poor communication and information sharing, the quality of decisions is poorer in a high-power distance organisation. (vii) high power distance organisations are prone to unethical behaviour. This is because top managers do not have to justify or defend their decisions to lower-level employees or the larger organisation. Unethical behaviour gets covered up or goes undetected, and (vii), in a high-power distance organisation, managers tend to micromanage, and even minor decisions go to the top. Thus, higher-level managers are inundated with routine decisions. Hofstede (2001) also suggests that decision-making processes are centralised in a few hands in high power distance organisations, and the superiors are expected to lead and make decisions autocratically. Subordinates are generally afraid and unwilling to express disagreement with their superiors in high power distance organisations (Hofstede, 2001). They prefer to work for superiors who make decisions (and take responsibilities) and then tell them what to do (Erez, 1994; Triandis, 1994). Such an unquestioning attitude (Graf et al., 1990) of subordinates enables decisions made by top management to be carried out much faster in a high-power distance organisation than in a low one. On the other hand, employees in a low power distance organisation may resist implementing decisions without consulting them (Brockner et al., 2001). Jiing-Li, Niara and Jian (2007) illustrated that a lower power distance between the members of workgroups helps improve their performance and organisation. When a high-power distance prevails, the manager fulfils the role of an autocratic boss who strongly relies on set rules (Bu, Craig and Peng, 2001), and the subordinate expects to be told what to do **(**Pheng and Yuquan, 2002). Relationships between superiors and subordinates are highly formal, resulting in strictly differentiated roles likely to generate paternalistic attitudes and polarised (very positive or very negative) feelings. Power distance moderated the relationship, enlightening optimistic effects when the levels went down. That is to say, when Power distance was lower, the effects of the integrating policies were perceived as better by the employees and directors (Triguero-Sánchez et al., 2018). Indeed, this also applies to construction projects; when the site workers do not have access to their superiors, and some grassroots information may not reach them. Hence, managers may be ignorant about the welfare of their staff and may not remedy any performance-related problems appropriately. The following were the formulated hypotheses for the study:

### 3.5. Hypotheses

A hypothesis is a cautious assertion or a formal theory statement (testable or refutable) that displays how two or more variables are expected to relate to one another (Søren 1991). Scientifically, one cannot have 100 per cent confidence in assumptions, especially in social science research. Human reasoning is complex and can be complicated; this is why it is often standard practice to rule out chances or

assumptions as a plausible explanation for a research study's results. Therefore, the following were the research hypotheses for this study:

**Hypothesis one:**

$H_0$: Organisational Culture (Leadership) has no significant influence on Project Performance

$H_1$: Organisational Culture (Leadership) has a significant influence on Project Performance

**Hypothesis two:**

$H_0$: Organisational Culture (Shared Values) has no significant influence on Project Performance

$H_1$: Organisational Culture (Shared Values) has a significant influence on Project Performance

**Hypothesis three:**

$H_0$: Organisational Culture (Decision Making) has no significant influence on Project Performance

$H_1$: Organisational Culture (Decision Making) has a significant influence on Project Performance

**Hypothesis four:**

$H_0$: Organisational Culture (Power Distance) has no significant influence on Project Performance

$H_1$: Organisational Culture (Power Distance) has a significant influence on Project Performance

### 3.6. Chapter Summary

In summary, Chapter three developed the theoretical framework. The chapter revealed the considered theories and later explained the conceptual framework on which the study was underpinned. Further, the chapter identified organisational culture as the independent variable, operationalised in four identified performance factors related to organisational culture. In contrast, the performance of Local Contractors on construction projects was the dependent variable and was operationalised in terms of time, cost and quality combined. This led to the formulation of hypotheses, which were a precursor to answering the research questions and addressing the study's objectives. Chapter four follows and presents the study's research methods.

# CHAPTER FOUR

## RESEARCH METHODOLOGY

### 4.1. Introduction

Chapter three comprised the theoretical and conceptual framework. Chapter four constitutes the procedures used to collect the data, argue why the results obtained are meaningful, and explain any associated limitations. Additionally, the chapter presents the research Philosophy, research design, research strategy, study population, sample design and size. Furthermore, data collection instruments, validity and reliability tests, pilot study, data analysis, including ethical considerations, were revealed in this chapter.

### 4.2. Research Methodology

The research methodology comprises the philosophies founding the approaches by which research can be carried out - it is a general approach to studying research topics. It exhibits in what way research could be undertaken and by what means data could be gathered and analysed to achieve its aims and objectives (Creswell, 2007); Fellows and Liu, 2008; Silverman, 2008a). In other words, it discusses the ideologies, including logical thought processes, which are applied to a scientific investigation (Fellows and Liu, Op Cit). Thus, this chapter focused on describing the research methodology to allow readers to understand the research methods and techniques employed by the researcher to achieve the study's objectives.

### 4.3. Research Philosophy

Research Philosophy denotes a system of beliefs and assumptions about expanding knowledge (Saunders et al. 2019). The expansion of knowledge being embarked upon may not be as dramatic as a new theory of human motivation, but merely finding the response to a specific problem in a particular organisation, nonetheless, developing new knowledge. Whether one is deliberately aware of them or not, they will make several categories of assumption (Burrell and Morgan 1979). These include assumptions about human knowledge (epistemological assumptions), about the realities people encounter in their research (ontological assumptions) and the extent and ways people’s values influence their research process (axiological assumptions) (Saunders, op. cit). The assumptions mentioned above inevitably shape how individuals understand their research questions, methods, and interpretation of their findings (Crotty 1998). Besides, this study required a consideration of the overall phenomenon within which the research was to be undertaken (Ontology) and the appropriate research methods. Thus, the choice of study topic arose due to the values (Axiology) that the author acquired through interactions in the construction industry. Additionally, the author read reports, saw articles and heard (Epistemology) about Local Contractors not performing on construction projects contracts, which often leads to them abandoning

projects, even after being paid advance payments.

However, Saunders (Op Cit) highlighted that there was no best choice of philosophy in research. They highlighted that if such shortcuts were to be taken into the study, a single problem with such a shortcut might be the likelihood of finding out a clash between 'the best philosophy and the scholar's own beliefs and assumptions. Another problem would be that business-related and management-related academics do not agree about a single best philosophy (Tsoukas and Knudsen, 2003). In developing a specific philosophy and designing a specific study project, it is significant to recognise that philosophical disagreements are intrinsic to business and management research. After all, every philosophy adds something exclusive and valuable to trade and management research and represents a different and distinctive 'way of seeing' organisational realities (Morgan, 1986). More so, Saunders et al. (Op Cit) consider that researchers require awareness of the depth of difference and disagreements between these distinct philosophies. This would help the researcher outline and justify their own philosophical choices concerning their chosen research method. Before deciding which philosophy to adopt in research, it is essential to distinguish between them, and this is done by considering the differences in the assumptions each makes. The subsequent paragraphs will give additional insight into the three categories of assumptions used to distinguish research philosophies: ontology, epistemology, and axiology.

### 4.3.1. Ontology

Ontology speaks of the assumptions about the nature of reality (Saunders et al., 2019). Allison and Hobbs (2006) comment that ontological consideration is about "What is the nature of the knowable, or what the nature of reality is?" Further, ontology and epistemology are presented in this study as they create an all-inclusive opinion of how knowledge is viewed and how individuals can see themselves regarding the knowledge and the methodological strategies they use to discover it. According to Waters and Mehay (2010), Ontology is the metaphysical exploration of existence, or another way, the presence or reality. It asks questions like "what is an object?", "What is the meaning of saying a thing exists?" and "if it exists, what are its essential features: that constitute its identity?" Furthermore, the ontology was applied to establish the factors which lead to Local Contractors' performance on construction projects. This brought about the nature of the study phenomenon by appraising it in terms of reality: positivism and constructivism aspects, which later informed the study in determining whether it would be qualitative, quantitative or mixed design.

### 4.3.2. Epistemology

Epistemology is a part of philosophy concerned with studying the nature and limits of knowledge. Epistemology is concerned with understanding "*by what means we acquire knowledge, how we come to know what we know; is some (or even all) knowledge innate, or do we learn everything from experience?*

*Furthermore, can we know something from reasoning alone? These questions are the cornerstones of philosophical thinking since there is a need to rely on our knowledge to reason correctly*" (Buckingham et al., 2011, p.13). In other words, consistent with Bryman and Bell (2015), questions regarding epistemology relate to what is (or should be) viewed as acceptable knowledge in a given discipline. They also state that an exceptionally fundamental subject in this setting is examining the social world and whether or not it could and should be studied, ensuing similar principles, procedures, and ethos as the natural sciences. Otherwise, epistemology may be cited as studying the central beliefs by which the scholar categorises what constitutes knowledge and what does not constitute knowledge (Hallebone and Priest, 2009). More often than not, many different sources of knowledge in research philosophy exist. Thus, sources of knowledge related to this study are separated as follows:

(i) Instinctual knowledge was founded on instinct, belief and views. Human feelings play a more significant role in intuitive knowledge than facts.
(ii) Authoritarian knowledge depended on books, research papers, experts and supreme powers.
(iii) Logical knowledge was the formation of new knowledge through logical reasoning.
(iv) Empirical knowledge relies on objective truths that have been established and can be demonstrated. In addition to this, this study process combined all the listed sources of knowledge. For example, intuitive knowledge was used to select the statement of the problem being explored, while authoritative knowledge was gained while reviewing the literature. Moreover, rational information was fashioned as an output of examining primary data findings, and conclusions of the research can be professed as empirical knowledge.

Therefore, this study relied on epistemology to ensure that the study stayed scientifically acceptable. It also helped determine the scope and limits of the knowledge required and interrogated. Otherwise, it would not have been possible to be sure that the author did know what they thought they knew and were not somehow "tricked" into believing it by their senses. The author used to ensure sound epistemological soundness by using the guidelines stipulated by the University of Lusaka, i.e., guidelines for research proposals and dissertations/theses (2017) and adhering to the Referencing requirement of Harvard Style. Also, the University of Lusaka's Post Graduate Handbook (2017), which the author adhered to, particularly the part which states the following: A critical discussion of the work of other researchers in the field, as well as a comparison between theirs and the Master or Doctoral candidate on findings, such that the candidate's work may be observed in the context of relevant ongoing work in the area studied. Further, it was recognised that the study needed to be steady on what was to be viewed as knowledge, thereby satisfying the principles of reliability and validity of knowledge.

### 4.3.3. Axiology

Axiology is a philosophical branch examining judgments about values/morals, including ethics and aesthetics (Chopra, 2005). Axiology is the portion of values and ethics within the research process and combines questions about how scholars handle personal values and study participants. The researchers' values apply in all stages of the research process are of great importance if study results are credible. Heron (1996) debates that human values are the guiding reason for all actions. He further argues that researchers reveal axiological skills by articulating their morals as a basis for making judgements about what research they are conducting and how they go about doing it. Selecting one topic rather than another proposes that one of the topics is more important. One's choice of philosophy reflects their values, as is one choice of data collection techniques. Take the case of steering a study where great importance is placed on data collected through interview work suggests that one values personal interaction with their respondents more highly than their views expressed through an anonymous questionnaire. Consequently, this author also employed her values in conducting this study by ensuring that due process was adhered to when accessing all materials and any other information and that such data were legally obtained.

## 4.4. Philosophy for this study

The Philosophy underpinning this study was Pragmatism, precisely a deconstructive paradigm that advocates the use of mixed research methods (Feilzer 2010) and focuses instead on what works as the facts regarding the research questions under investigation" (Tashakkori and Teddlie 2003). Pragmatism's philosophical roots are grounded in transactional realism, which deviates from the traditional dualism of objectivity and subjectivity (Biesta and Burbules, 2003). This perspective proposes as follows: the mental process and the world are in constant interaction with each other through transactions. *These transactions constitute an "adjustive process"* (Biesta and Burbules: p. 10), whereby individuals actively engage, transform, or change the environment (Garrison, 1994). These transactional experiences also produce knowledge, reconstructing reality (Garrison). These assumptions imply that knowledge is *"at the same time constructed and real"* (Biesta, 2010, p. 111). The theory of knowledge notes that the environment is not fixed but in flux. This constant change presents situations requiring adaptive behaviours from individuals, so the inquiry is critical to managing this uncertainty. Still, the principal aim of Pragmatism is to move from mere experimentation to intelligent action. Intelligent action begins with problem identification. However, the task of identifying the constituents of a problem is never wholly settled and continues throughout the evaluation process as new understandings come into focus. Put differently; the pragmatist is critically concerned with the other dimensions of mixed methods inquiry (i.e., theoretic traditions, methodological principles, data gathering, analysis techniques, personalised understandings, value commitments) (Greene, 2007). This was relevant and valuable to this study. It adopted mixed

methods to triangulate the data and obtain information through different procedures to heighten its dependability, trustworthiness, and interpretation. Reality exists in this type of philosophy; however, it continuously changes based on people's actions. Thus, attempts to find an enduring, external reality are doomed to failure.

### 4.5. Research Design

Having looked at the study's philosophical assumptions, this author had to arrive at a research design. Research design is defined as the general plan of how one would go about answering the research question(s) (Saunders et al., 2019). Designing a research/study helps the scholar plan and implement the study to help the scholar gain intended results, thus raising the odds of obtaining information related to the actual situation (Burns and Grove 2001). Ultimately, four phases were utilised in this study: comprehensive literature review, data collection, data analysis, development of the conceptual model to mitigate the issues affecting the performance of Local Constructors on construction projects infrastructure projects, and the conclusions and recommendations were made. Therefore, this study was a mixed-methods design. The mixed-method research consists of closed-ended, open-ended questionnaires, interviews and, in other cases, observations. The benefit is that the distinct ways of gathering information can complement and boost the data's validity and dependability. The questionnaires' items are primarily developed founded on the research objectives and research questions (Creswell 2013; Creswell and Clark 2011). The mixed-method approaches have recently risen to prominence as they use different processes in data collection through different sources. This can augment the data's validity, reliability, and interpretation (Zohrabi, 2013). In this study, the scholar combined the qualitative and quantitative research approaches; hence, qualitative and quantitative data were simultaneously collected, analysed and interpreted.

### 4.6. Research Strategy

Saunders et al. (2019) define research strategy as how a researcher intends to undertake the work and include different approaches, such as experimental research, action research, case study research, interviews surveys, or a systematic literature review. In other words, it is a blueprint for a researcher answering their research questions. Thus, it is the methodological link between one's philosophy and subsequent methods to collect and analyse data (Denzin and Lincoln 2011). For example, case study research consists of a research method or technique characterised by the need for a search and inquiry process and the systematic analysis of one or several cases (Silverman, 2016). To be more exact, by case, the researcher will understand all those circumstances, situations or unique phenomena from which more information is required or deserve some interest within the research world (VanderStoep, 2009).

On the contrary, action research combines an experimental approach to social science with social action programs that respond to significant social problems (Bryman, 2015). Additionally, the grounded theory strategy may also be adapted to the study of social reality (Lampard, 2013). Its ultimate objective is to understand how the world works and access human understanding as a strategy. Therefore, research based on grounded theory is more interpretive than descriptive. Persons are not present in the speeches but in the researcher's concepts. According to Dudovskiy (2016), this strategy uses the inductive approach to discover theories, concepts, hypotheses and propositions starting directly from the data and not from a priori assumption, other investigations or existing theoretical frameworks. In this sense, grounded theory forces the researcher to avoid everything learned and focus exclusively on the data. As a result, it provides a new perspective in the inductive method (Robson, 2011). There is no part of the theory or the existing bibliography but the scenario's data. The data analysis in a constant comparison process leads to the generation of explanatory concepts and theory. The grounded theory does not pursue formal theories, but rather it theorises (Wagner, 1968). In this regard, the researcher did not intend to prove their ideas to generate grounded theory but only to demonstrate that they are plausible. Thus, this study adopted the Survey strategy.

### 4.7. The Study Population

Hungler and Polit (1999) denote the population as an aggregate or totality of all the objects, subjects or members that conform to a set of specifications. In this study, the target population was Key parties involved in construction projects. Based on the traditional procurement approach, the main participants in a building project are the client/end-user, contractors, and Consultants, namely: Architect(s), Engineers (structural, civil and service engineers) and quantity surveyor(s). These form a temporary organisation to undertake the project. The target population was selected; the following describes the target population in more detail.

**(i)** **Contractors:** This study considered construction firms that undertake Building, Civil and Road works. These contractors are categorised according to their size and the magnitude of work they can execute. Contractors in category B are involved in General Building and Housing, such as Construction of residential, commercial and Industrial buildings – single and multi-Storey, etcetera. While Category C contractors are involved in General Civil Engineering Works, such as Bridges and other related ancillary works, Category R contractors are involved in General Roads and Earthworks. According to the NCC register as at 30$^{th}$ June 2020, there were 7,184 contractors registered in all categories. From this number, 299 contractors were registered in grade one (1) of all categories, 88 were Local (Zambian)

Contractors. The study concentrated on the 79 Zambian contractors registered in grade 1 categories B, C and R, as shown in table 4.7:

**(ii)** **Clients (end users)**: The clients in this study included Public Procuring Entities-Government entities involved in construction and Private developers. However, because there is no list of 'construction clients, ' clients were selected using Purposive sampling, also known as judgmental, selective, or subjective sampling for the study. Thus, ten (10) clients were considered in the study, including (5) Private property developers and (5) Government or related Procuring Entities.

**(iii)** **Consultants:** This category included consultants of the construction industry, and for this study, the following were of interest: Registered Architectural firms, Registered Quantity Surveying firms, and Registered Consulting Engineering firms. These were focused upon because they are the ones who are mainly involved in the management of the projects. The samples were drawn from their respective registration bodies, namely, the Institute of Architects (ZIA), Quantity Surveyors Registration Board (QSRB) and the Association of Consulting Engineers of Zambia (ACEZ). Table 4.2. shows the nature of the population:

**Table 4. 1 Contractor registration as of 30th June 2020**

| GRADE | CLASSIFICATION AND CATEGORISATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **ZAMBIA VS FOREIGN** | **B** | **C** | **E** | **M** | **ME** | **R** | **TOTALS** |
| **1** | ZAMBIAN | 46 | 12 | 3 | 3 | 3 | 21 | 88 |
| | FOREIGN | 63 | 43 | 24 | 31 | 4 | 46 | 211 |
| | **Total** | **109** | **55** | **27** | **34** | **7** | **67** | **299** |
| **2** | ZAMBIAN | 24 | 14 | 15 | 6 | 2 | 31 | 92 |
| | FOREIGN | 37 | 13 | 13 | 15 | 2 | 10 | 90 |
| | **Total** | **61** | **27** | **28** | **21** | **4** | **41** | **182** |
| **3** | | 52 | 19 | 13 | 5 | 1 | 54 | 144 |
| **4** | | 242 | 61 | 41 | 18 | 4 | 149 | 515 |
| **5** | | 563 | 175 | 102 | 48 | 17 | 658 | 1563 |
| **6** | | 1740 | 635 | 290 | 295 | 114 | 1407 | 4481 |
| | **Total** | **2767** | **972** | **501** | **421** | **147** | **2376** | **7184** |

**Table 4.1: Key** Source: NCC, (2020)

**B**: General Building and Housing
**C**: General Civil Engineering General
**E**: Electrical and Telecommunications
**M**: Mining Services
**ME**: Mechanical Engineering
**R**: General Roads and Earthworks

**Table 4. 2 Target population of respondents**

| Item | Target group | Grade | Source | Population (N) |
|---|---|---|---|---|
| 1 | Contractors (B, C and R) | | NCC: as of June, 2020 | |
| | B | 1 | | 46 |
| | C | 1 | | 12 |
| | R | 1 | | 21 |
| | Total | | | 79 |
| | | | | |
| 2 | Clients | | Govt, Private | |
| | GRZ | | | 5 |
| | Private | | | 5 |
| | Total | | | 10 |
| | | | | |
| 3 | Consultants | | | |
| | Registered Q.S. | | QRSRB register as of 30th June 2020 | 66 |
| | Registered Architects | | ZIA | 144 |
| | Consulting Engineers | | ACEZ | 84 |
| | Total | | | 294 |
| | **TOTAL POPULATION** | | | **383** |

Source: Author, 2021

### 4.7.1. Sample size

According to Wood and Habber (1998), determining sample size is selecting a proportion of a population to represent the people for a research study. As alluded to, the sample is selected because the entire population cannot be surveyed. The selected sample can represent the population to ensure that the findings from the study can be generalised. Thus, selecting a sample to study should represent the complete set of cases in a meaningful way and justify (Becker, 1998). For instance, purposive sampling is often used when working with minute samples, such as case study research and selecting particularly informative cases (Neuman, 2005). Investigators practice a particular form of purposive sampling, theoretical sampling, which researchers adopt the Grounded Theory strategy. However, some scholars

argue that Purposive test subjects cannot be considered statistically representative of the target population as the logic on which the strategy for selecting cases for a purposive sample should depend on the research question(s) and objectives. Patton (2002) emphasises this point by contrasting the need to select information-rich cases in purposive sampling to be statistically representative in probability sampling. This study applied two sampling techniques: probability sampling (random) and purposive sampling (heterogeneous or maximum variation purposive sampling).

Purposive sampling was applied to select clients and consultants- in this approach; the investigator makes a decision on the selected participants with sufficiently diverse characteristics to maximise the data obtained. It permits a person to collect data to describe and explain the critical themes observed (Saunders et al., 2019). Although this might appear a contradiction, as a small sample may contain entirely different cases, (Patton Op. Cit) looks at it as a strong point. Any patterns that emerge are likely to be of particular interest and value and represent the key themes. Besides, the data collected should enable the researcher to document uniqueness. To ensure maximum variation within a sample, he suggests identifying the diverse characteristics (sample selection criteria) before selecting your sample. It, therefore, needs careful pondering regarding the consequence of the verdict to include or exclude cases on the research when selecting a sample in this way.

Furthermore, the Taro Yamane method for sample size calculation was adopted to determine the sample size. This formula was advanced to determine the sample size from a given population. Below is the mathematical illustration for the Taro Yamane method:

$n = \frac{N}{1+N(e)^2}$ Where n signifies the sample size, N signifies the Population, and e signifies the error margin with a confidence interval of 95% (Yamane (1967:886)). In this case N = 383 and e = 100%-95% = 5%=0.05

$$n = \frac{N}{1+N(e)^2} = \frac{383}{1+383(0.05)^2} = 196$$

Therefore, the sample size for this study is 196, as shown in table 4.3.

**Table 4. 3 The sample size for the study**

| Item | Target group | Grade | Sample Size (n) |
|---|---|---|---|
| **1** | **Contractors (B, C and R)** | | |
| | **Total (Census to be conducted)** | | **40** |
| | | | |
| **2** | **Clients** | | |
| | GRZ | | 7 |
| | Private | | 3 |
| | **Total** | | **10** |
| | | | |
| **3** | **Consultants** | | |
| | Registered Q.S. | | 34 |
| | Registered Architects | | 69 |
| | Consulting Engineers | | 43 |
| | **Total** | | **146** |
| | **TOTAL SAMPLE SIZE** | | **196** |

Source: Author, (2021)

### 4.8. Data Collection Instruments - Questionnaire

The primary data for the study was acquired through the administration of structured questionnaires, which is commonly used for formal quantitative research, according to McDaniel and Gates (2012). The questionnaire was designed based on information emanating from reviewed literature and was designed in such a way that it had four (4) sections, i.e., section (A), (B), (C), (D) and (E). Section (A) comprised preliminary questions for the respondent, Section (B) addressed Cost performance on construction projects, Section (C) focused on Time performance on construction projects, while Section (D) looked at Quality performance on construction projects and lastly, Section (E) addressed culture concerning construction projects. In some cases, respondents were contacted via phone and email to capture their responses. Unsurprisingly, there has been increasing use of telephones as a data collection medium, and the prominent benefits include cost-effectiveness and time efficiency (Taylor, 2002). Telephone questioning takes up less effort in gathering contextual information for quantitative studies since telephone interviews tend to take less time than face-to-face interviews (Sobo et al., 2003). Telephone interviews also have more minor personnel needs (Miller and Salkind, 2003). However, in this study, telephone interviews did not work to the researcher's advantage as many of the respondents had also been hit by the effects of the Covid-19. Thus, to enhance the questionnaire distribution, the researcher physically distributed a few questionnaires and utilised online platforms such as emails and Google forms to distribute the questionnaires. The questionnaire was the best choice for data collection given the outbreak of the Covid-19. The researcher had no choice but to adhere to the Covid-19 protocols such as

social distance; hence there were no interviews with respondents. Also, care was taken to ensure no mixing up the questionnaires and avoid repeating results. This approach was helpful in the process of collecting data from the target group.

### 4.9. Types of Research Questions

The type of research questions was based on the findings in the literature review; these included the following types of questions:

#### 4.9.1. Open-ended and closed questions

Questions with an open-end permit study participants to give answers in their way (Fink, 2013). In this study, the researcher adopted open-ended questions to allow the respondents to air their views as accessible as possible; this gave the respondents a chance for self-expression. The questionnaire included yes or No enquiries (Fink, 2013) or forced-choice questions (De Vaus, 2014) to provide definite reactions. Questions with a closed-end are instantaneous and require less effort to respond to, as they require minimal writing, and responses are easier to compare as they have been predetermined. However, these benefits are marginal if these responses cannot be easily interpreted (Foddy, 1994). Thus, the researcher endeavoured to interpret the responses in as much detail as possible.

#### 4.9.2. Likert scaling questions

Likert scale questions are often used to collect opinion data. These give the respondents some possible answers and the chance to select their answer, typically adopting a five-point or any similar scale. These present a scale that ranges from one extreme attitude to another. Typically, the Likert survey question includes a moderate or neutral option in its scale (SurveyMonkey, 2019). In this study the priority scaling was :( 1 = very low severity, 2 = Low severity, 3 = medium severity, 4 = High severity and 5 = Very high severity). Interestingly, because this study required much opinion data from respondents, these questions were useful.

Further, in some instances, the study required the respondent to indicate the strength of the ‘agree’ or ‘disagree’ with a given statement or series of statements. Usually, possible responses to rating questions are presented in a straight line rather than multiple lines or columns. This is how respondents are most likely to process the data (Dillman et al., 2014). However, where a sequence of statements was required, the identical direction of response categories was maintained to avoid confusing respondents (ibid). The questionnaire included optimistic and pessimistic statements to guarantee that the participants read each one carefully and thought about which box to tick.

### 4.10. Validity and Reliability Tests

Reliability and Validity are central to judgements about the quality of research in the natural sciences and quantitative research in the social sciences. Their role in qualitative research is contested, and they form a significant aspect of research methodology. Validity explains how well the collected data covers the actual investigation area (Ghauri and Grønhaug, 2005). Validity means "measure what is intended to be measured" (Field, 2005). Reliability discusses replication and consistency and that a study would be reliable if an investigator could replicate an earlier research design and achieve the same findings. In essence, validity refers to the appropriateness of the measures used, the accuracy of the analysis of the results, and the findings' generalisability.

#### 4.10.1. Validity Test

Messick (1989, p. 6) stated that *validity always refers to the degree to which empirical evidence and theoretical rationales support the adequacy and appropriateness of interpretations and actions based on test scores*. In all research, the phenomena under study need to be accurately described through the findings, but if this does not happen, then the validity level is questioned (Gregory, 2000; Mahoney, 2008; Messick, 1989; Graziano and Raulin, 2000). Validity is interpreted as a unitary concept; for instance, if various researchers had to examine one specific research study and come up with the same conclusion, the research study would be internally valid. Conversely, the results and conclusions can be generalised to other situations or with other subjects with external validity. Despite the Two different types of validity portrayed in the previous example, other types of validity exist, making validity a unitary concept (Howell 2002; Opie, 2005; Cohen et al. 2005; McMillan and Schumacher; 2006). "*Validity cannot be adequately summarised by a numerical value but rather as a "matter of degree", as Linn and Gronlund"* (2000, p. 75) stated. The validity of assessment results could be interpreted as high, medium or low, or ranging from weak to vigorous (Gregory, 2000). Thus, various categories were applied to satisfy the validity measures, such as content, face, construct and criterion validity.

##### 4.10.1.1. Content validity

Content validity represents the level to which the elements within a measurement process are appropriate and representative of the construct intended to measure (Haynes et al., 1995). This set looks at whether the instrument adequately covers all the content concerning the variable. Out in another way, does the instrument encompass the entire domain related to the variable or construct it was designed to measure? According to Hamed (2016), the judgmental method to establish content validity comprises literature reviews and follow-ups with expert judges or panels' evaluation. The judgmental approach of content validity requires researchers to be present with experts to aid validation. However, it is not always possible to contain several experts on a particular topic of study at a single location.

Consequently, this limits conducting validity on survey instruments in cases where specialists are situated in diverse physical locations (Choudrie and Dwivedi, 2005). Contrastingly, a quantitative approach could let researchers send content validity questionnaires to experts working at different locations, so distance is not limited. To satisfy this validity measure, the author conducted a comprehensive literature review to extract the related items and conducted a pilot study to apply content validity. The questionnaire was sent to the experts in the same field of the research and found the instrument to be satisfactory.

#### 4.10.1.2. Face validity

Face validity is the researchers' subjective assessments of the presentation and relevance of the selected measuring instrument regarding whether the items in the instrument appear to be relevant, reasonable, unambiguous and clear (Oluwatayo, 2012). Further, in research, experts are more often than not asked for their opinion about whether an instrument measures the concept intended; this is involved in Face validity, also called logical validity. This validity entails using outward, cosmetic and subjective assessment of whether a study or trial measures what it intended or designed to measure. Unfortunately, face validity is arguably the weakest form of validity. If face validity is the least strong, why utilise it at all? One reason is to eliminate shoddy research quickly. In addition, it is weaker for a layperson and more robust for an expert in the field (Stephanie, 2015). Therefore, this study managed face validity by ensuring that each question addressed specific and relevant aspects of Local Contractor performance and allowed respondents to select what they deemed to be the appropriate response, thereby informing the study's findings. Moreover, the dichotomous scale approach of a categorical option of "Yes" and "No", which indicates a favourable and unfavourable item, was adopted in the questionnaire, satisfying the validity.

#### 4.10.1.3. Construct validity

Construct validity demonstrates the level to which a test measures what it claims, or purports, to measure (Polit, 2012). In other words, construct validity refers to whether one can draw inferences about test scores related to the concept being studied (Salkind, 2010). However, to satisfy construct validity, this study adopted evidence that could be used to demonstrate a research instrument had construct validity, and these were: Homogeneity to ensure that the instrument measures one construct; Convergence to ensure that the instrument measures concepts similar to that of other instruments and theory evidence to check that behaviour is similar to theoretical propositions of the construct measured in the instrument. An additional method would be a technique that encompasses controlling the instrument of measuring to the groups expected to differ due to known characteristics, and these are known clusters. Additionally, intervention studies are also helpful in evaluating construct validity. Intervention studies where a cluster

with slight scores in the construct is tested, taught and then re-measured can demonstrate a test's construct validity. A significant difference between pre-test and post-test, analysed by statistical tests, may demonstrate good construct validity (Dmitrov,2003). Thus, to measure the construct validity, the method utilised in this study was the Pilot study. Consequently, the study tested the hypotheses in which hypothesised relationship testing involves logical analysis based on theory or prior research.

### 4.10.2. Criterion

Concerning Validity, criterion focuses on examining the extent to which scores on an inventory or scale correlate with external, non-test criteria (Cohen and Swerdlik, 2005). It aims to reveal that test scores are predictive of real-life outcomes. The basic paradigm for this approach is to give the instrument to a group of individuals and collect measures of some criterion of interest. Criterion validity is measured in three ways. Firstly, Convergent validity demonstrates that an instrument is highly correlated with instruments measuring similar variables. Secondly, Divergent validity shows that an instrument is poorly correlated to instruments that measure different variables. For instance, there should be a low correlation between an instrument that measures motivation and one that measures self-efficacy. Thirdly, Predictive validity informs that the instrument should have high correlations with future criteria (Korb, 2012).

### 4.10.3. Reliability

Haele, Twycross (2015), Babbie (2007) describe reliability as the quality of the measurement method that suggests that the same results would be reached each time in repeated data collections. Thus, it relates to the consistency of a measure. A participant completing an instrument to measure motivation should have approximately the same responses each time the test is completed. Although it is impossible to calculate exact reliability, different measures could estimate reliability. In this study, this author enhanced reliability by actively participating and checking that all the questionnaires were completed correctly and similarly.

## 4.11. Pilot Study

A pilot study is a preliminary action of a planned project to test aspects of the investigation’s design (such as stimulus material) and allow necessary adjustment before final commitment to the design. Although not unknown in qualitative research, these are more common in extensive quantitative studies since adjustment after the beginning of fieldwork is less possible than in qualitative work (The Association for Qualitative Research, 2017). Piloting helps reveal questions that could be vague, which facilitates their examination until they communicate the same sense to all the subjects (Mugenda and Mugenda, 2003). A pilot study was conducted; using purposive sampling techniques, which included ten (10) respondents: three Clients, three Consultants and four Contractors. Its resolve was to undertake a

trial on the wording of the questionnaire, identify ambiguous questions, test the intended technique for data collection, and measure the effectiveness of the potential response (Sichone, 2016). Further, this process helped test the intelligibility, ease to answer or ambiguity of the questions. Thus, the participants were asked to critically review the questions and make available reactions regarding the standing and sensitivity of the questions, length and time for completing and suggestions for improvement.

### 4.11.1. Pilot Study results

The ten (10) distributed questionnaires were completed and retrieved within two weeks during the pilot study. Further, it was envisaged that valuable feedback would be utilised to improve the quality of questions and questionnaire refinement. This exercise helped establish whether the survey instrument was likely to work in the manner intended. However, the Pilot study results indicated that the questionnaire was acceptable and was fit for data collection. The respondents had no difficulties responding to the questionnaire, hence its adoption for the survey. Nonetheless, the participants identified for the pilot study were not included in the primary survey as this could have polluted the sample and rendered it invalid.

### 4.11.2. Remedies informing Research instruments

The pilot study established that the research instrument did not present any ambiguity as the questions appeared to be clear and specific. An expression is ambiguous if it has more than one meaning (Gillion, 1990:394). Ambiguity concerns the meaning and the elucidations that can be made by the reader/listener (Kadlub, 2017). Therefore, no attempt was made to adjust the questionnaire.

## 4.12. Data analysis methods

Data analysis systematically applies statistical and logical techniques to pronounce, illustrate, condense, recap, and evaluate data. According to Shamoo and Resnik (2003), various analytic procedures "provide a way of drawing inductive inferences from data and distinguishing the signal (the phenomenon of interest) from the noise (statistical fluctuations) present in the data". While data analysis in qualitative research can include statistical procedures, analysis becomes a continuing iterative procedure where data is continuously collected and analyzed simultaneously. Researchers generally analyze observations' patterns through the whole data collection phase (Savenye, Robinson, 2004). Thus, in this study, data analysis involved collecting, proper organisation, analysis, clarification, and summarizing the data from the questionnaire.

Consequently, the data analysis process involved coding responses in the Statistical Package for the Social Sciences (SPSS) to obtain the descriptive and inferential statistical results. Thus, the study reported measures of central tendency such as the mean, median, and mode. The study adopted frequency

tables, which facilitated the systematic presentation of the collected data. The existing literature has indicated that descriptive statistics, such as means and standard deviations, have unclear meanings when applied to Likert scale responses. For example, it would be challenging to get the average ‘‘never’’ and ‘‘rarely’’. The mean might seem neutral or middle for clustered responses at the high and low extremes, yet this may not depict the data somewhat. This clustering of extremes is prevalent. Other non-normal distributions of response data can equally result in a mean score that may be unhelpful measure the data's central tendency. Due to these opinions, specialists have, over the years, reasoned that the measure of central tendency Likert scale data should be the median (Jameson, 2004). Some experts contend that frequencies (percentages of responses in each category), contingency tables, x2 tests, the Spearman rho assessment, or the Mann-Whitney U test should be used to analyse the Likert scale responses instead of parametric tests. Firmly speaking, parametric tests need interval data (e. g. t-tests, analysis of variance, Pearson correlations, regression) (ibid). However, other experts proclaim that if the sample size is adequate (at least 5–10 observations per group) and if the data are normally distributed (or nearly normal), parametric tests can be used with Likert scale ordinal data (Norman, 2010).

Furthermore, considering that the independent variable (culture) comprised leadership, shared values, decision-making and power distance, and the dependent variable (performance) comprised time, cost and quality, factor analysis, validity test and transformation were conducted using SPSS to establish the parent variables, for example, performance. In Statistics, f*actor analysis is a* technique used to recognise which underlying factors are measured by a (much larger) number of observed variables. In simple terms, it may be considered the practice of shrinking many variables into just a few to make the study data easier to work with (Basto and Pereira, 2012). According to Decoster (2004), data is transformed into better organised and easier to work with. Appropriately configured and authenticated data improves the data quality and protects applications from potential landmines such as null values and unexpected duplicates, incorrect indexing, and incompatible formats.

### 4.13. Hypothesis Testing

Statisticians have devised a means of drawing inferences from research findings through hypothesis testing. The hypothesis test procedures can be regression analysis, t-test and chi-square goodness of fit test. Statistical software like SPSS, STATA, JMP, to mention just a few, have alleviated the strain of the rigorous calculations stated in this text altogether. The manual step is to justify that those results from this software are not magic. The general goal of a hypothesis test is to rule out chance (sampling error) as a plausible explanation for the results from a research study. Hypothesis testing assesses if a specific premise is valid for a particular data set or population. The hypothesis test result is significant during data analysis and statistics if the results could not have happened by random chance. Hypothesis tests

are used in everything from science and research to business and economics. Thus, to assess the influence of organisational culture on the performance of construction projects, the research employed Multiple Regression Analysis which was computed in the SPSS computer package. The Multiple liners model is illustrated as follows:

$Y = \alpha + ß_1X_1 + ß_2X_2 + ß_3X_3 + ß_4X_4 + \varepsilon$

Where;

Y= Project performance

$X_1$ = Leadership

$X_2$ = Shared values

$X_3$ = Decision making

$X_4$ = Power Distance

$\alpha$ = Constant

$\varepsilon$ = Error term

The appropriateness of this methodology lies in its ability to measure the extent to which the dependent variable relates to two or more independent variables by revealing their correlations and degree of association (Morse, 2019).

### 4.14. Ethical Considerations

Ethical considerations are essential in research of this nature (Ahmed, 2015). Further, the investigator must acknowledge the required ethical fundamentals to increase reliability and validity to the endeavour. From a general perspective, ethical considerations are directly related to the researcher's ability not to perform illegal activities in the academic field (Alshamsi, 2019). To have reliable results validated by academics, the investigator must be strict regarding ethical considerations. Without following the research's ethical considerations, the researcher can never get the desirable results and win academic fraternities' confidence (Langdridge and Hagger-Johnson, 2009). Being clear about value position can also help the researcher decide what is appropriate ethically and explain this in queries about their decisions (Saunders et al. 2019). Therefore, the following were the ethical considerations that were made.

#### 4.14.1. Informed Consent

Studies need informed consent since they usually have human participants who have morals. It is a central tenet of research ethics involving human beings and has evolved into its present shape over a while (Lokesh et al., 2013). To adhere to this requirement in research, the author signed an ethical form provided by the University of Lusaka and ensured that the consent of participants was first and foremost sought. Furthermore, their interest in the study was established before any data was collected. Based on

this, no participant was forced or coerced to answer the questionnaires or provide any form of data without their consent.

### 4.14.2. Confidentiality

Confidentiality pertains to the treatment of information that an individual has disclosed in a relationship of trust and expects that it will not be divulged to others without permission in ways that are inconsistent with the understanding of the original disclosure (UCI, 2020). In this study, all data and information collected from the participants were strictly treated as private and confidential documents. The information given by respondents was used for the study only.

### 4.14.3. Transparency

To demonstrate transparency, researchers have an ethical obligation to publicise and allow the evaluation of their evidence-based knowledge/claims, analysis, and research design (Lupia and Elman, 2014). Nowadays, it is becoming more challenging to authorize, fund, publish, justify, and debate research, whatever its methodology is not transparent (Corti et al. 2014; Lupia and Elman, Opt Cit). Thus, in this study, the methods and data were collected honestly- the author avoided the element of manipulation. The data collected from this study will be shared with the public through the University of Lusaka and publication in relevant journals and other media as prescribed by the University.

### 4.14.4. Plagiarism

Plagiarism involves presenting another author's literature or thoughts as one's, with or without their consent, by incorporating it into one's work without complete acknowledgement (in a manuscript, printed or electronic format), all published and unpublished material is contained in this definition (Sox, 2012). Plagiarism could be a premeditated or reckless, or unintentional act. Under regulations for examinations, intentional or thoughtless plagiarism is a disciplinary offence (Oxford University, 2020). In this study, the author ensured due acknowledgement and satisfied recommended referencing, guided by the University of Lusaka. Additional credit was given to the authors of the ideas and observations cited in this study.

### 4.14.5. Coercion

Coercion is a threat to make someone worse off if they do not do something. Coercion in studies may arise once participants foresee undesirable consequences if they do not participate in a study. Coercion makes subjects feel pressured to participate in research (Abdoler et al., 2016). In this study, Coercion was interpreted as forcefully influencing the respondents' decision to deliver the information against their wishes. As guided by Saunders et al. (Op. Cit), the author ensured that the right not to participate in a research project was unchallengeable and did harass respondents to participate. Further care was taken

not to extend the scope of participation beyond what was freely given. Respondents were informed of their right to withdraw from participation and possibly withdraw the provided data.

### 4.15. Chapter Summary

This chapter provided the research methodology adopted for the study. The research philosophy precisely captured this study's ontological, epistemological, and axiological fundamentals. In addition, the mixed research design was adopted as both qualitative and quantitative data were considered. The chapter presented the population size of 383, and a sample size of 196 was determined using the Taro Yamane method for sample size calculation. The research instrument selected was the questionnaire. Further, the chapter provided insight into validity, reliability, pilot study, data analysis, and ethical considerations. Therefore, the following chapter (Chapter Five) constituted data presentation, analysis and results.

# CHAPTER FIVE
# DATA PRESENTATION, ANALYSIS AND RESULTS

## 5.1. Introduction

Chapter four outlined the study's methodology and established the population and sample size, three (3) target groups: Clients, Consultants, and Contractors received questionnaires, and the total number of distributed questionnaires was one hundred and ninety – six (196). Chapter five consists of data presentation, analysis and results.

## 5.2. The Questionnaire and data analysis tools

The questionnaire was designed based on information emanating from the study variables, theoretical and conceptual framework and reviewed literature and comprised four (4) Sections, namely: Section (A), (Introductory questions), Section (B) (Cost performance on construction projects), Section (C), (Time performance on construction projects), Section (D), (Quality on construction projects) and Section (E) (Culture). The Questionnaire is attached in the appendices. This study employed descriptive and inferential statistics to analyse data, whose results were illustrated using frequency tables and charts. Also, the thematic method was adopted to analyse qualitative data. Multiple regression analysis was adopted to assess the influence of culture on Local Contractors' performance on construction projects. Table 5.1 illustrates the response rate.

**Table 5. 1 Response rate and category which best describes the respondents' role in the construction industry**

| Item | Category of respondents<br><br>Sample Size = 196 | Distributed | Received (Respondent) | Percentage Received/ Response Rate |
|---|---|---|---|---|
| **1** | Contractors in Category B, C and R 1 | 40 | 35 | 28.46% |
| **2** | Registered Architects | 69 | 42 | 34.15% |
| **3** | Registered Quantity Surveyors | 34 | 15 | 12.20% |
| **4** | Consulting Engineers | 43 | 21 | 17.07% |
| **5** | Clients | 10 | 10 | 2.44% |
| | **Totals** | **196** | **123** | **100%** |
| **RESPONSE RATE** | | 62.755. say **63%** | | |

Source: Author, (2021)

### 5.2.1. The Response rate and category which best describes the respondents' role in the construction industry

From the One hundred and ninety-six (196) questionnaires distributed, one hundred and twenty-three (123) responses were received, representing a response rate of 63%. Respondents included ten (10) clients, thirty-five (35) contractors and seventy-eight (78) consultants, as illustrated in the following table:

### 5.2.2. Employment of Project Managers by respondents

The respondents were requested whether they employed Project Managers in their organisations, and the responses indicated that 91 (74%) said (Yes), and 32 (26 %) said (No). The results are as follows:

**Table 5. 2 Employment of Project Managers by respondents**

| Employment of Project Managers by respondents | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | **Yes** | 91 | 74.0 | 74.0 | 74.0 |
| | **No** | 32 | 26.0 | 26.0 | 100.0 |
| | Total | 123 | 100.0 | 100.0 | |

Source: Author, (2021)

### 5.2.3. Project Managers' Qualifications

41 (33.3%) of the respondents stated that their Project Managers were holders of Bachelor's Degree in Architecture; 10 (8.1%) held Bachelor Degrees in QS/BLDG.SCI; 40 (32.5%) indicated a Bachelor's Degree in Engineering; 11 (8.9%) selected a combination Degree with Project Management, and 21 (17.1%) respondents stated Degree in Project Management.

**Table 5. 3 Qualifications of Project Managers**

| Qualifications of the Project Managers | | | | | |
|---|---|---|---|---|---|
| | | **Frequency** | **Percentile (%)** | **Valid Percent** | **Cumulative Percent** |
| Valid | Degree - Project Management | 21 | 17.1 | 17.1 | 17.1 |
| | Degree - Architecture | 41 | 33.3 | 33.3 | 50.4 |
| | Degree - Engineer | 40 | 32.5 | 32.5 | 82.9 |
| | Degree - Quantity Surveyor | 10 | 8.1 | 8.1 | 91.1 |
| | A combination Degree | 11 | 8.9 | 8.9 | 100.0 |
| | **Total** | **123** | **100.0** | **100.0** | |

Source: Author, (2021)

### 5.2.4. Reasons for not employing Project Managers

Respondents indicated the following reasons for not employing Project Managers:

(i) Project Managers are expensive to employ; they are not permanent when used,

(ii) Unavailability of the required set of skills,

(iv) Contractors buy Curriculum Vitaes.

### 5.2.5. Number of years of experience of the Project Managers

The responses indicated results as follows: 5-9 years, 53% (43.1); 10-14 years, 30.1% (37), 15-19 years, 11.4% (14), and above 20 years, 6.5% (8). This implies that most respondents' Project Managers had 5-9 years of experience in the construction industry. These results are illustrated in Figure 5.1.

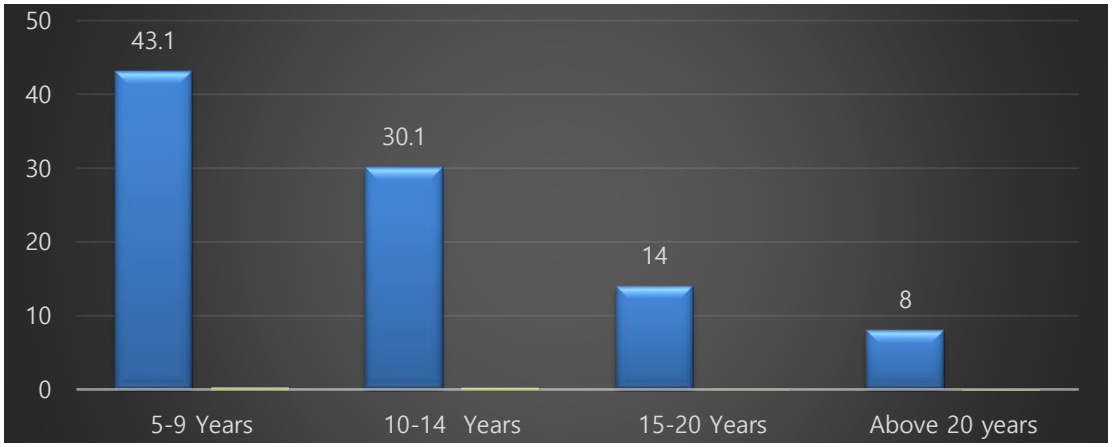


**Figure 5. 1 Number of years of experience of Project Manager**

Source: Author, (2021)

### 5.2.6. Local Contractors involved in Construction projects exhibit poor performance

According to the responses, 56.1% (69) chose (Yes), and 43.90% (54) selected (No), as illustrated in Table 5.4.

**Table 5. 4 Local Contractors involved in construction projects exhibit poor performance**

| Local Contractors involved in construction projects exhibit poor performance | | | | | |
|---|---|---|---|---|---|
| | | **Frequency** | **Percent** | **Valid Percent** | **Cumulative Percent** |
| Valid | **Yes** | 38 | 30.9 | 30.9 | 30.9 |
| | **No** | 85 | 69.1 | 69.1 | 100.0 |
| | **Total** | **123** | **100.0** | **100.0** | |

Source: Author, (2021)

The results are in Table 5.4 illustrate that a frequency of 69 respondents believed that Local Contractors involved in construction projects exhibit poor performance, yielding 56%. This result suggests that from the 123 received questionnaires, 56% of the responses indicated that Local Contractors exhibit poor performance.

### 5.2.7. Reasons for Local Contractors involved in Construction projects exhibiting poor performance

Respondents were requested to submit their views on reasons for Local Contractors involved in construction projects exhibit poor performance, and their submissions were as follows:

#### 5.2.7.1.Respondents who said 'Yes.'

Respondents who selected 'Yes' submitted the following: Lack of experienced personnel and equipment; lack of funds to carry out the works; lack of reliable and affordable financing; unfavourable pricing structure which disadvantages Local Contractors the most (low bids by foreign contractors); failure to finish projects on time; location of projects; poor project cash flow; inadequate knowledge in project management; lack of adherence to the program of works; an increase in building prices destabilises contractors' budget; inadequate supervision on construction projects and the majority of Local Contractors do not commit adequate resources, such as time, financial, qualified personnel, quality control, etcetera, required to deliver the projects they are associated with success. Further, the respondents submitted that Local Contractors lacked organisational work culture. Also, they submitted the award of construction projects to political cadres who do not respect the supervisors and guidance offered and therefore are overwhelmed by the requirements and procedures involved in these projects.

#### 5.2.7.2. Respondents who said 'No.'

Some respondents indicated 'No' and added the following: *"Few Local Contractors undertake construction projects; hence the stakeholders cannot state that they exhibit poor performance".*

*"Some Local Contractors successfully deliver construction projects; with proper supervision and access to resources (financial, human, equipment, tools, plant and materials), Local Contractors perform exceptionally well".*

*"The blame cannot be on contractors for undetailed designs they receive from the developers."*

*"Contractors blame failed projects and poor performance, but various other factors feed into this perception."*

*"The whole infrastructure provision value chain is poorly managed due to incompetent personnel."*

### 5.2.8 Level of satisfaction with the current performance of Local Contractors in the construction industry

The following were the responses obtained: Very dissatisfied 17.9% (22), Dissatisfied 36.6% (45), Average 25.2% (31), Satisfied 18.7% (23) and very satisfied 1.6% (2). These results are shown in the following table:

**Table 5. 5 Satisfaction with the current performance of Local Contractors in the construction industry**

| | | Level of satisfaction with the current performance of Local Contractors in the construction industry | | | | | Total |
|---|---|---|---|---|---|---|---|
| | | Very dissatisfied | Dissatisfied | Average | Satisfied | Very satisfied | |
| Category of Respondent | Consultant | 22 | 36 | 12 | 8 | 0 | 78 |
| | Client | 0 | 7 | 3 | 0 | 0 | 10 |
| | Contractor | 0 | 2 | 16 | 15 | 2 | 35 |
| **Total** | | **22** | **45** | **31** | **23** | **2** | **123** |

Source: Author, (2021)

Therefore, these indicate that 36.6% of the respondents were dissatisfied with the current performance of Local Contractors in the construction industry, while 18.7% were dissatisfied.

### 5.2.9 Challenges that influence performance on construction projects

The questionnaire presented the respondents with a table that comprised some of the challenges that affected construction projects' performance. The priority scaling of the factors shown in the table was: (1 = Very low severity, 2 = Low severity, 3 = Medium severity, 4 = High severity and 5 = Very high severity). In ascending order, respondents were requested to indicate which challenges they had encountered in their organisation. Results are presented in Table 5.6. Challenges such as Lack of technical expertise, poor site management practices, poor employee development, health and safety practices and access to finance have High severity on the project performance, as shown by high Frequencies of 47, 42, 44, 54 and 47, respectively. Those challenges faced by Local Contractors with the highest severity include projects failing to meet budget and schedule expectations, corruption, Labour relations, and Excessive amendments to designs and drawings that registered higher frequencies of 54, 51, 48, and 43, respectively.

**Table 5. 6 The challenges of managing construction projects**

| S/N | | Mean | Median | V/low severity | Low severity | Medium severity | High severity | Very high severity | N (Respondents) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Frequency | | | | | |
| 1 | Poor site management practices | 3.83 | 4.00 | - | 8 | 39 | 42 | 34 | 123 |
| 2 | Lack of technical expertise | 3.80 | 4.00 | - | 9 | 37 | 47 | 30 | 123 |
| 3 | Poor employee development | 3.62 | 4.00 | 9 | 18 | 18 | 44 | 34 | 123 |
| 4 | Organisational culture | 3.89 | 4.00 | - | 9 | 40 | 30 | 44 | 123 |
| 5 | Equipment holding | 3.89 | 4.00 | - | 9 | 38 | 34 | 42 | 123 |
| 6 | Communication | 3.01 | 3.00 | 9 | 35 | 42 | 20 | 17 | |
| 7 | Health and safety practices | 3.98 | 4.00 | - | 9 | 22 | 54 | 38 | 123 |
| 8 | Labour relations | 3.95 | 4.00 | - | 8 | 38 | 29 | 48 | 123 |
| 9 | Low competitiveness | 3.65 | 4.00 | - | 18 | 39 | 34 | 32 | 123 |
| 10 | Risk management | 3.83 | 4.00 | - | 8 | 43 | 34 | 38 | 123 |
| 11 | Access to finance, | 3.81 | 4.00 | - | 9 | 36 | 47 | 31 | 123 |
| 12 | Unavailability of materials | 3.55 | 4.00 | 9 | 18 | 25 | 38 | 33 | 123 |
| 13 | Excessive amendments to designs and drawings | 3.86 | 4.00 | - | 9 | 42 | 29 | 43 | 123 |
| 14 | poor coordination among respondents | 3.83 | 4.00 | - | 9 | 38 | 41 | 35 | 123 |
| 15 | Ineffective monitoring and feedback | 3.02 | 3.00 | 9 | 35 | 44 | 15 | 20 | 123 |
| 16 | Lack of leadership skills | 3.87 | 4.00 | - | 9 | 29 | 54 | 31 | 123 |
| 17 | Projects failing to meet budget and schedule expectations | 4.00 | 4.00 | - | 8 | 35 | 29 | 51 | 123 |
| 18 | Corruption | 3.73 | 4.00 | - | - | 32 | 32 | 54 | 123 |
| 19 | Vandalism | | | - | 18 | 42 | 27 | 36 | 123 |
| 20 | Constrained cash flow | 3.66 | 4.00 | - | 8 | 43 | 44 | 28 | 123 |
| 21 | Project uncertainty | 3.01 | 4.00 | - | 9 | 30 | 47 | 37 | 123 |
| 22 | Poor supervision | 3.61 | 4.00 | 9 | 18 | 22 | 37 | 37 | 123 |
| | **Mean of means** | **3.52** | | | | | | | |

Source, Author, (2021)

### 5.3 Factors that influence cost overruns on construction projects

Table 5.7 shows factors which respondents selected the most; namely, delayed payment from procuring entity, shortage of materials/plant equipment parts, slow mobilization of labour, low bid, contractor financial difficulties, frequent breakdown of plant and equipment, and bad weather are the factors, with high frequencies of 72, 63, 62, 57, 54, and 53 respectively.

**Table 5. 7 Factors that influence cost overruns on construction projects**

| S/N | Factors | Mean | Median | V/low severity | Low severity | Medium severity | High severity | Very high severity |
|---|---|---|---|---|---|---|---|---|
| | | | | Frequency | | | | |
| 1 | Poor planning and scheduling | 3.67 | 4.00 | 9 | 26 | 4 | 41 | 43 |
| 2 | Delayed payment from procuring entity | 3.89 | 5.00 | 8 | 27 | 8 | 8 | 72 |
| 3 | Inadequate cost estimates prepared | 2.67 | 2.00 | 45 | 17 | 12 | 31 | 18 |
| 4 | Inadequate control procedures | 3.44 | 4.00 | - | 27 | 22 | 33 | 41 |
| 5 | Delays in work approval | 3.72 | 4.00 | 18 | 17 | 18 | 34 | 36 |
| 6 | Late submission of Drawings by Architect | 3.43 | 4.00 | 9 | 27 | 3 | 62 | 22 |
| 7 | Late issuance of instructions | 3.50 | 4.00 | 18 | - | 12 | 59 | 34 |
| 8 | Mistakes during construction | 3.74 | 4.00 | - | 53 | 9 | 34 | 27 |
| 9 | Delays in inspection and testing of work | 3.28 | 3.00 | | 26 | 12 | 41 | 44 |
| 10 | Poor cash flow during construction | 3.84 | 4.00 | | 36 | 4 | 33 | 50 |
| 11 | Frequent breakdown of plant and equipment | 3.79 | 4.00 | - | 18 | 9 | 42 | 54 |
| 12 | Shortage of technical personnel | 4.07 | 4.00 | - | 18 | 3 | 55 | 47 |
| 13 | Labour shortages | 4.07 | 4.00 | | 18 | 20 | 49 | 36 |
| 14 | Poor contract management | 3.81 | 4.00 | - | 9 | 30 | 59 | 25 |
| 15 | Shortage of materials/plant equipment parts | 4.30 | 5.00 | - | 9 | 8 | 43 | 63 |
| 16 | Contractor financial difficulties | 3.95 | 4.00 | 8 | 18 | 3 | 37 | 57 |
| 17 | Low bid | 4.27 | 4.00 | 8 | - | 4 | 50 | 61 |
| 18 | Slow mobilisation of labour | 3.50 | 4.00 | 18 | 35 | - | 8 | 62 |
| 19 | Late delivery of materials/equipment | 3.03 | 2.00 | 26 | 36 | 3 | 23 | 35 |
| 20 | Inaccurate site investigations | 3.89 | 4.00 | - | 8 | 22 | 60 | 33 |
| 21 | Slow decision making | 3.81 | 4.00 | 8 | - | 27 | 60 | 28 |
| 22 | Inflation | 3.30 | 4.00 | 26 | 9 | 21 | 36 | 31 |
| 23 | Difficulties in obtaining construction materials at current prices | 3.39 | 4.00 | 26 | 9 | 22 | 23 | 43 |
| 24 | Bad weather | 3.87 | 4.00 | 17 | - | 18 | 35 | 53 |
| 25 | Poor site management and supervision | 3.55 | 4.00 | 26 | - | 21 | 32 | 44 |
| 26 | Poor project management assistance | 3.10 | 3.00 | 17 | 26 | 30 | 28 | 22 |
| 27 | Financial difficulties of client | 3.75 | 4.00 | - | - | 48 | 58 | 17 |
| | **Mean of means** | **3.65** | | | | | | |

Source: Author, (2021)

Also, the Table presents the factors that have a high influence (4), which included shortage of technical personnel (mean 4.07), labour shortages (mean 4.07), poor contract management (mean 3.81), shortage of materials/plant equipment parts (4.30) and low bid (mean 4.27). The average response (average of means) on the factors that influence cost overruns on construction projects was 3.65, suggesting that the respondents generally ranked these factors as high severity (4).

#### 5.2.8.1 Other factors that influence cost overruns

Respondents were requested to list other factors which they thought influenced performance, and out of the 123 respondents, 77% (95) responded to this question and responses were categorized into the following themes:

**Table 5. 8 Other factors which influence cost overruns**

| Theme | Total respondents | Frequency | Percentile (%) | Other (%) |
|---|---|---|---|---|
| Political interference | 123 | 95 | 77 | 33 |
| Delayed payment of Interim Payment Certificates (IPCs) | 123 | 95 | 77 | 33 |
| Variation orders and extra works | 123 | 95 | 77 | 33 |
| Inadequate specifications during planning and tender preparation | 123 | 50 | 41 | 59 |
| Poor work scheduling | 123 | 50 | 41 | 59 |
| Poor construction process management | 123 | 50 | 41 | 59 |
| Remoteness of sites | 123 | 95 | 77 | 33 |
| Inadequate technical specifications at the beginning of the project | 123 | 95 | 77 | 33 |
| Poorly prepared Bills of Quantities | 123 | 95 | 77 | 33 |
| The complexity of the project | 123 | 95 | 77 | 33 |
| Lack of or reluctance utilization of alternative procurement methods such as Public-Private Partnership (PPP), Design and Build and EPC contracts | 123 | 45 | 37 | 63 |

Source: Author, (2021)

In addition, according to the respondents, other factors that influence cost overruns on construction projects, as shown in Table 5.8, including political interference, delayed payment of IPCs, variation orders and extra works, remoteness of sites, inadequate technical specifications at the beginning of the project, poorly prepared bills of quantities and the complexity of the project all which scored the highest frequency of 95, which translates to 77% of the respondents in percentage terms.

### 5.3.2 Respondents suggested mitigation measures to improve the performance of Local Contractors

It was essential to get feedback from the respondents regarding possible mitigation measures for cost overruns on construction projects. Considering that the key players of construction projects were the primary target, their feedback was valuable. Therefore, the following were the suggestions from the various respondents: There is a need for a mindset change and good financial governance; there is a need for contractors to invest in qualified estimators or quantity surveyors to avoid low bidding; there is a need for a performance appraisal system for contractors, especially for public projects, to help identify contractors who perform poorly, and arrangements may require capacity building or be suspended until such a time that they can show improvement; capacity building; there is a need for financial literacy programs for Local Contractors to understand construction projects and become accustomed to guaranteeing time, cost, and quality; initiation of projects when funds are available; ensure strict adherence to the project management principles; reduce political interference; robust scrutiny and due diligence before awarding of contracts (corruption and primarily political interference in the case of Zambia); project insurance; employ skilled financial analysts; institute strict cost control measures such as ensuring that at construction firm registration with Patent and Company Registration Agency (PACRA), the company has all the relevant qualified personnel and enhance the use of alternative procurement methods which guarantee the availability of funds

## 5.4 Factors that influence time overruns on construction projects

The questionnaire presented the respondents with a table comprising a summary list of some of the factors identified during the literature review that influence time overruns on construction projects and requested to rank them using priority scaling indicated in table 5.9. The summary list comprised the following factors: Acquiring land, bad weather (floods or heavy rains), change order/scope changes, lack of technical skills, construction mistakes, contract modification, corruption, defective work, delayed or non-payment of IPCS, equipment unavailability, financial difficulties on parties involved health and safety issues, inadequate planning and scheduling, labour disputes and strikes, lack of high technology, material procurement, poor subcontractor performance, schedule mismanagement, site conditions, suspension of works, incomplete documents, inadequate supervision, shop drawing approval the following were the responses from the respective respondents:

**Table 5. 9 Factors that influence time performance on construction projects**

| S/N | Factors | Mean | Median | V/low severity | Low severity | Medium severity | High severity | Very high severity |
|---|---|---|---|---|---|---|---|---|
| | | | | Frequency | | | | |
| 1 | Acquiring land | 4.42 | 5.00 | 4 | 5 | 13 | 14 | 87 |
| 2 | Bad Weather (Floods or Heavy rains) | 4.11 | 4.00 | - | 6 | 18 | 56 | 43 |
| 3 | Change order/scope changes | 4.63 | 5.00 | - | - | 9 | 28 | 86 |
| 4 | Lack of technical skills | 4.44 | 5.00 | - | 3 | 15 | 30 | 75 |
| 5 | Construction mistakes | 4.03 | 4.00 | - | 24 | - | 47 | 52 |
| 6 | Contract modification | 3.78 | 4.00 | - | 28 | 13 | 40 | 42 |
| 7 | Corruption | 4.57 | 5.00 | - | - | 5 | 43 | 75 |
| 8 | Defective work | 3.59 | 4.00 | 1 | 26 | 27 | 37 | 32 |
| 9 | Delayed or non-payment of IPCs | 4.59 | 4.00 | - | - | 12 | 26 | 85 |
| 10 | Equipment unavailability | 4.05 | 4.00 | - | 11 | 23 | 38 | 51 |
| 11 | Financial difficulties on parties involved | 3.68 | 4.00 | 14 | 22 | 9 | 22 | 56 |
| 12 | Health and Safety issues | 3.74 | 4.00 | - | 9 | 47 | 34 | 33 |
| 13 | Inadequate planning and scheduling | 3.93 | 4.00 | 8 | 8 | 27 | 22 | 58 |
| 14 | Labour disputes and strikes | 3.37 | 3.00 | 2 | 36 | 29 | 26 | 30 |
| 15 | Lack of high technology | 3.96 | 4.00 | - | 24 | 4 | 48 | 47 |
| 16 | Material procurement | 3.41 | 4.00 | 15 | 32 | 9 | 21 | 46 |
| 17 | Poor sub-contractor performance | 3.66 | 4.00 | 18 | 17 | 11 | 20 | 57 |
| 18 | Schedule mismanagement | 3.39 | 3.00 | 9 | 25 | 30 | 27 | 32 |
| 19 | Site conditions | 3.90 | 4.00 | - | - | 44 | 47 | 32 |
| 20 | Suspension of works | 4.24 | 5.00 | - | 14 | 7 | 38 | 64 |
| 21 | Incomplete documents | 4.82 | 5.00 | 17 | 25 | 11 | 20 | 50 |
| 22 | Poor supervision | 4.43 | 5.00 | - | 5 | 9 | 37 | 72 |
| 23 | Shop drawing approval | 4.49 | 5.00 | - | 4 | 14 | 23 | 82 |
| | **Mean of means** | **4.05** | | | | | | |

Source: Author, (2021)

In Table 5.9, Acquiring land had a mean score of 4.42, lack of technical skills (mean 4.44), while poor supervision was 4.43, which means high severity. The table illustrates that the factors that influence time performance on construction projects with very high severity include: change order/scope changes (mean 4.63), corruption (mean 4.57), delayed or non-payment of IPCS (mean 4.59), and shop drawing approval (mean 4.49). The average of the means on these factors was 4.05, which means that respondents ranked

these factors as high severity.

### 5.4.1 The factors that influence time overruns (respondents view)

Responses included: Inadequate supervision; lack of logistics such as transport, allowances and lack of coordination among the project team; lack of standard software application in calculations; lack of worker motivation due to delayed salaries which in turn result in low production; delay in provision of services on-site, for example, electricity, water and poor security on site

### 5.4.2 Proposed mitigation measures to reduce time overruns on construction projects

The proposed mitigation measured to reduce time overruns on construction projects included: Confirmation and securing of funds before project commencement, i.e., project fund fencing: that is, money intended for the project should be put in a project account and should not be diverted under any circumstances; phasing of projects by the client; project team to improving on the planning of the project; client not to engage in a project they cannot sustain; ethical training among project team; timely payment of IPCs to contractors; detailed project programming; and planning for bad weather and consider events that are in the critical path by giving ample time

## 5.5 Factors that influence the quality of construction projects

Table 5.10 presents the responses as follows: the factors that influence quality of construction projects with Very high severity include: Client lacking relevant knowledge (mean 4.83), Lack of project coordination by the client (mean 4.90), Long time-lapse between assessment, procurement and implementation of the project (mean 3.83), Incompetence of some Consultants (mean 3.58), Inadequate inspections (mean 3.89), Inadequate and inconsistent release of project funds by clients (mean 3.87) and Disruption of project management continuity (mean 3.82). The average of the means for this table was 3.77, which indicates that the factors presented in the table had a high severity effect on the quality of construction projects.

**Table 5. 10 Factors that influence quality on construction projects**

| S/N | Factors | Mean | Median | Very low severity | Low severity | Medium severity | High severity | Very high severity |
|---|---|---|---|---|---|---|---|---|
| | | | | Frequency | | | | |
| 1 | Client lacking relevant knowledge | 4.83 | 5.00 | - | - | 4 | 13 | 106 |
| 2 | Corruption and demand for kickbacks by consultants prior to certification of works. | 3.47 | 4.00 | - | 35 | 26 | 31 | 31 |
| 3 | Disruption of project management continuity | 3.82 | 4.00 | - | 27 | 17 | 30 | 49 |
| 4 | Inadequate and/or inconsistent release of project funds by clients. | 3.87 | 4.00 | - | 18 | 30 | 25 | 50 |
| 5 | Inadequate inspections | 3.89 | 4.00 | 9 | 18 | 9 | 29 | 58 |
| 6 | Inadequate project planning | 3.54 | 4.00 | 8 | 26 | 13 | 43 | 33 |
| 7 | Inadequate supervision by contractors | 3.45 | 3.00 | - | 36 | 31 | 21 | 35 |
| 8 | Inadequate/wrongly applied specifications | 3.46 | 3.00 | - | 27 | 35 | 39 | 22 |
| 9 | Incompetence and lack of capacity by contractors to execute works | 3.54 | 4.00 | 9 | 18 | 25 | 40 | 31 |
| 10 | Incompetence of some Consultants | 3.58 | 4.00 | 9 | 27 | 21 | 16 | 50 |
| 11 | Lack of project coordination by the client, contractor and consultant | 4.90 | 5.00 | - | - | - | 12 | 111 |
| 12 | Local government pressures | 3.46 | 3.00 | - | 35 | 30 | 25 | 33 |
| 13 | Long time-lapse between assessment, procurement and implementation of the project. | 3.83 | 4.00 | - | 27 | 17 | 29 | 50 |
| 14 | Poor financial management by contractors. | 3.85 | 4.00 | - | 18 | 31 | 25 | 49 |
| 15 | Poor sub-contractor performance | 3.81 | 4.00 | 9 | 18 | 13 | 30 | 53 |
| 16 | Project location | 3.56 | 4.00 | 8 | 26 | 7 | 49 | 31 |
| 17 | Size of project | 3.25 | 3.00 | 8 | 36 | 27 | 21 | 31 |
| | **Mean of Means** | **3.77** | | | | | | |

Source: Author, (2021)

### 5.5.1 Other factors that influence the quality of construction projects (respondents view)

Regarding extra factors that influence the quality of construction projects, the respondents presented the following: Lack of supervision; lack of honesty among professionals; lack of adequate testing facilities;

lack of interest in paying attention to detail; lack of adherence to specified standards. Most of the materials supplied do not meet the required standards; for example, steel grades are often compromised for economic reasons, inexperienced labour force, inappropriate equipment, lack of project team involvement and sensitization and carelessness.

### 5.5.2 Suggested mitigation measures to improve the quality of finished works

To improve quality of finished works, respondents gave the following suggestions: Improve registration process of contractors; reduce corruption; discourage shortcuts; provision of onsite material testing equipment; reduce on visual inspection of the site and switch to technical and detailed inspection; better project management practices by the involvement of qualified project managers in quality control monitoring and they also indicated that remedial works would be critical to make reasonable improvements. However, costs would need to be covered by the party that caused the substandard quality. One of the respondents indicated *that "all materials need to be approved by the contractor before they are installed on the building"*.

## 5.6 Culture on construction projects

The study presented culture as one of the significant issues that require attention in the construction industry. The following were the respondents' views regarding the influence of culture on Local Contractors' performance. Thus, four different classifications of culture, namely, clan-team-collaborative culture, adhocracy culture, market culture and hierarchy culture, were introduced to the respondents. The respondents were requested to define the work culture best associated with their organisations. Results are indicated in Table 5.11 as follows:

**Table 5. 11 The culture in respondents' organisations**

| **Category of respondents** | The culture of respondents' organisations | | | | **Total** |
|---|---|---|---|---|---|
| | **Clan Culture** | **Adhocracy Culture** | **Market culture** | **Hierarchy Culture** | |
| Client – Private | 0 | 0 | 0 | 7 | 7 |
| Client - Government | 0 | 0 | 0 | 3 | 3 |
| Contractor – B-1, C-1, or R-1 | 5 | 12 | 6 | 12 | 35 |
| Consultant – Architect | 6 | 15 | 5 | 16 | 42 |
| Consultant –Engineer | 2 | 7 | 6 | 6 | 21 |
| Consultant Quantity Surveyor | 1 | 7 | 1 | 6 | 15 |
| **Total** | **14** | **41** | **18** | **50** | **123** |

Source: Author, (2021)

Based on table 5.11, respondents indicated their organisational culture with the following frequencies: Clan Culture 14. Adhocracy Culture 41, Market Culture 18, Hierarchy Culture,50. Therefore, this

indicates that the prevalent type of organisational culture among respondents is Hierarchy culture, with a frequency of 50, yielding an overall percentage of 40.65%.

### 5.6.1 Culture has a bearing on the performance of organisations on construction projects

Table 5.12 illustrates that 110 (89.43%) selected 'Yes' and believed that culture has a bearing on construction project performance, while 13 (10.57%) selected 'No'. This means that most of the respondents favoured the statement at a rate of 89.43%.

**Table 5.12. Culture has a bearing on construction project performance**

| Feedback | Frequency | Percent (%) |
|---|---|---|
| **Yes** | 110 | 89.4 |
| **No** | 13 | 10.6 |
| Mean | 1.11 | |
| Std. Deviation | .309 | |
| **Total** | **123** | **100.0** |

Source: Author, (2021)

### 5.6.2 How work culture affects the performance of Local Contractors on construction projects

In table 5.13. responses were as follows: Very low, 0% (0), Low, 13 (10.6%), Average, 50 (40.7%), High, 49 (39.8%), Very high, 11 (8.9%). This result indicates that most of the respondents believed that work culture has a moderate or average effect on the performance of Local Contractors.

**Table 5.13 How work culture affects the performance of Local Contractors**

| Feedback | Frequency | Percent (%) |
|---|---|---|
| Low | 13 | 10.6 |
| Average | 50 | 40.7 |
| High | 49 | 39.8 |
| Very high | 11 | 8.9 |
| Mean | 3.47 | |
| Std. Deviation | .803 | |
| **Total** | **123** | **100.0** |

Source: Author, (2021)

Referring to the results in Table 5.13, most of the respondents submitted that work culture has an average effect on the performance of Local Contractors, with a frequency of 50 and yielding a percentage of 40.7%. In addition to the ranking question 5.2.6., respondents were requested to explain their response, and 65 respondents of the 123 submitted their responses for which 'thematic analyses were applied in analysing the responses.

Table 5.14 presents the themes developed from the respondents' submissions on how culture affects the performance of local contractors on construction projects. 53% of 123 respondents responded to this question, while 47% did not attempt. This result indicates that not all respondents gave their opinion on the question. But all agreed that culture affected the confidence of local contractors, innovation, transparency, financial management and definition of quality. The respondents believed that culture also influenced how the local contractors responded to project issues, work methods, mindset and general attitude. In addition, they submitted that culture also influenced how contractors selected their staff, as illustrated in the following table 5.14.

**Table 5. 14. How culture affects the performance of Local Contractors on construction project**

| Theme | Total respondents (n) | Frequency (f) | Percentile (f/n) x 100% | Other Percentile (%) |
|---|---|---|---|---|
| Decision making | 123 | 50 | 41 | 59 |
| Behaviour when advance payment is made | 123 | 65 | 53 | 47 |
| Focus on work | 123 | 65 | 53 | 47 |
| Confidence | 123 | 65 | 53 | 47 |
| Innovation | 123 | 65 | 53 | 47 |
| Transparency | 123 | 65 | 53 | 47 |
| Financial management and consciousness to cost | 123 | 65 | 53 | 47 |
| Adherence to time | 123 | 65 | 53 | 47 |
| Definition of quality | 123 | 65 | 53 | 47 |
| Action on risk management | 123 | 65 | 53 | 47 |
| Staffing | 123 | 65 | 53 | 47 |
| Work methods | 123 | 65 | 53 | 47 |
| Response to project issues | 123 | 65 | 53 | 47 |
| Mind-set | 123 | 65 | 53 | 47 |
| The general attitude towards work | 123 | 65 | 53 | 47 |

Source: Author, (2021)

### 5.6.3 The proposed measures to improve the work culture among Local Contractors' organisations

The respondents proposed the following mitigation measures: Reduce laziness and resistance to change; improved financial management; enhance employee welfare; mindset change among Local Contractors, consultants as well as clients; investment in knowledge through training and continuous improvement

plan; Local Contractors to consider adopting a mix of market and adhocracy culture; the sub-contracting policy to be expedited and closely monitored; partnering for Local Contractors; and Local Contractors to consider partnerships and mergers.

### 5.6.4 The need for a mindset change among some Local Contractors

Respondents were requested to comment on the need for mindset change among some Local Contractors, and the results were as follows: 116 (94.3%) responded with a 'Yes', while 7 (5.7) gave this question a 'No'. This result indicates that there are certain things that local contractors have exhibited that compels them to suggest mindset change. It is also a sign that there is a need for change in the way they operate. Results are illustrated in Table 5.15.

**Table 5.15. Need for mindset-change among some Local Contractors**

| Feedback | Frequency | Per cent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| **Yes** | 116 | 94.3 | 94.3 | 94.3 |
| **No** | 7 | 5.7 | 5.7 | 100.0 |
| Mean | 1.06 | | | |
| Std. Deviation | 1.00 | | | |
| **Total** | **123** | **100.0** | **100.0** | |

Source: Author, (2021)

### 5.6.5 The reasons for the need for mindset change among some Local Contractors

Respondents were requested to express their opinion and give more insight on the need for a mindset change. Table 5.51 illustrates their responses. The response was 100% response rate on the need for mindset change. Some of the reasons advanced included that the levels of corruption in the construction industry begged for change in how contractors and stakeholders did things. The lack of technical skills also suggested a need for mindset change as many skilled workers opted to leave the country for better opportunities as they perceived Zambia to have no opportunities. Other propositions included the lack of focus on work, lack of innovation and substandard quality of work. All these presented a need for a paradigm shift in how local contractors operated in the industry. Mindset change entails that this takes place. Table 5.16 presents the themes developed from the responses.

**Table 5.16. Reasons for mindset change**

| Theme | Total respondents | Frequency (f) | Percentile (f/n) | Other (%) |
|---|---|---|---|---|
| Corruption | 123 | 123 | 100 | 0 |
| Lack of technical expertise | 123 | 123 | 100 | 0 |
| Excitement due to vast sums of money among Local Contractors | 123 | 123 | 100 | 0 |
| Lack of focus on work | 123 | 123 | 100 | 0 |
| Lack of confidence among Local Contractors | 123 | 123 | 100 | 0 |
| Lack of innovation | 123 | 123 | 100 | 0 |
| No construction related qualifications among Local Contractor directors | 123 | 123 | 100 | 0 |
| Substandard quality of finished works | 123 | 123 | 100 | 0 |
| Local Contractors placing profit before the project | 123 | 123 | 100 | 0 |
| Political cadre mentality | 123 | 123 | 100 | 0 |
| Lack of experience | 123 | 123 | 100 | 0 |

Source: Author, (2021)

### 5.6.5 Organisational culture (Leadership) and Project performance

This question aimed to investigate the link between Organisational culture (Leadership) and Project performance. The study requested the contributors to give a rating for their agreement or disagreement with the statements based on Organisational culture (Leadership) on a scale of 1 to 5. After that, mean scores were computed, as shown in table 5.17.

**Table 5.17. Organisational culture (Leadership) and Project performance**

| Statement | N | Mean | Std. Deviation |
|---|---|---|---|
| Project leaders have been providing opportunities to develop capabilities | 123 | 3.92 | 1.178 |
| Project leaders use creativity to solve problems and provide solutions | 123 | 3.80 | .896 |
| Project leaders see subordinates as vital contributors to project performance | 123 | 3.62 | 1.238 |
| Project leadership is regarded as mentoring and nurturing | 123 | 3.89 | .968 |
| Project leaders carry out their roles and responsibilities to the best of their abilities | 123 | 3.01 | 1.142 |

Source: Author, (2021)

From the statistical results, it was evident that participants agreed that Project leaders have been providing opportunities to develop capabilities, as made known by a mean of 3.92 and standard deviation of 1.178. Participants agreed that Project leaders use creativity to solve problems and provide solutions; project leaders see subordinates as vital contributors to project performance. Project leadership is regarded as mentoring and nurturing, with means of 3.80, 3.62 and 3.89, respectively. However, the respondents were in moderate agreement that Project leaders carry out their roles and responsibilities to the best of their abilities with mean scores of 3.01.

### 5.6.6 Organisational culture (Shared Values) on Project performance

This question aimed to investigate the link between Organisational culture (Shared Values) and Project performance. The study requested participants to rate their agreement or disagreement with the statements based on Organisational culture (Shared Values) on a scale of 1 to 5. After that, mean scores were computed as shown in table 5.18; the statistical results showed that participants agreed that Teamwork in the organisation is vital, as shown by a mean of 3.98 and standard deviation of 0.887. Participants agreed that Project performance is considered vital by everyone in the organisation; the organisation stands for clear stipulated work ethics, with means of 3.95 and 3.83, respectively. Additionally, the respondents agree that there is an overall commitment to making the project successful, and Roles and duties are understood by everyone in the organisation with a mean of 3.83 and 3.87, respectively.

**Table 5.18. Organisational culture (Shared Values) and Project performance**

| Statement | N | Mean | Std. Deviation |
|---|---|---|---|
| Teamwork in the organisation is vital | 123 | 3.98 | .887 |
| Project performance is considered vital by everyone in the organisation | 123 | 3.95 | .982 |
| The organisation stands for clear stipulated work ethics | 123 | 3.83 | .947 |
| There is an overall commitment to make the project successful | 123 | 3.83 | .930 |
| Roles and duties are understood by everyone in the organisation | 123 | 3.87 | .877 |

Source: Author (2021)

### 5.6.7 Organisational culture (Decision Making) on Project performance

This question aimed to investigate the link between Organisational culture (Decision Making) and Project performance. The study contributors requested to rate their agreement or disagreement with the statements on a scale of 1 to 5 regarding Organisational culture (Decision making). Mean scores were computed thereafter as shown in table 5.19;

**Table 5.19. Organisational culture (Decision Making) and Project performance**

| Statement | N | Mean | Std. Deviation |
|---|---|---|---|
| Decision making involves choosing a suitable alternative based on the achievement of a goal | 123 | 3.79 | 1.256 |
| Decision making is mostly shortened to quicken the process | 123 | 3.83 | 1.185 |
| Decision making takes step by step | 123 | 2.67 | 1.534 |
| All workers have always been part and parcel of the decision-making process | 123 | 3.16 | 1.197 |

Source: Author (2021)

Based on the statistical results, it was evident that participants agreed that decision-making involved choosing a suitable alternative based on achievement of a goal as displayed, given a mean of 3.79 and standard deviation of 1.256. Participants agreed that decision-making was mostly shortened to quicken the process yielding a mean score of 3.83. Furthermore, there was agreement that decision-making was taken step by step and that all workers were always part and parcel of the decision-making process with mean scores of 2.67 and 3.16, respectively.

### 5.6.8 Organisational culture (Power Distance) and Project performance

This question aimed to investigate the link between Organisational culture (Power Distance) and Project performance. The study contributors required to give a rating of agreement or disagreement with the statements based on Organisational culture (Power Distance) on a scale of 1 to 5. After that, mean scores were computed, as shown in table 5.20. A mean score of 3.68 indicates that the respondents indicated that in their organisations, power-holders always are entitled to privileges, while a score of 3.54 indicated that top management and ordinary workers interact. It can be observed from the result that a mean score of 3.32 was obtained for top management holding meetings with ordinary employees, an indication that this was moderately done. Similarly, with decision making, a mean score of 3.12 suggests that only moderately do other organisation members participate in decision-making. Table 5.20 illustrates these results as follows:

**Table 5.20. Organisational culture (Power distance) and Project performance**

| Statement | N | Mean | Std. Deviation |
|---|---|---|---|
| Power holders have always been entitled to privileges | 123 | 3.68 | 1.369 |
| Everyone is permissible to participate in decision-making process | 123 | 3.12 | 1.346 |
| Top management and ordinary employees always hold joint meetings | 123 | 3.32 | 1.416 |
| Power is decentralized | 123 | 3.29 | 1.389 |
| Top management and ordinary workers have always interacted easily | 123 | 3.54 | 1.125 |

Source: Author (2021)

Arising from the statistical analysis results, it was evident that respondents agreed that Power holders have always been entitled to privileges, as shown by a mean of 3.68 and standard deviation of 1.369. with regards to Top management and ordinary workers constantly interacting easily, the mean score was 3.54, implying that respondents agreed. However, results illustrate that respondents were in moderate agreement that everyone is permissible to participate in the decision-making process, that Top management and ordinary employees always hold joint meetings, and that Power is decentralised with mean scores of 3.12, 3.32 and 3.29, respectively.

### 5.7. Inferential Statistics

Inferential statistics was adopted to analyse objective (ii) of the study - assess the influence of organisational culture on the performance of Local Contractors on construction projects. The following hypotheses were formulated to guide the analysis:

**Hypothesis one**

$H_0$: Organisational Culture (Leadership) has no significant influence on Project Performance

$H_1$: Organisational Culture (Leadership) has a significant influence on Project Performance

**Hypothesis two**

$H_0$: Organisational Culture (Shared Values) has no significant influence on Project Performance

$H_1$: Organisational Culture (Shared Values) has a significant influence on Project Performance

**Hypothesis three**

$H_0$: Organisational Culture (Decision Making) has no significant influence on Project Performance

$H_1$: Organisational Culture (Decision Making) has a significant influence on Project Performance

**Hypothesis four**

$H_0$: Organisational Culture (Power Distance) has no significant influence on Project Performance

$H_1$: Organisational Culture (Power Distance) has a significant influence on Project Performance

Thus, organisational culture (leadership, shared values, decision-making and power distance) was the independent variable, while project performance (measured cost, time and quality) constituted the dependent variable.

Further, the researcher conducted Correlation to establish the strength of the relationship between the independent variables Culture (Leadership, shared values, decision-making and power distance) and the dependent variable (Project performance).

### 5.7.1. Correlation analysis

Pearson correlation analysis was performed to evaluate the pattern and degree of association between the independent and dependent variables of the study. The results are summarised in Table 5.21.

**Table 5.21. Correlation Analysis**

| **Correlation** | | | | **Descriptive** | |
|---|---|---|---|---|---|
| **Independent Variables** | | Dependent Variable: | | | |
| | **N** | **Project Performance** | | **Mean** | **Standard Deviation** |
| **Leadership** | 123 | Pearson Correlation (R) | .613** | 3.58 | .753 |
| | | Sig. (2-tailed) (p-value) | .000 | | |
| **Shared Values** | 123 | Pearson Correlation (R) | .265** | 3.91 | .689 |
| | | Sig. (2-tailed) (p-value) | .003 | | |
| **Decision making** | 123 | Pearson Correlation (R) | .802** | 3.25 | 1.185 |
| | | Sig. (2-tailed) (p-value) | .000 | | |
| **Power Distance** | 123 | Pearson Correlation (R) | .074 | 3.05 | .817 |
| | | Sig. (2-tailed) (p-value) | .413 | | |

Source: Author (2021)

According to Kotler (2015), a significant relationship is displayed by a p-value of 0.05 or 0.01. The responses to the statements for each independent variable and dependent variable were averaged into

their statistics. The results in table 5.21 show that organisational culture (Leadership) has a significant positive correlation with Local Contractor project performance as shown by R=0.613 and p=0.000, which is less than 0.05. These findings mean that organisational culture (Leadership) can explain 61.30% of changes in Local Contractor project performance whilst holding all other factors constant. Furthermore, the findings indicate that organisational culture (shared values) positively correlates with Local Contractor project performance, as shown by R=0.265 and p<0.05. These findings mean that organisational culture (shared values) can explain 26.5% of changes in Local Contractor project performance whilst holding all other factors constant.

Similarly, the results show that organisational culture (Decision making) has a significant positive correlation with Local Contractor project performance, as indicated by R=0.802 and p<0.05. These findings mean that organisational culture (Decision making) can explain 80.2% of changes in Local Contractor project performance whilst holding all other factors constant. Lastly, the results in the table above indicate that organisational culture (Power distance) does not correlate with Local Contractor project performance, as shown by R=0.074 and p=0.413, greater than 0.05. This result illustrates that organisational culture (Power distance) can explain only 7.4% of variations in Local Contractor project performance whilst holding all other factors constant.

## 5.8. The Regression Analysis

The dependent variable was subjected to regression analysis to formulate a model that depicted the relationship between the variables in this research. The purpose of this section was to showcase the regression analysis findings.

### 5.8.1. Decision rule

Using the Statistical Package for Social Sciences (SPSS) application, Coefficient of Correlation (R), Regression Coefficient of Determination (R-squared), adjusted R-squared, and p-value were calculated to guide the analysis of the study and decision making. The (R) value is anticipated to range between -1.0 and 1.0, where R= -1.0 denotes perfect negative linear correlation, R= 0 means non-existence of a linear relationship, and R=1 presents a perfect positive linear relationship also calculated interpreted. In essence, the adjusted R-squared value is construed to explain the amount of variability in a relationship that could be attributed to the independent variable. The study opted to use adjusted R-squared over R-squared as it is an adjusted goodness-of-fit (model accuracy) measure for linear models. Furthermore, the hypotheses decision was based on comparing the calculated p-values and the standard p-value (0.05), a threshold level of significance. In instances where the calculated p-value was less than the threshold of 0.05, the alternative hypotheses were accepted as per the normal rule.

### 5.8.2. Defining how well the model fits

The analysis began with first defining how well the model fits; therefore, the model summary in table 5.24 provides the **multiple correlation coefficient - *R***, Coefficient of determination-$R^2$, adjusted $R^2$, and the standard error of the estimate, which can be used to determine how well a regression model fits the data. These results show that R=0.891, $R^2$ = 0.795 and adjusted R-square is 0.788. The adjusted R-squared of 0.788 implied that the independent variables (organisational culture: leadership, shared values, decision-making and power distance) could explain 78.8% of the variability of the dependent variable (Project performance) while other factors not studied in this research can explain 21.2% of Local Contractor project performance.

**Table 5.22. Model summary**

**Model Summary**

| Model | R | R-Square | Adjusted-R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .891[a] | .795 | .788 | .308 | .795 | 114.201 | 4 | 118 | .000 |

a. Predictors: (Constant), Power Distance, Leadership, Shared Values, Decision making

b. Dependent Variable: Project Performance

Source: Author (2021)

### 5.8.3. Establish the Statistical significance of the data

The analysis sought to establish the Statistical significance of the data, in which case the value, F in Table 5.23, Analysis of Variance checks if the regression model is generally a good fit for the data. When the value of 'F' is above 50, the model is fit for use.

**Table 5.23. ANOVA**

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 43.285 | 4 | 10.821 | 114.201 | .000[b] |
| | Residual | 11.181 | 118 | .095 | | |
| | Total | 54.467 | 122 | | | |

a. Dependent Variable: Project Performance

b. Predictors: (Constant), Power Distance, Leadership, Shared Values, Decision making

Source: Author (2021)

Table 5.23 illustrates that the independent variables statistically significantly predict the dependent variable, given the F=114.201 and p =0.000 (the regression model fits the data). This also implies an existing statistically significant relationship between organisational culture (leadership, shared values, decision-making and power distance) and Local Contractor project performance (time, cost and quality) in Zambia.

### 5.8.4. Testing the statistical significance of each of the independent variables

The study tested statistical significance of each of the independent variables. This involved testing whether the unstandardized (or standardized) coefficients are equal to 0 (zero) in the population. If $p < .05$, the conclusion is that the coefficients are statistically significantly different to 0 (zero). The *t*-value and corresponding *p*-value in the "t" and "Sig." columns, respectively, as highlighted in table 5.23. Thus, the "Sig." column establishes that all independent variable coefficients are statistically significantly different from 0 (zero).

Moreover, from these results, a unit change in leadership will lead to a 0.216 change in Local Contractor project performance; a unit change in Shared value will similarly lead to a 0.238 change in Local Contractor project performance. Furthermore, a unit variation in Decision making will result in a 0.408 change in Local Contractor project performance. Consequently, a unit change in Power distance will lead to a 0.001 change in project performance while considering the positive constant number of 0.642.

**Table 5.24. Coefficients**

| Coefficients[a] | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .642 | .217 | | 2.953 | .004 |
| | Leadership | .216 | .044 | .244 | 4.919 | .000 |
| | Shared Values | .238 | .044 | .246 | 5.411 | .000 |
| | Decision making | .408 | .027 | .724 | 15.265 | .000 |
| | Power Distance | .001 | .034 | .001 | .022 | .982 |
| a. Dependent Variable: Project Performance | | | | | | |

Source: Author (2021)

$Y = \alpha + ß_1X_1 + ß_2X_2 + ß_3X_3 + ß_4X_4 + \varepsilon$

In this case, $Y = 0.642 + 0.216X_1 + 0.238X_2 + 0.408X_3 + 0.001X_4 + \varepsilon$

### 5.9. Hypothesis test results

Based on the p-values in table 5.24, the relationship between the independent and dependent variables was statistically significant, given that the p-values were less than the rule 0.05. Specifically, p=0.004 (leadership), p=0.000 (Shared values), p=0.000 (Decision-making). The implication was sufficient proof to reject the null hypothesis ($H_0$). Hence revealing that: (i) Organisational Culture (Leadership) significantly influences Project Performance, (ii) Organisational Culture (Shared Values) significantly influences Project Performance, and (ii) Organisational Culture (Decision Making) significantly influences Project Performance. However, the p-value of 0.982 was yielded on Power distance, greater than the rule of less than 0.05; hence there was insufficient proof to reject the null hypothesis. The interpretation was that Organisational Culture (Power Distance) had no significant influence on Project Performance.

Consequently, in respect of the hypothesis test results, table 5.25 summarises the results

**Table 5.25. Testing Hypothesis**

| Hypothesis | Description | Beta value | p-value | Decision |
|---|---|---|---|---|
| $H_1$ | Organisational Culture (Leadership) has a significant influence on Project Performance | 0.244 | 0.000 | Null hypothesis rejected |
| $H_2$ | Organisational Culture (Shared Values) has a significant influence on Project Performance | 0.246 | 0.000 | Null hypothesis rejected |
| $H_3$ | Organisational Culture (Decision Making) has a significant influence on Project Performance | 0.724 | 0.000 | Null hypothesis rejected |
| $H_4$ | Organisational Culture (Power Distance) has a significant influence on Project Performance | 0.001 | 0.982 | Null hypothesis not rejected |

Source: Author (2021)

### 5.10. Reliability Test

A metric is dependable if it consistently produces consistent results. Thus, Cronbach's alpha measures internal dependability, and the alpha coefficients ranges as follows: 0 to 1, with 1 representing perfect internal reliability and 0 indicating no internal reliability (Bryman and Bell, 2015). The researcher most usually employed a reasonable estimate of the reliability of a separate item scale, which indicates the standard of all conceivable split-half reliabilities for a construct. The coefficient Alpha suggests that the

higher the coefficients, the better the measuring equipment, and its value runs from 0 to 1. However, a general and acknowledged rule places the Cronbach's alpha coefficients around 0.6 and 0.7, indicating an acceptable level of reliability, and 0.8 or greater is an outstanding level. However, values higher than 0.95 are not satisfactory since they suggest redundancy (Hulin, Netemeyer, and Cudeck, 2001). Table 5.26 presents the reliability test results. The average coefficient of Cronbach Alpha value of all items was 0.622, which was considered acceptable, in line with the scholarly literature of Hulin, Netemeyer, and Cudeck (2001). Thus, the results suggested that the measurement of independent and dependent variables is generally reliable under the study.

**Table 5.26. Reliability test**

| Variables | Number of samples | Cronbach's alpha value |
|---|---|---|
| Leadership | 123 | .700 |
| Shared values | 123 | .733 |
| Decision making | 123 | .700 |
| Power distance | 123 | .232 |
| Project performance | 123 | .748 |

Source: Author (2021)

### 5.11. Chapter summary

This chapter presented the statistical measures employed to analyse the distributed questionnaires, data preparation, analysis and results. From the one hundred and ninety-six (196) distributed questionnaires, one hundred and twenty-three (123) responses were received, representing a response rate of 63%. Respondents included ten (10) clients, 35 contractors and 78 consultants. This chapter revealed that some of the factors that highly influence cost overruns included delayed payment, shortage of materials/plant equipment parts, slow mobilization of labour, low bid, contractor financial difficulties, frequent breakdown of plant and equipment and bad weather, as demonstrated by higher frequencies of 72, 63, 62, 57, 54, and 53 respectively. Similarly, the factors that influence time performance on construction projects with very high severity included acquiring land (mean 4.42), change order/scope changes (mean 4.63), lack of technical skills (mean 4.44), corruption (mean 4.57), delayed or non-payment of IPCs (mean 4.59) and poor supervision (mean 4.43. The factors that influence the quality of construction projects with very high severity include the client lacking relevant knowledge (mean 4.83) and lack of project coordination (mean 4.90). Multiple regression analysis was employed to test the hypotheses, and the decision was based on a comparison between the calculated p-values and the standard p-value (0.05), a threshold level of significance. In instances where the calculated p-value was less than the threshold of 0.05, the null hypothesis was rejected as per the standard rule. As such, with the computed p-value (p=0)

being below the threshold level of significance (p=0.05), it was established, a significant statistical relationship between organisational culture (leadership, shared values, decision-making and power-distance) and project performance (cost, time and quality) exists. The next chapter constitutes a dialogue on the results and findings.

# CHAPTER SIX
# DISCUSSION OF RESULTS AND FINDINGS

## 6.1. Introduction

Chapter five outlined data preparation, analysis, and study results contribute to the preceding chapters by presenting the results. The discussion aims to interpret and describe the significance of the study's findings concerning the research problem. This chapter sought to explain any new understanding or insights that emerged from the study of the problem. Thus, the results and findings are as follows.

## 6.2. Nature of respondents

The results obtained from this group provided much of the insight required for the study and addressed the study's objectives. The respondents included one hundred and ninety-sic (196) distributed; one hundred and twenty-three (123) responses were received, representing a response rate of 63%. Respondents included ten (10) clients, 35 contractors and 78 consultants. Besides, clients comprised government and private developers, consultants consisting of engineers, architects and quantity surveyors. Further, contractors formed contractors in categories B1, C1 and R1. These respondents played a significant role in ensuring that their results were reliable as they are the construction industry's key players.

## 6.3. Employment of Project Managers in the construction industry of Zambia

The aim was to ascertain whether the target group of this study was utilising project management skills. The results indicated that from the 123 respondents, 91 (74%) employed Project Managers and 32 (26%) did not. The results showed that the construction industry is utilizing Project Managers' skills, which is a step in the right direction. As already alluded to in chapter two, a construction firm cannot run smoothly without the requisite project management knowledge (Freeman, 2011) and Contractors require project management techniques to accomplish their construction project tasks (Passenheim, 2009; Baily et al. 2008; Gollenbeck, 2008). Indeed, project management skills are an essential requirement for success. Thus, successful projects require qualified Project Managers because, at a project level, they are in charge and have the ability to change the industry from the grassroots level. They are generally answerable for the success of bringing the owner’s physical development within the constraints of cost, time, quality, environmental and safety requirements. Considering that a positive response of 91%, the 26% who did not employ Project Managers, should ensure that they hire qualified Project Managers to enhance project performance.

## 6.4 Qualifications of the Project Managers

The results revealed that most Project Managers were holders of Degrees in Architecture, 41 (33.3%)

and Engineering 40 (32.5%). This question was relevant in that the level of qualification of the Project Manager can help determine the level at which the said Manager analyses project objectives. Further, it was necessary to decide what skills were being utilized on construction projects in Zambia as a precursor to ascertaining the training required; Freeman (2011) affirms this result as he states that a construction firm cannot run smoothly without the requisite project management knowledge. Nonetheless, even though qualifications in Engineering and Architecture are relevant for the position of Project Manager, it is necessary to combine with the unique competencies of qualification in Project Management. Combining architecture/engineering capabilities with a Project Management Degree appeared to be a less popular approach in the industry and could be one reason for some of the gaps facing construction projects.

Perhaps, due to the excess of unskilled labour and a controlled supply of management workforce. However, project managers' management of risk is essential; hence advancing and enhancing the management capability is necessary for growth and expansion in the construction industry. Some companies have built reputations for being able to manage projects effectively consistently. However, effective project management techniques are essential to ensure successful project performance. For example, a poor strategy and incorrect budget or schedule forecasting can quickly turn an expected profit into a loss. This scenario is especially true for the construction industry, where projects have a relatively short life cycle.

Furthermore, the project activities are non-repetitive with rather complex interrelationships, so there is little opportunity to improve on a wrongly chosen or adopted strategy. The appointment of a qualified, experienced, and focused project manager culminates into the best project teams that better ensure success. Thus, the need to ensure that project managers are adequately trained and have relevant experience for the project cannot be overemphasised.

### 6.5 Local Contractors involved in construction projects exhibit poor performance

This question received 56.10% of the respondents were for ‘Yes’, and 43.90% were for ‘No’. This result suggests that Local Contractors exhibited poor workmanship on construction projects. Perhaps even consistent with the National Council for Construction (NCC) (2004) and Ngomi (2017), which revealed that Local Contractors in Zambia are known for abandoning, delaying, or delivering poor quality of work, which may be interpreted as poor performance as projects are expected to be completed according to contractual parameters. Further, this result confirms the National Council for Construction (NCC) (2006) report, which highlighted that the construction industry of Zambia had so many shoddy works. However, essential to note is that poor performance and shoddy works emerge due to inadequacies on Local Contractors. Thus, this study obtained that most Local Contractors lacked experience, personnel, and

equipment and did not have the funds to carry out the works, so they failed to perform accordingly. Also, this case is highlighted in Sichombo et al.'s (2009) study, which points out that the lack of competent technical staff in the construction industry is a problem that needs remedying. Additionally, lack of a qualified workforce reduces the ability to maximize profits, as such a lot of projects perform poorly as the contractors would instead hire technical staff once in a while than employing them. On the other hand, the technical staff may not be readily available for permanent employment, much to the project execution's agony—nonetheless, lack of reliable and affordable financing and unfavourable pricing structure disadvantage Local Contractors the most.

Besides this, the study revealed that what led to poor performance was the failure to finish projects on time and handle projects far away from the city, where there is limited access to building material. Similarly, some respondents indicated that Local Contractors struggle with cash flow, which spills work compromise. Thus, the main problems are low direct injection of resources (both financial and staffing) into projects due to either underquoting or recklessness. Further, although there appears to be adequate knowledge in project management, unfortunately, much supervision is required to reduce rework in practice and implementation. Most local construction companies possess little or no construction-related qualifications or background. Although they employ qualified technical staff, the staff has little control over its management culture, policies, and fiscal management. The companies' performance and delivery of projects depend on the owners' objectives and commitment; thus, if there is a lack of interest and responsibility, performance on projects is usually dismal. Respondents also indicated the following reasons: lack of adherence to the program of works, increase in building prices destabilises contractors' budget and poor supervision on construction projects

Moreover, the results showed that most Local Contractors do not commit adequate resources, such as time, financial, qualified personnel, quality control, etcetera, required to deliver the projects associated with success. Additionally, respondents believed that Local Contractors lacked appropriate organisational and work culture. Not only this, but most of them are political cadres and therefore do not respect the supervisors and guidance offered and therefore are overwhelmed by the requirements and procedures involved in these projects.

On the other hand, the feedback was that few Local Contractors undertake large construction projects; hence there may not be a basis for ascertaining whether they exhibit poor performance. Respondents cited that there are some Local Contractors successfully delivering construction projects. Additionally, the survey revealed that Local Contractors perform exceptionally well with detailed design drawings, proper supervision, and access to resources (financial, human, equipment, tools, plant and materials). Above all, respondents revealed that contractors blame failed projects and poor performance, but other

factors feed this perception. Lastly, an exciting viewpoint was that the whole infrastructure provision value chain appeared to be poorly managed as the clients were not fully decided on their requirements, leading to scope changes and reworks, which eventually led to poor project performance by Local Contractors and not meeting the project targets. Based on this, the finding is that project management skills were necessary drivers and enhancers of project progress and performance.

### 6.5.1 Respondent's level of satisfaction with the current performance of Local Contractors in the construction industry

The results show the varying perceptions of the industry's key players, namely clients, consultants and contractors. Whereas the majority of the respondents (36.6%) were dissatisfied with the performance, contractors (35) gave a response of average (45.7%) and (65.7%) satisfied. Thus, it appears there is a disconnection between the consultants and contractors, as this result tends to indicate that Local Contractors may not be getting adequate feedback from the consultants and clients. Hence, they need to mend their communication if project performance improves. Furthermore, seeing that most respondents were dissatisfied with the performance suggests that Local Contractors are not meeting the clients' expectations. Perhaps this explains Shaban (2008)'s contention that construction projects suffer from many problems and complex issues and that these problems contribute to some clients not being satisfied with the finished works.

Further, these results somewhat related to Zulu and Chileshe (2008), who recounted that contractors' performance in Zambia was seemingly below expectation. In the real sense, when contractors do not meet the requirements of the client will negatively impact their competitiveness. As a result, clients would prefer to engage foreign contractors; these results could also be one of the leading reasons for the foreign contractors accounting for over 70% of all ongoing projects by the end of 2015, as reported by National Council for Construction (NCC), 2015).

## 6.6 Challenges of managing construction projects

Contractors encounter many challenges during project execution. The results gave an insight into some of the challenges which yielded a ranking of very high severity (5) and high severity (4), which included the following: Poor site management practices, lack of technical expertise, poor employee development, organisational culture, equipment holding, communication, health and safety practices, labour relations, low competitiveness, risk management, corruption, access to finance, excessive amendments to designs and drawings, little or the absence of monitoring coupled with feedback, lack of leadership skills, and unavailability of materials, little or no utilisation of partnerships among Local Contractors to compete with foreign contractors and lack of enforcement of the subcontracting policy.

Indeed, these challenges affect the outcome of construction projects. For instance, the issue of corruption consolidates the fining of Wells (2014), who contended that corruption results in completed works having limited social benefit, poor economic returns, and over-cost and building poor quality infrastructure in the wrong place. Hence, the need for policies in the construction industry that aim at reducing corruption cannot be overemphasised, especially after noting the findings of Van de Graaf and Sovacool (2014), which demonstrate that corruption can be a source of project failure, especially in highly corrupt countries. (Flyvbjerg and Molloy, 2011) reflects the way costs, time and benefits forecasts are deliberately and systematically over-optimistic to promote a project at the expense of another. In exchange, some key decision-makers might obtain bribes, support their campaigns, or both.

Additionally, the results are consistent with current literature. For example, the Price Waterhouse Coopers – (PWC) survey (2014) revealed that bribery and corruption are also deterrents to infrastructure investment in Africa as Chief Executive Officers (CEOs) in Africa and Latin America, and the Middle East are more apprehensive about bribery and corruption than those in the rest of the world. Despite developing new policies and regulations in many jurisdictions, corruption and security concerns continue to be significant challenges in some countries.

Moreover, with regards to the lack of skilled labour, the results agree with the findings of the Infrastructure Consortium for Africa, 2015, Sichombo et al. (2009), Zambia Green Jobs Report (2015), and Construction Review Online (2017) as all were of the view that the construction industry of Zambia suffers from the lack of skilled personnel. There is a need to ensure the availability of skilled labour by improving wages and as motivation strategies in the construction industry.

### 6.7 Respondents' agreement with the statement that infrastructure projects undertaken by Local Contractors result in cost overruns

The matter of cost overruns was alluded to during the literature review. It revealed that Local Contractors ended up in a predicament of projects going over budget due to not having qualified personnel to estimate project cost and their lack of foresight on cost estimation. Interestingly, some of the contractors were political cadres with no knowledge of construction; this aided the resoundingly positive response to this question. To a large extent, the finished product would undoubtedly be of poor quality without the requisite expertise for the construction projects. Thus, 26% agreed, and 11% strongly agreed with the statement that Local Contractors exhibit poor performance. This result implies that about 37% of the respondents agreed. However, there are various possibilities for this result; for example, since many construction projects are awarded to foreign contractors, Local Contractors have little opportunity to gain experience and execute large projects. In any case, this result should be taken with caution because other Local Contractors could perform well but lack the necessary support, such as inadequate access to

finance due to the high cost of borrowing and erratic funding on construction projects they are undertaking especially public-funded projects, inhibits them.

Furthermore, there is a need for ethical training for Local Contractors and all parties (consultants and clients) involved in construction projects. The need for this ethical training is that it plays a significant role in how they will behave at a given time, especially when given access to vast sums of money. Also, some contractors may not have exposure to projects involving colossal capital and cash flow; thus, their behaviour would be reckless. Construction contractors who have recently graduated from smaller projects to more extensive projects require financial literacy and ethical training.

### 6.8 Factors that influence cost overruns on construction projects in Zambia

The results revealed the factors that yielded a median of four (High severity) and five (Very high severity) were: Poor planning and scheduling, delayed payments from the procuring entity, inadequate cost estimation, inadequate control procedures, delays in work approval, late submission of drawings by architect, late issuance of instructions, errors during construction, delays in inspection and testing of work, poor cash flow during construction, frequent break down of construction plant and equipment, shortages of technical personnel, labour shortages, poor contract management, shortage of materials, plant/equipment parts contractor's financial difficulties low bid slow mobilization of labour late delivery of materials and equipment, inaccurate site investigations, slow decision-making, bad weather, poor site management and supervision, poor project management assistance and financial difficulties of the client. This result is similar to those listed by Kaliba et al. (2009). Contractors face the same issues over time. Indeed, in the absence of a project plan, the chance of experiencing cost overruns is high. Clients must hire professionals to assist with designs and cost estimates. Also, once the project kicks off, the consultants must ensure project monitoring and issue all instructions promptly; this would help save on time-wasting and ultimately cost.

Moreover, contractors and all parties to the projects must strictly adhere to the contract term through contract management. If any changes arise on the project, procedures for scope adjustments must be followed and efficiently tackled. The subject of labour is also a significant contributor to cost overruns, especially when there is a lack of adherence to labour laws and requirements, which may disrupt project activities. These results show that respondents agree that the above factors are problematic in the construction industry. Additionally, these results are consistent with the findings of Pourroustam and Is mail (2011), Cantarelli et al. (2013), Frimpong et al. (2003), Jackson (2002), Koushki et al. (2005) and Kaliba et al. (Op Cit), all of whom had attributed cost overruns to one or more of the factors as mentioned earlier.

### 6.8.1 Other factors which influence cost overruns presented (respondents)

According to the respondents, the additional factors that influence cost overruns were as follows: Lack of confirmation and securing of funds before project commencement; political interference; delayed payment of interim payment certificates by the client, especially government; variation orders and extra works resulting in variance between quoted works and actual works done; inadequate specifications during the planning and tender preparation; designing to cost, erratic funding of running projects; poor work scheduling and budgeting; poor construction process management; remoteness of sites; inadequate technical specifications at the beginning of the project; poorly prepared bills of quantities with inaccurate descriptions and quantities; the complexity of the project can harm the management of the construction budget; and lack of or reluctance utilization of alternative procurement methods such as Public-Private Partnership (PPP), Design and Build and Engineering, Procurement and Construction Contract (EPC) contracts. Indeed, inadequate estimation and budgeting have led to projects experiencing shortages on-site, in the middle of works. Poor planning and scheduling have been a significant cause for budget overruns as there is no proper order of how works are executed, and material and resources are poorly allocated. All construction projects depend on the plans/drawings and standard bill of quantities; hence, respondents' submissions may be acceptable. There is a need to improve these areas to attain the intended success and ensure that the investment is worthwhile.

### 6.8.2 Proposed mitigation measures for cost overruns on construction projects (respondents)

The respondents presented several proposed mitigation measures for cost overruns on construction projects. One of the criteria was a need for a mindset change in the industry. Contractors and all other parties involved must bring themselves to a state where they exhibit confidence, uphold ethics and execute projects diligently. Local Contractors must engage in training activities that boost the morale of their organisational members. With mindset change will come sound financial governance. However, contractors need to invest in qualified Estimators or Quantity Surveyors to avoid low bidding. NCC needs to establish a performance appraisal system for contractors needs to be put in place, especially for public projects, so that those that perform poorly can be identified and arrangements can be made to build their capacity or suspended until such a time that they can show improvement. Also, Capacity Building and financial literacy programs for Local Contractors to understand construction projects and become accustomed to guaranteeing time, cost, and quality. Further, the respondents indicated that Clients must endeavour to initiate projects after confirmed funding and project managers must enforce strict adherence to project management principles. Other submissions included the need to reduce political interference; robust scrutiny, due diligence before awarding of these contracts; project insurance; employ skilled financial analysts; institute strict cost control measures such as ensuring that

at construction firm registration with PACRA, the company has all the relevant qualified personnel and the use of alternative procurement methods guarantees the availability of funds.

### 6.9 Factors that influence time overruns on construction projects

A result of 5 = Very high severity was obtained for delayed payments, shortage of materials, plant/equipment parts, and slow mobilization of labour., while those which yielded a result of 4 = High severity included Poor planning and scheduling, inadequate control procedures, delays in work approval, late submission of drawings by architect, late issuance of instructions, mistakes during construction, poor cash flow during construction, frequent break down of construction plant and equipment, shortages of technical personnel, labour shortages, poor contract management, contractor's financial difficulties, low bid, inaccurate site investigations, slow decision-making, inflation, difficulties in obtaining construction materials at current official prices, bad weather, poor site management and supervision and financial difficulties of a client. Indeed, the above factors influence cost performance on the project. Poor planning may be considered the parent of all other issues as, without a plan, a project is bound to fail. Infrastructure projects are time-bound, and many clients or end-users look forward to occupying the building in the shortest period possible. However, sometimes because of land disputes, the project may be delayed. There have been cases where a project is full-fledged, and anonymous people set an injunction on that project's proceedings. This automatically affects the schedule of the project. Scope changes are experienced on construction projects, especially if there was no proper planning before commencement. The project owner will have no blueprint of how the project will be executed, and they will constantly bring ideas to an existing project. There have been many cases where such has happened.

Meanwhile, contrary to the author's expectation, inadequate cost estimates prepared was ranked 2 = Low severity. This could suggest that the parties have not paid much attention to this factor or prepared cost estimates. In which case, this would be the reason for underperformance. As far as the author is concerned, inadequate project estimates are among the top causes of cost overruns as the project team may not have a reference point and moderator during the execution of the project. This may lead to over procurement of unnecessary materials or expenditure on elements outside the scope of the project

#### 6.9.1 Respondent's suggested mitigation measure for Time overruns on construction projects

Respondents suggested the following mitigation measures: (i) Confirmation and securing of funds before project commencement, i.e., Project fund fencing: that is, money intended for the project should be rein fenced and should not be diverted under any circumstances; (ii) Phasing of projects by the client, (iii) Project team to improve on the planning of the project, (iv) Client not to engage in a project they cannot sustain, (v) Ethical training among project team, (vi) Timely payment of Interim Payment Certificates to contractors, (vii) Detailed project programming and (viii) Planning for bad weather and considering

events that are on the critical path by giving ample time. Indeed, these measures would assist contractors to execute projects better. Confirmation of funding and dedicating it to the project ensures times procurement of materials and payment to the project team. This has been a significant hindrance to most projects which have ended up being abandoned mid-way.

## 6.10 Factors that influence quality of construction projects

Respondents ranked all listed factors as 5 (very high severity), the factors included: Client lacking relevant knowledge, corruption and demand for kickbacks by consultants before certification of works, disruption of project management continuity, inadequate project planning, inadequate/wrongly applied specifications, incompetence of some consultants, lack of project coordination by the client, contractor and consultant, the long time-lapse between assessment, procurement and implementation of the projec t, poor financial management by contractors, poor sub-contractor performance, project location and size of the project. Indeed, consistent with King and Manu (2019), who attributed the failure of performance to inadequate project time, several scope changes, insufficient control, poor communication, sketchy stakeholder communication, among many things. Further, lack of employees' experiences and competency were also cited as contributing factors to poor quality by Kasun and Janaka (2006). This is a matter that requires redress; site operatives and all leaders need to have relevant experience to handle construction projects. If policies are not made to manage this, projects will suffer. The results are consistent with Kaliba (2009), who indicated quality problems in the construction industry and cited some of the above-listed factors as contributing factors. Kaming et al. (1994) also highlighted such lack of supervision as a leading factor in construction projects' poor quality. In addition, a lack of knowledge on material preservation and usage leads to a disastrous, poor quality finished works. As much as quality is subjective, the client's expectations must be met at most. Furthermore, corruption can never be omitted in matters involving vast sums of money; however, the ill compromises the quality of projects. This is because projects will be subjected to substandard work quality and poor adherence to general specification and quality standards to benefit the few.

### 6.10.1 Respondents proposed additional factors that influence the quality of construction projects

The respondents submitted their additional factors that influence the quality on construction projects. They submitted as follows: Lack of supervision, lack of honesty among professionals, lack of adequate testing facilities, lack of interest in paying attention to detail, lack of adherence to specified standards-most of the materials supplied do not meet the required standards; for example, grades of steel are often compromised for economic reasons, inexperienced labour force, inappropriate equipment, lack of project team involvement and sensitisation and carelessness. Indeed, carelessness and lack of interest in paying attention to details of the project reflects as an attitude problem and is consistent with Niyirenda (2015),

who highlights that the attitude of contractors affects project performance if they are unable to adhere to specifications then the entire projects get compromised. Poor culture, such as the lack of involvement of team members in decision-making, is a concern on construction projects. This result is similar to the findings of Ankra (2005), Ngangiko (2012) and Choi et al. (2020). The list of additional factors is a common phenomenon in the construction industry. Local Contractors need to develop a culture that promotes honesty, a positive attitude and hard work. Incidents where material requirements are manipulated, should be eliminated through team sensitization.

### 6.10.2 Respondents proposed mitigation measures to improve the quality of finished works

Respondents submitted their proposed mitigation measures as; improving the registration process of contractors, reducing corruption, discouraging shortcuts, provision of onsite material testing equipment, reducing on visual inspection of the site and switching to a technical and detailed inspection, better project management practices by the involvement of qualified project managers in quality control monitoring, and that remedial works would be critical to make reasonable. However, costs need to be covered by the party that caused the substandard quality. All materials need to be approved by the contractor before installing the building. Indeed, the proposed mitigation measure may help contractors, particularly when shortcuts in the procurement process are curbed. This would lead to a selection of experienced contractors. For instance, these proposals are sound; respondents suggest better project management practices by involving qualified project managers in quality control monitoring support. Agaba (2009) affirms that poor designs, specifications, associated problems, management issues and supervision are some leading aspects on building projects hence the interruptions in completing.

## 6.11 The organisational culture in the construction industry of Zambia

The results showed that the current dominant company culture in the construction industry of Zambia is the hierarchy culture which yielded 40.7% of the 123 respondents, seconded by Adhocracy culture with 33.3% respondents. The hierarchical culture is identified by stability, control, internal focus, and integration in the values matrix. They value standardisation, control, and a well-defined structure for authority and decision making. Influential leaders in hierarchical cultures can organize, coordinate, and monitor people and processes. Hierarchy culture values efficiency, reliability, predictability and standardisation. The leaders are also generally considered to be coordinators and organisers. These results are consistent with that of Maria Novana and Stephen Ogunlan (2003)-the dominant culture of contracting companies in Thailand was hierarchical since they did not focus on innovation, growth, and resource acquisition. The hierarchy culture is similar to bureaucratic, power and role culture (ibid). Such an organisation in the construction industry mainly stems from the clear lines of authority and respect for formal chains of command with centralised decision making where decision making is primarily the

preserve of top and senior management. The nature of work is highly defined in relation to the job descriptions and procedures. However, Heyecan et al. (2010) revealed that the construction industry is dominated by clan and hierarchy cultures and that organisation culture differs in terms of the firm type, size and age.

However, in this study, most respondents selected a hierarchy culture; the Local Contractors do not necessarily correspond with the state of construction companies in the construction industry. From the literature review (Ankrah, 2007), it was established that there is a common belief that the construction industry's culture is one of the factors that impact its performance. The literature review revealed that culture was one of the other significant factors that require attention in construction project management. Thus, there is a need to ensure that Local Contractors adopt a work culture, encouraging hard work and better planning.

## 6.12 Inferential Statistics to assess the influence of organisational culture on Local Contractors' project performance factors

Among the study's detections was that Organisational Culture (Leadership) has a significant influence on Project Performance, given that p-value (0.000) was less than 0.05. This finding is in close link with Willamson (2018) and Kamelgor (2012), who revealed that a culture where leaders inspire ordinary employees positively influences the performance of the projects. Also, the findings tend to uphold the results of Chen (2015), who contends that project performance depends on, among many things, leadership competence. Leaders guarantee amicable associations amongst members of organisations, lowering the chances of conflicts and hence creating a healthy working environment (Urrabazo, 2006). Further, leadership is critical to goal achievement with a particular personality, a form of persuasion and power, and the art of persuading compliance (Ingosi and Juma, 2020). This result is affirmed by Chan and Chan (2005), who contend that leadership is essential in an organisation since it leads to improved performance by team members, boosts motivation and morale among members, and aids in responding to change.

Further, the study found that Organisational Culture (Shared Values) has a significant influence on Project Performance, given that p-value (0.000) was less than 0. 05. While this finding differs from Cohen (1992), who found that shared values have no relationship with project performance. Studies also reveal that employees guided by the same norms and values in their organisation exhibit improved performance (Hofstede, 2007). Shared value leverages a company's funds, inputs, capital, expertise, and creativity to address areas that are in constant touch with its business (Harris and Ogbonna, 2014). Studies have shown that shared values are essential partners in achieving successful and sustainable

change at large (Ingosi and Juma, 2020). In any case, members of the organisation share and adhere to the ideals which make site management more manageable, as already alluded to by Hofstede (2007). This is practically the case on construction projects. Project teams share values and work better in an environment where they feel understood and accepted. Conflicts may be there, but they are more dedicated and hard-working if the team has a common understanding.

An additional finding was that Organisational Culture (Decision Making) has a significant influence on Project Performance, given that the p-value (0.000) was less than 0.05. This finding echoes Willamson's (2018) and Kamelgor's (2012) findings, which revealed that a culture of involving the workers in the decision-making process positively influences the performance of the projects. Indeed, in the case of construction projects, decision making is so critical to the project. For instance, the project would stall if the project manager took a long time to decide on a change request. Hence, this finding justifies the need for project implementers to ensure that decisions on the project are promptly made to avoid delays and the possibility of cost increase.

Furthermore, the finding of this study was that there was no significant statistical relationship between power distance and project performance, given that the p-value (p=0.982) was more than the standard 0.05. This result appears to contradict the findings of Robert et al. (2014) and Far et al. (2017), who concluded that power distance influences performance in that it hinders organisational support to its employees to yield better performance and productivity projects. Perhaps this finding confirms that construction sites operate in a high-power distance scenario where empowerment has little impact on team involvement, hence fewer opportunities for the ordinary employees to be empowered. However, Power distance entails segregation of duties at the project site to avoid duplication duties and centralization of power, Hofstede (1994). With segregation of duties, it is easier to coordinate the activities of various teams on the project, which in turn leads to objectives being achieved on time (Chan, 2005). Practically, on a construction site, segregation of duties influences performance since output would be determined by how dedicated an employee or operative will be to their assigned tasks. Khatri (2009) argues owing to the lack of input from lower-level workforces and poor communication and information sharing, the quality of decisions is poorer in a high-power distance organisation, and high-power distance organisations are prone to unethical behaviour. This finding reflects that power distance influences performance; if employees are unethical, this will lead to poor performance because they will not adhere to the required regulations, specifications and standards. Therefore, this finding suggests a level of unawareness among the respondents of the organisational culture dynamic of power distance, hence giving justification for this study as it would bring awareness and add to the body of knowledge.

## 6.13 How organisational culture influences the performance of Local Contractors on construction projects

The feedback from respondents was crucial to this study, and 70.7% indicated high, and 8.9% indicated very high. This was a significant result because culture plays an essential role in determining Local Contractor performance. Cameron and Quinn (1999) stated that each quadrant of the CVF signifies company characteristics representing their basic assumptions, beliefs, and values, the stuff of culture. For instance, symbols motivate workforces and deliver a firm's future-image and principles to its personnel. Rituals set behaviour standards and enhance the critical values of employees.

Meanwhile, symbols and rituals stand for a means of cultural dissemination. Thus, a good work culture would most certainly contribute to ensuring that projects are delivered on time, within cost and to the quality expectations set. KPMG (2021) also emphasises that organisational culture must be considered and align people and risk to ensure a unified approach and mindset avoid disjointed change that may result in a fragmented impact. This depicts how much influence organisational culture influences performance. Similarly, Tharp (2009) emphasises that culture assist to improve performance involves as it is closely linked to or attributes to organisational goals. Also, in many organisations, culture regulates firms' relatations to its internal and external environment to pursue solutions to its concerns, such as performance and survival, as contended by Joseph and Kibera (2019. Deduced from this and literature review is that organisational culture contributes to the smooth functioning of firms, promoting communication, socialising, establishing trust and common principles to achieve set objectives. It also supports its economic efficiency and social adaptability in a competitive environment.

Moreover, companies that exhibit a strong culture could save the consequences of an unfavourable economic or social environment. Thus, organisational culture has a significant role in supporting the profitable growth objectives of an organisation and is essential as individuals act on their shared values. Their behaviour has a significant impact on the organisation's activities and success. This also applies to local contractor establishments. The following section submits the suggested measures for improving the work culture among local contractors.

### 6.13.1 Suggested measures for improvement work culture among some Local Contractors

The respondents were requested to indicate their proposals for improving work culture, and the results are in Table 6.1.

**Table 6.1. Mitigation measures to improve work culture among Local Contractors**

| Theme | Total respondents | Frequency | Percentile (%) | Other (%) |
|---|---|---|---|---|
| Reduce Political interference | 123 | 56 | 46 | 54 |
| Eliminate delayed payment of IPCs by the client, especially Government | 123 | 56 | 46 | 54 |
| Reduce Variation orders and extra works by effective planning | 123 | 56 | 46 | 54 |
| Discipline | 123 | 25 | 20 | 80 |
| Not everyone is a contractor, and there is a need for sensitization on this | 123 | 15 | 26.80 | 88 |
| Local Contractors to consider adopting a mix of market and adhocracy culture | 123 | 1 | 1.79 | 99 |
| Good ethics | 123 | 50 | 41 | 59 |
| Commitment to the project | 123 | 56 | 46 | 54 |
| Investment in knowledge through training | 123 | 56 | 46 | 54 |
| Enhance employee welfare | 123 | 56 | 46 | 54 |
| Continuous improvement plan | 123 | 56 | 46 | 54 |
| Industry exposure | 123 | 45 | 37 | 63 |
| Reduce laziness | 123 | 56 | 46 | 54 |
| Mindset change | 123 | 56 | 100 | 0 |

Source: Author, 2021

Some of the respondents indicated that Local Contractors had a culture that exhibited laziness that needed to be replaced with hard work to improve performance. It was also revealed that laziness contributed to not applying project resources adequately. In addition to this, it was mentioned that Local Contractors were usually resistant to change as they continued to mismanage opportunities to work with foreign contractors who had more experience than them. They want to get projects, in competition with foreign contractors, without considering that they have no experience in the type of work involved on a given project. More so, some Local Contractors have continued to misuse resources intended for construction projects. For instance, when other contractors invest in plant and equipment, Local Contractors are fond of spending money on things unrelated to the project. This contributed to their inability, in most cases, to deliver projects within time and cost.

Also, respondents pointed out that a mindset change for Local Contractors is essential to trade competitively with other foreign contractors. They need to invest in mentorship programs to boost their confidence and make them believe in themselves. Gone are the days when foreign contractors or foreigners were considered masters. The inferiority complex and the mentality of getting overly excited once in possession of colossal sums of money must come to an end. Further, Local Contractors need to change their approach to construction, treat it as a business, and employ a skilled and experienced

workforce.

Moreover, some Local Contractors lacked exposure in that they had not been involved in several construction projects. Thus, the contractors would be overwhelmed when awarded contracts of such magnitude. Contractors need to invest in exchange programs for their employees, with contractors running construction projects within and out of the country. The subcontracting policy is one such opportunity for the Local Contractors. This will help the Local Contractors appreciate what other contractors do to meet project goals and manage time, cost, and quality constraints.

### 6.14 The need for a mindset change among some Local Contractors

Some 94.3% (116) responded that Local Contractors need a mindset change to improve performance. Further in line with Zulu and Chileshe (2008), Local Contractors seem to perform below par, requiring a paradigm shift in their modus operand. As long as expatriates or foreign contractors continue to be awarded contracts, Zambia will lose monetary advantages to other nations. This is because when international contractors win contracts, the money they earn is expropriated to their home nations, helping to improve their economies. However, if this money ends up in the hands of Zambians, it will likely be injected into the Zambian economy, contributing to the country's GDP. And if additional Zambians get these contracts, their firms will develop and employ more people, contributing to the much-needed job creation. As part of our African tradition, Local Contractors will empower wider family members by providing education support and business financing. As a result, it is in the best interests of national development for more Local Contractors to engage in projects. The Zambian government has been working to identify ways to empower indigenous contractors over the past three years as the country has begun on infrastructure investment. For example, the president of Zambia, proposed a policy requiring minimum of 20% of government-funded contracts be executed by Zambian-owned enterprises.

Notwithstanding these pioneering efforts, some Local Contractors have fallen short of the government's expectations. Complaints about how Local Contractors execute bad work or abandon projects after receiving full or partial payment have been frequent. Some of the Local Contractors who have been given large contracts have abused the government's confidence by spending the money on indulgences such as luxury automobiles rather than investing it in the project's implementation. Whereas the government has noble motives in empowering Local Contractors, the main issue is that most of them lack the discipline and vision required to manage a firm. For example, rather than considering the broader picture of developing a solid and lasting business profile of honesty, excellence, and efficiency with the potential to attract future chances, these Local Contractors close the door behind them after winning one or two contracts. They accomplish this by providing subpar work that does not offer value for money or by abandoning incomplete projects despite being paid in full. Local Contractors must recognize that, as

citizens, they have a responsibility to participate in the country's economic prosperity, but this will only be feasible if they change their mindset. This study proposes that as part of mindset change, there is a need to encourage cooperation and participating in team-building events to bring your team together, improve communication, and establish a culture that values employee feedback and encourages employee participation. Thus, Local Contractors should consider hiring for culture and reinforce it. Therefore, this study's finding is a need for mindset change among Local Contractors, clients, and consultants for project performance to improve.

### 6.15 Chapter summary

Chapter six complemented the preceding chapters by presenting the discussion of results. The discussion aimed to construe as well as pronounce the significance of the results and findings concerning what was already known about the research problem and explaining any new understanding or insights. The survey of 196 yielded 123 responses comprising Clients (Government and private developers), Consultants (Engineers, Architects and Quantity Surveyors), most of them with 5 to 9 Years in the construction industry. 88% of the respondents employed Project Managers, while 12 % did not. The majority of the Project Managers had a Degree in Architecture at 37%, followed by 35% with a Degree in Engineering. A five (05) ranking was obtained for the factors that influence Time, Cost, and Quality. The chapter revealed that a unit change in leadership would lead to a 0.813 Local Contractor change in project performance; a unit change in Shared value will similarly lead to a 0.425 Local Contractor change in project performance. Also, a unit variation in decision-making will result in 0.239 Local Contractor changes in project performance. Regarding power distance, a unit change would lead to a 0.227 change in project performance while considering a positive constant of 0.703. The succeeding chapter grants the conclusion and recommendations.

# CHAPTER SEVEN
# CONCLUSION AND RECOMMENDATIONS

## 7.1. Introduction

Chapter six presented the study's findings based on the study's initial objectives in chapter one. Thus, chapter seven presents the conclusion and recommendations of the study. Additionally, the chapter espouses the limitations and mitigation measures of the study. Lastly, areas for further research to provide continuity are suggested.

## 7.2. Summary of the findings

The study sought to establish the influence of organisational culture on the performance of Local Contractors on construction projects in Zambia. Specific objectives included, (i) Identify the project performance factors of Local Contractors on construction projects; (ii) assess the influence of organisational culture on the performance of contractors of construction projects; (iii) establish the challenges that Local Contractors encounter on construction projects; and (iv) determine how Local Contractors can improve the organisational culture on construction projects. The findings were as follows:
Objective (i): The performance factors, namely, time-related, cost-cost related and quality-related, were identified to be the relevant factors influencing Local Contractor project performance;

Objective (ii): The study revealed that organisation culture (leadership, shared values and decision-making) influences project performance (time, cost and quality), given that the regression analysis yielded a p-value less than the standard p-value (0.05). Additionally, power distance had no significant influence on project performance (time, cost and quality) given a p-value of 0.982, which was greater than the standard p-value (0.05);

Objective (iii): The study revealed that the challenges that Local Contractors encounter on construction projects with Very high Severity include: Acquiring land (mean 4.42), Client lacking relevant knowledge (mean 4.83), Lack of project coordination by the client (mean 4.90), change order/scope changes (mean 4.63), lack of technical skills (mean 4.44), corruption (mean 4.57), delayed or non-payment of IPCS (mean 4.59) and poor supervision (mean 4.43);

Objective (iv); The study revealed that improving organisational culture would require recognising excelling individuals on the project, enabling employees to voice their concerns, conducting meetings with employees as opportunities to collect and respond to feedback, acting as a valued mentor forging connections between members.

### 7.3. Conclusion

Following the review of literature and analysis of secondary data, and in line with the objectives, the study arrived at the conclusion as follows:

**Project performance factors of Local Contractors on construction projects**

The study identified the project performance factors of local contractors on construction projects to be cost-ralated, time-related and quality-related factors.

Precisely, the cost-related factors include the following: Poor planning and scheduling, inadequate preparation of cost estimates, inadequate control procedures, mistakes during construction, poor cash flow during construction, frequent break down of construction plant and equipment, shortages of technical personnel, poor contract management, low bid, inaccurate site investigations, bad weather, financial difficulties of the client, financial difficulties of the contractor, poor project management assistance, poor site management and supervision.

In addition, the time-related factors were: land disputes, change order/scope changes, delayed or nonpayment of IPCS, different site conditions, economic problems in the country, financial difficulties on the part of the client, inadequate scheduling, health and safety issues, poor managerial skills, poor subcontractor performance, transportation delays, and suspension of works.

In continuation, the quality-related factors included the following: client lacking relevant knowledge, corruption and demand for kickbacks by consultants prior to certification of works, disruption of project management continuity, inadequate project planning, inadequate/wrongly applied specifications, incompetence of some consultants, lack of project coordination by the client, contractor and consultant, long time lapse between assessment, procurement and implementation of the project, poor financial management by contractors, poor subcontractor performance, project location and size of project, lack of supervision, lack of honesty among professionals, lack of adequate testing facilities, lack of interest in paying attention to detail, lack of adherence to specified standards-most of the materials supplied do not meet the required standards for example grades of steel is often compromised for economic reasons, inexperienced labour force, inappropriate equipment, lack of project team involvement, sensitization and carelessness.

**The influence of organisational culture on local contractor project performance factors in Zambia**

Also, it was resolved that organisational culture has a significant influence on project performance factors. Organisational culture plays an essential role in determining Local Contractor performance for instance, symbols motivate workforces and deliver a firm’s future-image and principles to its personnel. Rituals

set behaviour standards and enhance the critical values of employees and contributes to the smooth functioning of firms, promoting communication, socialising, establishing trust and common principles to achieve set objectives. It also supports organisational economic efficiency and social adaptability in a competitive environment. More so, companies that exhibit a strong culture could save the consequences of an unfavourable economic or social environment. Thus, organisational culture has a significant role in supporting the profitable growth objectives of an organisation and is essential as individuals act on their shared values. Further, a mismatch between organisational cultural and environmental demands coupled with the lack of an understanding of their organisational culture results in the Local Contractors struggling to thrive in a fiercely competitive industry.

**The Challenges encountered by Local Contractors on construction projects**

Further, it was established that the challenges encountered by Local Contractors comprised: Poor site management practices, lack of technical expertise, poor employee development, organisational culture, equipment holding, health and safety practices, labour relations, low competitiveness, risk management, access to finance, unavailability of materials, excessive amendments to designs and drawings, poor coordination among respondents, lack of leadership skills, projects failing to meet budget and schedule expectations, corruption, vandalism, constrained cash flow, project uncertainty, and poor supervision.

**How Local Contractors can improve their organisational culture on construction projects**

Furthermore, it was determined that local contractors could improve their organisational culture by ensuring that they enhance employee welfare, undergo mindset change by investing in knowledge through a training and continuous improvement plan. Further, by adopting a mix of the different types of organisational culture such as market and adhocracy culture local contractors could improve their organisational culture. Furthermore, the improvement could be made by considering the recognition of excelling individuals, enabling employees to raise their concerns, conducting meetings with employees, which could present opportunities to collect/respond to feedback and could be a way of providing mentorship. Additionally, local contractors should strive to forge connections amongst team members on a construction project. This would in turn instill a sense of belonging and ownership and promote commitment to the organisation, project and hence improve performance.

### 7.4. Recommendations

Given the preceding conclusion, this study recommends a need to improve the performance of Local Contractors in Zambia. Local Contractors need to adhere to the norms of best practice of Project Management by ensuring that they undertake projects only after understanding the full extent of the scope, dedicate extra and relevant effort to the planning and monitoring of projects to avoid or reduce

time overruns, cost overruns and quality shortfalls. However, specific recommendations are presented as follows:

### 7.4.1 Factors that influence performance (Time-related, Cost-related and Quality-related)

With regards to the factors that influence the performance of Local Contractors on construction projects, it is recommended that:

(i) Through their recruitment processes, Local Contractors must engage qualified Project Managers with qualifications in relevant fields, a Project Management qualification and relevant experience to manage project performance factors; this will assist in resolving Poor site management practices, lack of technical expertise, poor employee development, organisational culture, equipment holding, health and safety practices, labour relations, excessive amendments to designs and drawings, poor coordination among respondents, lack of leadership skills, projects failing to meet budget and schedule expectations and poor supervision

(i) The Government should formulate deliberate policies and ethical guidelines in the construction industry which enhance and ensure transparency in procurement processes, with more stringent measures and punishment for non-compliant contractors.

(ii) National Council for Construction must expedite and enhance training opportunities for Local Contractors' project Managers to motivate and eventually boost their confidence, thereby eliminating the vices such as the practice of 'fronting' by Local Contractors who sell contracts to foreign contractors;

(ii) The National Council for Construction should consider both on paper and physical check that Local Contractors employ qualified Project Managers and develop a system to debar contractors who do not meet this requirement;

(iii) The National Council for Construction should carry out dedicated studies to develop an appropriate performance appraisal system for contractors so that there is a uniform basis of determining a list of contractors who may require capacity building or blacklisting;

(iv) Construction Clients and Procuring Entities should ensure that they engage qualified consultants to provide complete construction project designs and must exercise effective scope management, through clear communication of requirements and understanding the full extent of the project before commencement;

(v) Local Contractors and all project management teams alike must provide adequate quality and scope management by employing qualified quality experts and adhering to relevant quality standards to improve on the quality of finished works;

(vi) Construction clients/ Procuring Entities should consider the mandatory inclusion of a Quality Specialist on the construction site in the Solicitation Document to ensure that quality standards are adhered to;

(vii) Clients, Contractors, and Consultants must enhance the practice of Total Quality Management (TQM) through training and site induction and ensure that quality expectations of projects are communicated to project personnel, including general workers and unskilled workers.

### 7.4.2 Influence of organisational culture and improvement

The following are recommended concerning organisational culture:

(iii) Local Contractors must ensure a balanced organisational culture, through regular engagement with Human Resources experts, that allows them to be more responsive to their environments, especially to unexpected changes;

(iv) Local Contractors must involve all project team members in planning organisational/project activities to instill ownership and responsibility.

(v) The National Council for Construction and other regulatory bodies alike should ensure that they include a module on organisational culture and performance and present them during their capacity building programs for Local Contractors;

(vi) To improve the organisational culture of local contractors they need to enhance awareness and cultural changes through training.

(vii) Local contractors must endeavour to recognise excelling project team members,enable employees to bring out their concerns, conduct regular meetings with employees and mentor them.

(viii) Local contractors through their human resource departments must strive to forge connections between members on a construction project in order to instill a sense of belonging and ownership hence, leading to improved performance.

### 7.4.3. Challenges encountered by Local Contractors

Regarding the challenges that Local Contractors encounter on construction projects, recommended mitigation measures include:

(i) All procuring entities must ensure that projects are adequately planned for, with confirmation, securing and rein fencing of funds for the project before commencement;

(ii) Construction clients, developers and agencies alike must provide robust scrutiny and due diligence before awarding contracts for quality, cost and time management assurance;

(iii) The Local Contractors must ensure that projects are insured against performance liabilities such as cost overruns to avoid delays due to funding challenges;

(iv) The Zambia Public Procurement Authority must improve procurement systems and further pursue and prioritise the use of alternative procurement methods, such as Mergers, Partnerships, Joint Ventures, and Public-Private Partnerships (PPP), in project delivery to reduce the challenges of access to finance and subsequently cost overruns, schedule overruns. Better performance could be achievable as with such methods come strict conduct and funding availability; and

(v) The Government to consider developing a law, through Parliament, which compels new governments to complete projects that their predecessors started to reduce the number of abandoned projects and debt.

### 7.5. Limitations

The significant factors that impeded the smooth completion of this study included difficulty retrieving questionnaires from respondents due to the outbreak of the Covid-19 pandemic, which led to a general lockdown and most companies closing down or having less or no contact with outsiders. The researcher had to follow the Covid-19 protocol of social distancing and no physical contact with respondents; hence interviews were not conducted. This situation was a challenge and a significant contributor to some of the respondents not attending to the questionnaires (in the case of the few that were physically distributed) due to working on a rotation basis. Other respondents, especially contractors, were reluctant to participate. However, even if this was the case, the results obtained in this study were credible as flaws in collecting data from some respondents were mitigated by the questions that received a higher response rate. The existing predetermined measurement tools were not utilised to determine the organisation culture among Local Contractors; instead, the researcher adopted a descriptive method. Further, regarding the need for mindset change among Local Contractors, this study did not explore extant literature or theories.

### 7.6. Areas for further study

Interestingly, during the literature review and the entire study's process, some areas of interest arose, which were not part of this study's scope and attracted the author’s attention. The study's findings indicated that there were areas that needed further probe. Thus, future research may consider employing the predetermined measurement tools for organisational culture, such as the balanced scorecard, to get a deeper understanding of the organisation culture in the construction industry of Zambia and assess their impact on construction project management. Future research should also explore theories on mindset change to evaluate their influence on Local Contractor project performance.

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# APPENDICES

## APPENDIX 1: INTRODUCTORY LETTER

UNIVERSITY
of
LUSAKA

Plot No. 37413, Off Alick Nkhata Mass Media, P. O. Box 36711, Lusaka
Phone: +260 211 233407, 258409, Fax: +260 211 233409, E-mail: ictar@zamnet.zm, unilus@zamnet.zm
Website: www.unilus.ac.zm

All correspondence should be addressed to the Vice Chancellor

13th July, 2020

**TO WHOM IT MAY CONCERN**

**RE: THE PERFORMANCE OF LOCAL CONTRACTORS ON HIGH VALUE CONSTRUCTION PROJECTS IN ZAMBIA: THE CASE OF SELECTED INFRASTRUCTURE PROJECTS**

This letter serves to introduce Janis Kabwe Student Identity Number PHDPM18213277 as a bona fide student of the University of Lusaka pursuing a Doctor of Philosophy in Project Management.

Janis Kabwe required to submit the thesis as part of the requirements for the award of the degree and therefore seeks to collect data from your institution. Her research title is stated above. The data will be used solely for Academic purposes and a copy of the final document can be availed to you upon request.

Any assistance given to her will be greatly appreciated.

UNIVERSITY OF LUSAKA
REGISTRAR POSTGRADUATE
08 JUL 2020
P.O. BOX 36711,
LUSAKA.

Sincerely,

Mwamba Chanda (Mr.)
**DEPUTY REGISTRAR**

**For responses or queries kindly contact the student on;**
**+260979256141 OR**
**jkabwe2011@gmail.com**

Passion for Quality Education! Our Driving Force

## APPENDIX 2: THE QUESTIONNARE

UNIVERSITY OF LUSAKA

### SCHOOL OF POSTGRADUATE STUDIES

**Topic: The Influence of Organisational Culture on Local Contractor Project Performance Factors in Zambia**

**Questionnaire to clients, consultants and contractors**

Dear respondent,

I am a student at the University of Lusaka pursuing a Doctor of Philosophy (Ph.D.) in Project Management and due for Graduation in 2021. It is the University requirement to undertake extensive research to fulfill the award of the Ph.D. in the mentioned area. In the construction industry, successful project performance is usually determined by how well the contractor and entire project team balance the project time, cost and quality. However, projects often suffer from underperformance. The causes of poor performance have often been extensively analysed by many scholars.

Organisational culture is useful in maintaining a positive work environment and to develop ethical behaviours at individual and group levels. Understanding organisational culture by management helps to motivate employees and to increase performance in the organisation. However, few studies have addressed the influence of organisational culture on Local Contractor project performance in Zambia. Therefore, this study sought to establish this influence, with a view to improve performance. Your responses and contribution will be highly appreciated as the study results may provide relevant information for Local Contractors to improve their performance on construction projects.

**ANONYMITY AND CONFIDENTIALITY**

The data to be obtained from the administration of this questionnaire is intended for academic purposes only and will be treated in strict confidence. The data and information to be gathered will not reflect the views and/or opinions of individual respondents but will be presented in an aggregated manner. No disclosure of individuals' views will be made. Please answer the questions as honestly as possible. Thank you in advance for your time and interest to participate in this survey.

**CONTACT DETAILS OF THE RESEARCHER:**

Janis Kabwe, Cell 0979256141, Email: jkabwe2011@gmail.com

**SECTION A: INTRODUCTORY QUESTIONS – Please Tick/Circle where applicable.**

1. Please state which category best describes your role in the construction industry.

   (a) Client – Private
   (b) Client - Government
   (c) Contractor – B-1, C-1, or R-1
   (d) Consultant – Architect
   (e) Consultant –Engineer
   (f) Consultant Quantity Surveyor

2. Are Project Managers employed in your organisation? Please circle your answer:

   (a) Yes (b) No

3. If your answer in question two was yes, please state the Qualifications of the Project Managers in your organisation?

   (a) Degree - Project Management
   (b) Degree - Architecture
   (c) Degree - Engineer
   (d) Degree - Quantity Surveyor
   (e) A combination Degree in Project Management and (a), (b), (c) or (d)

4. If your answer in question (2) was No, please explain below:

   .....
   .....

5. What is the number of years of experience of the Project Managers in your organisation?

   (a) 5 years -9Years
   (b) 10 years -14Years
   (c) 15 years-19Years
   (d) 20 years above

6. Do Local Contractors involved in high value construction projects exhibit poor performance?

   (a) Yes (b) No

7. Please give reasons for your answer in question (6)

   .....
   .....What is your level of satisfaction with the current performance of Local Contractors in the construction industry?

   (a) Very dissatisfied (b) Dissatisfied (c) Average (d) Satisfied (e) Very satisfied

8. The following table consists of some of the challenges of managing construction projects; kindly indicate, in ascending order, with the priority scaling: **(1 = Very low severity, 2 = Low severity, 3 = Medium severity, 4 = High severity and 5 = Very high severity),** which ones have been experienced in your organisation.

| | **Challenges** | **Tick (√)** | | | | |
|---|---|---|---|---|---|---|
| | | **1** | **2** | **3** | **4** | **5** |
| 1 | Poor site management practices | | | | | |
| 2 | Lack of technical expertise | | | | | |
| 3 | Poor employee development | | | | | |
| 4 | Organisational culture | | | | | |
| 5 | Equipment holding, | | | | | |
| 6 | Communication | | | | | |
| 7 | Health and safety practices | | | | | |
| 8 | Labour relations | | | | | |
| 9 | Low competitiveness | | | | | |
| 10 | Risk management | | | | | |
| 11 | Access to finance | | | | | |
| 12 | Unavailability of materials | | | | | |
| 13 | Excessive amendments to designs and drawings | | | | | |
| 14 | poor coordination among respondents | | | | | |
| 15 | Ineffective monitoring and feedback | | | | | |
| 16 | Lack of leadership skills. | | | | | |
| 17 | Projects failing to meet budget and schedule expectations | | | | | |
| 18 | Corruption | | | | | |
| 19 | Vandalism | | | | | |
| 20 | Constrained cash flow | | | | | |
| 21 | Project uncertainty | | | | | |
| 22 | Poor supervision | | | | | |

If there are any other challenges, please list them in the space provided below.

.....
.....

**SECTION B: COST PERFORMANCE ON CONSTRUCTION PROJECTS**

9. The following is a list of some of the factors which influence cost performance on high value projects; kindly rank them in ascending order, with the priority scaling: **(1 = very low severity, 2 = low severity, 3 = medium severity, 4 = high severity and 5 = very high severity).**

| Item | Factors which influence cost performance on high value projects | Level of severity | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | Poor Planning and scheduling | | | | | |
| 2 | Delayed Payments from the procuring entity | | | | | |
| 3 | Inadequate cost estimates prepared | | | | | |
| 4 | Inadequate control procedures | | | | | |
| 5 | Delays in work approval | | | | | |
| 6 | Late submission of drawings by Architect | | | | | |
| 7 | Late issuance of instructions | | | | | |
| 8 | Mistakes during construction | | | | | |
| 9 | Delays in inspection and testing of work | | | | | |
| 10 | Poor Cash flow during construction | | | | | |
| 11 | Frequent break down of construction plant and equipment | | | | | |
| 12 | Shortages of technical personnel | | | | | |
| 13 | Labour shortages | | | | | |
| 14 | Poor contract management | | | | | |
| 15 | Shortage of materials, Plant/equipment parts | | | | | |
| 16 | Contractor's financial difficulties | | | | | |
| 17 | Low bid | | | | | |
| 18 | Slow mobilization of labour | | | | | |
| 19 | Late delivery of materials and equipment | | | | | |
| 20 | Inaccurate site investigations | | | | | |
| 21 | Slow decision-making | | | | | |
| 22 | Inflation | | | | | |
| 23 | Difficulties in obtaining construction materials at official current prices | | | | | |
| 24 | Bad weather | | | | | |
| 25 | Poor site management and supervision | | | | | |
| 26 | Poor project management assistance | | | | | |
| 27 | Financial difficulties of client | | | | | |

10. To what extent do you agree with the statement that High value infrastructure projects undertaken by Local Contractors result in cost overruns?

    (a) Strongly disagree (b) Disagree (c) Neutral (d) Agree (e) Strongly agree

11. Please give other factors which you think influence cost overruns

    .....
    ..

12. What are your recommended mitigation measures to improve the performance of Local Contractors?

    .....
    ...

**SECTION C: TIME PERFORMANCE ON CONSTRUCTION PROJECTS**

13. The following is a list of some of the factors which influence Time performance on high value construction projects? Kindly rank them in ascending order, with the priority scaling: **(1 = Very low severity, 2 = Low severity, 3 = Medium severity, 4 = High severity and 5 = Very high severity).**

| Item | Factors influencing Time performance on high value construction projects | Level of severity | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | Acquiring land | | | | | |
| 2 | Bad Weather (Floods or Heavy rains) | | | | | |
| 3 | Change order/scope changes | | | | | |
| 4 | Lack of technical skills | | | | | |
| 5 | Construction mistakes | | | | | |
| 6 | Contract modification | | | | | |
| 7 | Corruption | | | | | |
| 8 | Defective work | | | | | |
| 9 | Delayed or non-payment of IPCs | | | | | |
| 10 | Equipment unavailability | | | | | |
| 11 | Financial difficulties on parties involved | | | | | |
| 12 | Health and Safety issues | | | | | |
| 13 | Inadequate planning and scheduling | | | | | |
| 14 | Labour disputes and strikes | | | | | |
| 15 | Lack of high technology | | | | | |
| 16 | Material procurement | | | | | |
| 17 | Poor sub-contractor performance | | | | | |
| 18 | Schedule mismanagement | | | | | |
| 19 | Site conditions | | | | | |
| 20 | Suspension of works | | | | | |
| 21 | Incomplete documents | | | | | |
| 22 | Poor supervision | | | | | |
| 23 | Shop drawing approval | | | | | |
| | | | | | | |

14. What other factors do you think influence time overruns?

    .....

15. What are your proposed mitigation measures to reduce time overruns on construction projects?

.....

**SECTION D: QUALITY ON CONSTRUCTION PROJECTS**

16. The following is a list of some of the factors which influence Quality performance on high value construction projects? Kindly rank them in ascending order, with the priority scaling: **(1 = Very low severity, 2 = Low severity, 3 = Medium severity, 4 = High severity and 5 = Very High severity.**

| Item | Factors influencing Quality performance on high value construction projects | Level of severity | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | Client lacking relevant knowledge | | | | | |
| 2 | Corruption and demand for kickbacks by consultants prior to certification of works. | | | | | |
| 3 | Disruption of project management continuity | | | | | |
| 4 | Inadequate and/or inconsistent release of project funds by clients. | | | | | |
| 5 | Inadequate inspections | | | | | |
| 6 | Inadequate project planning | | | | | |
| 7 | Inadequate supervision by contractors | | | | | |
| 8 | Inadequate/wrongly applied specifications | | | | | |
| 9 | Incompetence and lack of capacity by contractors to execute works | | | | | |
| 10 | Incompetence of some Consultants | | | | | |
| 11 | Lack of project coordination by the client, contractor and consultant | | | | | |
| 12 | Local government pressures | | | | | |
| 13 | Long time lapse between assessment, procurement and implementation of the project. | | | | | |
| 14 | Poor financial management by contractors. | | | | | |
| 15 | Poor sub-contractor performance | | | | | |
| 16 | Project location | | | | | |
| 17 | Size of project | | | | | |

17. What other factors influence quality on construction projects?

.....
.....
.....

18. What would you recommend to improve quality of finished works?

.....
.....

**SECTION E: CULTURE AND CONTRACTOR PERFORMANCE ON CONSTRUCTION PROJECTS**

19. How would you define the culture in your organisation? Please circle your answer.

(a) The working environment is a friendly one – Clan Culture

(b) There is a dynamic and creative working environment – Adhocracy Culture

(c) It is a results-based organisation that emphasizes finishing work and getting things done- Market Culture

(d) This is a formalized and structured work environment. Procedures decide what people do- Hierachical Culture

20. Do you think work culture influences the performance on construction projects? Please circle your answer:

    (a) Yes (b) No

21. Kindly explain how work culture affects performance of Local Contractors on construction projects.

    .....

    .....

22. What do you think should be done to improve work culture among Local Contractors and their organisations?

    .....

    .....

23. Is there need for mindset changes among Local Contractors in Zambia?

    (a) Yes (b) No

24. **Organisational culture (Leadership) on Project performance**

    Kindly indicate the degree to which you concur with the following statements about the influence of Organisational culture (Leadership) on Project performance on a scale of 1 to 5 where 1= Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5= Strongly agree

| No | Statement | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 1 | Project leaders have been providing opportunities to develop capabilities | | | | | |
| 2 | Project leaders use creativity to solve problems and provide solutions | | | | | |
| 3 | Project leaders see subordinates as vital contributors to project performance | | | | | |
| 4 | Project leadership is regarded as mentoring and nurturing | | | | | |
| 5 | Project leaders carry out their roles and responsibilities to the best of their abilities | | | | | |

25. **Organisational culture (Shared Values) on Project performance**

    Kindly indicate the degree to which you concur with the following statements about the influence of Organisational culture (Shared Values) on Project performance on a scale of 1 to 5 where 1= Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5= Strongly agree

| No | Statement | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 1 | Teamwork in the organisation is vital | | | | | |
| 2 | Project performance is considered vital by everyone in the organisation | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3 | The organisation stands for clear stipulated work ethics | | | | | |
| 4 | There is an overall commitment to make project successful | | | | | |
| 5 | Roles and duties are understood by everyone in the organisation | | | | | |

26. **Organisational culture (Decision Making) on Project performance**

Kindly indicate the degree to which you concur with the following statements about the influence of Organisational culture (Decision Making) on Project performance on a scale of 1 to 5 where 1= Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5= Strongly agree

| No | Statement | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 1 | Decision making takes step by step | | | | | |
| 2 | Decision making involve choosing a suitable alternative based on achievement of a goal | | | | | |
| 3 | All workers are always been part and parcel of the decision-making process | | | | | |
| 4 | Decision making is mostly shortened to quicken up the process | | | | | |

27. **Organisational culture (Power Distance) on Project performance**

Kindly indicate the degree to which you concur with the following statements about the influence of Organisational culture (Power Distance) on Project performance on a scale of 1 to 5 where 1= Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5= Strongly agree

| No | Statement | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 1 | Power is decentralized | | | | | |
| 2 | Power holders have always been entitled to privileges | | | | | |
| 3 | Top management and ordinary employees always hold join meetings | | | | | |
| 4 | Everyone is permissible to participate in decision making process | | | | | |
| 5 | Top management and ordinary workers have always interacted easily | | | | | |

**END**

**Thank you for your participation!**

**APPENDIX 3: QUANTITY SURVEYORS REGISTRATION BAORD: REGISTERED INDIVIDUALS**

REPUBLIC OF ZAMBIA

QUANTITY SURVEYORS REGISTRATION BOARD

(Established under the Quantity Surveyors Act Cap 37 of 1995, Laws of Zambia to provide for the Registration and Regulation of Quantity Surveyors and matters connected with the Quantity Surveying profession).

QSRB Secretariat Room 28 Department Of Public Infrastructure P.O. Box 33756, Lusaka Zambia Tel: 0211 256483

## QUANTITY SURVEYORS REGISTRATION BOARD

## REGISTERED INDIVIDUALS

| | REG. NO. | NAME | DATE OF REG. | PHYSICAL ADDRESS | POSTAL ADDRESS | E-MAIL | PHONE |
|---|---|---|---|---|---|---|---|
| 1. | QS165 | DAVID MWITUMWA | 27l04/1976 | Mwitumwa and Associates, Plot 7672B Woodlands | P.O. Box 30614 Lusaka | mwitumwa@gmail.com | 0977 258 931/262058 |
| 2. | QS179 | HENRY B. CHALWA | 10/05/1977 | H.B. Chalwa and Associates | Hse. No. 1 Azikiwe Crescent, Northmead | hbc@coppernet.zm | 0977 778288/0211 226534 |
| 3. | QS194 | FRED MTAMIRA | 10/05/1977 | Peter Richards And Partners 5th Woodgate House | P.O. Box 32518 | fmtamira@prp.co.zm | 0955 448708/0966 752511 |
| 4. | QS196 | GEORGE NDUNGU | 19/11/1993 | Adam Hood QS, Plot No. 18 Lagos Road Rhodes Park | P.O. Box 36900 Lusaka | qs@ahp.co.zm | 0977 842 861/255382 |
| 5. | QS201 | ALFRED KASITO | 19/11/1993 | Plot No. 3 Munali Road, Chudleigh | P.O. Box 36234, Lusaka | amkplus@zamnet.zm | 0977 778 602/231386 |
| 6. | QS203 | SEBASTIAN MAZAKAZA | 19/11/2003 | H. B. Chalwa and Associates | | | |
| 7. | QS207 | BARNABAS M. KAFULA | 19/11/1993 | 4th Floor Woodgate House | P.O. Box 32518 | mwilakafulaqs@gmail.com | 0979 914944 |

**REGISTERED QS, 1-7**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | Lusaka | | |
| 8. | QS210 | HENRY NGULUBE | 9/02/1995 | Fairface Enterprises | Lusaka | fairface@zamtel.zm | 0955 806 110 |
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**APPENDIX 3: REGISTERED QS, 8-21**

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| 25. | QS235 | BRIAN BOMBEKI | 18/10/2006 | B N B QS, 6th Floor Room 612 Godfrey House | Lusaka | | 0953 737 885 |
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| 48. | QS258 | POSO MWANZA | 31/01/2014 | Impact Quantity Surveyors, Plot No. 6841, Olympia Lusaka | P.O. Box 51028, | impactqs@gmail.com | 0964 148 626 |
| 49. | QS260 | EPHRAIM ZULU | 27/05/2015 | Copperbelt University | | | |
| 50. | QS261 | KUNDA PETER CHANSA | 12/11/2015 | MLN | | chansakundap@gmail.com | 0975 693 279 |
| 51. | QS262 | RUTH MVULA | 29/09/2016 | MLN | | | 0967 027223 |
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| 64. | QS275 | FREDRICK BWALYA JR. | 06/08/2019 | Department of Public Infrastructure | P.O. Box 50800 | | 0979 340169 |
| 65. | QS276 | JONAH K. CHINYAMA | 09/01/2020 | | | | |
| 66. | QS277 | NZOVWA JONAS MANGANI | 24/07/2020 | | | | 0977 234948 |
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**APPENDIX 3: REGISTERED QS, 59-66**

## APPENDIX 4: ZAMBIA INSTITUTE OF ARCHITECTS: REGISTERED CORPORATE MEMBERS 2019-2020

# ZAMBIA INSTITUTE OF ARCHITECTS

## REGISTERED CORPORATE MEMBERS 2019-2020

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| 140 | Tekela Musenge | MZIA | Timestone | | |
| 141 | Tembo Anthony | MZIA | Kalumbila Town DevelopmentCorporation | +260 965 457300 | anthonytembo48@gmail.com |
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| | | | | | |
| | | | | | |

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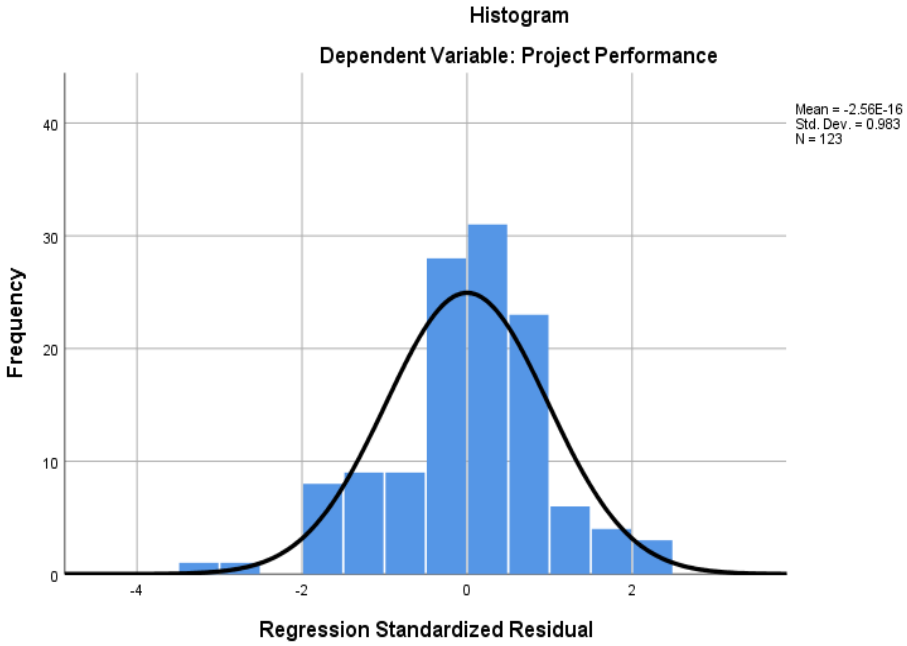
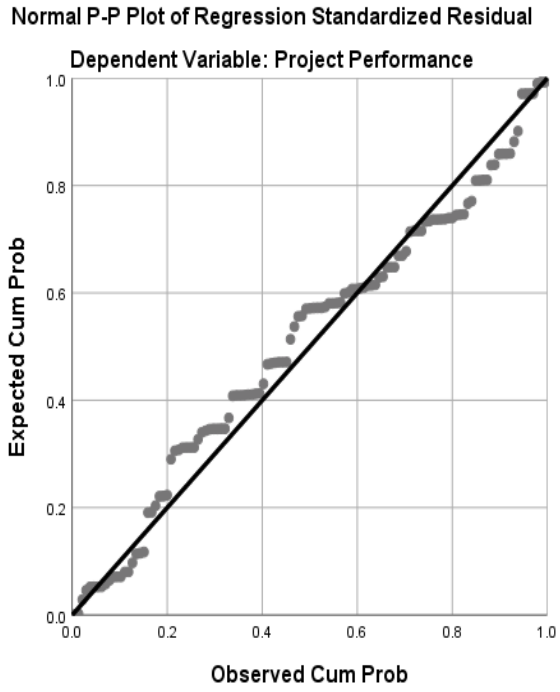
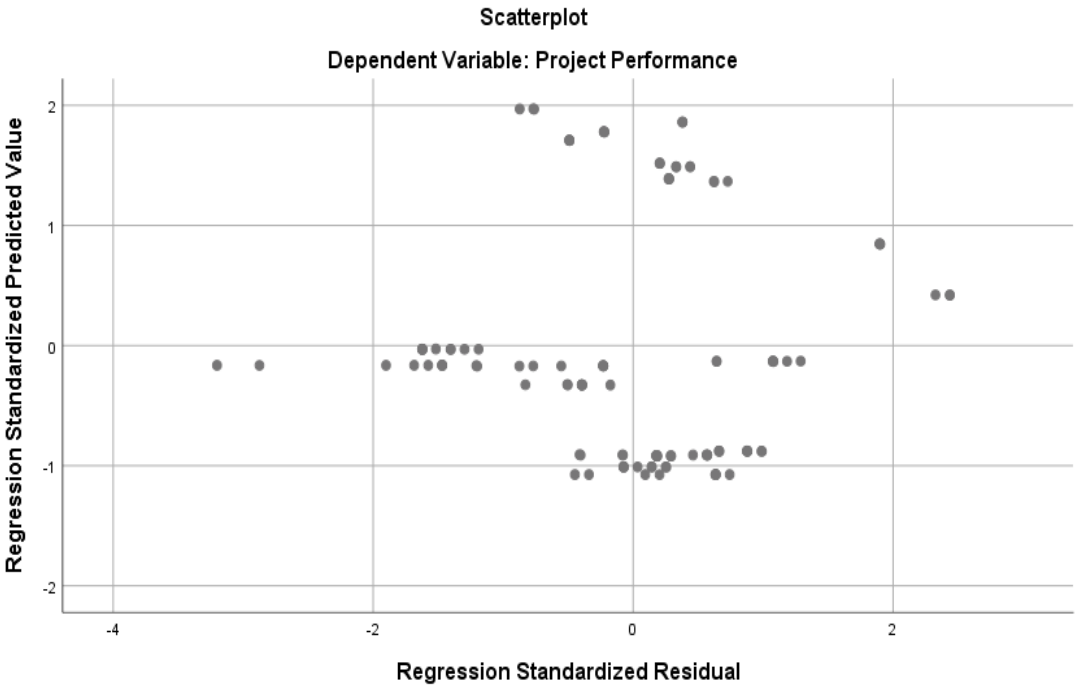
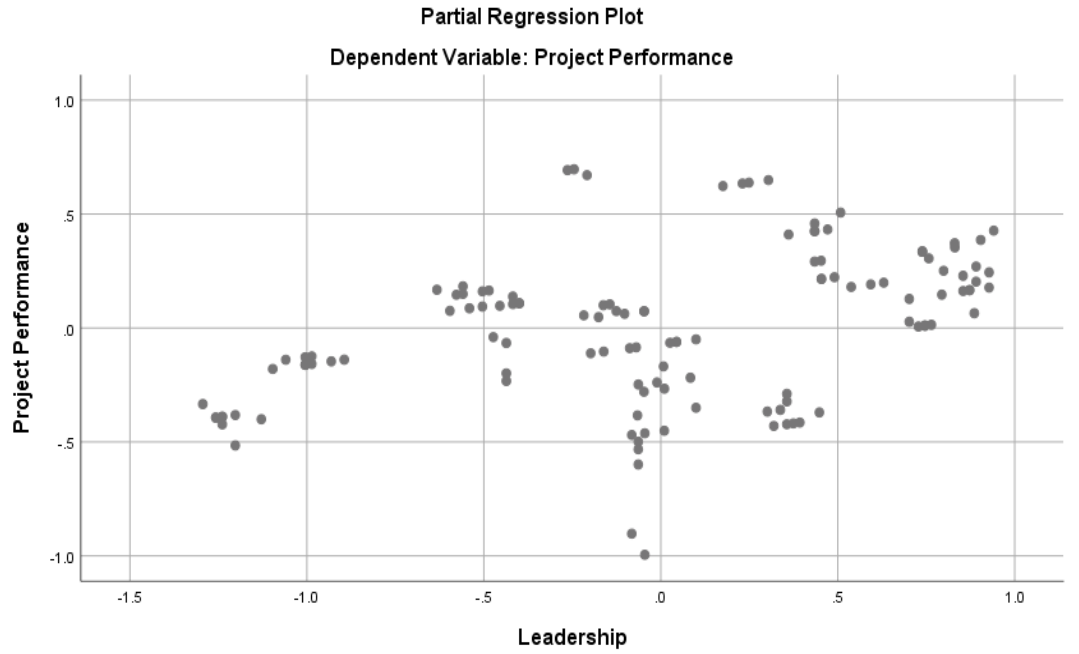
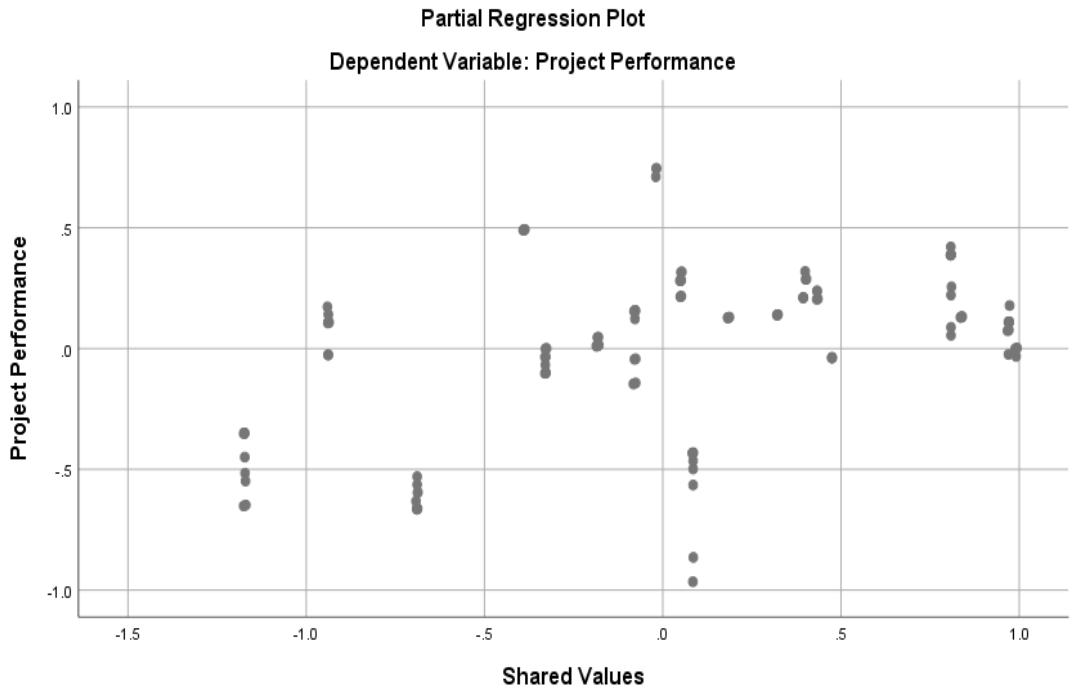
## APPENDIX 6: SPSS OUTPUTS AND CHARTS

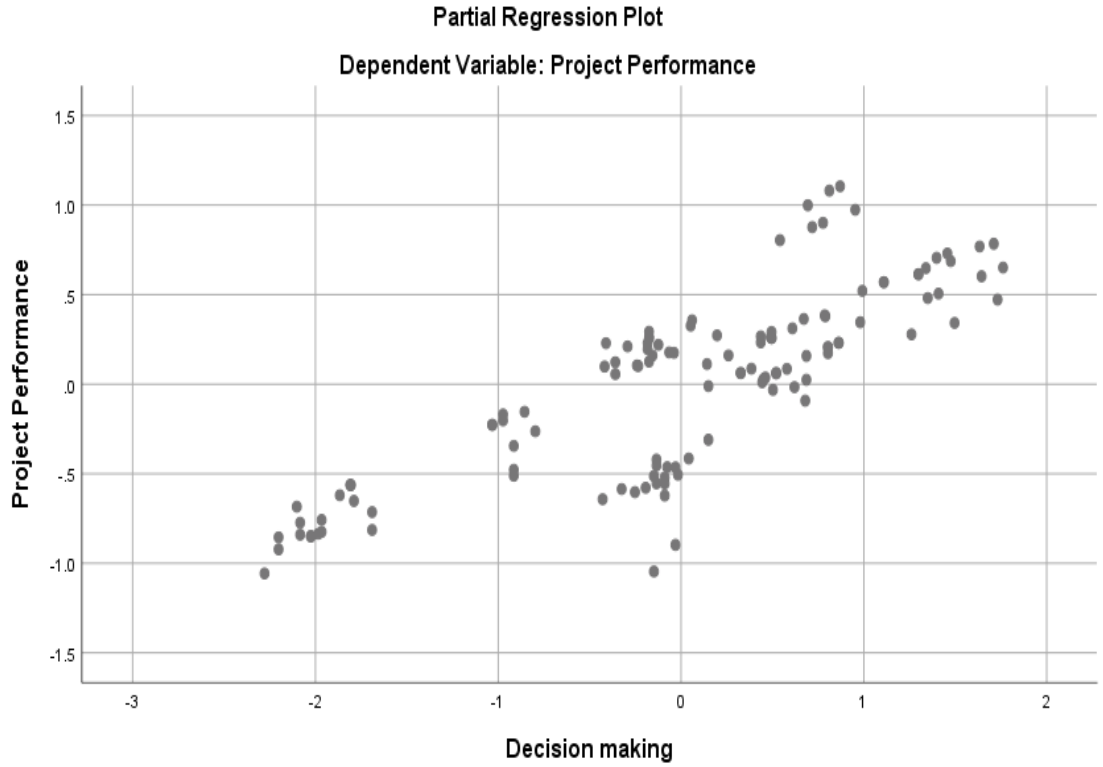


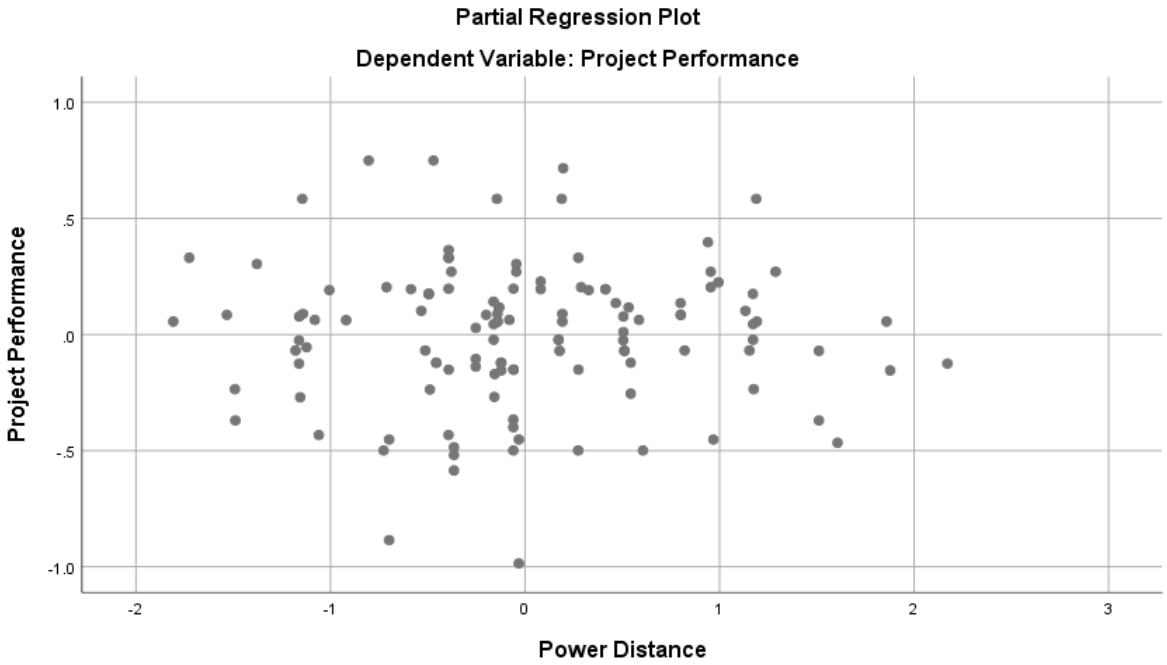




Scatterplot
Dependent Variable: Project Performance
Regression Standardized Predicted Value
2
1
0
-1
-2
-4
-2
0
2
Regression Standardized Residual


Partial Regression Plot
Dependent Variable: Project Performance
Project Performance
1.0
.5
.0
-.5
-1.0
-1.5
-1.0
-.5
.0
.5
1.0
Leadership


Partial Regression Plot
Dependent Variable: Project Performance
Project Performance
1.0
.5
.0
-.5
-1.0
-1.5
-1.0
-.5
.0
.5
1.0
Shared Values


Partial Regression Plot
Dependent Variable: Project Performance
Project Performance
1.5
1.0
.5
.0
-.5
-1.0
-1.5
-3
-2
-1
0
1
2
Decision making


Partial Regression Plot
Dependent Variable: Project Performance
Project Performance
1.0
.5
.0
-.5
-1.0
-2
-1
0
1
2
3
Power Distance