Cape Peninsula
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# CASH BUDGET AS A PLANNING TOOL TOWARDS PROJECTS COMPLETION BY CONSTRUCTION FIRMS IN THE NORTHERN SUBURBS INDUSTRIAL AREAS OF CAPE TOWN


**by**

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## DECLARATION

I, Vuyowlethu Mdongwana, declare that the contents of this dissertation/thesis represent my own unaided work, and that the dissertation/thesis has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.

**Signed** **Date**

## ABSTRACT

This study sought to ascertain the extent to which construction firms in the Cape Town Northern Suburb industrial areas use cash budgets when planning their project completion. More precisely, the study aimed to determine the types of budgets used by construction firms, the purpose for which types of budgets are used by construction firms, the perception of the construction firm regarding the awareness and usage of these types of budgets, and whether these types of budgets are outsourced or internally prepared. The study was motivated by a dearth of research on the usage of cash budgets by construction firms, the high rate of failure of South African construction firms and the poor performance, which then reflects high levels of non-completion and low productivity on projects. Data was collected by means of a questionnaire survey that consisted of closed-ended questions.

The findings of the study reveal that most of the sampled construction firms frequently prepare and use budgeted income statements and cash budgets. Furthermore, the findings also suggest that the sampled construction firms used different types of budgets, mostly for the purposes of allocating resources and forecasting the cost fluctuation on their businesses. Concerning the perception and the awareness of the types of budgets, the findings revealed that the investigated construction firms were perceived to be mostly aware of budgeted income statements and cash budgets.

Regarding the preparation and outsourcing of cash budgets, the findings indicate that cash budgets were mostly prepared on a monthly and yearly basis. In addition, the results also suggest that most construction firms outsourced cash budgets.

The findings may further assist construction firms in gauging and reviewing their usage of cash budgets and the purposes for which they use them with a view to optimise the benefits derived from these findings, as well as overcoming the factors that inhibit them from using these tools in the first place.

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## DEDICATION

This research is dedicated to my late father Pasika Mdongwana and my dear mother Nolungisile Mdongwana, intombi yakwaXaba.

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# CHAPTER ONE
# INTRODUCTION

## 1.1 Background

The construction industry is an important industry in any country as it significantly contributes to the economy by creating jobs, supplying the country's infrastructure and improving the country's gross domestic product (GDP). The South African government has since identified the construction industry as the vehicle for job creation, poverty alleviation, and infrastructural development (Haupt & Harinarain, 2016).

Notwithstanding the infrastructural development, the construction industry often plays an important role in the social and economic development in both developing and developed countries through the construction of buildings and infrastructural projects, which aimed at meeting the needs of the community on both short-term and long-term objectives. It also provides significant support to the government in the form of achieving the strategic development objectives, increasing the GDP and providing employment opportunities (Othman & Abdellatif, 2011). The next section elaborates on the planning, budgeting and completion of construction projects, which are also the focus of this study.

Mavetera, Sekhabisa, Mavetera and Choga (2015) in their study, indicated that projects' financial resources are often depleted before the projects are actually completed. This is mainly caused by poor planning and budgeting and the absence of adequate supervision on-site. Furthermore, completing a project within the prescribed budget is one of the key elements and objectives of the project success and it often shows that the resources were well allocated, managed and monitored. Construction projects are usually expensed, time orientated, and that is why it is important for them to have an adequate budget that facilitates such expenditure throughout the project period. In addition, Langat (2015) found that misallocation and misappropriation of funds quickly leads to incompletion of projects.

Furthermore, the construction project has to be both the primary and the focal element on which any developing country relies on. Failed, incomplete or abandoned construction projects are very common in the construction industry and this usually occurs when management decides to discontinue the project operations; it could be temporary or permanent. In addition, the incompletion and abandonment of a project is mainly caused by different factors ranging from an inadequate planning and budgeting, incorrect cost estimation, political influence and lack of funding (Amade, Ubani, Amaeshi & Okorocha, 2015).

Despite the inadequate budgeting, which usually results in incorrect estimation of costs, the majority of construction firms are small enterprises, and they often turn out to suffer financial ruin and bankruptcy because of the delays in payment claims, especially in government contracts. This also proves that these firms do not have an adequate budget and plan for their strategic objectives towards their project completion (Thwala & Phaladi, 2009). In addition, the financial stability and adequate budgeting can determine the firm's ability to complete the project, given that the funds are allocated into well-functioning resources.

The classification of construction firms in South Africa is determined by their financial and work capabilities in which both of these are usually linked to their budgeting abilities. They often struggle to survive in the industry for a longer period due to their inability to adequately budget or re-allocate the awarded amount of tender into their existing resources and end up overspending on projects and unnecessary expenditures. This could lead to the funds being depleted, and ultimately, the termination or suspension of site operations (Oyewobi, Windapo, Rotimi & Jimoh, 2016).

Construction firms, in general, are not supposed to terminate or suspend operations on site if the employer or the client fails or delays to pay for the partially completed work, and this requires a sound business cash budget in these firms, to enable them to avoid such terminations due to late payments (Marit & Robertson, 2012).

Cash budgets are a formal and comprehensive strategy that estimates the possible expenditure of an organisation over a specified period, and they are then used to finance different business functions of the organisation (Olusola & Oluwaseun, 2014). Furthermore, Mwanza (2017) is of the opinion that the effective use of budgets enhances the ability of the firm's management to make sound business decisions and thus achieve the growth sustainability objectives. The budget is a financial planning tool, which forecasts the financial expectations of the business relating to both the expenditure and earnings. Such expectation should be evaluated and adjusted accordingly to ascertain whether they align with the strategic objectives of the organisation (Shallow, 2017).

A cash budget is also used to identify all the cash receipt components and schedules that track cash payments. It is the most significant device to plan, magnify and control the cash receipts and payments. A cash budget is the measure that establishes the cash position of the organisation by tracking all the related cash transactions of the firm to ascertain the necessary variances (Attom, 2013).

Furthermore, other studies have also revealed that a cash budget is a management tool, technique or plan that influences the profitability of the organisation. In addition, a cash budget also gives management an ability to manage and allocate funds as it identifies and

highlights the cash income and expenses of the business. Moreover, a cash budget is also used as a planning tool that assesses the necessity of additional funding (Mungal & Garbharran, 2014). The next section elaborates on late payments, project incompletion and schedule overruns on projects.

**Late payments, project incompletion and schedule overruns**

The late payment on claims of the completed work and ongoing work on project sites and financial problems are the main causes of project incompletion. This is usually referred to as the schedule overrun because of the time that overlaps the stipulated and agreed time and it then results in project abandonment due to non-payment. Furthermore, uncompleted construction projects are often caused by the lack of cost planning, inadequate project management skills, poor monitoring of funds, poor cost estimation and additional work and site re-work, which is not always budgeted for. This then creates a financial burden on the construction firms, as they have to deploy and allocate extra resources on site in order to get the work done and back on schedule (Aigbavboa & Thwala, 2015).

Notwithstanding the aforementioned lack of cost planning, inadequate monitoring of funds and which often lead project abandonment, there are numerous construction projects and developments that are currently underway in the Cape Town central business district (CBD), Woodstock and Salt River as it has been indicated on a daily basis and tower cranes are moving around the city. Furthermore, as published by the City of Cape Town, Media Office (February 2018) that there is a massive up-coming Cape Town Foreshore development project proposal which aims inter alia, the combination market-related residential apartments and affordable residential houses at an estimated cost of R8.3 billion commencing in 2020. Furthermore, this is also evidenced by what is called “WesCape” development project, which aims for an infrastructural development project that includes transport facilities, houses, educational institutions, and all other public facilities in a nutshell, and this is proposed to commence in 2019/2020 at an estimated cost of R140 billion (Cirolia, 2013). This therefore, shows how active construction industry is in Cape Town.

However, more often, some of the projects are standing still and not being done in the same city; that is one of the things that motivated this study. This follows, inter alia, the recent report made by (Fin24), an online news publication on February 2018 that NMC Construction firm has been provisionally liquidated, and as a result, some of their projects were delayed and or behind schedule. This includes the Cape Town, Foreshore, KPMG office building in which major timelines were subsequently affected due to a provisional liquidation and ultimately the project was standing still (Smith, Fin24, 2018).

The literature discussed above examines both the construction industry and the importance of cash budgets, mostly at a strategic level to smoothen the business operations and financing the recourses. However, there is a little mention or not much investigation made in the literature on the use of the cash budget specifically by construction firms, especially on the project completion or production level.

This therefore, leaves or creates a severe gap in the literature. To bridge such a gap, this particular study aims to investigate the use of cash budgets by the construction firms towards project completion. This study further investigates whether the adequate usage of cash budgets could assist construction firms in completing their projects on schedule and most importantly on budget; particularly the firms in the northern suburbs industrial areas of Cape Town. Some of these firms might be the main contractor, sub-contractor or even joint ventures, as far as the project is concerned, and they might be doing business in projects that might be located in the southern suburbs, CBD or anywhere in the Western Cape Province. However, as long as they are based in the northern suburbs industrial areas, this study will focused on them.

### 1.2 Problem Statement

The problem to be investigated in this study is that construction firms in South Africa are perceived to be having more failing, incomplete and abandoned projects due to inadequate planning and budgeting. The Construction Industry Development Board (CIDB (2004) and Windapo and Cattell (2013) reported that there is a high rate of failure in the South African construction firms and this often results in the their liquidation as their poor performance reflects high levels of non-completion and low productivity on projects.

Baloyi and Bekker (2011), in their study, argued that most of the South African stadiums that were built for the 2010 FIFA World Cup were behind project schedule, even though they were completed on time for the tournament. They were, however, not ready for the Confederations Cup in 2009 due to project delays and non-completion. This was mainly caused by, among other things, the late payment by the client for the completed work on site. This poses a major problem in construction firms as they have to find alternative ways of financing their resources for their site operations, especially if they do not have a well-prepared cash budget in place. Furthermore, delayed payment is indeed a major cause of the project non-completion and this always results in construction firms borrowing money to enable them to finish their work on site and then having to pay it back. This ultimately tends to unbalance the cost-benefit analysis on construction firms and their strategic objectives (Kaliba, Muya & Mumba, 2009).

### 1.3 Purpose Statement

The main objective of this empirical study is to ascertain the extent to which construction firms in the Cape Town northern suburbs industrial areas use cash budgets when planning for their project completion.

### 1.4 Research Question, Sub-questions and Objectives

#### 1.4.1 Research question

The research question for this study is:

To what extent do the decision-makers of the construction firms, in the northern suburbs industrial areas of Cape Town use cash budgets towards their project completion?

#### 1.4.2 Sub-questions and objectives

**Research sub-questions**

1. How often do the construction firms use cash budget when planning their project completion?
2. For what purpose are cash budgets or other types of budget used by construction firms?
3. What are the perceptions of the decision-makers of the construction firms regarding the awareness and usage of the cash budget?
4. To what extent do construction firms prepare or outsource the preparation of their cash budget?

**Research Objectives**

1. To determine whether the construction firms can rely on cash budgets to successfully plan the completion of their projects,
2. To examine the fundamental aim and purpose of using cash budgets or other types of budgets by construction firms,
3. To evaluate the construction firm's business owners and managers awareness and perceptions on the usage of cash budgets when planning their project completion strategy,
4. To ascertain whether the construction firms prepare or outsource cash budgets, if so, how they prepare them and who prepares them on their behalf.

### 1.5 Importance of the Study

This study sought to inform the construction firms' owners and managers about the types of budgets, specifically the cash budget, that could enhance the sustainability of their businesses. Furthermore, the significance of this study is to ensure that managers and owners of the construction firms are effectively using cash budgets and other types of budgets as a primary tool towards project completion and in making regular sound business decisions. This is because cash budgets help in adequate forecasting, planning and monitoring the future of the organisation.

The study provides useful information on the usage of cash budgets that could be used by the CIDB and other various institutions and government agencies to inform the development of interventions aimed at reducing a construction firm's failure. As highlighted in Section 1.2 above, it would be impossible for the CIDB to gauge how well construction firms are using cash budgets to plan for project completion without this research.

Therefore, this study identifies cash budgets and other types of budgets usage gaps among construction firms, which if filled, may assist the owners and managers of these contractors to ensure the adequate planning of their project completion and sustainability of their businesses.

### 1.6 Research Design

#### 1.6.1 The empirical study

A positivist approach was employed to this study. The use of the positivist approach was based on the author's quest for objectivity and the need for generalisability of the findings (Sekaran & Bougie, 2013). Furthermore, the approach was used because of its objectivity and reliability in quantitative data collection. Therefore, the understanding resulting from positivist research is considered objective and quantifiable accordingly.

#### 1.6.2 Sampling method

Probability sampling was used for this study. In addition, probability sampling is noted to have several types that are used in research studies, which include simple random, systematic, stratified, cluster and panel sampling (Sekaran & Bougie, 2013, Leedy & Ormrod, 2013). Therefore, simple random sampling, which lies at the heart of all scientific research (Davies,

2007), was adopted by relying on the sample frame from the CIDB database. The sample frame included the target population of construction firms in the northern suburbs industrial areas. Based on the simple random sampling approach, sample elements were randomly selected from the sample frame.

### 1.6.3 Data collection, analysis and interpretation

The researcher sought to gather information relating to the usage of cash budget by construction firms in the Cape Town northern suburbs industrial areas. Primary data was collected from owners and managers of the construction firms by means of a self-administered, closed-ended questionnaire. This survey instrument is practical when massive data is to be collected from a large number of respondents in a short period. In addition, questionnaire surveys are convenient for collecting data from a sample in order to conduct statistical analyses and generalise results to a population (Brynard & Hanekom, 2006). The quantitative data collected was analysed and interpreted using descriptive statistics to intensify the validity of the findings.

## 1.7 Ethical Consideration

The consideration of ethical issues in research is to ensure that no one is harmed or suffers any adverse effects from research activities. Ethics are defined as the norms or standards of behaviour that guide moral choices about the behaviour and relationships between individuals (Cooper & Schindler, 2011; Salkind, 2014). Furthermore, according to Leedy and Ormrod (2010) and Salkind (2014), the protection from harm, informed consent, right to privacy, and honesty with professional colleagues, is the most critical categories that must be considered in research ethics. The adherence to these aforementioned ethical considerations is the responsibility of the researcher involved in the study.

Therefore, an approval to conduct research was obtained from the Cape Peninsula University of Technology's Ethics Committee before commencing data collection. The ethics committee requires that the respondents of such a study be protected from any potential negative repercussions that may arise because of participating in the research. The purpose of the study was explained to the respondents in the cover letter.

## 1.8 Delineation of the Research

This study was limited to the managers and/ or owners of the construction firms operating in the northern suburbs industrial areas of Cape Town, and only those managers and owners

were deemed the decision-makers of such firms. This is also to ensure that the focus was only centred in one particular area rather than being in a diversified approach (Collis & Hussey, 2003). Furthermore, this study was only conducted in the northern suburbs industrial areas of Cape Town, as it will not be feasible and practical to cover all the construction firms in the entire Western Cape.

### 1.9 Limitations and Constraints

This study was informed by the limited prior literature as there were very few studies conducted on the usage of cash budgets by construction firms. Furthermore, the study concentrated mainly on the construction firms located in the Cape Town northern suburbs and therefore, the findings acquired may not be applicable to all construction firms in South Africa. Additionally, the major limitation in this research was the accessibility of managers and owners of the construction firms due to their daily tight schedule and thus, made it difficult to get them to answer the questionnaires. However, to increase the response rate, the respondents were visited several times in order to motivate them to participate in the survey and to respond to all the questions in the questionnaire.

### 1.10 Contribution of the Research

The purpose of this study is to fill in the gap in research on the usage of cash budgets and other types of budgets by construction firms in South Africa. Even though there are other studies conducted on cash budgets and their significance, little research has been conducted on their usage in the construction industry, especially concerning project completion. Consequently, the findings of this research will contribute to the discussion on the usage of cash budgets towards project completion with a particular application to the distinctive context of construction firms.

### 1.11 Summary and Conclusion

In this chapter, the researcher mainly discussed the background to the research, problem statement, research questions, ethical considerations and contribution of the research. The study aimed at establishing types of budgets used by construction firms, the frequency of their usage, the purpose for which these types of budgets are used, the perceptions and awareness regarding the usage of the types of budget, and whether construction firms prepare or outsource cash budgets. Therefore, the next section discusses the literature

review of prior studies on the usage of the types of budget that are the focus of this study.

# CHAPTER TWO
# LITERATURE REVIEW

## 2.1 Introduction

The main objective of this chapter is to review prior studies and literature on the usage of cash budgets by construction firms. By so doing, the chapter identifies significant gaps in the literature regarding the use of cash budgets by construction firms towards project completion.

This chapter commences with an overview of construction firms (Section 2.2), followed by Section 2.3, which focuses on the importance of the construction industry in the South African economy. Section 2.4 discusses the challenges facing the construction industry in South Africa. Section 2.5 deals with an overview of cash budgets. Section 2.6 then discusses the importance of cash budgets. Section 2.7 reviews prior studies on the construction project delays and causes of delays in construction projects. Section 2.8 deals with the importance of payments and cash flow in the construction industry. Section 2.9 discusses the overview of the construction industry's development programme in South Africa. This is followed by Section 2.10, which deals with an overview of the contractor development initiatives in South Africa.

This was be followed by section 2.11, which discusses prior studies on the purpose for which the different types of budgets are used. Section 2.12 discusses prior studies on whether cash budgets were internally prepared or outsourced. Section 2.13 outlines the critical gaps identified in prior literature together with the remaining unanswered research questions. Section 2.14 defines the Cape Town northern suburbs and the areas in which the research was conducted. Lastly, Section 2.15 provides a conclusion and summary of the chapter.

## 2.2 Overview of Construction Firms

The construction industry plays an important role in the social and economic development in both developing and developed countries through the construction of buildings and infrastructural projects, which meets the needs of the community on both short-term and long-term objectives. It also provides significant support to the government in the form of achieving the strategic development objectives, increasing the GDP, and providing employment opportunities (Othman & Abdellatif, 2011).

Cash budgets give construction firms the ability to optimise the allocation of resources, financial planning and forecasting. This is because the objective of any construction firm is to

complete a construction project at a specified period, and at the lowest cost that is within the budget constraints (Lam, Song, Thomas, Yuen & Wong, 2001). Even though this study is old, it still gives a clear indication of the relationship between the construction objectives and the importance of cash budgets, in essence, to achieve such an objective.

Furthermore, construction firms can be classified and categorised in terms of their respective sizes, which can be either main contractors, sub-contractors, or a joint venture). This is based on the scope of the work that needs to be done, the milestone, and the deliverables of the project. Below is a summary of the different categories of construction firms:

- **Main contractors**: These are also known as the general contractors, and they usually provide the work instructions to the sub-contractors as they are in possession of the funds or the awarded tender.

- **Sub-contractors**: These are also known as small renovation contractors. They do their work as per the instruction from the main contractor, and they then price the work done and claim the payment of such work from the main contractor on a weekly, fortnightly or monthly basis.

- **Joint venture**: This is whereby the project is too big and more than one main contractor is awarded the tender to complete the project. The funds are then divided according to the number of main contractors involved in a joint venture agreement, this normally happens in big projects such as stadiums. Each main contractor has their own sub-contractors responsible for their part of the work.

Islam and Trigunarsyah (2017), in their study, found that project financing is the major cause of project delays in the developing countries. They argued that this usually includes, among other things, the delay in contractor's progress payment by the client or project owner, which ultimately affects the contractor's cash flow during the project's different phases. To minimise the construction delays in the construction industry, especially in the developing countries, the project owner is advised to regularly pay and settle all the claims relating to project progress on time and, on the other hand, the contractor should also ensure that the cash flow is closely monitored and controlled throughout the duration of the project as this will reduce and avoid disputes and arbitration between the construction firm and the client.

There are different types of contractors that are involved in the construction project, such as general contractors, sub-contractors, specialised contractors, and the nominated contractor. These contractors have different roles to play in the project and they often need to be monitored to ensure that the project achieves the targeted schedules and other project objectives (Islam & Trigunarsyah, 2017).

The growing number of construction firms in Malawi does not correspond with the improvement in the timely delivery of projects. The construction firms in Malawi, both emerging and well established, are reported to be failing to deliver their projects on schedule and this often affects the project end-users and the client, and ultimately brings potential projects into a financial crisis, as the resources are now tied-up in such non-progressive projects (Kamanga & Steyn, 2013).

Mulenga (2014) found that project cost and schedule overruns can be caused by any of the project stakeholders, being the client, contractor, sub-contractor or even external factors in which at times they can be beyond the control of any project stakeholders involved in the project. Furthermore, it has been found that factors that caused schedule overruns often affect the timely completion of the project and such factors are largely caused by, among other things, inadequate cost estimation, poor site planning, construction financial issues and most importantly client finances and late payment for completed and on-going work on site.

In addition, apart from late payment or delayed progress payment by the client, this study has also found that construction firms are struggling to finance the projects they run with their own budgets and hence, they entirely depend on the client's payment, which is often late and ultimately compromises the project timelines, which results in a late project completion. This study also found that weather conditions are one of the factors that contribute towards the late project completion and this forms part of the factors that are beyond control and negatively affect the project completion if not properly forecasted and planned for, and ultimately responded to effectively (Mulenga, 2014).

However, the above reviewed studies still do not clearly address the research question as to what extent the decision-makers of the construction firms use cash budgets as a planning tool towards their project completion and therefore, this leaves the gap in the literature.

Furthermore, in the study conducted by Munyoki (2014), it was found that most of the public or government projects often get affected by the request for time extension, which ultimately causes additional costs towards the project. The duration of the project and the method by which it has been chosen to facilitate the project drives and influences the project completion.

The late completion of the project often causes the costs to increase and project abandonment, because when such costs increase, they then affect the project cash flow and budget, which might force the project to cut costs on labour and materials in order to maintain and sustain the project's financial stability. If workers are not reimbursed accordingly for the work done, that will enhance the industrial actions and disputes, and ultimately complete project abandonment (Munyoki, 2014).

Munyoki (2014) further argued that the two potential key aspects in the construction industry are time and money and the two have a unique definition on each contract of construction. For any amount of money given or awarded to a construction firm, that particular firm will then be required to perform and finish the project within a specific period of time, in which any delays will be regarded as time overrun and might require more funds to finish such a project. In addition, Munyoki (2014) found that, on average, there is 13.5% project cost increase in Kenya, which often has a huge impact on overall project completion because if it happens that the contingency funds are exhausted, then the project stands a chance of stalling for an unknown period of time or ultimately possible complete project abandonment.

In yet another study conducted by Hussin and Omran (2011), they define a project delay as a project slipping over its planned schedule and such a project is often considered as common in most construction projects. This is because it is regarded as a loss of revenue due to the reallocation of resources into the same project that is behind schedule and therefore, it does not benefit the project owner or client. The contractor also gets affected if the project assumes some delays, especially if such delays are related to late payment of claims by the client because the project schedule will then need to be pushed back accordingly.

Again, given the fact that the above-mentioned studies were conducted in Kenya and Malaysia respectively, therefore, their findings may not be generalised into the Cape Town industrial areas. This still leaves a fundamental existing gap in the literature.

### 2.3 Importance of the Construction Industry in the South African Economy

Dlungwana, Nxumalo, Huysteen, Rwelamilane & Noyana (2002), in their study, argue that the construction industry is a fundamental player in the economy of South Africa, as it contributes a huge percentage in the country's GDP. Furthermore, they also indicated that construction is important because it helps to stimulate economic growth, which have different priorities that inter alia include socioeconomic development, institutional strengthening and the capacity for utilisation of buildings (Dlungwana et al, 2002).

In addition, the construction industry, when compared with other industries, plays a fundamental role in the development and transfer of knowledge and technology. It creates many opportunities and contributes to the quality of life of the product users (Windapo & Cattell, 2013). Moreover, the construction industry is a significant contributor to South African economic growth, it is the critical sector of the economy as it provides infrastructure and determines the extent to which investment efforts and options in a resource-rich country are translated into investment outcome (Windapo & Cattell, 2013).

Notwithstanding the above, the importance of the construction industry can be categorised into three elements of the sustainable development strategy, which are economic growth, the environment and social economic development (Sev, 2008). In addition to this, Sev (2008) further argued that the construction industry is directly or indirectly responsible for the emission of the greenhouse gases, due to the use of energy from raw materials. However, the construction industry still presents an unusual case in that it produces long lasting structures through infrastructural development strategies (Sev, 2008).

The structure of the construction industry in South Africa makes it a labour-intensive economic sector. This is because the South African construction industry includes a high proportion of Small, Medium and Micro Enterprises (SMMEs). As much as 60% of the industry is SMMEs. SMEs tend to be more labour-intensive than large firms (Tucker, 2014). Therefore, when SMEs have the opportunity to flourish, jobs are created, the economy grows, and social equity is promoted (Tucker, 2014). A strong construction industry directly benefits national employment.

Additionally, current realities in South Africa present opportunities for significant growth in the construction industry. The industry provides the physical infrastructure, which is fundamental to the country's development and its activities affect the lives of all South Africans (Rwelamila, 2002). Therefore, the South African government recognises the construction industry as a national asset which needs to be developed and maintained accordingly (Takim, Harris & Nawawi, 2013).

The South African construction industry enhances the size of construction in the public sector to an amount R137 billion (PricewaterhouseCoopers, 2013). According to the CIDB (2012), the South African construction industry is a significant contributor to the country's economic growth.

Furthermore, the United Nations Industry Development Organisation (UNIDO) explains the construction industry as the fundamental sector of the economy which provides buildings and determines the extent to which investment effort in a resource-rich country are translated into investment outcome. However, the South African construction industry is often faced with challenges that contribute to a high rate of unsuccessful project completion, and delivery or late project completion, which requires more resources, more time and funds, in order to be completed as planned (Awosina, 2017). Therefore, it is fundamental for the construction industry to make use of cash budgets, not only to budget for earnings and expenditure, but to use it as a planning tool towards project completion.

The construction industry has been the backbone of the economy in South Africa. This has been enhanced by the country's bidding for and successful hosting of the 2010 FIFA World

Cup. The event resulted in the building of several stadiums across the country and boosting the infrastructural development to the value of US$660 million (Master Builder Association of South Africa, 2009). The construction industry was worth close to R123 billion. This indicates the importance of the construction industry in the development of the South African economy and the job creation for its faster growing population.

According to Garrido and Pasquire (2011), the impact of the South African construction industry is deeply rooted into the social wellbeing of the human population, and the Reconstruction and Development Programme (RDP) housing project (Mushonga, 2015). Furthermore, the South African construction industry includes a high proportion of emerging contractors (Tucker, 2014).

The construction industry in South Africa is highly labour-intensive, and therefore, when emerging construction firms have the opportunity to prosper, jobs are created, the economy grows, and ultimately, the society or social equity is promoted. This is because a solid economic growth directly benefits national employment as a whole (Tucker, 2014).

The construction industry provides the physical infrastructure into the country's development and its activities, which affect the lives of all South Africans (Tucker, 2014). Therefore, the South African government recognises the construction industry as the national key asset that has to be developed, maintained and sustained all the time (CIDB, 2013).

Furthermore, construction industry in South Africa is expected to become a main player in the economic growth and transformation and ultimately, job creation (Hove, 2016). Due to the importance of the construction industry in South Africa, the government has since established the development programmes in order to encourage the emerging and developing construction companies (Hove, 2016).

In the last couple of years, the South African construction industry has since shifted the focus into the social infrastructural development. This has happened through the development of social housing, hospitals, hotels and schools. Hospital development has taken a priority and received 30% of construction expenditure in 2012, with an understanding that the National Health Insurance (NHI) requires the fundamental and major transformation during its implementation (Industry Insight, 2012).

When it comes to the employment, the construction industry remains uncontested in employing the unskilled labour without formal education; hence, it is regarded as the major contributor to the GDP. This is mainly due to the size, capacity and the magnitude of the construction industry projects and its role in infrastructural development (Motsetse, 2015).

Furthermore, the construction industry is considered the critical centre of economic growth, which produces buildings and civil engineering structures and establishes the extent to which efforts in a resource-rich country are usually converted into the investment outcomes (CIDB, 2011).

The construction industry often depends on the extent of client satisfaction with the results of the building procurement process. Client satisfaction is very fundamental to the sustainability of the South African construction industry, because it ensures and maintains the quality of the work through regular inspections and client feedback (Hanson, 2006).

The South African construction industry often generates a high level of local content, especially the capital project with the large proportion of civil works and construction, such as building, railways, and roads. As a result, South African infrastructural development remains the powerhouse of the African region as it absorbs and attracts most of the foreign investors in the form of foreign direct investments (FDI) (Trends, Challenges & Outlook, 2014).

The South African construction sector occupies the critical position that influences the national strategic socio-economic development. In addition, the South Africa government has decided to intervene in order to achieve a broad based objective of the national socio-economic development that includes the development and sustainability of the economic growth drivers as a whole, therefore, this intervention helps and enables the emerging firms to be able to deal with challenges in the industry (Adediran & Windap, 2017).

According to Ncwadi & Dangalazane (2005), the South African construction industry is purely distinguished by extensive subcontractors, temporary and ultimately insecure employment with unconducive working conditions of the informal labour within the sector. In addition to that, in the South African construction industry and all over the globe, subcontracting is an integral component and it is used as a business strategy by most main contractors to deal with the unpredictability in the sector.

Furthermore, subcontracting minimises operational costs on the main contractor and enhances competitiveness (CIDB, 2013). Many contractors use subcontracting as a tool to get work during the tough economic times in the industry. Main contractors and subcontractors often have a mutual relationship up until the time whereby there is a late payment to a subcontractor and the main contractor puts pressure on the subcontractor to deliver the task on time and to decrease their prices (CIDB, 2013).

The universal objective of a construction project is to complete the project on time and within budget while meeting established quality requirements and other specifications. In order to achieve that objective, substantial effort in managing the construction process must be

provided and cannot be done without a plan and cost control system. Such a system periodically collects actual cost and schedule data and then contrasts with the planned schedule to measure whether work progress is ahead or behind schedule and underline potential problems. Cost and time are the two key parameters that play significant roles in construction project management. Research related to the parameters has been constantly proposed to provide appropriate methods and tools for the construction manager in order to handle a project to meet its objectives, both pre-construction and during the construction stage. During the construction stage, a common question asked by all parties involved in a project, especially an owner is how much the final budget of the project will be or when the project will be completed (Pewdum, Rujirayanyong & Sooksatra, 2009).

Therefore, the main objective of the South African government is to make the .construction industry nationally, regionally and globally competitive. This should be achieved through the government strategy to empower and uplift the previously disadvantaged firms and ensures that they utilise cash budgets as their strategic tool.

Furthermore, emerging contractors should be developed to grow towards being developers and main contractors, because these emerging contractors are the main drivers of the sector and they have a huge influence in addressing the economic growth and job creation and therefore, should be brought into the mainstream of the economy through government commitment (Ncwadi & Dangalazana, 2005).

Notwithstanding the importance of the construction industry as outlined above, the researcher found that studies in management accounting and cash budgets in particular in this sector are limited. The global interest in the usage of cash budgets towards project completion may demand that more research be conducted into its applicability to the construction industry. The turbulence experienced in this industry outlined above may also call for reform in the sector. Changes such as Just in Time (JIT) and value engineering systems may have rendered TC systems unsuitable for overhead allocation and project costing. The changes in manufacturing and production techniques have occurred in most business sectors (Mushonga, 2015).

### 2.4 Challenges Facing the Construction Industry in South Africa

According to the study conducted by Moloi (2013), most of the small contractors often experience cash flow problems as their contracts are cancelled or the client delays payments. In addition, the budgetary issues and the inability of the management to plan, which ultimately results in liquidation, often cause such cash flow problems. This is also

caused by inadequate knowledge to spend and allocate resources into the relevant operations during the construction period (Moloi, 2013).

Furthermore, South African construction firms, especially the emerging contractors, face many challenges, such as the low level of bargaining power during the tendering process and the model of payment used by the client, which is usually based on the work done on site. This model often hinders the cash flow of these firms and the ability to execute their projects, and they ultimately are unable to finance their operations (Aigbavboa & Thwala, 2014).

In addition, the challenge of late payment or non-payment by the client requires the firms to put more effort on budgetary processes and elements in order to be able to deal with this issue, especially cash budgets. This is so that the operations cannot stand still on site because of late payments. This is a fundamental element on the small construction firms for them to be able to keep a healthy cash budget in the case of late or non-payment by their clients. This also interfaces with the objective of this study, as it focuses mainly on the use of cash budgets by construction firms (Aigbavboa & Thwala, 2014).

According to Milford (2010), the inadequacy of public sector capacity has resulted in inefficient and complex processes of funding construction projects by government. There are backlogs of more than six months of payment to contractors in which most of the firms are facing cash flow problems. This is because they do not have a solid cash budget that they fall back on in order to deal with the late payment by their clients, hence the importance of this study.

Furthermore, the high level of project non-completion and low productivity often cause business failure in the construction industry. In addition, poor management together with the inability to budget and the inadequate project execution and completion, all result in huge business failure in the construction sector. The emerging contractors often do not take these elements into consideration when planning their projects irrespective of their importance (Windapo & Cattell, 2013).

Moreover, another challenge that is facing the construction industry is material wastage on site; this challenge is not only facing South African construction firms, but also facing construction firms globally. This often leads to an increase in the final cost of the project because as materials are being wasted, more material will still be required and will need to be purchased, therefore affecting the estimated cost of the entire project (Saidu, Shakantu, Adamu & Anugwo, 2017).

### 2.4.1 Globalisation

One of the biggest challenges in the construction industry is globalisation. This refers to the globalisation of the construction sector in the developing countries in the sense that, more often, most of the construction projects or foreign construction projects would usually be complex, technologically savvy, big and therefore, require more advanced resources. This would mostly give opportunities to well-established firms only, and exclude emerging firms (Ofori, 2000).

However, Ofori (2000) further argues that construction firms in developing countries, together with the international firms, could team up by way of joint venture in order to close and minimise the gap between technology and scarce resources with a memorandum of understanding and agreement in an attempt to form a knowledge and technology transfer.

Furthermore, developing countries have a responsibility to use their expertise to support their local firms in order to enhance their growth. This will enable these firms to compete with the international firms so that more projects can be executed locally to achieve local objectives. This will also ensure the strategic alliances and collaborations between the developing countries and well-developed countries through construction and infrastructural development (Ofori, 2000).

According to Windapo and Cattell (2013), globalisation, global trade and the importing of the construction services subsequently grow at the expense of the local construction firms and perhaps ultimately undermine the growth and infrastructural development of the local construction industry. This is in addition to the 2008 global recession, which has put a massive pressure on the South African construction industry with regards to the development (Windapo and Cattell, 2013).

### 2.4.2 Financial challenges and late payment

These are some of the main challenges that have been hindering construction firms, especially emerging and small firms. This goes as far as the lack of financial support from the financial institutions by being paid late by their clients on finished parts of a project and forces them to put more focus and effort on cash budgeting and cash flow. Furthermore, financial challenges cause most of the construction firms to give up and terminate their operations and ultimately exit the industry and then later be labelled as failed firms.

Ncwadi and Danglaza (2006) argue that the lack of access to funding from commercial banks and lack of access to potential projects bonded by financial institutions is the major problem for emerging contractors. Financial institutions do not have confidence in small firms because of high risk of non-repayment or defaulting on payments and therefore, regard them as high

risk firms. Furthermore, emerging firms do not have available funds to facilitate their daily operations and would wait until their completed units on site before they could get paid (Ncwadi & Dangalaza, 2006).

Therefore, this is one of the primary objectives of this study, as the construction firms seem to have cash flow and cash budget problems. This often inhibits these firms from completing as many projects as possible; however, they cannot because of late payment.

What actually causes the late payment is the fact that, only upon the completion of a particular unit, provided that both the client and the beneficiary are satisfied with the work done, then the firm and sub-contractor will be paid within a reasonable timeframe. This could take up to two to three weeks or even more. The study further revealed that poor cash flow and delayed payments also formed part of the challenges faced by emerging contractors. Since emerging contractors were mainly sub-contractors, they are not in control of their cash flow and depended entirely on the main contractors and developers (Ncwadi & Dangalaza, 2006).

Notwithstanding the above discussion, this study suggests that construction firms use cash budgets as a tool, technique and strategy, especially when planning for their project completion on site.

In addition, according to the CIDB (2011), financial constraints and late payments often affect the firms' cash flows, causing delays on the completion of the projects and ultimately crumble their profit margins. Furthermore, this is often caused by lack of planning, budgeting and forecasting, lack of business and financial management skills and it further results in working capital being tied-up and ultimately, it might enhance corruption (CIDB, 2011).

Islam and Trigunarsyah (2017) argue that financial issues such as contractors' cash flows, cash budgets and delays in progress payments during construction are the most important and frequent factors that force them to schedule delays. In addition, these delays have serious effects on the entire project objectives and cost overrun of the projects, and ultimately, this creates claims, disputes and litigation among project stakeholders, which then compromises relationships and might lead to project abandonment (Islam & Trigunarsyah, 2017).

Delayed payments also cause difficulties for construction firms. Lengthy delays between the time of certification and the receipt of the payment are common. Most problems regarding payments derive from the client relationship. Examples of such problems are undue delays in payment, retention money not being refunded, rates for jobs being reduced without

negotiating with the contractor, and excessive penalties being applied for the late completion of the project.

Furthermore, a delayed payment by the client in the construction project might lead to serious consequences and may have an influence on the entire supply chain of payment. Furthermore, the late payment often causes severe problems on the cash flow of the construction firm. Therefore, any delays in the completion of the construction project could be the cause for the extra costs and loss on both the financial return and benefits of the entire project (Abdul-Rahman, Wang, Takin & Wong, 2011). In addition, Abdul-Rahman (2006) is of the opinion that lack of funds may negatively affect project cash flow management and further slow site progress, which ultimately results in a delay on the entire project.

Favourable payment terms from clients are crucial to ensuring both relationship and good cash flow in the business, and payment terms must, therefore, be qualified and strictly enforced by management to ensure the ultimate sustainability of a business. Late or even non-payment by clients should not be tolerated (Visser, 2004).

Baloyi and Bekker (2011) argued that, amongst other factors, delay in payment and late payment of completed work by the client were one of the most important factors that contributed to time delays in the 2010 FIFA World Cup stadium projects in South Africa. Furthermore, these factors were mostly client related and were not different when compared to global construction issues. As a result, contractors often refrain from standing up to their contractual right to be paid on time for fear of losing job opportunities in the future. Therefore, this creates major cash flow problems for contractors and the CIDB should address this with the client bodies accordingly.

Simushi and Wium (2013), in their study, are of the opinion that the client is seen to be the major contributor to time and cost overruns through numerous change orders, poor/delayed payments to contractors and late approvals/slow decision-making on project matters. Furthermore, a contractor is also seen to be a contributor through their poor planning and scheduling of projects, poor site management and supervision, and general poor productivity, evidenced through poor workmanship and presence of unskilled labour. Therefore, these all indicate that the problems could be emanating from the poor preparation during the concept design and the client's organisation as well as poor planning in the contractor's organisation during tendering and planning processes before the commencement of the construction (Simushi & Wium, 2013).

Furthermore, a lack of understanding of the client's needs and an inability to meet them within budget and on time has long been a criticism of the construction industry. Many academic and professional texts have been critical of the construction industry, outlining

client dissatisfaction as one of the main failings of the construction industry. Therefore, a magnified emphasis and understanding of “what the client wants” at the earliest stages of the project is fundamental.

### 2.5 Overview of Cash Budgets

Through literature review, this study examines the extent to which cash budgets are being used by construction firms in the Cape Town northern suburbs. A cash budget should often be viewed as a tool and technique that influences the management of strategic decisions that enhance the ability to rely on such decisions (Sulaiman, Ahmad & Alwi, 2004).

Budgets are a monetary representation of the planned activities of an organisation (Reichard & Helden, 2018). A cash budget constitutes the process of committing funds or capital over a period for a specific objective within the firm’s strategic position. It also entails a plan and a strategy that outlines the anticipated cash receipts and cash payments that are used to reflect the financial position of the organisation (Addo, 2017).

Cash budgets often help SMEs to be able to apply the theory of pecking order, which states that management prefers to choose internal financing before considering external financing. This enforces the management to have an ability to utilise internal generated funds instead of entirely depending on borrowed funds (Abanis, Sunday, Burani & Eliabu, 2013).

### 2.6 Importance of Cash Budgets

International research studies revealed that cash budgets are created to secure and safeguard the future of organisations as they are used to forecast and estimate the future operations and finances of the organisation. Furthermore, most of these studies outlined and analysed this phenomenon at an international level and context. Those that looked at a local context still seem to be too diverse and generalised. Therefore, the objective of this particular study is to narrow down the extent to which cash budgets are being used by construction firms towards project completion and in making sound business decisions at a local context in the Cape Town northern suburb industrial areas.

One such study conducted by Ross (2008) on the use and the importance of budgets revealed that budgeting helps all types of organisations to plan, monitor and control their operations, and to support their managerial strategies. It often sets out the benchmark against which performance will be measured. The study further revealed that budgets are

used as a management tool and technique, expressed in quantitative terms as this is perceived to be the easiest way to prioritise and coordinate the complexity of competing decisions throughout the entire organisation. This research study focuses on the importance of cash budgets in a global context, and therefore cannot be generalised into South African local construction firms.

Another South African study conducted on the usefulness of cash budgets in micro, very small and small retail enterprises operating in the Cape Metropolis by Kemp et al (2015) found that 50.98% of SMEs used cash budgets as a decision-making tool because they were adamant that the financial performance measures that they used were of great assistance in relation to the business decision-making. It was further found that cash budgets were not effectively used by these entities, particularly due to the lack of interpretation, understanding, and utilisation of cash budgets. However, the study's focus is on SMEs in the retail industry and not in the construction industry and therefore, leaves a gap in the literature.

A questionnaire survey on the working capital management practices of SMEs in the Cape Metropolis, Tabot (2015) found that 62.5% of the SMEs indicated that they spent cash as planned, whereas the other 37.5% indicated that they do not spend cash as per budget. This study also indicated that 60.5% seemed to have prepared some type of cash budgets.

However, this particular study still does not clearly address the question as to what extent these SMEs use cash budgets, and since its focus is on the SMEs, it therefore leaves a fundamental gap on the use of cash budgets in the construction industry.

A study conducted on the perception of small businesses in the implementation of cash management techniques (Mungal & Garbharran, 2014), revealed that cash management knowledge and the implementation of sound practices were essential in determining small business success. The study further found that the greater the knowledge and implementation of cash management procedures in the business, the greater the chances of profitability and sustainability. This is because 65.2% of the sampled small businesses in that area who manage cash efficiently indicated that their businesses had been profitable in the previous periods. Again, given the fact that this particular study was conducted in the Province of KwaZulu-Natal, its findings may not be generalised into the Western Cape Province.

In yet another South African study conducted in the Cape Metropolis, Maduekwe and Kamala (2016) found that budgets were frequently used for monitoring and measuring the performance of the business. Most importantly, the study found that a lack of top management support and qualified personnel were the major factors that inhibit the preparation of budgets. However, this particular study, in its findings, only focused on SMEs

in the fast food industry and therefore, leaves a severe gap to be investigated in the construction industry in particular.

In a later survey conducted by Mungal (2014), it was revealed that 33.3% of businesses indicated that they did not have any knowledge of cash budgets. The study also found that 61.2% of the respondents indicated that they did not draw up cash budgets and only 29.9% of the respondents drew up cash budgets. This therefore, clearly indicates that the majority of the respondents in the area do not have the required knowledge and skills to draw up cash budgets. Once again, since this particular study was conducted in another province, which is KwaZulu-Natal, and its focus was only on small retail businesses and therefore, its findings cannot be generalised to the construction firms in the northern suburbs industrial areas of Cape Town.

Budgets are very important because they provide a simple method and a model for allocating scarce resources within an organisation. They also give the decision-makers the ability to monitor and control the operations by setting up necessary standards and address any deviations from those standards.

Therefore, having reviewed all the above studies, it is very clear that this particular empirical study serves to close the fundamental existing gap in the literature by addressing the research question as to what extent do the decision makers of construction firms use cash budgets as planning tools towards project completion and to manage the cash flow of their businesses. It is also to find whether the constructions firms actually prepare cash budgets, how they prepare them and who prepares them.

Cash budgets, briefly, are the key to the success of any organisation. It does not matter how big or small the organisation may be. In the construction industry, the firm may collapse within a short period. An example is one of the big South African construction firms that recently went into a revisionary liquidation in February 2018, NMC Construction group. The details and the reasons are not clear as far as the liquidation is concerned, however, one cannot ignore the fact that financial problems are amongst the causes of the liquidation, and most importantly cash budgeting, planning and monitoring of funds towards the completion of the project.

### 2.7 Project Delays and Their Causes in Construction Projects

A construction delay can be explained as the untimely completion of construction project work in comparison to the contract completion schedule. Sambasivan and Soon (2007), argue that construction delays can be greatly reduced when the causes of delays are

identified and addressed. Considerable attempts by project management professionals in the industry and researchers to address the problem of delays in construction project execution are yet to produce adequate results (Sambasivan & Soon, 2007).

Furthermore, according to Aibinu and Odeyinka (2006), despite the advancement in technology, and an improved understanding of project techniques by management, construction projects are continually delayed and project completion dates are still being prolonged beyond the forecasted completion date. In addition, in the construction industry, the phrase “delay” primarily refers to the later commencement or execution of activities and tasks in the activity schedule, material deliveries going against schedule or project not being delivered according to the agreed contract (Pickavance, 2005).

Notwithstanding the above, a study conducted by Kikwasi (2013) revealed that delays might occur during the preconstruction phase of the project lifecycle, that is, the commencement of the conception phase including project meetings, through the design phase to the signing of the contract between the client and the service provider being engineers and contractors. However, it was established that most project delays occur in the construction phase, representing a period of construction execution of ongoing building works (Kikwasi, 2013). It was further noted that several controllable and uncontrollable factors were responsible for construction delays and that they greatly affect the entire project schedule negatively. According to the researcher, it is a known fact that delays have negative impacts on project performance and cause enormous difficulty for contractors, leading to disputes and enmity amongst project participants and stakeholders (Kikwasi, 2013).

Project delays often result in either time extension, which prolongs the project duration, or projects activities are accelerated with overtime works, which also has a negative result of adding extra expenses to the project. Although a proportion of the project’s unforeseen expenses are included in the bill as a contingency, the additional expenses, more often than not, exceed the inputted contingency. This is because the contingency is often subjective and dependent on the individual responsible for compiling the bill of quantities (Akinsola, 1996). The participating party to the contract have to agree on the extra cost and times attributing to the delay as it affects both schedule and budget.

Despite this, in most cases, problems arise between the participating parties regarding the right to monetary or time claims (Akinsola, 1996). Therefore, it is clear from the study that construction project delays are critical issues. It also raises issues of effective implementation and responsible contract administration on the managers and stakeholders involved in the construction project. This means that either the contractor or the client who assumed the responsibility of implementing and releasing resources respectively, have been ineffective in their roles regarding the implementation of the project.

Construction project delays cause frustration and lack of collaboration amongst the participating parties. This, in turn, places unnecessary pressure on the project manager who is liable for the workability and collaborations of the project team for a successful project (Olusegun & Michael, 2011). The study recognised that many researchers have investigated the factors causing cost and time overruns as well as delays, and their consequent effects on quality, safety, and output are the common challenges in most types of projects. Moreover, the success or failure of a construction project, regardless of its nature, anchors predominantly on the practicability of the construction schedule (Narh, 2016). It was further revealed that delays in the construction schedule negatively influence all participating parties (Narh, 2016). Notwithstanding, the owners or clients of the projects are often forced to absorb the cost of any such extra expenses to ensure that projects continue and are not delayed further (Narh, 2016).

Therefore, it is clear that numerous studies have acknowledged the issue of construction project delays as a problem that negatively influences the implementation of such projects. The studies indicated how delays expose projects to cost and time overruns, breeds frustration and litigation, and compromises the quality and performance of the projects and integrity of the firms (Narh, 2016).

The construction industry involves many complex processes, which ought to be finely integrated to ensure prompt and quality project delivery. Furthermore, a robust construction project consists of successful coordination of all construction and engineering professionals, artisans, suppliers, trade unions, financiers, local authorities, manufacturers, trade contractors and other stakeholders which all impact on a nation’s economy (Keane & Caletka, 2008).

Notwithstanding the above discussion, the causes of delays in construction projects have been described as the factors that are responsible for extension and obstruction of timely and successful completion of such projects. This study addresses the causal factors by reviewing such factors that are commonly revealed by previous researchers as major causes of delays on construction projects (Narh, 2016).

The essence is to gather available information on the causes of delays in construction projects in the northern suburbs industrial areas of Cape Town, to ascertain the foundation for assessing the causes such delays, and find out if the use of cash budgets can be of assistance.

However, there are many factors of delays that can be broadly grouped into five main categories. Such factors include, inter alia, improper techniques and tools, incompetent designers and contractors, social and technological issues, site-related issues, and poor

estimation and change of management. A review on the causes of delays in construction projects was carried out and presented on the themes of the factors that are commonly identified by the previous studies as causes of delays in construction projects. These broader factors of construction project delays are financial related factors, non-clarity of project scope, poor stakeholder relationships, improper planning, external factors, unforeseen circumstances, the lack of qualified and skilled technical personnel, lack of effective communication, and poor construction project management and supervision. All these factors often cause the project to delay, to be behind schedule and mostly to be out of budget; hence, this study suggests the use of cash budgets by construction firms towards their project completion.

Notwithstanding the above discussion and analysis, the delays in construction projects' execution are a major cause for concern for most of the construction companies. The delays in construction projects have adverse effects, such as increased costs, loss of productivity and revenue, lawsuits between owners and contractors, and contract termination. Furthermore, the disputes and lawsuits often result from misunderstandings from the project theme (Narh, 2016).

In another study that was conducted in Pakistan by Haseeb, Lu, Bib, Dyian and Rabbani (2011), some of the causes and effects of delays in the construction industry were addressed. The study revealed that delays in executing construction projects breed disputes, negotiations, lawsuits, total desertion, litigation, and project abandonment. Furthermore, it was also revealed that delays in construction project execution lead to demand for additional capital and extra time for the construction work. In addition to this, the study found that the loss of wealth, time, and capacity are among the prominent effects of delays in executing most construction projects. The study further revealed that some negative effects of delays include loss of time, overhead expenses, and additional expenditures on material, equipment, and labour (Haseeb et al., 2011).

Moreover, a study conducted by (Narh (2016) outlined that the effects of delays in construction projects could lead to confrontational relationships, disbelief, lawsuits, financial issues, project rejection, and causes unnecessary anxiety amongst project stakeholders. Furthermore, the study examined the effects of materials constraints to the success of construction projects in Nigeria. The study established that efficient material management on site is very important as this has a significant effect on the project duration and success, especially delays in the procurement of materials, which could have negative effects in construction projects and could result in untimely delivery of projects. The study concludes that due to the importance of material management, it is imperative that the project management team and the contractor be mindful of material usage on site (Narh, 2016).

Furthermore, in another study in Central Africa, Aibinu and Jagboro (2002) undertook an assessment of the main effects of delays in construction project delivery. The study revealed that working above schedule, thus time overruns, projects above budgeted cost, thus cost overruns, disagreement, arbitration, total abandonment of the project by the contractor, and lawsuits amongst project stakeholders, were the main effects of delays on most construction projects. The study further established that delays in construction projects often results in time extension; such extensions of time usually lead to extra financial expenditures. Disputes amongst project stakeholders are identified as another effect of delay, mostly between contractor and client for either extension of time or financial claims under budget or variations.

In another study, it was found that time overruns, work exceeding planned budget, negative social impact, wasting resources with respect to labour and equipment and disagreement resulting in disputes, were the major effects of delays on construction projects (Kikwasi, 2012). In addition, a study conducted on multi-storey construction projects in Indonesia revealed that the effects of cost overruns are not only severe but are also project threatening and more common than time overruns (Narh, 2016).

In a similar study of the causes and effects of delays on construction, projects identified six effects of delay as per the analysis of the variables. They consist of cost overruns and extension of time, rescheduling, company reputation loss, loss production, and efficiency as the most common effects of delay in construction projects (Alzan, 2011).These effects require extra funds to complete the construction work, compromising quality by reducing standards as well as specifications, and rework due to modification of the work. The resultant effects are further manifested in the form of overtime work and/or increase in project resources, both labour and equipment, in order to meet the project timelines. Increasing the project resources could lead to an increase in project costs and consequently cost overruns. It was further explained that introducing overtime could result in declining productivity and poor performance could lead to rework.

Kasim, Anumba and Dainty (2005) also added that the key factor adversely affecting project performance is the improper handling and management of materials on site. This argument coincides with one of the influential delay factors, namely, project material. Kasim et al. (2005) define materials management as “functions, which include planning and material take off, vendor evaluation and selection, purchasing, expenditure, shipping, material receiving, warehousing and inventory, and material distribution”. The primary objective of procurement in materials management is to provide the materials at the right time, at the right place, of the required quality, and within an agreed budget (Ntoyanto, 2016). Furthermore, poor supervision also made a list of the top 10 project delay factors identified by Fugar and

Agyakwah-Baah (2010). Mulla and Waghmare (2015) further added that poor planning, implementation, and management are the main reasons for time and cost overruns in construction projects.

Time and cost overruns and their control are an extremely vast and complex subject that requires in-depth studies and a sound knowledge of other specialised subjects, such as financial management, risk management, legal frameworks for construction and project management, (Mulla & Waghmare, 2015).

Notwithstanding the above discussion, Haseeb (2011) also investigated the effects of delays in the construction industry of Pakistan. He further organised each group of delay factors according to their relevance to the client, consultant, contractor, and external stakeholders, and rated them accordingly. Furthermore, Baloyi and Bekker (2011) conducted a study on the causes of cost and time overruns of the 2010 FIFA World Cup in South Africa. In their study, they identified 18 potential factors causing cost overruns and 34 potential factors causing delays (Baloyi & Bekker, 2011).

In addition to the above, Sunjka and Jacob (2013) further revealed in their study that three most critical effects of delays on construction projects in the Niger Delta are cost overruns, time overruns, disputes, and claims. In a related study in Malaysia, it was found that cost and time overruns are dominant effects of delays in Malaysian construction projects (Sambasivan & Soon, 2007). According to Conlin and Retik (1997), delays often result in misunderstanding and disputes between the client and the contractor. Moreover, Aibinu and Jagboro (2002) conducted a study on the effects of construction delays on project delivery in the Nigerian construction industry. They acknowledged that delays in executing construction projects in Nigeria have become endemic that affect construction projects negatively. It was revealed by the study that time and cost overruns were common effects of delays. This particular study further found that delays had a significant effect on completion cost and time of the 61 construction projects that were under study. It was further revealed by the study that, to alleviate the adverse effects of construction delays, contingency allowances need to be well calculated, project management procedures need to be well established, and site activities should be at no less than the optimum levels with the correct amount of labour on site. Another study by Salunkhe and Patil (2014) addressed the effects of construction delays on project time overruns in India. This study was underscored by the recognition of delays in the construction industry. The study highlighted the types of construction delays, which result in cost and time overruns (Salunkhe & Patil, 2014).

Furthermore, more studies also revealed the adverse effects of construction delays on project duration, project cost, and project success. As a result, Amoatey (2015) also conducted a study in Ghana, analysing the causes and effects of construction delays in the

Ghanaian state housing construction projects. The study reveals the causes of delays and the adverse effects of delays on construction projects in Ghana. The findings of the study showed that the delays in project execution affect the delivery of construction projects in terms of cost overruns, time overruns, litigation, lack of continuity by client, and arbitration. Another study that was identified as very relevant to the current study is that of Sambasivan and Soon (2007), which assessed the causes and effects of delays in the Malaysian construction industry. This study recognised the delays in the construction industry as a worldwide crisis from which the Malaysian construction industry cannot be exempted. The study revealed six main effects of delays in executing construction projects to include, disputes, cost and time overruns, litigation, and project abandonment by the contractor. This study also established a practical relationship between the causes and effects of construction delays. The study was a good attempt to assess the causes and effects of delays in executing construction projects (Sambasivan & Soon, 2007).

Al-Khalil and Al-Ghafly (2010) highlighted that public utility projects are susceptible to delays because they are heavily dependent on the use of equipment that requires repair or maintenance. In addition, they require numerous permits from government authorities requiring a great deal of planning and coordination in order to avoid delays. The majority of construction projects get delayed due to environmental authorisation, way leaves and water use licenses, and some of these projects are stopped during construction due to outstanding legal documentation.

Assaf and Al-Hejji (2006) found that consultants considered the most significant delay factors to be the relationship between different sub-contractors' schedules, cash problems, and slow decision-making by the owner. However, the owner stipulated that the most significant delay factors were discrepancies in design documents, labour shortages, mistakes, bureaucracy in the project-owner organisation, and inadequate labour skills (Assaf & Al-Hejji, 2006).

Furthermore, the Sambasivan and Soon (2007) conducted a survey in the Malaysian construction industry, identified the most important causes of delays, such as contractors improper planning, contractors poor site management, inadequate contractor experience, inadequate client finance and payments for completed work, problems with sub-contractors, shortage in material, labour supply, equipment availability and failure, lack of communication between parties, and mistakes during the construction stage. All these factors and causes were classified as the most crucial in the Malaysian construction industry.

In addition to the above, the five most important factors were identified as agreed by owners, contractors and consultants were monthly payments difficulties, poor contract management, material procurement, poor technical performance, and escalation of material. The first most important factor is failure to provide adequate funding resources to contractors for the

completed work, which makes it difficult for the contractor to meet project objectives, deliveries and timelines (Frimpong, Oluwoye & Crawford, 2003).

In other studies, surveys were conducted aiming at identifying the most causes of delays in construction projects with traditional types of contracts. The surveys were on the most well recognised causes of delays to which participants were asked to indicate their level of importance of each cause. These were categorised into major groups which were client-related factors, contractor-related factors, consultant-related factors, material factors, labour and equipment factors, contract factors, contractual relationships factors, and external factors. The respondents were then asked to express their perceptions of the relative importance of each of the causes of delays as either extreme, very, moderate, slight or not important (Odeh & Battaineh, 2002).

Moreover, Mezher and Tawil (1998) identified causes of delays through literature research and local interviews with owners, contractors and firms in Lebanon. These causes were categorised into main groups, namely materials, labour, equipment, financing, changes, government relations, project management, site conditions, environment and contractual relationship. They then found that according to owners, the most important delay factors were financing and the scheduling of subcontractors. The most important delay factors according to contractors were contractual relationships and design changes by owners. Finally, the most important delay factors according to architecture and engineering firms were project management and related shop drawings (Mezher & Tawil, 1998).

Moodley and Haupt (2017), in their study, argue that one of the main reasons for project delays are the traditional procurement systems and methods, which are failing the construction processes. Therefore, the consequences of this weakness are schedule delays and increased construction costs as a direct result of designers not considering buildability/ constructability within their designs with many amendments having to be made to the working drawings once the construction team has given their input (Moodley & Haupt 2017).

In addition, project delays and time overruns are common phenomenon in construction projects; it occurs in both developed and developing countries. Therefore, delay is one of the prevalent problems challenging the construction industry. In many instances, construction project time overruns occur when the project stakeholders do not adhere to the project planned and scheduled (Apolot, Alinaitwe & Tindiwensi, 2013). Notwithstanding, delays have been known to lead to time and cost overruns with severe consequences, particularly in Nigeria, such as conflict, claims, abandonment of the project, and sometimes, litigation between the parties involved in the building projects.

Additionally, the issue of delay and time overruns in construction projects have been discussed extensively in literature, and several factors have been identified as the source of causes of such delays. The study conducted by Al-moumani, (2000), on construction delays in Jordan, reveals that the main causes of delays in public projects are design changes, weather, site conditions, and late deliveries of materials, in addition to economic conditions. Another study conducted on causes of delay in Jordanian traditional contract projects revealed that the significant factors causing time overruns include owner's interference, inadequate contractor experience, poor financing and payments systems, slow decision making, inadequate planning before the project commences, and poor selection of subcontractors, (Frimpong, 2003). However, the major causes of delay and cost overrun in Ghana are payment difficulties, poor contractor management, inappropriate material procurement, poor technical performance and escalation of material prices (Sambasivan & Soon 2006). Furthermore, in the Malaysian construction industry situation, the most important causes of delay are poor planning, poor site management, inadequate supervisory skills of the contractor, delayed payments, material shortage, labour supply, equipment availability and failure, poor communication and rework (Sambasivan & Soon 2006). However, in India, the major factors causing delay are changes in scope, alterations, delay in procurement of equipment, shortage of materials, difficulties in transporting equipment, shortage of key personnel during the implementation stage, inadequacy in planning, problems in land acquisition and rehabilitation, climatic and environmental factors. This is in addition to lack of monitoring, contractual problems, poor performance of consultants, vendors and contractors law and order problems and inadequate infrastructural support (Pourrostan & Ismail 2011).

Moreover, Shaikh (2010) revealed critical factors causing delays in Iranian construction projects and these are poor site management, delay in progress payments by the client, change order by the client, ineffective planning and scheduling, financial difficulties by the contractor, slowness in decision making by client to change order, poor contract management by consultants, and problems with sub-contractors.

However, the factors causing delay in the Nigerian construction industry as identified by Elinwa and Joshua (2001) include the mode of financing and payment, improper planning, under estimation of time/duration of projects, frequent changes in designs, non-compliance with the conditions of contract, poor site management, and government policy. Other factors are the availability of choice of materials, preparation and approval of variation orders, lack of coordination between the contractor and design team. Odeh and Battaineh (2002) grouped the causes of construction delays in Nigeria to three principal factors:

- client associated factors (cash flow problem and slow decision on variation orders),

- Contractor associated factors (inadequate resources procurement system adopted, inefficiency of contractor's and site management team, inadequate planning and scheduling of work, inadequate materials management and poor contract coordination).

- Consultant associated factors (such as late issuance of instructions, incomplete drawings and late preparation of interim certificates).

Therefore, construction project delays affect and have a negative impact on construction performance time and cost overruns, disputes, litigation and total abandonment of the project. In addition, the impact of delays in construction projects include loss of interest by stakeholders, blacklisting by authorities, waste of money and time, and decline in a contractor's reputation (Mansfield, 1994).

Tumi, Omran and Paki (2009) summarily classified measures of determining delay damages and compensation into non-excusable and excusable delays. Non-excusable delays are caused solely by the contractor or contractor's suppliers and this attracts no relief. Meanwhile, excusable delays are caused by third parties or incidents beyond the control of both the owner and the contractor; examples are natural disasters, fire, floods and acts of government. In such cases, the contractor is consequently entitled to time extension and compensation depends on the extent of the damages. However, compensable delays are caused by the owner or owner's agent, such as alteration presented by the client and a delay in interim payments (Tumi, 2009).

According to Michael (2013), the factors causing delays and time overruns are many and vary from one project to another and one country to the other. However, the critical factors in the Nigerian construction industry, as identified in this study are project finances: cash problems during construction, delays in contractors' progress payments by the client, contractors financing problems, and shortage of materials. He further suggested that consideration should be given to clients and contractors' financial standing before project execution. Additionally, there is a need for clients to respond timely with interim certificate payments to the contractor to avoid unnecessary construction delays. Therefore, it is notwithstanding that the selection of the appropriate contractor in respect of finances and financial commitment of the construction client will considerably reduce the incidence of delays and time overruns in building projects and consequently enhance the construction industry's image and client satisfaction (Michael, 2013).

Notwithstanding the above discussion, future similar studies in developing countries will reveal the causes and consequences of delays on construction projects, in order to generate strategies for averting the delays in executing construction projects. The current study is a contribution towards augmenting evidence on the causes and effects of delays on construction projects in these countries. Therefore, it is clear that the effects of delays on

construction projects have been acknowledged by previous studies that revealed several effects including mistrust, cash flow problems, time overturn, cost overturn, arbitration, litigation and total abandonment as among the major aspects of effects that possibly result from delays in executing construction projects (Narh, 2016). Completing projects on schedule reflects the contractor's ability to organise, monitor and control site operations, to optimally allocate resources, and to manage the flow of information to and from the design team among the sub-contractors (Ntshangase, 2017).

### 2.8 The Importance of Payment and Cash Flow in the Construction Industry

Payment in any industry has generally been an issue of concern. In the construction industry, this is because the duration of construction projects are relatively long and require more resources, which often need to be financed. The size of each construction project is relatively large and each progress payment sum involved is often relatively large; payment terms are usually on credit rather than payment on delivery. Furthermore, the flow of cash in the construction industry is critical because of the relatively long duration of projects, therefore, any delays on cash payments can have a major impact on the progress of the project, productivity and profitability.

### 2.9 Overview of the Construction Industry's Development Programme in South Africa

The industry's development programme refers to a process that identifies and provides solutions to the challenges that affect the development and performance of construction companies generally (CIDB, 2011). These challenges include contractors' lack of knowledge, low competitiveness, and poor technical and managerial skills (Dlungwana & Rwelamila, 2004). The South African government has established a number of contractor development programmes (CDPs) to motivate a wider participation of smaller firms in the construction industry. These programmes play a very fundamental role in supporting the development of the construction industry and the development of emerging and established contractors (CIDB, 2011).

As a result, there are more than 20 of these programmes, in various forms in South Africa, with more than 1500 contracting enterprises currently participating in these programmes. Contractor development programmes are established to achieve a number of aims. These include the improvement of contractor performance in a particular region, improving the capacity of local contractors to compete with foreign, international or established contractors, developing lower level construction firms, and providing opportunities for them. Another aim

is promoting the effective use of labour-intensive methods by construction firms (CIDB, 2011).

In South Africa, the National Contractor Development Programme is geared towards developing skills for small contractors as well as enterprise development and performance improvement for more established contractors. These developments are achieved both through access to work opportunities and through improved construction business environments which include payment cycles, training and advisory services. The programme also promotes technological transfer and the use of technology, facilitates networking, joint ventures and sub-contracting opportunities, and unbundles large contracts by adopting appropriate procurement measures (CIDB, 2011).

However, employing sufficiently qualified skilled staff to run the programmes has been a challenge. Processes for selecting new entrants into the programmes have often been inappropriate due to lack of sufficient basic skills development. Firms exiting the programme have faced a lack of work opportunities and lack of access to finance, both of which have undermined the impact of their involvement in the programme. More often, contractor development programmes also fail to implement basic monitoring, controlling and evaluation processes for tracking a contractor's progress after exiting the programme (CIDB, 2011).

Therefore, CDPs in South Africa have not been as successful in contractor development as they were expected to be (CIDB, 2011). The significance of these programmes, therefore, necessitated the selection of most of the contractors from them to take part in the study. These programmes were also aiming to educate these firms and to enhance their knowledge especially pertaining to cash budget usage towards their project completion.

### 2.10 Contractor Development Initiatives in South Africa

Construction industry development can be linked to the development of both new emerging and well-established enterprises. In addition, most of the countries have basic limitations to growth, or barriers to entry, in the emerging business sector related to access to markets, credit, skills and supportive institutional arrangements (Gounden, 2000).

Cash budget interventions can provide direct access to markets and, as such, can address one of the main inhibition to contractor development. Appropriate cash budget policies are effective demand-side mechanisms for targeted businesses when applied correctly (Watermeyer, Jacquet & Letchmiah, 2000). However, for the full enablement of emerging construction firms, specific cash budgeting measures are also required to demonstrate the fundamental growth of the industry.

Notwithstanding, in the South African construction industry, a supportive model should be established to provide a developmental support by indirect targeting through a main contractor to a developing joint venture or sub-contractor. The main objective should be to focus mainly on the development of contractors starting at the emerging contractors' stage and advancing to the stage that seeks to develop the entire contracting enterprise (CIDB, 2011).

Construction projects are one-off endeavours with high levels of organisational and technological complexities that generate enormous costs. Irrespective of this, more often, the client continues to have an increasing expectation for the project team to deliver high quality products and services on tighter time scales, and at lower costs. Therefore, this increases the pressure on the management of the cash budget that have a huge impact on the project objectives. These objectives together with cash budget being are the key success indicators of construction management systems. They include the project completion within cost, time, planned budget, duration and within the required quality, safety and environmental restrictions. The achievement of these project objectives is regarded as the successful completion of a construction project (Ncube & Rwelamila, 2017).

Furthermore, numerous projects in the construction industry fail to meet their objectives, and this failure is attributed to the industry's poor reputation in cash budgeting as compared to other industries. This failure is an indicator that every construction project needs a solid cash budget in which the project team has to adhere to, Cash budgets must be managed, controlled, shared, maintained and well monitored. Therefore, cash budgeting needs full attention and management commitment especially towards project completion and it cannot be ignored. Effective cash budgeting through an early phase of the project and assessment increases the probability of successful project completion, because budgeting is an important tool that can be used to achieve project objectives and improve productivity outcomes (Vananda, 2008).

### 2.11 Prior studies on the purpose for which the different types of budget are used

In the study conducted by Luther and Abdel-Kader (2006), it was found that budgeting was often used for planning and for controlling costs. Furthermore, they also found that usage of budgets for planning and controlling purposes was considered important by at least 90% of the survey companies. However, the study was conducted in the UK and concentrated on large companies, and therefore, its findings may not be generalisable to SMEs operating in a developing country, such as South Africa, not to mention the construction industry.

### 2.12 Prior studies on whether Cash Budgets were internally prepared or outsourced

A limited number of studies have examined the perceptions of construction firms or even other enterprises regarding the preparation and outsourcing of cash budgets. According to the study conducted by Accenture and CSM (2001), the perception was that budgeting was a time consuming and costly process. The budgets were further criticised for being a barrier to change by constraining responsiveness and flexibility. Furthermore, the study revealed that budgets were perceived to be inadequate in strategic focus, given that they were contradictory to each other and thus, have to be outsourced accordingly if necessary.

Furthermore, budgets were criticised for adding little value, as the value they added was not perceived to be equivalent to the time required to prepare them, and for concentrating on cost reduction and not value creation. Moreover, some evaluations included the perception that budgets strengthened vertical command and control, failed to reflect the emerging network organisational structures that the companies were adopting, motivated unreasonable behaviour, were infrequently updated, and relied on unsupported presumptions and even guesswork. In addition, budgets were criticised for reinforcing departmental barriers rather than motivating knowledge sharing and for undermining the employees. However, even though the Accenture and CSM (2001) study is enlightening, , it was conducted more than 10 years ago and it only concentrated on foreign companies in the USA and Europe, therefore, its findings may not be generalisable to the South African company landscape at present.

### 2.13 Gaps identified in the review of the prior literature

From the review of prior literature in this chapter, the following research gaps have been identified:

- Most of the studies reviewed were conducted outside South Africa, hence their findings may not be generalisable to the South African context.
- Out of the few South African studies reviewed, none were conducted in the northern suburbs but rather in other areas and provinces; a situation that could undermine the generalisability of their findings to the construction firms located in the Western Cape Province in general and specifically in the northern suburbs.
- Some of the studies were conducted more than 10 years ago, therefore, their findings are seen not to be rational at present,
- Some of the studies were conducted among companies operating in other industries other than the construction industry; accordingly, their findings may not be generalisable to construction firms and the industry landscape.

- Many of the studies did not focus on cash budgets towards project completion. Instead, they investigated various issues related to accounting financial statements overall.

- Other studies were in the form of a case study, or employed a limited sample size; a scenario that undermined the generalisability of their findings to South African construction firms.

Therefore, from the above knowledge gaps identified in prior literature, the following research questions remain unanswered:

- How often do the construction firms use cash budgets when planning their project completion?

- For what purpose do construction firms use cash budgets or other types of budgets?

- What are the perceptions of the decision-makers of the construction firms regarding the awareness and usage of the cash budget?

- To what extent do construction firms prepare or outsource the preparation of their cash budget?

The above-unanswered questions recommend a need for a more recent South African study to fill the knowledge gap in prior literature. Therefore, this research seeks to fill the knowledge gap in the literature by requesting answers to the above-mentioned questions.

### 2.14 Cape Town Northern Suburbs

This study was conducted among construction firms located in the Cape northern suburbs. The northern suburbs are historically part of the City of Tygerberg, formed from the union of the municipalities of Bellville, Durbanville, Goodwood and Parow. These suburbs have experienced an enormous property growth in recent years, because of their access to Cape Town International Airport, Grand West Casino and a number of wine routes, including the Durbanville Wine Valley. As a result, they represent the most industrialised areas in the Western Cape, hence the study was conducted in the area to access the most construction firms.

Therefore, the researcher has identified cities and towns in the Cape Town northern suburbs that are relevant to this study. The table below summarises the cities and towns in the Cape Town northern suburbs:

**Table 2.1: Areas within the Cape Town northern suburbs**

| | | |
|---|---|---|
| Belhar | Goodwood | Panorama |

| | | |
|---|---|---|
| Bellville | Kensington | Parow |
| Brackenfell | Kraaifontein | Plattekloof |
| Bothasig | Kuils River | Thornton |
| Brooklyn | Loevenstein | Stikland |
| Durbanville | Maitland | Rugby |
| Edgemead | Milnerton | Tygerburg |
| Elsie's River | Monte Vista | Vasco |

### 2.15 Summary and Conclusion

This chapter seeks to outline and summarise prior studies conducted on the usage of cash budgets by construction firms. This chapter further explored issues, such as the construction industry and the introduction of the emerging construction programme in South Africa. Therefore, the chapter began with an overview of construction firms, the importance of the construction industry in the South African economy, construction project delays and their causes, the importance of cash budgets, and reviews of prior studies on their usage on the project completion level.

Furthermore, this chapter reviewed prior studies that had investigated the purpose for which types of budgets are used, and in this regard, the chapter revealed the types of budgets used for diversified purposes. Additionally, the chapter also reviewed prior studies on the perceptions of construction firms regarding the awareness and usage of the different types of budgets employed by these entities. Moreover, this chapter also reviewed whether construction firms prepared or outsourced cash budgets.

The chapter then concluded by identifying numerous gaps in prior literature. Therefore, taking into consideration the gaps in prior literature, there is a need for more recent research to investigate and explore the usage of cash budgets towards project completion in the South

African construction industry. This is because little is known about the types of budgets that are currently employed, the purpose for which they are used, and whether they should be prepared or outsourced.

The following chapter (Chapter 3) examines the research design and methodology utilised to achieve the objectives of this study. The chapter further discusses the methods used in data collection and the statistics employed for analysing such data.

# CHAPTER THREE
# RESEARCH DESIGN AND METHODOLOGY

## 3.1 Introduction

According to Leedy, Newby and Ertmer (1997), methodology dictates the data gathered and the approach to be employed, so that meaning that lies below the surface of such data manifests and draws conclusions that lead to the expansion of knowledge.

The objective of this study is to establish the current position regarding the utilisation of cash budgets by construction firms in the Cape Town northern suburbs industrial areas.

Therefore, this chapter provides an overview of the data collection, research design and methodology used in this study to gather the relevant primary data and examines the statistical and analytical tools that have been applied to conduct such analysis.

## 3.2 Overview of the Chapter

This chapter describes the research design and methodology used in this study to address the following research objectives:

1. Determine whether construction firms can rely on cash budgets to successfully plan the completion of their projects.
2. Evaluate the construction firms' business owners and/or managers' awareness and usage of cash budgets when planning their project completion strategy.
3. Examine the construction firms' adequate monitoring of cash position, forecasting, planning, and budgeting.
4. Ascertain whether construction firms prepare cash budgets at all, if so, how they prepare cash budgets and who prepares cash budgets for them.

To address the above objectives, a questionnaire survey methodology was deemed appropriate and thus employed. Accordingly, this chapter justifies the selection of the questionnaire survey method employed in this study for collecting data. It also discusses the sampling technique adopted in this study as well as the design of the questionnaire.

The chapter also discusses the descriptive statistics employed to analyse and interpret the data collected.

This chapter then proceeds with a discussion of the positivist research as a philosophy adopted in this study in Section 3.3. The chapter then justifies the questionnaire survey

methodology adopted in this study in Section 3.4. This is followed by a discussion of the research population and sampling technique employed in this study in Section 3.5. Section 3.6 elaborates on the questionnaire design, followed by an overview of the pilot study conducted on the questionnaire in Section 3.7. Section 3.8 then presents the data collection process used in this study, followed by a brief description of the data analysis methods employed in this study in Section 3.9. Section 3.10 then discusses the assurances undertaken to the reliability and validity of the research instrument, while Section 3.11 touches on the limitations of the questionnaire survey methodology adopted. This is followed by a description of the ethical considerations of this research in Section 3.12. Lastly, Section 3.13 furnishes the summary and conclusion of this chapter.

### 3.3 Research Philosophy

Generally, a research philosophy, also called research paradigm, is classified as either positivist or interpretivist (Welman, Kruger & Mitchell, 2005; Bryman & Bell, 2007; Bernard, 2013). The positivist paradigm follows the scientific method of the natural sciences, which emphasises researcher objectivity and independence. Furthermore, the positivist approach is one that is based on the notion that there is an objective reality that can be measured using metrics that are independent of the researcher and the research instrument used. The interpretivist approach encourages subjectivity, especially in social research (Curtis & Curtis, 2011; Neuman, 2011). The guiding research paradigm for this study is positivism. The use of the positivist approach is based on the author's quest for objectivity and the need for generalisability of the findings (Sekaran & Bougie, 2013). The positivist paradigm enables exact measurement and objective research, which the researcher wishes for (Neuman, 2011). Furthermore, it is a more objective approach than the interpretivist paradigm as it relies on quantitative data which is more reliable and verifiable than qualitative data that the latter paradigm (interpretivist) relies on (Matveev, 2002; Du Plooy-Cilliers, Davis & Bezuidenhout, 2014). Additionally, the purpose of the research is to gather sample responses to be used to extrapolate findings to the larger target population (Neuman, 2011). Therefore, the main objective of this study was to determine the extent to which the decision-makers of construction firms in the Cape northern suburbs make use of cash budgets. This objective required quantitative data to determine the percentage of construction firms that make use of cash budgets. Accordingly, the positivist paradigm, which by its very nature is quantitative, was deemed more appropriate in addressing the objective of this study. Additionally, the positivist paradigm was adopted because it requires a well-defined structure that is consistent with the use of closed-ended questionnaires, which are convenient for statistical analysis. Moreover, given its quantitative nature, the positivist paradigm allows a large

sample to be drawn from the population, an aspect that increases the generalisability of research findings (Du Plooy-Cilliers, Davis & Bezuidenhout, 2014). Furthermore, the paradigm is appropriate when time and resources are limited, as was the case in this study, given that it is a fast and economical approach; hence, it was deemed appropriate for this study.

### 3.4 Questionnaire Survey Methodology

The questionnaire survey methodology was adopted after a thorough literature review and consultation with the study's supervisor. A questionnaire was then deemed suitable for this study for various reasons. Firstly, it is a faster, less expensive and more convenient way of obtaining data from a large number of respondents than the personal interviews method (Al-Mubarak, 1997). Secondly, unlike personal interviews, it allows respondents to answer questions at their own convenience without the undue influence of the presence of a researcher, which tends to introduce bias (Al-Mubarak, 1997). Thirdly, if closed-ended questions are used, the data collected in a questionnaire survey can be quickly and easily captured, quantified and analysed objectively by the researcher using a variety of statistical software packages. Fourthly, most construction firm owners or managers in the Cape northern suburbs are familiar with questionnaires and may have some experience completing questionnaires, hence are less likely to be fearful when requested to participate in a survey such as this one. Furthermore, the questionnaire items cover the research questions of the study. In addition, the questionnaire was administered to the participants by the researcher personally and where necessary.

### 3.5 Research Population and Sampling Technique

#### 3.5.1 Research population

Davies (2007), Sekaran and Bougie (2013), and Groves (2009), agree that population in a survey research refers to the category or group of elements for which the survey researcher wants to make inferences. Therefore, the researcher can use sample statistics for the entire group of people, events or things of interest that the researcher wishes to investigate. The targeted population for this study comprised of CIDB-registered construction firms operating and located in the Cape Town northern suburbs. The sample frame for the study was sourced from the CIDB website since it contains information on all registered construction firms. The resultant sampling frame identified was 1732 registered construction firms in the

Cape Town northern suburbs. However, this number was considered too large for a census, given the timeframe available and financial constraints for the study. Therefore, the decision was made to sample a reasonable number of construction firms. Sampling has several other advantages that make its use very appealing in quantitative research. These are lower cost, greater accuracy of results, greater speed of data collection, and availability of population elements (Blumberg, Cooper & Schindler, 2008), which justified its application in this study.

### 3.5.2 Sampling technique

Due to the large geographical area covered (the northern suburbs) and given the financial and time constraints, it was impossible to include every population element in the study. Sekaran and Bougie (2013) in their study indicate that it is better to use a sample instead of the entire population due to cost, time and other resource constraints. In addition, collecting data from samples instead of the entire population tends to reduce researcher fatigue, thereby leading to fewer errors in the data collected (Sekaran & Bougie, 2013). Furthermore, Neuman (2011) alluded that sampling is primarily used in quantitative studies, like the current study to create a representative sample that will closely represent the features of interest in the population. Data from sample elements is then used to draw a conclusion about the entire population (Blumberg, Cooper & Schindler, 2008).

Two major types of sampling designs are known when it comes to sampling in research studies. These are probability and non-probability sampling. Elements in probability sampling have some known chances of being selected as a sample subject whilst in non-probability sampling the elements do not have a known chance of being selected as a sample subjects (Sekaran & Bougie, 2013; Leedy & Ormrod, 2013).

Therefore, to be consistent with the adopted study design, probability sampling was used for this study. Probability sampling is noted to have several types that are used in research studies, which include simple random, systematic, and stratified, cluster and panel sampling (Sekaran & Bougie, 2013, Leedy & Ormrod, 2013). Simple random sampling, which lies at the heart of all scientific research (Davies, 2007), was adopted by relying on the sample frame from the CIDB database. The sample frame included the target population of construction firms in the northern suburbs industrial areas. Based on the simple random sampling approach, sample elements were selected randomly from the sample frame.

Therefore, according to Mustafa (2010), the sample size selected by the researcher has a direct bearing on the accuracy, time, cost and administration of the survey and so the sample size should be small enough to avoid unnecessary expenses but large enough to avoid intolerable sampling errors. As stated above, the sampling frame for the study was 1732 registered and active contractors. The appropriate sample size for the study was determined

by the use of internet software based sample size calculator (http://www.macorr.com/sample-size-calculator.htm). The calculated sample size of the study was 91 elements. Therefore, the researcher considered the sample size of 91 as adequate for collecting data for the study.

### 3.6 Design of the Questionnaire

#### 3.6.1 General description of the questionnaire design

The questionnaire was constructed after a thorough literature review and consultation with the study's supervisor. The questions in the questionnaire were based on Likert scales. The questionnaire items cover the research questions of the study. The questionnaire has clear instructions on how they should be completed. The questionnaire was administered to the participants by the researcher personally and where necessary. The questionnaire comprised of six pages including the consent letter (cover page). The latter was used to highlight the purpose of the study and to reassure the respondents that any information they divulge would be used solely for the purpose of this study, be kept confidential and anonymous, and that there were no risks associated with participating in this study. Pre-testing of the questionnaire was done with three randomly selected contractors. This was to test the user friendliness of the questionnaire, and to identify possible flaws. Therefore, errors, omissions and ambiguities in the questionnaire were accordingly addressed after the pilot survey.

The questionnaire began with the general question on whether the cash budget was being used. It then moved down to the types of budgets used and the purpose for which the budgets are used for, then to the respondents perception on the awareness of the types of budgets and the methods of preparation and the outsourcing of cash budgets. Questions on respondents' profile and their businesses' profile were asked last so as not to obstruct the respondents from answering the questions that mattered most.

Furthermore, to encourage respondents to complete the questionnaire, sensitive questions, such as those pertaining to income, revenue, payment of taxes, were avoided. In addition, a deliberate effort was made not to ask any questions that would directly link the response to a particular respondent or construction firm.

To further motivate the respondents to participate in the survey, the questionnaire was designed to be user-friendly and comprised 10 closed-ended questions, with responses requested on either five-point Likert scale, yes/no answers or multiple-choice questions. Only one question was an option 'other' provided which required respondents to specify their answer. Therefore, the timeframe required to complete the questionnaire was reduced to less than 10 minutes.

### 3.6.2 Description of the specific sections of the questionnaire

The questionnaire was divided into three sections, which is from A to C as detailed below.

#### 3.6.2.1 Section A: The use of cash budgets

Section A of the questionnaire dealt with the types of budgets used and was divided into four questions, namely Question 1, Question 2, Question 3 and Question 4. Question 1 dealt with budgets usage, Question 2 focused on the types of budgets used, Question 3 focused on the purpose for which the budgets were used for, while Question 4 dealt with the perception and the awareness of cash towards project completion.

**Section A**

Section A of the questionnaire was meant to determine budget usage, the types of budgets used by construction firms, the purpose for which those budgets were used for and the awareness of the types of budgets used toward project completion. This part comprised four questions, namely Questions 1 to 4. Question 1: “Does your business use cash budgets?”, which required a ‘yes’ or ‘no’ response, was meant to determine whether the respondents’ businesses used cash budgets or not and to filter those that would proceed to Question 2.

Question 2: “How often does your business prepare the following types of budgets?”, was in the form of a five-point Likert scale [1 = Never, 2 = Only in big projects, 3 = Some projects, 4 = 70% of every project and 5 = Every project ], was meant to establish how frequently the respondents’ businesses used the various types of budgets. These included production, material, labour, cash, overheads, administrative, income statement, balance sheets and master budgets. The more frequently a budget was used the more enormously it was deemed to have been used.

Question 3: “How often does your business use budgets for the following purposes?”, was in the form of a five-point Likert scale [1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Frequently and 5 = Very Frequently]. It was meant to determine how frequently the respondents’ businesses used various types of budgets for different objectives that ranged from planning for the project completion, forecasting expenditure, monitoring expenditure and forecasting cost fluctuation (material price), allocation of resources (material and labour), identification of potential problems (delays and changes), communicating targets to employees, monitoring business performance, direction, coordination, improving the efficiency and quality assurance, and general (site instruction and site safety). The more frequently a budgeting method was used for a particular objective or purpose, the more extensively it was deemed to have been used.

Question 4: “What is your perception on the awareness and usage of the following types of budgets towards project completion in your business?” was in the form of a five-point Likert scale [1 = Very unaware, 2 = unaware, 3 = Neutral, 4 = aware and 5 = Very aware]. It was meant to ascertain the level of awareness on the usage of the various types of budgets towards project completion, which ranged from production, material, labour and overheads, administrative, income statement, balance sheets, master, and cash budgeting. The higher the level of awareness on the respondents of the budget usage towards project completion on their businesses, the more considerably it was deemed to have been used.

#### 3.6.2.2 Section B: Preparation of Cash Budgets, how are they prepared and whether they are prepared externally

Section B of the questionnaire was meant to establish the preparation of cash budgets, how often they were prepared and whether they were being prepared externally. The part consists of one question, namely Question 5: “To what extent do you agree about the preparation, method of preparation and the outsourcing of cash budgets in your business? This was in the form of a five-point Likert scale [1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree 5 = Strongly Agree], meant to ascertain the method of preparation of cash budgets and whether the respondents’ businesses prepare or outsource cash budgets. These included whether cash budgets are not prepared at all, are outsourced, are prepared internally, or prepared on a monthly, quarterly or yearly basis. The more frequently a cash budget was internally prepared and on a monthly basis, the more extensively it was deemed to have been used.

#### 3.6.2.3 Section C: Respondent demographic data and business profile

This section was meant to determine the demographics and business profile of the respondent. The part consists of five questions, namely Questions 6 to 10. Question 6 asked, “How long has your business been in operation?” Question 7 asked, “What is the number of employees in your business?” Question 8 asked, “What position do you hold in the company?” Question 9 asked, “What is your highest level of education?” Lastly, Question 10 asked, “Do you have a post matric qualification?”

## 3.7 Pilot Study

Prior to the commencement of the actual study, a pilot study was conducted to ensure that the wording of the questionnaire was clear and understandable to the respondents. To this end, the questionnaires were critically reviewed by a few academics with extensive experience in questionnaire design. During this process, the academics were required to explain their understanding of each question and identify any possible weaknesses that would render the questionnaire not being user-friendly. The researcher also used this process to test the length of time it took the academics to complete the questionnaire.

Based on the pilot study, some shortcomings were identified in the questionnaire, which included unclear instructions, leading questions, unclear questions, inconsistent questions and inclusion of two questions in one question. These shortcomings were corrected to the satisfaction of the academics and thus the questionnaire was deemed to be clear, concise, user-friendly, and more importantly, suitable for collecting data for this study accordingly.

### 3.8 Data Collection Process

During the data collection process, the researcher delivered the questionnaires by hand to the respondents who completed them at their own convenient time. The researcher went back on appointment to collect the completed questionnaires. The hand-delivery approach was deemed suitable as it gave the researcher an opportunity to explain and introduce the research topic to the respondents, an aspect that certainly increased the willingness of potential respondents to participate in the study. This approach was also beneficial because it saved time and enhanced the response rate.

However, even though the respondents were allowed to complete the questionnaires at their convenience, in some cases, the researcher waited while the respondents completed the questionnaires. In other cases, the researcher made several follow-up visits where a respondent had promised to complete the questionnaire but had failed to do so within the agreed time.

### 3.9 Description of Data Analysis Methods Adopted

The quantitative data collected was captured and analysed using the Statistical Package for Social Sciences (SPSS) software, Version 23. This was done under the guidance of an experienced statistician. This software was selected for various reasons. Firstly, it assists a researcher to distinguish errors during data entry. It also avails a faster and easier access to frequency, descriptive and inferential statistical functions given that it has these functions in

pull-down menus. Furthermore, SPSS has added functions that assist a researcher with the clarification of statistical results. Additionally, SPSS presents a range of graphs and charts and aids a researcher to create complex graphs easily using the pull-down menus. Only descriptive statistics were used to analyse the data collected and to answer the research questions of the study and therefore, are elaborated below.

**Descriptive statistics**

Descriptive statistics are used to summarise a body of data (Leedy & Ormrod, 2010; Sekaran & Bougie, 2013; Salkind, 2014) in the form of central tendency, amount of variability, and the extent to which different variables are associated with one another. Furthermore, descriptive statistics provide simple summaries about the sample and the observations made. Some of the measures that are typically used to describe the sample include measures of central tendencies, such as arithmetic mean, mode and median, and measures of dispersion, such as standard deviation and variance. Therefore, for the purpose of this study, the descriptive statistics produced were frequencies, percentages and graphs and thus, were used to summarise the responses of the respondents. Additionally, an arithmetic mean was used to summarise and rank the responses of respondents to all the Likert scale questions. For these questions, a standard deviation was computed to determine the level of agreement of respondents' responses on a particular statement.

### 3.10 Assuring the Reliability and Validity

The credibility, appropriateness and quality of the study need to be maintained to ensure that the evidence, results and conclusions from the research process are valid and reliable. These are enhanced through the questionnaire validity and reliability (Kumar, 2011).

#### 3.10.1 Reliability of the research instrument

In general, reliability in social research is concerned with the consistency with which the measurement instrument measures what it intends to measure. Furthermore, reliability refers to the consistency or the ability of a research instrument to produce the same result when it is administered on the same subject at different times. The questionnaire was administered during the times that were agreed upon with the respondents. Furthermore, the reliability of the questionnaire was tested during the pilot testing stage. Additionally, all the sensitive issues were avoided in the questionnaire design. All conditions that could put any form of compromise on the data collection were avoided, and respondent confidentiality was strictly maintained. Standardised and structured questions were used in the questionnaire design

and found to be simple, clear, understandable, straightforward and free of ambiguities, and thus, should have been able to yield the same results if administered to the same respondents at different times.

### 3.10.2 Validity of the research instrument

The validity of a measurement instrument means the extent to which the instrument measures what it is intended to measure and whether it leads to a valid conclusion (Leedy & Ormrod, 2013; Salkind, 2014). There are four types of validity, that is, face validity, content validity, criterion validity, and construct validity. However, for the purpose of this study, only two types of validity were taken into consideration and are expounded on below.

#### 3.10.2.1 Internal validity

There are different types of internal validity. For the purpose of this study, only construct and content validity were deemed relevant and are thus discussed below.

#### 3.10.2.2 Construct validity

Construct validity is considered to be the extent to which the instrument measures a characteristic that cannot be directly observed, but is assumed to exist based on patterns in people's behaviour (Leedy & Ormrod, 2013; Salkind , 2014). In addition, validity also refers to the ability of a research instrument to measure the constructs that are being investigated. It further implies a close fit between the construct that the instrument is supposed to measure and the actual observation (Bernard, 2013). Consequently, in this study, the questionnaire was reviewed by few selected academics with extensive experience in questionnaire design, and their suggestions were taken into consideration accordingly.

Furthermore, construct validity of a questionnaire can be enhanced by minimising the subjectivity of the questions in a questionnaire through linking them to the original research questions (Rowley, 2002). Accordingly, the questions in the questionnaire used in this study were directly derived and linked to the first, second, third and fourth research sub-questions, an approach deemed to have enhanced construct validity.

#### 3.10.2.3 Content validity

Content validity is considered as the extent to which a measurement instrument provides adequate coverage of the research questions guiding the study (Leedy & Ormrod, 2013). It is further defined as the extent to which all facets of a given construct are covered by a research instrument, which in this case was a questionnaire (Brynard & Hanekom, 2006).

Additionally, content validity requires that the survey instrument include all the items that represent a concept. It further requires careful definition of the topic, the items to be scaled and the scale to be used, and that content should not be defined narrowly. Therefore, in this study, the contribution of academics with immense experience in questionnaire design was solicited on the content and adequacy of questions contained in the questionnaire. In addition, the opinion of the research supervisor was also sought. Therefore, the information from the literature review and the opinions of the research supervisor were used in developing the measurement instrument that was used.

#### 3.10.3.4 External validity

According to Leedy and Ormrod (2005), external validity refers to the generalisability of the conclusion or findings of the study to other similar cases provided that the sample is representative in respect to the contexts, individual, times and settings. Furthermore, achieving external validity requires that a random sampling method be employed to ensure that the sample is representative of the population (Brynard & Hanekom, 2006). Accordingly, random sampling was adopted in this study by relying on the sample frame from the CIDB database. The sample frame included the target population of construction firms in the northern suburbs industrial areas. In addition, based on the simple random sampling approach, sample elements were selected randomly from the sample frame. Therefore, external validity was deemed to have been achieved accordingly.

### 3.11 Limitations of the Questionnaire Survey

The limitations of a survey instrument, such as questionnaires, are well documented in the literature. One of these limitations is non-response bias, which usually occurs when intended respondents do not participate in the survey or decline to answer some of the questions due to certain characteristics they possess that differ from those who agree to answer the questionnaire or who answer all questions of the same. Additionally, non-response bias erodes the randomness of the sample resulting in sampling bias, which makes the sample to be unrepresentative of the population under study; an aspect that minimises the external validity of its findings (De Vos, 2011).

Accordingly, to reduce the effect of non-response bias, the researcher approached different decision-makers, who comprised managers and owners of the construction firms, both male and female, to participate in the survey. Furthermore, the respondents' profile was analysed to ensure that decision-makers with different characteristics had answered the questionnaire. Another limitation associated with a questionnaire survey is a low response rate, which might

make the results not to be representative of the population (Saunders, 2007). Additionally, the researcher visited some of the respondents more than twice to persuade them to complete the questionnaire. Moreover, only closed-ended questions were included in the questionnaire and these were deliberately made short to motivate the respondents to partake in the survey.

Furthermore, using a questionnaire survey, especially when it is administered to the construction firms' decision-makers, is a challenge on its own, because they usually do not have time to participate in a survey due to their busy daily schedules. However, to overcome this, the researcher explained the purpose of the study to the respondents while handing over the questionnaire to them and visited most of them more often and reassured them that any information they provide will be kept confidential.

Notwithstanding the above mentioned, this study only focused on construction firms in the northern suburbs industrial areas and therefore, its findings might not necessarily be generalisable to construction firms in other parts of South Africa. Additionally, only the usage of cash budgets towards project completion was investigated in this study, thus its findings may not represent the extent to which construction firms use cash budgets in general.

Furthermore, some of the questionnaires that were hand delivered to the respondents got lost and some were returned incomplete. In such cases, the researcher had to revisit the respondents more often to redistribute the questionnaire to them and thus cost the researcher a lot of time distributing and collecting the questionnaires.

### 3.12 Ethical Consideration

The consideration of ethical issues in research is to ensure that no one is harmed or suffers any adverse effects from research activities and ethics are also defined as the norms or standards of behaviour that guide moral choices about the behaviour and relationships between individuals (Cooper & Schindler, 2011; Salkind, 2014). Furthermore, according to Leedy and Ormrod (2010) and Salkind (2014), the protection from harm, informed consent, right to privacy, and honesty with professional colleagues is the most critical categories that must be considered in research ethics. The adherence to these aforementioned ethical considerations is the responsibility of the researcher involved in the study.

Therefore, an approval to conduct research was obtained from Cape Peninsula University of Technology's Ethics Committee before commencing data collection. The ethics committee requires that the respondents of such a study be protected from any potential negative repercussions that may arise because of participating in the research. The purpose of the

study was explained to the respondents in the cover letter. The following ethical issues relevant to the study and considered by the researcher are discussed.

### 3.12.1 Informed consent

Informed consent means that participants are made aware of the type of information required from them and why the information is being requested, as well as how the study will affect them both directly and indirectly, because it is unethical to collect information without the knowledge of participants and their expressed willingness (Kumar, 2014). Furthermore, participants should be given the freedom to participate or withdraw from the study (Leedy & Ormrod, 2010; Salkind, 2014).

Therefore, to comply with the requirements of the Ethics Committee, the researcher explained to the respondents what the research entailed and emphasised that the respondents could withdraw from participating in the survey at any given time without any negative repercussions. A consent letter was then given to the participants who were requested to read and ask questions if they needed further clarity. Once the participants consent was obtained, the questionnaire was then distributed to them accordingly.

### 3.12.2 Privacy and voluntary participation

According to Leedy and Ormrod (2010), any research involving human beings should respect the right to privacy of the participants, because the research should not disclose how a particular participant responded to the questions. The questionnaire used to collect the data has no question about the location or identity of the participant. Furthermore, any participation in the study by participants should strictly be voluntary. Participants involved in the study were given the freedom to decide if they wanted to participate or not in the study and were therefore, not forced to take part in the study.

### 3.12.3 Confidentiality and anonymity

It is considered unethical to share information about participants with others for purposes other than the research (Kumar, 2014). Furthermore, it is unethical for individual respondent's information to be linked to them directly. In instances where one has to identify the study population to put the findings into context, then information provided by the respondent should be kept anonymous (Kumar, 2014). Therefore, participants were assured of anonymity as their personal details were not to be linked to their individual responses. They were further assured that the confidentiality of their personal details would not be compromised by being given to a third party. Additionally, the participants were informed that

their information and responses would be kept confidential and the results of the survey reported anonymously in a manner to protect their identities.

### 3.13 Summary and Conclusion

The objective of this chapter was to detail the research methodology that was followed in the study in order to meet the objectives of this study. In line with the positivist paradigm, quantitative research method was used. Therefore, the chapter began with a discussion of the research paradigm adopted and justification for the questionnaire survey method used. Data collection methods and the instruments used were also described in this chapter. In addition, the chapter further discusses the research population and sampling technique employed in this study, followed by questionnaire design and data generation. Analysis procedures were also discussed. Moreover, the pilot test conducted on the questionnaire to ensure its clarity, conciseness and understandability was then discussed as well as the data collection process in the form of a hand-delivered, self-administered questionnaire. The descriptive statistics used to analyse the data were then discussed, followed by the measures undertaken to ensure the reliability and validity of the research instrument. The limitations of the questionnaire survey methodology adopted were then discussed. Ethical issues that were considered in the research process were also presented accordingly. Therefore, the methodology discussed in this chapter is deemed suitable to address the research objectives of this study. The next chapter (Chapter 4) gives the analysis and discussion.

# CHAPTER FOUR
# ANALYSIS OF DATA

## 4.1 Introduction

According to de Vos (2002), data analysis is the process of bringing order, structure and meaning to the mass of collected data. Therefore, the main objective of this chapter is to analyse, examine and discuss the results of the questionnaire survey undertaken to investigate the usage of cash budgets towards project completion by construction firms located in the Cape Town northern suburbs industrial areas. Furthermore, the aim of this study is to establish the role of cash budgets in the construction industry in order to sustain growth and minimise the abandonment of construction projects due to client late payment.

The quantitative data which was collected through a structured questionnaire was analysed by using Statistical Package for the Social Sciences (SPSS software, Version 23, which consists of descriptive statistics in the form of proportions, frequencies, means and standard deviations, independent t-tests, and paired t-tests to compare differences between the two groups, correlation, Analysis of Variance (ANOVA) and Ordinary Least Square (OLS) analysis. The results acquired in this study are presented and discussed below. Furthermore, the presentation and the discussion of the results are in accordance with the research questions raised in the study.

Therefore, this chapter presents the results of the study and commences with a re-statement of the specific research objectives in Section 4.2, which is then followed by a discussion of the response rate in Section 4.3. Respondents' personal as well as their businesses' profile is discussed Section 4.4. Section 4.5 analyses and discusses the results on the usage of different types of budgets by construction firms. Section 4.6 then analyses and discusses the results on the purpose for which types of budgets are used by construction firms. Section 4.7 analyses and discusses the results on the perceptions of the awareness of the decision-makers on the types of budgets used towards project completion. Section 4.8 discusses the preparation, method of preparation and whether cash budgets are prepaid internally or outsourced. Section 4.9 discusses research hypothesis testing. Lastly, Section 4.10 provides the summary and conclusion of the chapter.

### 4.2 Restatement of Research Objectives

The main objective of this empirical study was to ascertain the extent to which construction firms in the Cape Town northern suburbs industrial areas use cash budgets when planning for their project completion.

Therefore, to achieve this purpose the following research objectives were formulated:

- To determine whether the construction firms can rely on cash budgets to successfully plan the completion of their projects.
- To evaluate the construction firm's business owners and manager's awareness and usage of cash budgets when planning their project completion strategy.
- To examine the construction firm's adequate monitoring of cash position, forecasting, planning, and budgeting.
- To ascertain whether the construction firms prepare cash budgets at all, if so, how do they prepare them and who prepare cash budgets for them.

### 4.3 Response Rate

Only 69 out of the 115 questionnaire items sent out were correctly filled and returned, representing a 60% response rate. The ideal scenario is to have a representative samples that can represent the population in which data is collected. Furthermore, it is also possible to have non-response but a relatively high response rate achieved through hand delivery and collection of the questionnaire as well as constant follow-up minimises the risk of non-response bias (Saunders, Lewis & Thornhill, 2012). According to Fowler (1988), the response rate should be above 20% to provide credible statistics about a population. Therefore, the researcher is convinced that the response rate of 60% can be considered high enough for this study.

### 4.4 Respondents' Personal and Businesses' Profiles

The respondents were asked in Section C of the questionnaire to provide their personal profile information relating to number of years in business, number of employees, their position in the business, and their level of education. This was done to establish whether they were decision-makers of the construction firms and thus, suitable as respondents for this study.

### 4.4.1 Number of years in business

**Table 4.1: Number of years in business**

**How long has your business been in operation?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Less than 1 year | 8 | 11.6 | 11.8 | 11.8 |
| | 1 –5 years | 20 | 29.0 | 29.4 | 41.2 |
| | 6 –10 years | 23 | 33.3 | 33.8 | 75.0 |
| | More than 10 years | 17 | 24.6 | 25.0 | 100.0 |
| | Total | 68 | 98.6 | 100.0 | |
| Missing | .00 | 1 | 1.4 | | |
| Total | | 69 | 100.0 | | |


**Figure 4.1: Number of years in business**

Based on Table 4.1 above, the percentage of the construction firms in the Cape Town northern suburbs that have been in business for more than 10 years is 25%, while the majority (41.2%) have been in business for less than five years. However, the percentage of construction firms surveyed who have been in the business from 6-10 years account for 33.8%, which is the highest category. Therefore, this could be commendable as it implies that most small businesses do not last for more than five years. Additionally, because in the construction industry most projects are often seasonal and that makes it difficult for most companies to sustain their operation without projects to run.

### 4.4.2 Number of persons employed by the business

**Table 4.2: Number of persons employed by the business**

**What is the number of employees in your business?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | 1 –5 employees | 7 | 10.1 | 10.3 | 10.3 |
| | 6 –20 employees | 17 | 24.6 | 25.0 | 35.3 |
| | 21 –50 employees | 29 | 42.0 | 42.6 | 77.9 |
| | 51 –400 employees | 15 | 21.7 | 22.1 | 100.0 |
| | Total | 68 | 98.6 | 100.0 | |
| Missing | .00 | 1 | 1.4 | | |
| Total | | 69 | 100.0 | | |


**Figure 4.2: Number of persons employed by the business**

Table 4.2 above indicates that, 10.3% of the respondents have stipulated that their businesses had 1 to 5 employees, while 25% indicated that their businesses had 6 to 20 employees. Of the respondents, 42.6% indicated that their businesses had 21 to 50 employees, while 22.1% stipulated that their businesses had 51 to 100 employees. Therefore, 77.9% of the respondents had more than five employees but less than 50 employees and yet only 22.1% had more than 50 employees. Therefore, the implication is that in the construction industry, most of the employees are employed on a contract basis and not on a permanent basis, the construction firms are doing this because their operations mainly depend on projects, and projects often have durations ranging from 8 to 18 months. Furthermore, it is easier to introduce and manage new concepts with a small number of employees (Pearce & Robinson, 2013).

### 4.4.3 Respondents' position in the business

**Table 4.3: Respondents' position in the business**

**What position do you hold in the company?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Manager | 16 | 23.2 | 23.5 | 23.5 |
| | Owner | 22 | 31.9 | 32.4 | 55.9 |
| | Owner/Manager | 30 | 43.5 | 44.1 | 100.0 |
| | Total | 68 | 98.6 | 100.0 | |
| Missing | .00 | 1 | 1.4 | | |
| Total | | 69 | 100.0 | | |

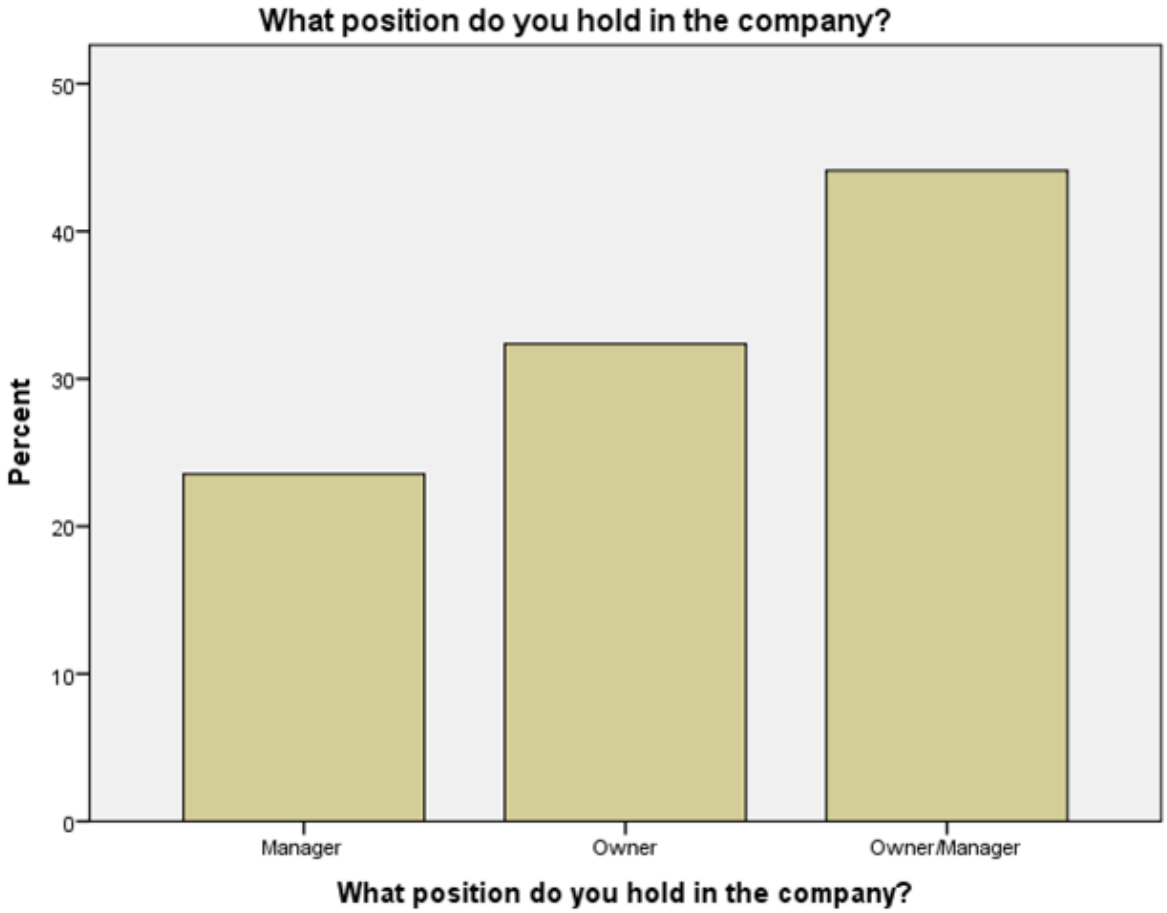


**Figure 4.3: Respondents' position in the business**

Table 4.3 above represents the position the respondents hold in the company and the analysis of the results indicated that 23.5% of the respondents were managers, while 32.4%

were the owners of their business. Additionally, of the respondents, 44.1% are both managers and owners of their businesses and this is the highest category. Therefore, this suggests that most respondents surveyed were the decision-makers of their businesses, construction firms, and have responded to the questionnaire accordingly as targeted.

#### 4.4.4 Respondents' highest level of education

**Table 4.4: Respondents' highest level of education**

**What is your highest level of education?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | No Matric | 3 | 4.3 | 4.3 | 4.3 |
| | Matric | 66 | 95.7 | 95.7 | 100.0 |
| | Total | 69 | 100.0 | 100.0 | |

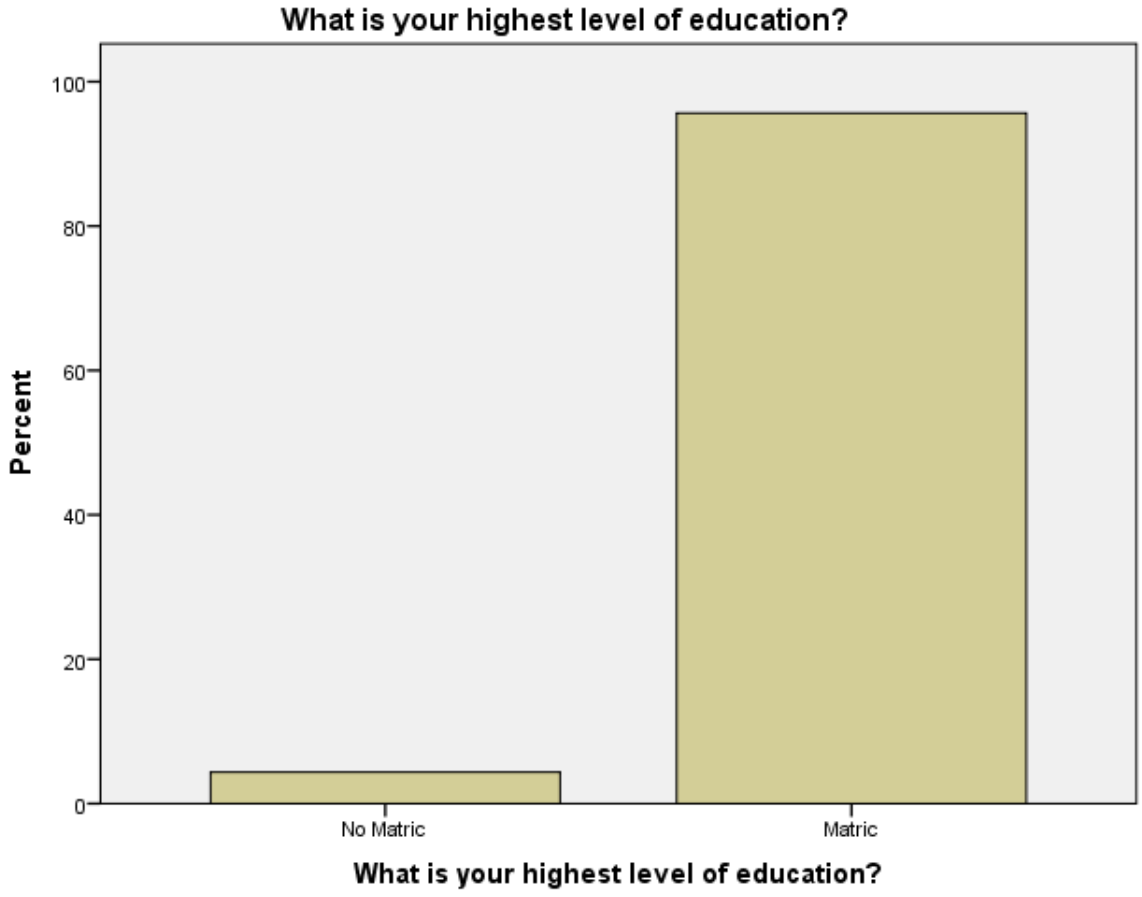


**Figure 4.4: Respondents' highest level of education**

**Table 4.5: Respondents' highest level of education (Post–matric qualification)**

**Do you have a post matric qualification?**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | No | 26 | 37.7 | 37.7 | 37.7 |
| | Yes | 43 | 62.3 | 62.3 | 100.0 |
| | Total | 69 | 100.0 | 100.0 | |

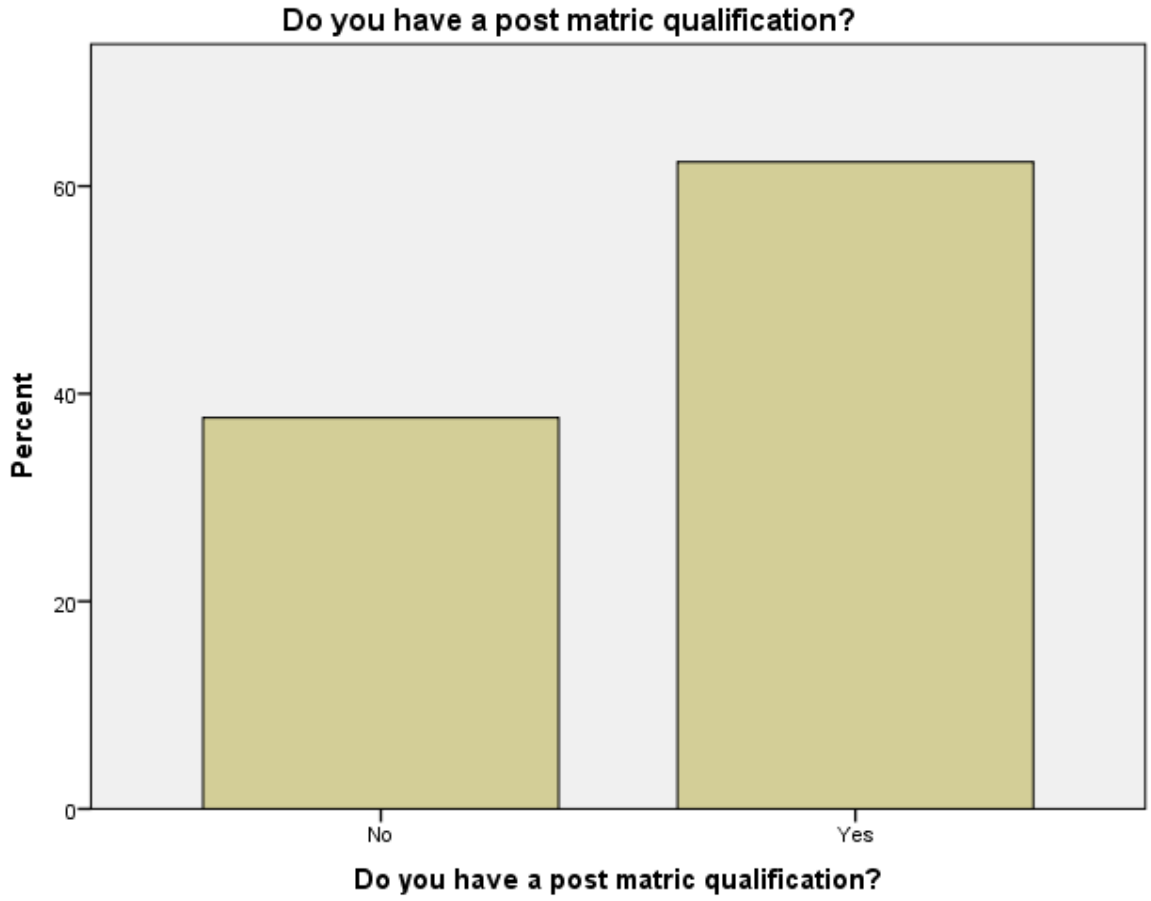


**Figure 4.5 Respondents' highest level of education (Post-matric qualification)**

Tables 4.4 and Table 4.5 above stipulate the respondents' highest level of education. The analysis of the results indicated that 95.7% of the respondents had a matric qualification. In addition, of the respondents, only 4.23% had no matric qualification. Furthermore, to strengthen the quality of the analysis, respondents were also asked whether they had post-matric qualification, and of the same respondents, the analysis further indicates that 62.3% had a post-matric qualification, while 37.7% had no post-matric qualification. The implication of this is that some decision-makers may have matric qualification but have no post-matric qualification yet owning and managing firms. Ultimately, this will have an impact on the usage of cash budgets by their firms as will be discussed in the next section.

### 4.5 Frequency of usage of different types of Budgets by Construction Firms

In question two of Section A of the questionnaire, the respondents were required to specify how often their businesses had used different types of budgets. The types of budgets included production budget, material budgets, labour budget, overheads budget, administrative budget, budgeted income statement, budgeted balance sheet, master budget and cash budget. A five-point Likert scale was used with weightings of 1 for “never”, 2 for “only in big projects”, 3 for “some projects”, 4 for “70% of every project”, and 5 for “every project”. Therefore, the closer the mean was to five; the more often a type of budget was used.

For the sake of clarity and conciseness, the percentages of those who have indicated that their businesses used any of the budgets in either or some projects, 70% of every project and every project were added up together and reported as “percentage that used the budget frequently”. Furthermore, those who have stipulated that their business used a given budget only in big projects or never were conservatively reported as having not used the budget, as the words ‘only in big project’ and ‘never’ suggest infrequent to almost non-usage of a budget.

Therefore, as per the summary in Table 4.6 below, a question was asked on which type of budget was frequently used by construction firms in the Cape Town northern suburbs. Out of nine types of budgets, the most frequently used was the budgeted income statement with a usage rate of 75.3% as per the Likert scale. This type of budget was used mostly in some projects, 70% of every project and in every project. The second frequently used type of budget was the cash budget (71%) followed by the budgeted balance sheet (46.3%). In addition, the production budget and material budget shared the same usage rate of 34.7%. This is then followed by the labour budget with the usage rate of 33.2%. Furthermore, the administrative budget and overheads budget also had the same usage rate of 31.8%. Lastly, the least frequently used budget was the master budget with a usage rate of 27.5%. Additionally, the means, more or less affirmed the frequency of usage of the budgets as indicated below. Based on them (means), the budgeted income statement was the most frequently used budget (3.47) followed by cash budget (3.42). However, the standard deviation of more than one, revealed a disagreement among the respondents regarding the frequency of usage of the budgets. Therefore, this implies that the most frequently used type of budget by the construction firms in the Cape Town northern suburbs was the budgeted income statement and cash budget.

**Table 4.6: Frequency of usage of different types of budgets by construction firms**

**What is your perception on the awareness and usage of the following types of budgets towards project completion in your business?**

| | Response | | | | | Total | Mean | Standard Deviation |
|---|---|---|---|---|---|---|---|---|
| | Very unaware | Unaware | Neutral | Aware | Very aware | | | |
| The Production budget | 26 | 13 | 3 | 16 | 11 | 69 | 2.6 | 1.6 |
| | 37.7% | 18.8% | 4.3% | 23.2% | 15.9% | 100.0% | | |
| The Material budgets | 25 | 14 | 4 | 15 | 11 | 69 | 2.6 | 1.5 |
| | 36.2% | 20.3% | 5.8% | 21.7% | 15.9% | 100.0% | | |
| The Labour budget | 25 | 14 | 4 | 14 | 12 | 69 | 2.6 | 1.6 |
| | 36.2% | 20.3% | 5.8% | 20.3% | 17.4% | 100.0% | | |
| The overheads budget | 25 | 15 | 4 | 13 | 12 | 69 | 2.6 | 1.6 |
| | 36.2% | 21.7% | 5.8% | 18.8% | 17.4% | 100.0% | | |
| The Administrative budget | 25 | 15 | 5 | 11 | 13 | 69 | 2.6 | 1.6 |
| | 36.2% | 21.7% | 7.2% | 15.9% | 18.8% | 100.0% | | |
| The Budgeted Income statement | 5 | 11 | 11 | 28 | 14 | 69 | 3.5 | 1.2 |
| | 7.2% | 15.9% | 15.9% | 40.6% | 20.3% | 100.0% | | |
| The Budgeted Balance sheet | 23 | 12 | 4 | 17 | 13 | 69 | 2.8 | 1.6 |
| | 33.3% | 17.4% | 5.8% | 24.6% | 18.8% | 100.0% | | |
| The Master Budget | 31 | 13 | 4 | 7 | 14 | 69 | 2.4 | 1.6 |
| | 44.9% | 18.8% | 5.8% | 10.1% | 20.3% | 100.0% | | |
| The Cash Budget | 6 | 13 | 14 | 22 | 14 | 69 | 3.4 | 1.2 |
| | 8.7% | 18.8% | 20.3% | 31.9% | 20.3% | 100.0% | | |
| Total | 191 | 120 | 53 | 143 | 114 | 621 | | |
| | 30.8% | 19.3% | 8.5% | 23.0% | 18.4% | 100.0% | | |

**Table 4.7: Chi-Square Tests**

**Chi-Square Tests**

| | Value | df | Asymptotic Significance (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 72.861[a] | 32 | .000 |
| Likelihood Ratio | 78.276 | 32 | .000 |
| Linear-by-Linear Association | 6.639 | 1 | .010 |
| N of Valid Cases | 621 | | |

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.89.

The chi-square analysis is testing if there is a statistically significant difference in the level of frequency usage experienced by construction firms in the Cape Town northern suburbs to different types of budgets, such as production budget, material budgets, labour budget, overheads budget, administrative budget, budgeted income statement, budgeted balance sheet, master budget and cash budget. Therefore, the chi-square asymptotic significant level of 0.000 that is less than 0.05 confirmed the rejection of the null hypothesis and supports the conclusion of statistically significant differences in the level of construction firms' frequency usage of difference types of budgets.

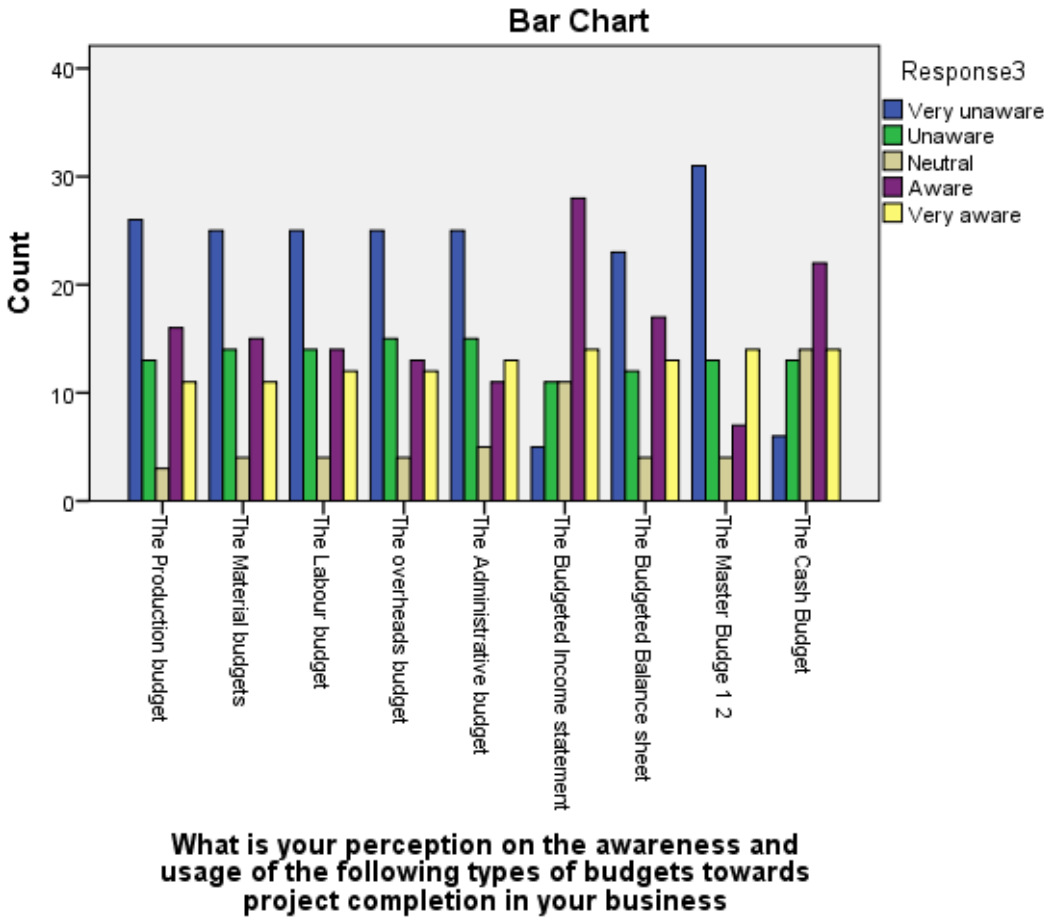


**Figure 4.6: Frequency of usage of different types of budgets by construction firms**

Figure 4.6 above represents the level of frequency of usage of different types of budgets by construction firms. It further illustrates the various responses received from respondents on how often their businesses use the different types of budgets.

### 4.6 Purpose for Which Types of Budgets are Used by Construction Firms

To ascertain the purpose for which types of budgets were used and bearing in mind that budgets are usually used in the form of reports, Section A of the questionnaire, which comprised Question 3, required respondents to indicate whether their businesses prepared or used budget reports. Furthermore, the section required respondents to indicate the frequency that their businesses used the types of budgets for various purposes.

#### Frequency of usage of different types of budget reports for various purposes

Budgets are often used in the form of reports, mainly for forecasting and decision-making purposes. Respondents were asked in Question 3 to stipulate and specify how often their

businesses had used the types of budget reports for various purposes. These purposes include planning for the project completion, forecasting expenditure, controlling expenditure, monitoring expenditure, forecasting cost fluctuation (material price), allocation of resources (material and labour), identifying potential problems (delays and changes), communicating targets to employees, monitoring business performance, direction, coordination, improving efficiency and quality assurance and general (site instruction and site safety).

A five-point Likert scale was used with weightings of 1 for “never”, 2 for “rarely”, 3 for “sometimes”, 4 for “frequently”, and 5 for “very frequently”. Therefore, the closer the mean was to 5, the more frequently the management accounting reports were used for a particular purpose.

Moreover, for the sake of clarity and awareness, the percentages of those who have stipulated that their business used types of budget reports for a particular purpose, either frequently or very frequently, were added up together and reported as “percentage that used the type of budget report for this particular purpose frequently”. Furthermore, those who indicated that their business used the type of budget reports for a particular purpose sometimes or rarely were conservatively reported as never having used the type of budget reports, as the words “sometimes” and “rarely” suggest infrequent to almost non-usage of the type of budget reports for the given purpose. This approach is justified because it ensures that only those whose businesses frequently use various types of budget reports for a particular purpose are reported as such.

Therefore, as per the summary in the Table 4.6, the types of budget reports were most frequently used for allocation of resources (material and labour) (31.90%) and the general (site instruction and safety) (31.90%), followed by the forecasting of expenditure (31.80%) and forecasting of cost fluctuation (material price) (31.80%), then monitoring of expenditure (30.9%). The other most frequent purpose for which types of budget reports were used was for controlling of expenditure purposes (30.40%), which was followed by identifying potential problems (delays and changes) (29%) and communication of targets to the employees (29%).

The other purposes for which types of budget reports were used by order of frequency include for planning for the project completion (28.90%) and improving efficiency and quality assurance (28.90%).The least frequent purpose for which the type of budget reports were used was for monitoring business performance (27.5%), for direction (27.50%) and for coordination (27.50%).

Based on the mean value of the below results, the most frequent purpose for which the types of budget reports are used for was for the forecasting of the expenditure (2.6) and controlling

of the expenditure (2.6), followed by the monitoring of expenditure (2.5), then the general site instruction and site safety (2.5). The least frequent purpose for which the budget reports were used was for forecasting of cost fluctuation (material price) (2.4) and for allocating resources (material and labour) purposes (2.4). However, the standard deviation of more than 1 implies the disagreement among respondents on the purpose for which the types of budget reports are used.

The results below are consistent with those of Moloi (2013), who found that most of the contractors often experience cash flow problems, and such problems are often caused by budgetary issues and the inadequate knowledge to spend and allocate resources into the relevant operations during the construction period. Furthermore, as mentioned by CIDB (2011), there is a lack of planning, budgeting and forecasting among construction firms, which results in working capital being tied-up and ultimately enhances corruption. Therefore, as per Table 4.8 below, this further implies that none of the types of budget reports were used for project completion purposes by construction firms in the Cape Town northern suburbs. These results are corroborated accordingly with the research problem and research question of this study, that do not use cash budgets or any type of budget for project completion purposes. The results also indicate that some of the firms, but not for project completion purposes may use the types of budget reports.

**Table 4.8: Frequency of usage of different types of budget reports for various purposes**

**How often does your business use budgets for the following purposes?**

| | Response2 | | | | | | Mean | Standard Deviation |
|---|---|---|---|---|---|---|---|---|
| | Never | Rarely | Sometimes | Frequently | Very frequently | Total | | |
| To plan for the project completion | 45 | 3 | 1 | 9 | 11 | 69 | 2.1 | 1.6 |
| | 65.2% | 4.3% | 1.4% | 13.0% | 15.9% | 100.0% | | |
| To forecast expenditure | 24 | 15 | 8 | 11 | 11 | 69 | 2.6 | 1.5 |
| | 34.8% | 21.7% | 11.6% | 15.9% | 15.9% | 100.0% | | |
| To control expenditure | 25 | 14 | 9 | 9 | 12 | 69 | 2.6 | 1.5 |
| | 36.2% | 20.3% | 13.0% | 13.0% | 17.4% | 100.0% | | |
| To monitor expenditure | 27 | 11 | 9 | 10 | 11 | 68 | 2.5 | 1.5 |
| | 39.7% | 16.2% | 13.2% | 14.7% | 16.2% | 100.0% | | |
| To forecast cost fluctuation (material price) | 29 | 13 | 5 | 11 | 11 | 69 | 2.4 | 1.5 |
| | 42.0% | 18.8% | 7.2% | 15.9% | 15.9% | 100.0% | | |
| To allocate resources (material and labour) | 29 | 13 | 5 | 12 | 10 | 69 | 2.4 | 1.5 |
| | 42.0% | 18.8% | 7.2% | 17.4% | 14.5% | 100.0% | | |
| To identify potential problems (delays and changes) | 33 | 11 | 5 | 10 | 10 | 69 | 2.3 | 1.5 |
| | 47.8% | 15.9% | 7.2% | 14.5% | 14.5% | 100.0% | | |
| To communicate targets to employees | 43 | 5 | 1 | 10 | 10 | 69 | 2.1 | 1.6 |
| | 62.3% | 7.2% | 1.4% | 14.5% | 14.5% | 100.0% | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| To monitor business performance | 34 | 11 | 5 | 7 | 12 | 69 | 2.3 | 1.6 |
| | 49.3 % | 15.9% | 7.2% | 10.1% | 17.4% | 100.0 % | | |
| For direction | 43 | 5 | 2 | 8 | 11 | 69 | 2.1 | 1.6 |
| | 62.3 % | 7.2% | 2.9% | 11.6% | 15.9% | 100.0 % | | |
| For coordination | 43 | 6 | 1 | 7 | 12 | 69 | 2.1 | 1.6 |
| | 62.3 % | 8.7% | 1.4% | 10.1% | 17.4% | 100.0 % | | |
| To improve efficiency and quality assurance | 35 | 10 | 4 | 9 | 11 | 69 | 2.2 | 1.6 |
| | 50.7 % | 14.5% | 5.8% | 13.0% | 15.9% | 100.0 % | | |
| General (site instruction and site safety) | 26 | 15 | 6 | 10 | 12 | 69 | 2.5 | 1.5 |
| | 37.7 % | 21.7% | 8.7% | 14.5% | 17.4% | 100.0 % | | |
| Total | 436 | 132 | 61 | 123 | 144 | 896 | | |
| | 48.7 % | 14.7% | 6.8% | 13.7% | 16.1% | 100.0 % | | |

**Table 4.9: Chi-square tests**

**Chi-Square Tests**

| | Value | df | Asymptotic Significance (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 65.495[a] | 48 | .047 |
| Likelihood Ratio | 70.348 | 48 | .019 |
| Linear-by-Linear Association | .890 | 1 | .346 |
| N of Valid Cases | 896 | | |

a. 13 cells (20.0%) have expected count less than 5. The minimum expected count is 4.63.

The chi-square analysis is testing if there is a statistically significant difference in the purpose for the usage of types of budgets experienced by construction firms in the Cape Town northern suburbs. The purposes are for forecasting expenditure, controlling expenditure, monitor expenditure, forecasting cost fluctuation (material price), allocating resources

(material and labour), identifying potential problems (delays and changes), communicating targets to employees, monitoring business performance, direction, coordination, improving efficiency and quality assurance and general (site instruction and site safety). Therefore, the chi-square asymptotic significant level of 0.000 that is less than 0.05 confirmed the rejection of the null hypothesis and supports the conclusion of statistically significant differences in the purpose for which construction firms use different types of budgets for.

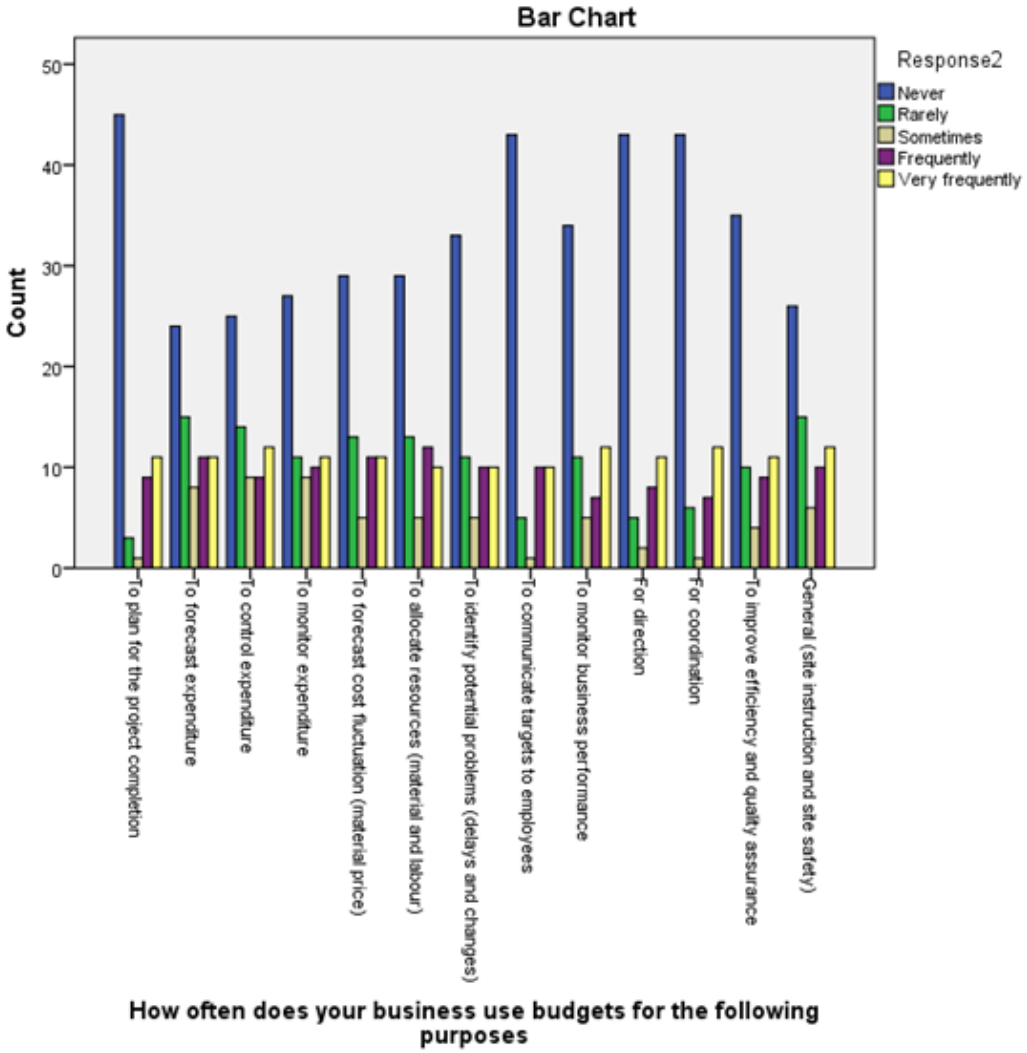


**Figure 4.7: Purpose for which types of budgets are used by construction firms**

Figure 4.7 above represents the purpose for which the different types of budgets are used by construction firms. It further illustrates the various responses received from respondents on the purpose for which the different types of budgets are used.

### 4.7 Perception and Awareness of the Types of Budgets Used by Construction Firms

The last question of Section A is Question 4 of the questionnaire. In this question, respondents were asked to stipulate their perceptions and awareness regarding the types of budgets used by their businesses. A five-point Likert scale was used with weightings of 1 for “very unaware”, 2 for “unaware”, 3 for “neutral”, 4 for “aware” and 5 for “very aware”. Therefore, the closer the mean was to five, the more types of budget perceived to be used.

For the sake of clarity and awareness, the percentages of the respondents who perceived types of budgets to be either aware or very aware were added up together, and reported as “percentage that perceived and aware of the types of budget used”. Therefore, those who were neutral with regard to their perception and awareness of the types of budgets were conservatively reported as being unaware of the types budget used, as the word neutral implies a lack of certainty.

As illustrated in Table 4.10 below, the budgeted income statement was perceived to be the most used type of budget (60.90%), followed by the cash budget (52.2%), and then the budgeted balance sheet (43.4%), and followed by the production budget (39.1%), labour budget (37.7%), material budget (37.6%) overheads budget (36.2%) and administrative budget (34.7%). The least perceived type of budget used was the master budget (30.4%).

The mean values of the below results indicate the types of budget perceived most used were the budgeted income statement (3.5), followed by the cash budget (3.4), and then the budgeted balance sheet (2.8). The standard deviation of the above showed that there was a disagreement among the construction firms regarding the perception and awareness of the type of budget used.

Therefore, the implication of this is that respondents are mostly aware of the different types of budgets even though they might not be fully utilising them.

**Table 4.10: Perception and awareness of the types of budget used by construction firms**

**What is your perception on the awareness and usage of the following types of budgets towards project completion in your business?**

| | Response | | | | | Total | Mean | Standard Deviation |
|---|---|---|---|---|---|---|---|---|
| | Very unaware | Unaware | Neutral | Aware | Very aware | | | |
| The Production budget | 26 | 13 | 3 | 16 | 11 | 69 | 2.6 | 1.6 |
| | 37.7% | 18.8% | 4.3% | 23.2% | 15.9% | 100.0% | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| The Material budgets | 25 | 14 | 4 | 15 | 11 | 69 | 2.6 | 1.5 |
| | 36.2% | 20.3% | 5.8% | 21.7% | 15.9% | 100.0% | | |
| The Labour budget | 25 | 14 | 4 | 14 | 12 | 69 | 2.6 | 1.6 |
| | 36.2% | 20.3% | 5.8% | 20.3% | 17.4% | 100.0% | | |
| The overheads budget | 25 | 15 | 4 | 13 | 12 | 69 | 2.6 | 1.6 |
| | 36.2% | 21.7% | 5.8% | 18.8% | 17.4% | 100.0% | | |
| The Administrative budget | 25 | 15 | 5 | 11 | 13 | 69 | 2.6 | 1.6 |
| | 36.2% | 21.7% | 7.2% | 15.9% | 18.8% | 100.0% | | |
| The Budgeted Income statement | 5 | 11 | 11 | 28 | 14 | 69 | 3.5 | 1.2 |
| | 7.2% | 15.9% | 15.9% | 40.6% | 20.3% | 100.0% | | |
| The Budgeted Balance sheet | 23 | 12 | 4 | 17 | 13 | 69 | 2.8 | 1.6 |
| | 33.3% | 17.4% | 5.8% | 24.6% | 18.8% | 100.0% | | |
| The Master Budget | 31 | 13 | 4 | 7 | 14 | 69 | 2.4 | 1.6 |
| | 44.9% | 18.8% | 5.8% | 10.1% | 20.3% | 100.0% | | |
| The Cash Budget | 6 | 13 | 14 | 22 | 14 | 69 | 3.4 | 1.2 |
| | 8.7% | 18.8% | 20.3% | 31.9% | 20.3% | 100.0% | | |
| Total | 191 | 120 | 53 | 143 | 114 | 621 | | |
| | 30.8% | 19.3% | 8.5% | 23.0% | 18.4% | 100.0% | | |

**Table 4.11: Chi-square tests**

**Chi-Square Tests**

| | Value | df | Asymptotic Significance (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 147.036[a] | 20 | .000 |
| Likelihood Ratio | 175.284 | 20 | .000 |
| Linear-by-Linear Association | 24.605 | 1 | .000 |
| N of Valid Cases | 414 | | |

a. 6 cells (20.0%) have expected count less than 5. The minimum expected count is .33.

The chi-square analysis is testing if there is a statistically significant difference in the perception and awareness of usage of types of budgets experienced by construction firms in Cape Town northern suburbs. The types of budgets include the production budget, material budgets, labour budget, overheads budget, administrative budget, budgeted income statement, budgeted balance sheet, master budget, and cash budget. Therefore, the chi-square asymptotic significant level of 0.000 that is less than 0.05 confirmed the rejection of the null hypothesis and supports the conclusion of statistically significant differences in the perception and awareness of the types of budgets used by construction firms.

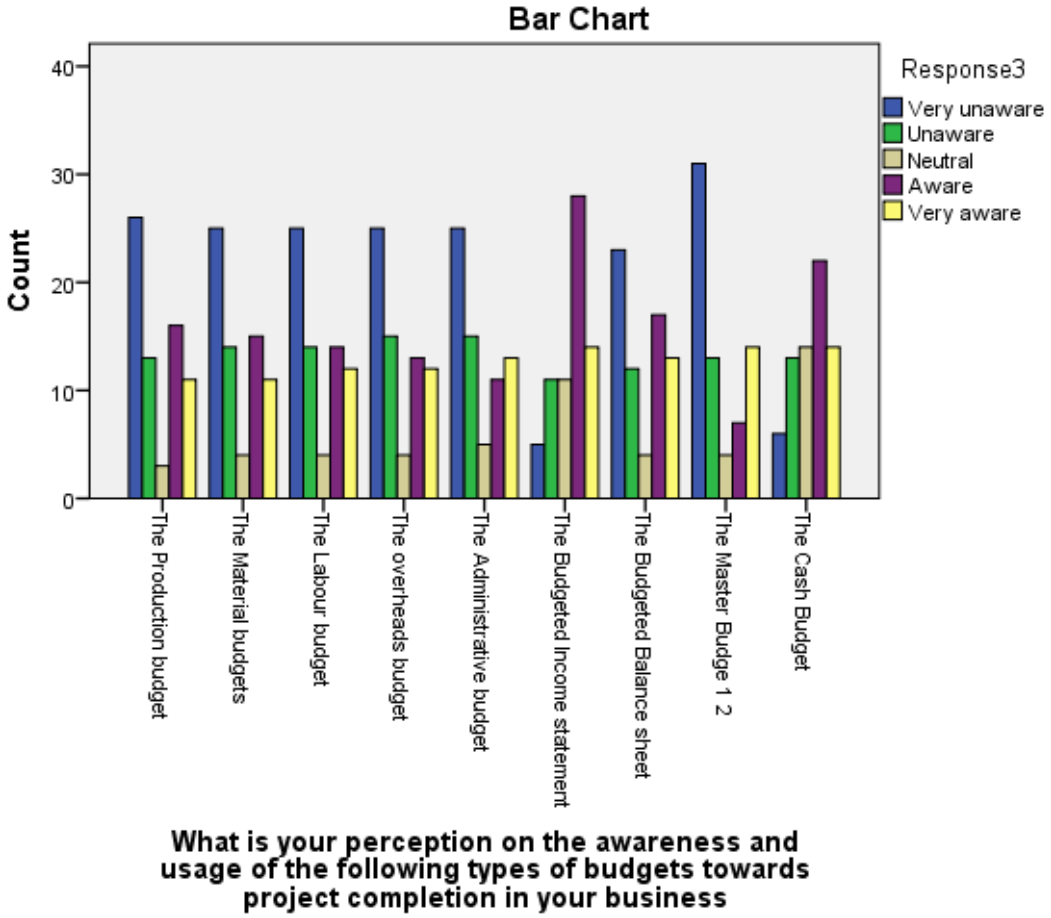


**Figure 4.8: Perception and awareness of the types of budget used by construction firms**

Figure 4.8 above represents the perception and awareness of the different types of budgets used for by construction firms. It further illustrates the various responses received from respondents on their perception of the different types of budgets used.

### 4.8 Preparation, Method of Preparation and Whether Cash Budgets Are Outsourced

Question 5 of Section B of the questionnaire asks respondents to stipulate whether they prepare or outsource cash budgets. A five-point Likert scale was used with weightings of 1 for “strongly disagree”, 2 for “disagree”, 3 for “neutral”, 4 for “agree” and 5 for “strongly agree”. Therefore, the closer the mean was to 5, the more the cash budgets are prepared internally or outsourced, whichever is applicable.

For the sake of clarity and awareness, the percentages of respondents who either agree or strongly agree were added together, and reported as “percentage that prepare or outsourced cash budgets”. Therefore, those who were neutral with regard to their preparation and outsourcing of cash budgets were conservatively reported as disagreeing in with the notion of preparation and outsourcing of cash budget, as the word neutral implies a lack of certainty.

As per Table 4.12 below, respondents agreed that cash budgets are prepared on a monthly basis (73.9%) and cash budgets are prepared on a yearly basis (71%). However, when asked whether cash budgets are not prepared at all or cash budgets are prepared internally, the respondents disagreed with these, at 33.3% and 5.8% respectively. Furthermore, the respondents also agreed that cash budgets are outsourced (40.5%). Lastly, the respondents were asked whether cash budgets are prepared on a quarterly basis, they disagreed with this (1.4%).

The mean values of the results below also indicate that cash budgets are prepared on a monthly basis (3.5), cash budgets are prepared on a yearly basis (3.5), and that cash budgets are outsourced (2.7). The standard deviation of the above showed that there was a disagreement among the construction firms regarding the preparation of cash budgets, and whether cash budgets are outsourced or prepared in-house.

Therefore, this implies that most surveyed construction firms do not prepare cash budgets in-house, as they prefer to outsource to a service provider or consultant in order to save time and resources. If cash budgets are outsourced, they lack the appropriate oversight and strategic alignment of the business and how funds should be allocated on the projects, thus leading to a misallocation of such funds, inadequate planning and ultimately failure of the project.

**Table 4.12: Preparation, method of preparation and whether cash budgets are outsourced**

| To what extent do you agree with the preparation and method of preparation of cash budgets? |
|---|

| | Response4 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Total | Mean | Standard Deviation |
| Cash budgets are not prepared at all | 19 | 46 | 0 | 4 | 0 | 69 | 1.8 | 0.7 |
| | 27.5% | 66.7% | 0.0% | 5.8% | 0.0% | 100.0% | | |
| Cash budgets are outsourced | 12 | 29 | 0 | 21 | 7 | 69 | 2.7 | |
| | 17.4% | 42.0% | 0.0% | 30.4% | 10.1% | 100.0% | | 1.3 |
| Cash budgets are prepared internally | 10 | 35 | 1 | 18 | 5 | 69 | 2.6 | 1.2 |
| | 14.5% | 50.7% | 1.4% | 26.1% | 7.2% | 100.0% | | |
| Cash budgets are prepared on a monthly basis | 6 | 12 | 0 | 42 | 9 | 69 | 3.5 | 1.1 |
| | 8.7% | 17.4% | 0.0% | 60.9% | 13.0% | 100.0% | | |
| Cash budgets are prepared on a quarterly basis | 15 | 52 | 1 | 0 | 1 | 69 | 1.8 | 0.6 |
| | 21.7% | 75.4% | 1.4% | 0.0% | 1.4% | 100.0% | | |
| Cash budgets are prepared on a yearly basis | 6 | 14 | 0 | 40 | 9 | 69 | 3.5 | 1.2 |
| | 8.7% | 20.3% | 0.0% | 58.0% | 13.0% | 100.0% | | |
| Total | 68 | 188 | 2 | 125 | 31 | 414 | | |
| | 16.4% | 45.4% | 0.5% | 30.2% | 7.5% | 100.0% | | |

**Table 4.13: Chi-square tests**

**Chi-Square Tests**

| | Value | df | Asymptotic Significance (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 147.036[a] | 20 | .000 |
| Likelihood Ratio | 175.284 | 20 | .000 |

| | | | |
|---|---|---|---|
| Linear-by-Linear Association | 24.605 | 1 | .000 |
| N of Valid Cases | 414 | | |

a. 6 cells (20.0%) have expected count less than 5. The minimum expected count is .33.

The chi-square analysis is testing if there is a statistically significant difference in the preparation, outsourcing and internal preparation of cash budgets by construction firms in Cape Town northern suburbs. Therefore, the chi-square asymptotic significant level of 0.000, which is less than 0.05, confirmed the rejection of the null hypothesis and supports the conclusion of statistically significant differences in the preparation, outsourcing and internal preparation of cash budgets by construction firms.

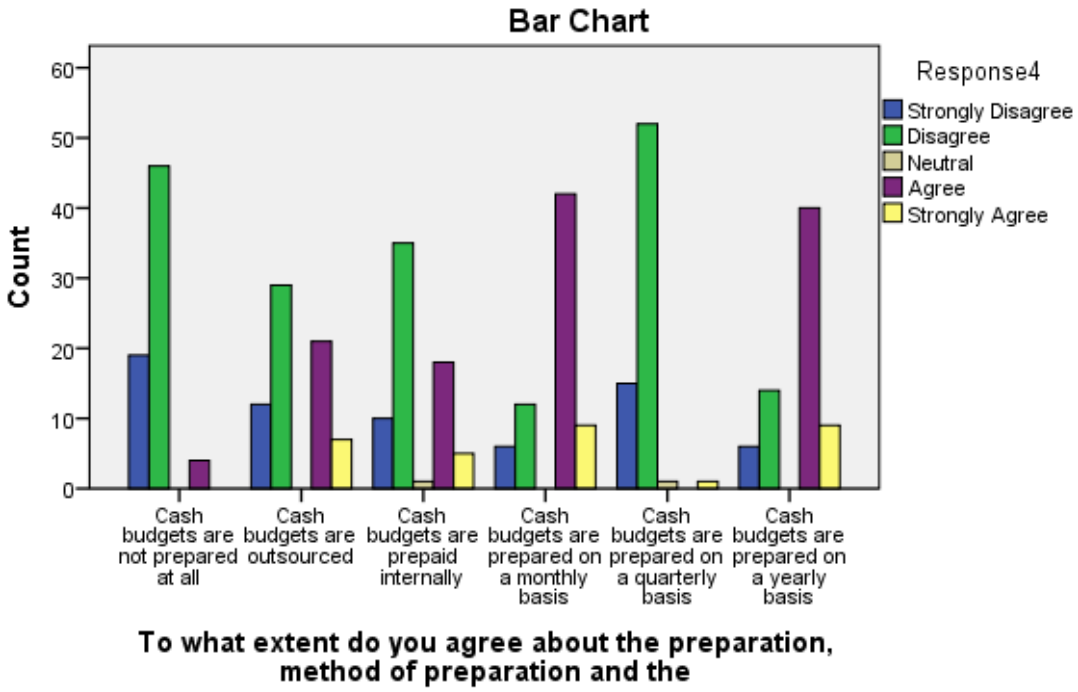


**Figure 4.9: Preparation, method of preparation and whether cash budgets are outsourced**

Figure 4.9 above represents the preparation, outsourcing and internal preparation of cash budgets by construction firms. It further illustrates the various responses received from respondents on their preparation, outsourcing and internal preparation of cash budgets.

### 4.9 Research Hypothesis Testing

**Table 4.14: Hypotheses tested**

| | | |
|---|---|---|
| Hypothesis 1 | $H_0$: | H0 = There is no significant difference in the frequency of preparation of different types of budgets by owners and managers of construction firms in Cape Town northern suburbs based on (a) Years of Business Existence (b) Number of Employees (c) Position in the Organisation (d) Educational Qualification. |
| Hypothesis 2 | $H_0$: | There is no significant difference in the purpose for which different types of budgets are used for by construction firms based on (a) Years of Business Existence (b) Number of Employees (c) Position in the Organisation (d) Educational Qualification. |
| Hypothesis 3 | $H_0$: | There is no significant difference in the perception of the respondents on the awareness and usage of the different types of budgets based on (a) Years of Business Existence (b) Number of Employees (c) Position in the Organisation (d) Educational Qualification. |
| Hypothesis 4 | $H_0$: | There is no significant difference in the frequency preparation of cash budgets and whether the cash budgets are outsourced or prepared internally based on (a) Years of Business Existence (b) Number of Employees (c) Position in the Organisation (d) Educational Qualification. |

**Table 4.15: Analysis of variance in evaluating the significant difference in the frequency of preparation of different types of budgets**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Educational Qualification | Between Groups | 9.527 | 2 | 4.763 | 2.179 | .121 |
| | Within Groups | 142.089 | 65 | 2.186 | | |
| | Total | 151.616 | 67 | | | |
| Position In Organisation | Between Groups | .521 | 2 | .261 | .111 | .895 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Within Groups | 149.706 | 64 | 2.339 | | |
| | Total | 150.228 | 66 | | | |
| Number of Employees | Between Groups | 87.232 | 3 | 29.077 | 29.079 | .000 |
| | Within Groups | 62.996 | 63 | 1.000 | | |
| | Total | 150.228 | 66 | | | |
| Years of Existence | Between Groups | 89.305 | 3 | 29.768 | 30.783 | .000 |
| | Within Groups | 60.923 | 63 | .967 | | |
| | Total | 150.228 | 66 | | | |

**Research Hypothesis One:** On whether there is no significant difference in the frequency of preparation of different types of budgets.

$H_0$ = There is no significant difference in the frequency of preparation of different types of budgets by owners and managers of construction firms in Cape Town northern suburbs based on (a) Years of Business Existence (b) Number of Employees (c) Position in the Organisation (d) Educational Qualification.

Table 4.15 above presents the analysis of variance in the response of respondents as they observed the frequency of preparation of different types of budgets by construction firms in Cape Town northern suburbs. The hypothesis was raised and tested on a 95% confidence interval with a p-value in the last column of the table indicating the significant level of each sub-section of the hypothesis. None of the p-values is less than 5%, with the exception of “Years of Existence” and “Number of Employees”. Therefore, we do not reject the null hypothesis of no statistically significant difference in the frequency of preparation of different types of budgets by owners and managers of construction firms in Cape Town northern suburbs. This is observed by the respondents’ answer to all item questions raised based on years of business existence, number of employees, position in the organisation, and educational qualification.

Conversely, we rejected the null hypothesis and conclude that there is statistical significance in the frequency of preparation of different types of budgets by construction firms based “Years of Existence” and “Number of Employees”. Figures 4.10 and 4.11 below indicate the sources of variation and significance of the hypothesis.

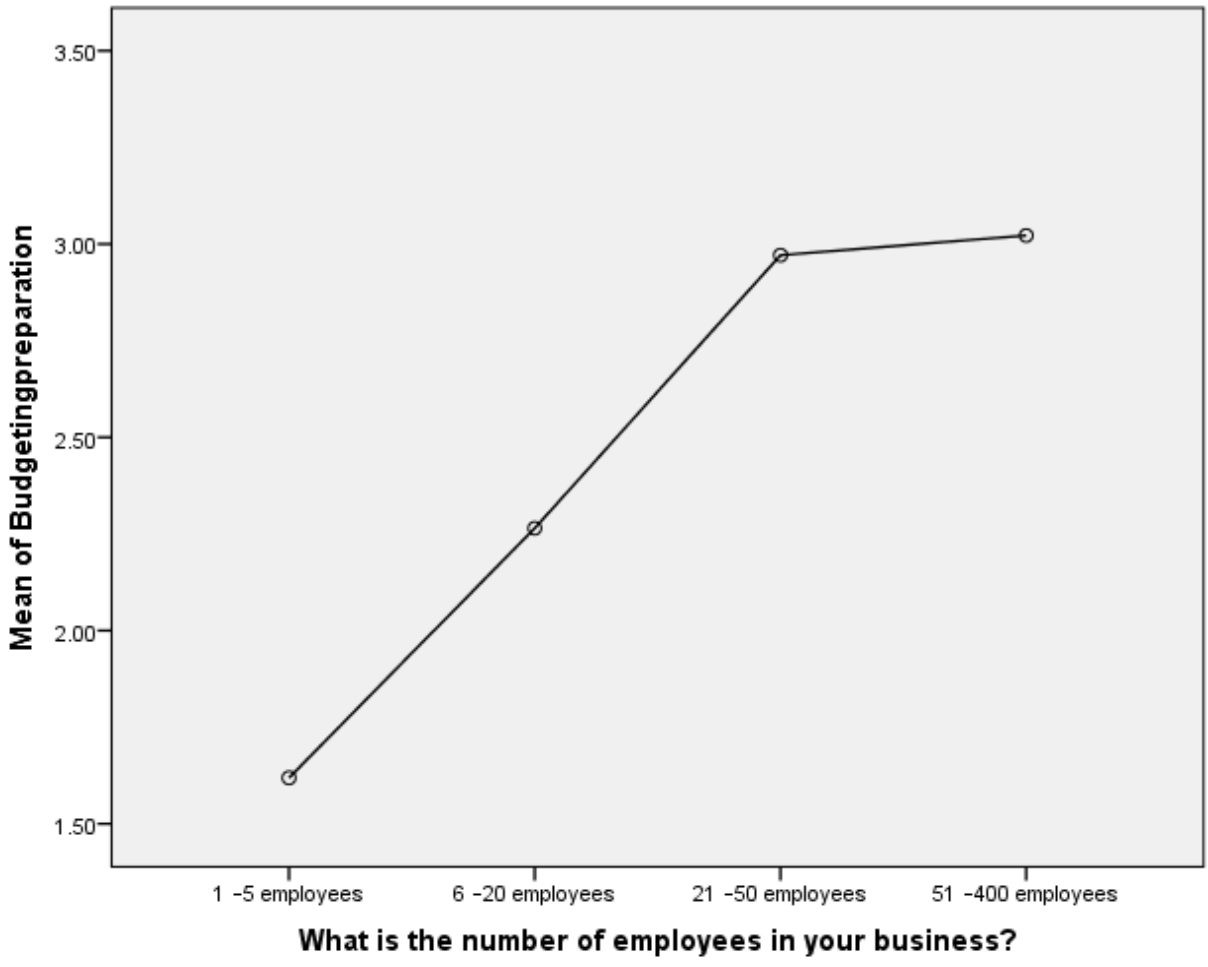


**Figure 4.10: Significance of the hypothesis on “Number of Employees”**

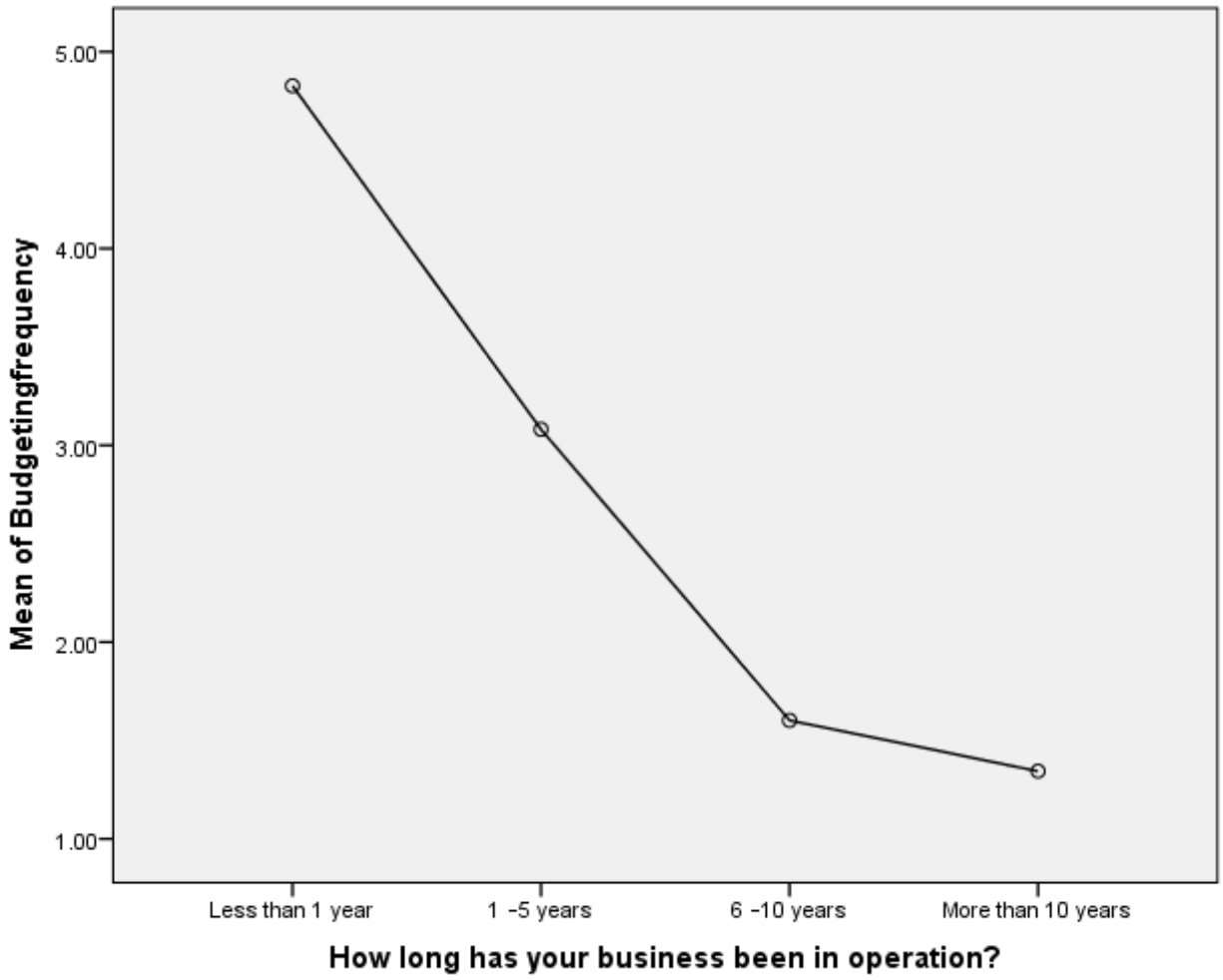


**Figure 4.11: Significance of the hypothesis on "Years of Existence"**

**Table 4.16: Analysis of variance in evaluating whether there is no significant difference in the purpose for which different types of budgets are used**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Educational Qualification | Between Groups | 10.736 | 2 | 5.368 | 3.146 | .050 |
| | Within Groups | 112.625 | 66 | 1.706 | | |
| | Total | 123.362 | 68 | | | |
| Position In Organisation | Between Groups | 1.622 | 2 | .811 | .439 | .647 |
| | Within Groups | 120.196 | 65 | 1.849 | | |
| | Total | 121.818 | 67 | | | |
| Number of Employees | Between Groups | 55.715 | 3 | 18.572 | 17.981 | .000 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Within Groups | 66.103 | 64 | 1.033 | | |
| | Total | 121.818 | 67 | | | |
| Years of Existence | Between Groups | 57.535 | 3 | 19.178 | 19.094 | .000 |
| | Within Groups | 64.283 | 64 | 1.004 | | |
| | Total | 121.818 | 67 | | | |

**Research Hypothesis 2:** On whether there is no significant difference in the purpose for which different types of budgets are used for by construction firms.

$H_0$ = There is no significant difference in the purpose for which different types of budgets are used for by construction firms based on (a) Years of Business Existence (b) Number of Employees (c) Position in the Organisation (d) Educational Qualification

Table 4.16 above provides the analysis of variance in the answers of respondents as they observed the purpose for which the different types of budgets are used by construction firms. The hypothesis was raised and tested on a 95% confidence interval with p-values in the last column of the table indicating the significant level of each subsection “a to e” of the hypothesis. None of the p-values is less than 5%, with an exception of the “Years of Existence” and “Number of Employees”.

Therefore, the null hypothesis of no statistically significant difference on the purpose for which different types of budgets are used by the owners and managers of construction firms in Cape Town northern suburbs is not rejected. In addition, it is observed by the respondents’ answers to all item questions raised based on years of business existence, number of employees, position in the organisation, and educational qualification.

Conversely, we rejected the null hypothesis and conclude that there is statistical significance in the frequency of preparation of different types of budgets by construction firms based “Years of Existence” and “Number of Employees”.

**Table 4.17: Analysis of Variance in evaluating whether there is no significant difference in perception of the respondents on the awareness and usage of the different types of budgets**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Educational Qualification | Between Groups | 1.217 | 2 | .608 | 1.470 | .237 |
| | Within Groups | 27.311 | 66 | .414 | | |
| | Total | 28.527 | 68 | | | |
| Position In Organisation | Between Groups | .928 | 2 | .464 | 1.094 | .341 |
| | Within Groups | 27.572 | 65 | .424 | | |
| | Total | 28.500 | 67 | | | |
| Number of Employees | Between Groups | 15.016 | 3 | 5.005 | 23.758 | .000 |
| | Within Groups | 13.484 | 64 | .211 | | |
| | Total | 28.500 | 67 | | | |
| Years of Existence | Between Groups | 13.620 | 3 | 4.540 | 19.528 | .000 |
| | Within Groups | 14.880 | 64 | .232 | | |
| | Total | 28.500 | 67 | | | |

**Research Hypothesis 3:** On whether there is no significant difference on the perception of the respondents on the awareness and usage of the different types of budgets by Construction Firms

$H_0$ = There is no significant difference in the perception of the respondents on the awareness and usage of the different types of budgets by construction firms based on (a) Years of Business Existence (b) Number of Employees (c) Position in the Organisation (d) Educational Qualification.

Table 4.17 above presents the analysis of variance in the answers of respondents as they observed and perceived the extent of awareness and usage of the different types of budgets by construction firms. The hypothesis was raised and tested on a 95% confidence interval with p-value in the last column of the table indicating the significant level of each subsection “a to e” of the hypothesis. None of the p-values is less than 5% with an exception of the “Years of Existence” and “Number of Employees”.

Therefore, the null hypothesis of no statistically significant difference on perception of the respondents' awareness and usage of the different types of budgets by owners and managers of construction firms in Cape Town northern suburbs is not to be rejected. In addition, it is observed by the respondents' answers to all item questions raised based on years of business existence, number of employees, position in the organisation, and educational qualification.

Conversely, the null hypothesis is rejected and the conclusion is that there is statistical significance in the frequency of preparation of different types of budgets by construction firms based on "Year of Existence" and "Number of Employees". Figures 4.12 and 4.13 below indicate the sources of variation and significance of the hypothesis.

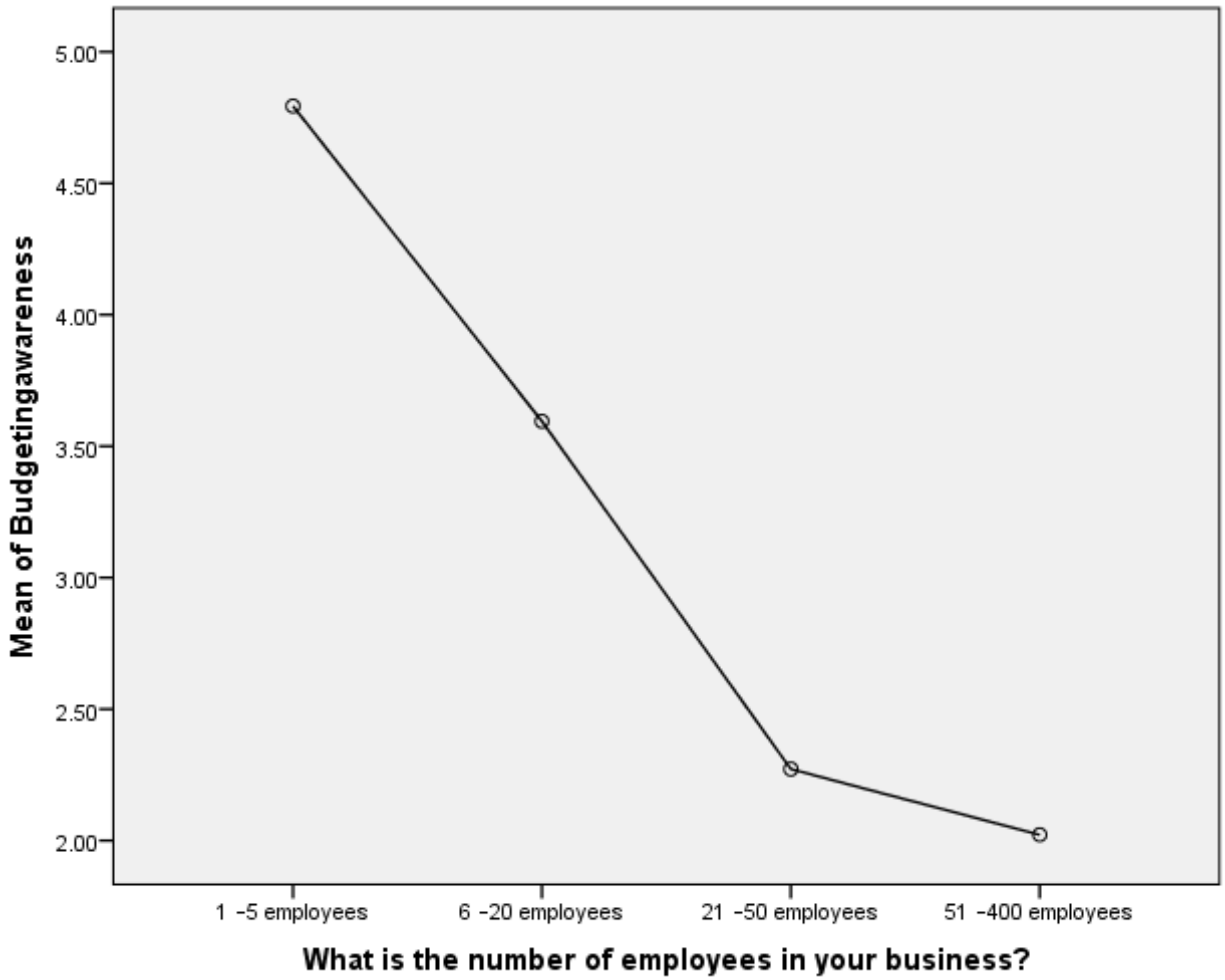


**Figure 4.12: Significance of the hypothesis on "Number of Employees"**

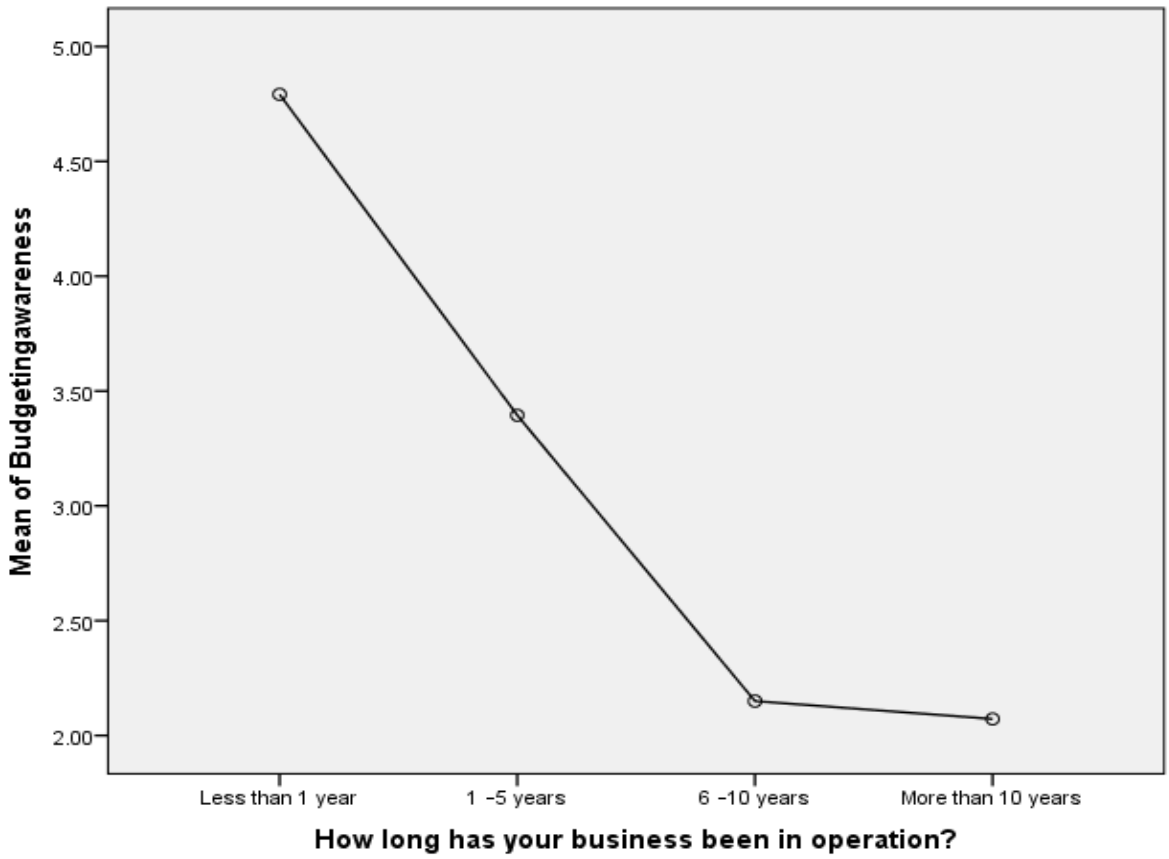


**Figure 4.13: Significance of the hypothesis on "Years of Existence"**

**Table 4.18: Analysis of variance in evaluating whether there is no significant difference on the preparation and outsourcing of cash budgets**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Educational Qualification | Between Groups | 8.483 | 2 | 4.241 | 2.548 | .086 |
| | Within Groups | 109.849 | 66 | 1.664 | | |
| | Total | 118.331 | 68 | | | |
| Position In Organisation | Between Groups | 1.131 | 2 | .566 | .316 | .730 |
| | Within Groups | 116.278 | 65 | 1.789 | | |
| | Total | 117.409 | 67 | | | |
| Number of Employees | Between Groups | 64.091 | 3 | 21.364 | 25.644 | .000 |
| | Within Groups | 53.317 | 64 | .833 | | |
| | Total | 117.409 | 67 | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Years of Existence | Between Groups | 70.363 | 3 | 23.454 | 31.907 | .000 |
| | Within Groups | 47.046 | 64 | .735 | | |
| | Total | 117.409 | 67 | | | |

**Research Hypothesis 4:** On whether there is no significant difference in the frequency of preparation of cash budgets and whether cash budgets are outsourced or prepared internally by construction firms.

$H_0$ = There is no significant difference in the frequency of preparation of cash budgets and whether cash budgets are outsourced or prepared internally by construction firms based on (a) Years of Business Existence (b) Number of Employees (c) Position in the Organisation (d) Educational Qualification.

Table 4.18 above presents the analysis of variance in the answers of respondents' frequency of preparation of cash budgets and whether cash budgets are outsourced or prepared internally by construction firms. The hypothesis was raised and tested on a 95% confidence interval with p-values in the last column of the table indicating the significant level of each subsection "a to e" of the hypothesis. Since none of the p-values is less than 5%, with an exception of "Years of Existence" and "Number of Employees". Therefore, the null hypothesis of no statistically significant difference on the preparation and outsourcing of cash budget by the owners and managers of construction firms in Cape Town northern suburbs is not rejected. Also, as it is observed by the respondents' regarding response to all item questions raised based on years of business existence, number of employees, position in the organisation and educational qualification.

Conversely, the null hypothesis is rejected and the conclusion is that there is statistical significance in the frequency of preparation of different types of budgets by construction firms based on "Years of Existence" and "Number of Employees".

### 4.10 Summary and Conclusion

The main objective of this chapter was to analyse and discuss the results of the questionnaire survey conducted to investigate the extent to which cash budgets are employed by the construction firms in Cape Town northern suburb industrial areas. This chapter presented empirical findings of the study, which were fully discussed. Furthermore, the chapter analysed and discussed the results on the types of budgets used by construction

firms, the purposes for which types of budget are used for, the perceptions of the decision-makers of construction firms regarding the awareness and usage of the types of budgets and whether the types of budgets are outsourced or prepared internally.

In terms of the number of years in business (Figure 4.1), more than 70% of the construction firms on the Cape Town northern suburbs have been in business for less than 10 years. More than 80% of the construction firms surveyed indicated that their businesses had less than 50 employees.

Concerning the frequency of preparation and use of types of budgets (Table 4.5), the most frequently, used type of budget was the budgeted income statement (75.3%). The second frequently used type of budgets was the cash budget (71%) and budgeted balance sheet (46.3%). Following these were production budget (34.7%), material budget (34.7%), labour budget (33.2%), administrative budget (31.8% %) and overheads budget (31.8%). The least frequently used budget was the master budget (27.5%).

As far as the purposes for which types of budgets are used is concerned (Table 4.8), the results revealed that types of budgets were most frequently used for allocation of resources (material and labour) (31.80%) and the general (site instruction and safety) (31.90%), and forecasting of cost fluctuation (material price) (31.80%). Furthermore, budget reports were frequently for monitoring of expenditure (30.9%), controlling of expenditure purposes (30.40%), identifying potential problems (delays and changes) (29%) and communication of targets to the employees (29%). Other purposes for which the types of budgets were frequently used included for planning for the project completion (28.90%), improving efficiency and quality assurance (28.90%), monitoring business performance (27.5%), direction (27.50%) and for coordination (27.50%).

In terms of the perceptions of decision-makers of construction firms regarding the awareness of the types of budget used (Table 4.10); the results indicated that the budgeted income statement was perceived to be the most frequently used type of budget (60.90%), cash budget (52.2%), budgeted balance sheet (43.4%), and production budget (39.1%). Additionally, other types of budgets perceived to be used were the labour budget (37.7%), material budget (37.6%), overheads budget (36.2%), and administrative budget (34.7%). The least perceived type of budget used was the master budget (30.4%).

Regarding the preparation and outsourcing of cash budgets (Table 4.12), cash budgets were prepared on a monthly basis (73.9%). Cash budgets were also prepared on a yearly basis (71%). However, cash budgets were not prepaid internally (33.3%). Furthermore, the results revealed that most construction firms outsourced cash budgets (40.5%). Lastly, cash budgets were not prepared on a quarterly basis (1.4%).

Considering the respondents' position on the businesses (Figure 4.3), the results showed that 23.5% of the respondents were managers, while 32.4% were the owners of their businesses. In addition, of the respondents, 44.1% are both managers and owners of their businesses. Therefore, this suggests that most respondents surveyed were the decision-makers of their businesses.

Regarding the respondents' highest level of education (Figure 4.4), the results indicated that 95.7% of the respondents had a matric qualification and only 4.23% had no matric qualification. In addition, the results further illustrated that 62.3% had a post-matric qualification while 37.7% had no post-matric qualification.

# CHAPTER FIVE
# DISCUSSION, SUMMARY AND CONCLUSIONS

## 5.1 INTRODUCTION

This chapter presents the conclusions and recommendations relevant to the study. To recapitulate, the thesis statement of this study was to investigate the use of the cash budget as a planning tool towards project completion by construction firms in the Cape Town northern suburbs industrial areas. In addition, the aim of this chapter is to summarise the key findings and draw conclusions on the types of budgets used by construction firms. Furthermore, this chapter also provides the contributions of this study, its limitations and makes recommendations for further research.

The chapter begins with the aims of the chapter in Section 5.2, the discussion of the analysed results in Section 5.3, a restatement of the research problem and research objectives outlined in Chapter One, in Section 5.4. This is followed by a summary and conclusion of the literature review on the usage of types of budgets presented in Chapter Two, in Section 5.5. Section 5.6 provides a summary and conclusion of the research design and methodology used in this study, presented in Chapter Three. Section 5.7 provides a summary and conclusion of the analysis of the results of the study, presented in Chapter Four. Section 5.8 provides the contribution and significance of this study while Section 5.9 presents the limitations of the study. Section 5.10 makes recommendations for further research.

## 5.2 AIMS OF THE CHAPTER

The aim of this chapter is to discuss and summarise the major findings of this study as they pertain to the research objectives stated in Chapter One. The discussion and summaries are based on the findings and literature in this study that may help provide possible suggestions for further research. Some limitations envisaged in this study are also provided.

## 5.3 DISCUSSIONS

The results which were analysed and presented in the previous chapter are now discussed categorically under different sections according to the objectives of the study. In addition, from the outset of the study, the research questions were often aligned to the research objectives.

### 5.3.1 Demographic information

Some construction firms operate under the control of managers who often do not have post matric qualification. Managers are accountable for the day-to-day business operations and therefore subjected to a proper reporting structure. Therefore, their qualifications may have an impact on the usage of cash budget by their firms. Furthermore, from the researchers' findings, it was evident that the majority of the respondents' companies had been in existence for a period of 6 to 10 years. This might be in line with the claim that there is a high failure rate of construction firms which are closing soon after a few years of operation. However, this might not necessarily mean failure as construction projects are seasonal and usually run for a few months, therefore, firms turn to temporarily close in the absence of running projects.

### 5.3.2 Research question one

The results from the questionnaires which aimed to achieve objective one of this study are discussed in this section. The research question was:

*How often do construction firms use cash budget when planning their project completion?*

The most frequently used type of budget was the budgeted income statement with a usage rate of 75.3% and cash budget only at 71%. This is in line with an emphasis made by Arditi, Koksal & Kale (2008), that firms that take robust administrative measures and mechanisms to address budgeting issues, especially cash budget should be able to avoid project failure on their firms. Furthermore, based on the collected data, other types of budget used have lower usage rate, such as production budget and material budget shared the same usage rate of 34.7%. According to Nagar, Gujarat & India (2011), materials represent a major expense in construction, therefore, minimizing and budgeting procurement costs improves opportunities for reducing the overall project costs. Additionally, a production budget is often based on sophisticated cost estimation for a particular project.

Furthermore, the administrative budget and overheads budget also had the same usage rate of 31.8%. Overhead budgets and allowances in tenders are based on past records, business strategy, market and business volume forecasts and estimated resource needs. Additionally, managing overheads can be affected by variations in business volume as a result of fluctuations in the construction cycle and in the success rate of acquiring projects. Therefore, construction overheads are monitored monthly against the budget, taking time, progress, resources and other relevant factors into consideration (Eksteen & Rosenberg, 2002).

### 5.3.3 Research question two

Results emanating from objective two of the study are discussed in this section. The research question was:

*For what purpose are cash budgets or other types of budget used by construction firms?*

According to the results presented, most construction firms used budget to allocate resources (material and labour) and this concur with (Phillips, Carlos, & Costa, 2007) that in all organisations, resources should be allocated to areas that correspond to functions and units. Furthermore, only 31.80% of the construction firms used budget for forecasting of expenditure and forecasting of cost fluctuation (material price), which indicates a lack of understanding of the expenditure forecast using budget. According to Cheng, Yu and Wang (2011), in the construction industry, payments for the whole construction project are usually made according to the status or progress of the project. Therefore, it is fundamental to predict the payment or expenditure for the next period. Furthermore, budget is often used as a tool to predict the cost flow of construction projects (Cheng, Yu and Wang, 2011).

In addition, at least 30.40% of the construction firms used budget reports for controlling expenditure purposes and this is in line with (Kamaruzzaman, 2010), that it is important to have control on cost performance of projects to ensure the construction cost is within the budget, because construction costs that are out of control compromises the investment initiatives. Moreover, cost estimation is ought to be made before the project begins so that it can be monitored and controlled accordingly (Kamaruzzaman, 2010).

Furthermore, the other purposes for which types of budget reports were used for was the communication, this includes the communication of targets to employees through available channels. According to the presented results, only 29% of the construction firms used budget reports to exploit communication channels and this concurs with (Acar, Koçak Sey & Arditi, 2005) who posit that construction professionals are quite attached to their conventional methods in a sense that, as the construction industry, they are often reluctant to adopt and use the information communication technology (ICT) and this mainly caused by the lack of trained staff and the unskilled and cheap workforce in the construction industry.

A total of 71.10% participants did not use budget to plan for the project completion and this is in line with the study of Zwikael (2009), whereby it was indicated that some construction projects often do not focus on the most important processes when planning for their projects

completion, especially on the following planning processes: cost budgeting, communications planning, cost estimating, risk planning, and procurement planning.

### 5.3.4 Research question three

This section discusses results on objective three of the study from which the following research question was asked:

*What are the perceptions of the decision-makers of the Construction Firms regarding the awareness and usage of the cash budget?*

A total of 60.90% of the construction firms perceived the budgeted income statement to be the most frequently used type of budget. The reason for this might be because this type of budget is easy to prepare and to understand. However, measuring the financials on a weekly, quarterly or monthly basis does not necessarily give sufficient indication of the comprehensive performance of these firms over financial period. The other most frequently used type of budget is the cash budget with the rate of 52.2% followed by 43.4% budgeted balance sheet and production budget with 39.1%. Only 37.7% is the perceived labour budget and the material budget with 37.6% rate. Lack of material and labour management education may be the bottleneck to an efficient management of materials. According to Rahman, Memon, & Karim (2013), material is an important blueprint for the success of any project. Such a blueprint is designed to identify fundamental functions that are required in the construction project such as acquiring, storing and distribution of material (Rahman, Memon, & Karim (2013).

Furthermore, in order to control and minimize costs and overheads in construction, labour and equipment should be used effectively. In construction, labour is a remarkable resource which plays a pivotal role in the success of the project (Rahman, Memon, & Karim (2012).

### 5.3.5 Research question four

The research question read as follows:

*To what extent do construction firms prepare or outsource the preparation of their cash budget?*

Outsourcing is an arrangement and agreement whereby firms employ service providers, agents and consultants to perform certain functions or processes on their behalf. According to the results presented, 41% respondents indicated that their cash budgets are outsourced and the rest of the respondents indicated that their cash budgets are prepared internally on a monthly basis (73.9%) and (71%) prepares cash budgets on a yearly basis.

Lahiri (2016) argued that outsourcing can benefit a firm if it is correctly executed and at the same time it can also harm a firm if it is inadequately formulated and implemented. Furthermore, outsourcing needs to be clearly examined whether it adds value or creates problems to the firm at a strategic level. Thus will result in a better understanding of the phenomenon and the associated rationale, which will ultimately devise a useful investigation for the future orientation of the firm (Lahiri, 2016).

In addition, outsourcing is an option only if it costs significantly less than the cost of maintaining and managing it in-house. Furthermore, any reason to outsource should be identified, examined and evaluated accordingly. Outsourcing is not merely subcontracting, it is a management strategy in which an organisation outsources major functions to a specialised service provider on the close and long term relationship (Venter, 2000).However, Kamarazaly (2007), argued that outsourcing is the subcontracting of custom-made articles and construction, such as components and sub-assemblies.

## 5.4 Chapter One - Research Problem, Objectives and Questions Summary

The research problem addressed by this study is that construction firms in South Africa are failing to properly plan their project completion due to an inadequate use of cash budgets. Therefore, this research was conducted to address the following research objectives:

1. To determine whether the construction firms can rely on cash budgets to successfully plan the completion of their projects.
2. To evaluate the construction firms' business owners' and managers' awareness and usage of cash budgets when planning their project completion strategy.
3. To examine the construction firms' adequate monitoring of cash position, forecasting, planning, and budgeting.

4. To ascertain whether the construction firms prepare cash budgets at all, if so, how do they prepare them and who prepares them.

Furthermore, against this background, the main objective of this study was to investigate the extent to which decision-makers of the construction firms in Cape Town northern suburbs industrial areas use cash budgets when planning their project completion. The specific research questions considered were:

1. For what purpose are cash budgets used by the construction firms in the Cape Town northern suburbs industrial areas.
2. How often do construction firms in the Cape Town northern suburbs industrial areas prepare different types of budgets when planning for project completion.
3. What is the perception of the construction firms' business owners and managers on the awareness and 'usage of the various types of budget used towards their project completion.
4. Do construction firms in the Cape Town northern suburbs industrial areas internally prepare or outsource cash budgets to successfully plan the completion of their projects.

### 5.5 Chapter Two—Literature Review Summary

This study was empirical in nature. Therefore, conclusions were based on empirical findings. Chapter Two sought to describe and summarise prior studies conducted on the usage of cash budgets by construction firms. The chapter commenced with an overview of construction firms, the importance of the construction industry in the South African economy, importance of cash budgets and their usage on the project completion level, and an overview of the contractor development initiatives in South Africa. Furthermore, the chapter discussed the challenges facing the construction industry in South Africa, the construction project delays and causes of delays in construction projects, purpose for which construction firms use cash budgets when planning for their project completion, and an overview of the construction industry's development programme in South Africa.

The review indicated a high rate of late delivery on construction projects due to financial crisis on such projects (Kamanga & Steyn, 2013). The review further revealed factors that cause schedule overruns on projects and such factors are largely caused by, among other things, inadequate cost estimation, poor site planning, construction financial issues and most importantly client finances and late payment for completed and on-going work on site (Mulenga, 2014). Furthermore, the inadequate usage of cash budgets has caused late completion of projects. It has also caused the project costs to increase and project abandonment. This then affected the project cash flow and budget, forced the project to

downsize on costs, such as labour and material, to maintain and sustain the project financial stability, which then enhanced the industrial actions and disputes and ultimately, complete project abandonment (Munyoki, 2014). In addition, the review revealed that budgeting helps all types of organisations to plan, monitor and control their operations, and to support their managerial strategies (CIMA, 2008).

Concerning the perception and the awareness of the usage of types of budgets, some studies revealed the awareness of the types of budgets but the lack of usage and some indicated that contractors tend to outsource to an external service provider together with the other financial statements. Furthermore, some studies confirmed the need to use cash budgets adequately, but also acknowledged challenges regarding the usage towards project completion.

Regarding the delays in payment by client, the review revealed that amongst other factors, delays in payment and late payment of completed work by the client were one of the most important factors that contributed to time delays in the 2010 FIFA World Cup stadium projects in South Africa (Baloyi & Bekker, 2011).

### 5.6 Chapter Three—Research Design and Methodology Summary

Chapter Three of this study outlined the research design and methodology employed to collect data that was used to address the research objectives of this study. The chapter commenced by discussing the research paradigm adopted in the study and the justification for using a questionnaire survey methodology used for data collection. The chapter then described the research population and sampling technique employed in this study, the questionnaire design as well as the pilot study conducted before circulating the questionnaires. Furthermore, the chapter also discussed the data collection process and data analysis methods employed in this study, followed by measures undertaken to ensure the validity and reliability of the research instrument. It further indicated the limitations of the questionnaire survey methodology adopted and described the ethical considerations of this research. The chapter then concluded by recapitulating that the research methodology adopted in this study was deemed appropriate in addressing the research objectives of the study.

### 5.7 Chapter Four—Analysis of Results Summary

Chapter Four analysed and discussed the results of the questionnaire survey that addressed the four objectives of this study. The chapter begins by restating the research objectives. It further discussed the response rate and respondents' personal as well as their business' profile. This was followed by an analysis and discussion of the results on the usage of different types of budgets by construction firms, and the results on the purpose for which types of budgets are used by construction firms. Furthermore, Chapter Four also analysed and discussed the results on the perceived awareness and usage of the types of budgets that used by construction firms, as well as the results on whether cash budgets are prepared or outsourced by the construction firms.

The population of this study comprised construction firms operating and located in the Cape Town northern suburbs. The sampling frame for the study was 1732 registered contractors as per the CIDB and therefore, a target sample of 91 construction firms determined using an online-based sample size calculator[1] to achieve it, 115 questionnaires were distributed using a probability sampling technique. Out of 115 questionnaires distributed, 69 were returned. This resulted in a response rate of 60%.

Regarding the number of years in business, the results revealed that more than 70% of the construction firms on the Cape Town northern suburbs have been in business for less than 10 years. The results further revealed that more than 80% of the construction firms surveyed have indicated that their businesses had less than 50 employees.

Concerning the frequency of preparation and uses of the types of budgets, the results revealed that the most frequently used type of budget was the budgeted income statement (75.3%), then the cash budget (71%), budgeted balance sheet (46.3%), production budget (34.7%), material budget (34.7%), labour budget (33.2%), administrative budget (31.8% %), and overheads budget (31.8%). The least frequently used budget was the master budget (27.5%).

As far as the purposes for which types of budgets are used are concerned, the results revealed that budgets were most frequently used for allocation of resources (material and labour) (31.90%) and the general (site instruction and safety) (31.90%) and forecasting of cost fluctuation (material price) (31.80%). Furthermore, the results also revealed that budget reports were frequently used for monitoring of expenditure (30.9%), controlling of expenditure

1 See http://www.macorr.com/sample-size-calculator.htm

purposes (30.40%), identifying potential problems (delays and changes) (29%) and communication of targets to the employees (29%). In addition, the results further revealed that other purposes for which the types of budgets were frequently used include for planning for the project completion (28.90%), improving efficiency and quality assurance (28.90%), monitoring business performance (27.5%), direction (27.50%) and for coordination (27.50%).

With respect to the perceptions of decision-makers of construction firms regarding the awareness of the types of budgets used, the results indicated that the budgeted income statement was perceived to be the most used type of budget (60.90%), followed by the cash budget (52.2%), budgeted balance sheet (43.4%), and production budget (39.1%). Additionally, the results also revealed that the other types of budgets perceived to be used were labour budget (37.7%), material budget (37.6%), overheads budget (36.2%), and administrative budget (34.7%). The least perceived type of budget used was master budget (30.4%).

Regarding the preparation and outsourcing of cash budgets, the results revealed that cash budgets were mostly prepared on a monthly basis (73.9%), and were prepared on a yearly basis (71%). However, the results also indicated that cash budgets were not prepared internally (33.3%). Furthermore, the results revealed that most construction firms outsourced cash budgets (40.5%). Lastly, cash budgets were not prepared on a quarterly basis (1.4%).

Considering the respondents' position on the businesses, the results indicated that 23.5% of the respondents were managers, while 32.4% were the owners of their businesses. In addition, of the respondents, 44.1% are both managers and owners of their businesses.

Regarding the respondents' highest level of education, the results revealed that 95.7% of the respondents had a matric qualification and only 4.23% had no matric qualification. In addition, the results further illustrated that 62.3% had post-matric qualification while 37.7% had no post-matric qualification.

## 5.8 Contribution and Significance of the Study

### 5.8.1 Contribution of the study

This study contributes to the literature in several ways. Firstly, it is the first study, to the best of the author's knowledge to investigate the use cash budgets towards project completion by construction firms in the Cape Town northern suburbs industrial areas. Even though there are similar studies in general, none of those focused on the usage towards project completion and none of those studies were in the Cape Town northern suburbs. Therefore, this study

could be considered the first of its kind as it fills a gap in the body of knowledge by uniquely investigating the use cash budgets towards project completion in the construction industry and could help policy makers in decision-making processes on the construction industry.

Additionally, this study provides a rare insight into the use of cash budgets towards project completion by construction firms in the South African context, the purpose for which they are used, the perceived effectiveness and the usage of the type of cash budget and the preparation and outsourcing of budgets. Given that most prior studies that were conducted in other countries have indicated the similar study, therefore, this presents distinctive empirical evidence from a developing country's context, namely South Africa, on the use of the cash budget.

Furthermore, unlike the other prior studies that examined the causes of delays on construction projects that usually lead to the late or no-completion of such projects, the current study examines the usage of the cash budget towards project completion that in essence should be used as a mechanism to prevent such delays and non-completion of construction projects. Therefore, it provides the insight on the usage of the cash budget towards project completion collectively and not as the single approach.

### 5.8.2 Significance of the study

This study should be of considerable value to both the CIDB and Department of Small Business Development, which offers financial support to emerging contractors in order to create an enabling environment. The findings provide comprehensive insights on the use of types of budgets that construction firms can use for project completion.

The findings also identify the purposes for which types of budgets are used as well as the perceptions and the awareness of decision-makers on the usage of various types of budget. These could assist both the Department and CIDB to design a new blueprint that will ensure that the interventions and implementation are more effective.

In addition, this study should be of importance to the decision-makers of construction firms. They will not only be made aware of the importance of cash budgets in ensuring effective management, but will also be made aware of the various types of budgets, the purpose for which they are used, their perception, usage and the potential consequences of outsourcing budget activities. Furthermore, this should enable them to gauge their own use of cash budgets against the best practice and make informed decisions whether to continue with their current practice, adopt the best practices, or improve on their current use of these types of budgets.

Additionally, the information should prepare them to overcome the challenges facing their firms and the industry as a whole regarding project delays and late payment, and it should help them realise that depending on a client's payment is also a challenge. Therefore, budgeting helps when the client pays late and helps to maintain the business operation, which prevents project abandonment and ultimately protect the business credibility.

Academics might also find this study noteworthy. They could replicate this study in other industries and areas or with micro enterprises to confirm the validity of its findings. They could also redesign the research methodology and questionnaire survey that was employed in this study to investigate the use of types of budgets that are not included in this study. This study could also encourage academics in South Africa or in other countries to undertake similar studies in other locations to gain a deeper insight of the value of budgets or the way they are used. Studies of this kind could improve the survival rate of construction firms. Furthermore, training institutes could also integrate the findings of this thesis into the syllabus of short courses on types of budgets aimed at encouraging construction firms in the long term.

### 5.9 Limitations of the Study

This study has made a significant contribution to the body of knowledge regarding the use of cash budgets towards project completion, the purpose for which these budgets are used, the perception of the decision-makers regarding the awareness, and usage of various types of budgets in their businesses and whether these are outsourced or prepared internally. However, this study, like all other studies, has certain limitations. The following limitations are acknowledged for this study.

These limitations could particularly affect the reliability and generalisability of the results of the study, and should therefore be noted as such:

- The generalisability of the findings of the study is limited due to the limited geographical scope surveyed.
- Some research subjects although agreeing to take part in the research, did not return the responses.
- The study made use of a self-administered questionnaire survey, an approach which has well-documented stumbling blocks such as a low-response rate, unintended respondents completing the questionnaire, non-response bias as well as respondents skipping questions.

However, the limitations of this study do not supersede the contribution made by this study to an area in which little prior research has been conducted in the Cape Town northern suburbs.

### 5.10 Suggestions for Further Research

The limitations outlined above present possible opportunities for further research studies. Based on this study, the following recommendations for research are proposed:

- It is recommended that a larger scale study comprising the cash budget towards project completion in all the provinces of South Africa be conducted in order to generate a holistic picture of the concept studied in this research, since the current study only focused on the Cape Town northern suburbs.
- This study used quantitative methodology. A qualitative study involving an in-depth case study could be done or a mixed methodology approach could be adopted by further studies, which uses open-ended questions that are more investigative as opposed to the closed-ended questions used in this study.
- A comparative study could be conducted between the use of the cash budget in South Africa and the usage of the cash budget by construction firms in other countries.
- This study focused only on construction firms in the Cape Town northern suburbs. Future research could focus on other locations.
- Finally, the study also recommends research into the actual adoption of cash budgets towards project completion as this study was only exploring the usage and the purpose for which they were used.

## 5.11 CONCLUSION

The purpose of the study was to investigate the extent to which construction firms in the Cape Town Northern Suburb industrial areas use cash budgets when planning their project completion. The study further aimed to ascertain the types of budgets used by construction firms, the purpose for which these types of budgets are used by construction firms and whether the construction firms outsourced or internally prepared these types of budgets. A positivist approach was employed to this study using questionnaires as the instrument to gather data from the construction firms in Cape Town Northern Suburbs industrial areas, South Africa. The collected data was used to provide the descriptive results through SPSS. Therefore, the results indicate that construction firms frequently make use of budgeted income statement and cash budget. The results further indicate that the majority of the respondents prefer to have these types of budgets outsourced rather than preparing them internally or in house, which is also supported by Lahiri (2016).

Most construction firms prefer to have their budget reports on a monthly basis to ensure the accuracy, consistency and reliability of these reports. Furthermore, monthly reporting also enables them to effectively control and monitor their site operations. The majority of the construction firms in the Cape Town northern suburbs have been in operation for more than 10 years and they have less than 50 employees.

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**CONSENT LETTER**

**Cape Peninsula University of Technology**

**Faculty of Business and Management Sciences**

**Consent to participate in an academic study**

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Research conducted by: **Vuyolwethu Mdongwana**

Student number: **210180811**

**Invitation to participate in an academic research study**

Dear Sir/Madam,

You are hereby invited to participate in a research study titled “Cash Budgets as a planning tool towards projects completion by Construction Firms in the Northern Suburbs Industrial Areas of Cape Town”. This study is conducted by Vuyolwethu Mdongwana, a Masters Student at the Cape Peninsula University of Technology (CPUT). The purpose of the proposed study is to ascertain the extent to which construction firms in the Northern Suburbs Industrial areas of Cape Town use cash budgets when planning for their project completion. Cash Budget is a formal and comprehensive strategic plan that estimates the possible expenditure of an organisation over a specified period of time.

As a decision maker of a construction firm in the Northern Suburbs of Cape Town, your opinions are very valuable to this study. Your participation in this study is voluntary and you are free to withdraw from it at any time without obligation.

There are no risks associated with participating in this study as the information provided will be kept in strict professional confidence. You will not be required to reveal your identification information as all responses will be recorded anonymously. While you will not receive any compensation for participating, the information collected in this study will hopefully contribute to the sustainability of Construction Firms in South Africa.

Your consent to participate in this study is highly appreciated.

For further inquiries, you may contact me on **073 55 98 472** or via email vuyom48@gmail.com or my supervisor on **021 460 3899** email: **obokohl@cput.ac.za**

If you consent to participate in this study, kindly sign this form to indicate that:

- you have read and understood the information provided above
- you hereby consent to participate in this study voluntarily

Name of the Enterprise: _____

Respondent's signature: _____Date: _____

**QUESTIONNAIRE**

SECTION A
THE USE OF CASH BUDGETS

Please use the following scale to answer question 2. Mark “X” in the box.

1 = Never 2 = only in big projects 3 = Some projects 4 = 70% of ever project = Every project

2. How often does your business prepare the following types of budgets?

| | | | | | | |
|---|---|---|---|---|---|---|
| 2.1 | The Production budget | 1 | 2 | 3 | 4 | 5 |
| 2.4 | The Material budgets | 1 | 2 | 3 | 4 | 5 |
| 2.3 | The Labour budget | 1 | 2 | 3 | 4 | 5 |
| 2.4 | The overheads budget | 1 | 2 | 3 | 4 | 5 |
| 2.5 | The Administrative budget | 1 | 2 | 3 | 4 | 5 |
| 2.6 | The Budgeted income statement | 1 | 2 | 3 | 4 | 5 |
| 2.7 | The Budgeted balance sheet | 1 | 2 | 3 | 4 | 5 |
| 2.8 | The Master Budge | 1 | 2 | 3 | 4 | 5 |
| 2.9 | The Cash Budget | 1 | 2 | 3 | 4 | 5 |

Please use the following scale to answer question 3. Mark “X” in the box.

1 = Never 2 = Rarely 3 = Sometimes 4 = Frequently 5 = Very frequently

3. How often does your business use budgets for the following purposes?

| | | | | | | |
|---|---|---|---|---|---|---|
| 3.1 | To plan for the project completion | 1 | 2 | 3 | 4 | 5 |
| 3.2 | To forecast expenditure | 1 | 2 | 3 | 4 | 5 |
| 3.3 | To control expenditure | 1 | 2 | 3 | 4 | 5 |
| | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3.4 | To monitor expenditure | 1 | 2 | 3 | 4 | 5 |
| 3.5 | To forecast cost fluctuation (material price) | 1 | 2 | 3 | 4 | 5 |
| 3.6 | To allocate resources (material and labour) | 1 | 2 | 3 | 4 | 5 |
| 3.7 | To identify potential problems (delays and changes) | 1 | 2 | 3 | 4 | 5 |
| 3.8 | To communicate targets to employees | 1 | 2 | 3 | 4 | 5 |
| 3.9 | To monitor business performance | 1 | 2 | 3 | 4 | 5 |
| 3.10 | For direction | 1 | 2 | 3 | 4 | 5 |
| 3.11 | For coordination | 1 | 2 | 3 | 4 | 5 |
| 3.12 | To improve efficiency and quality assurance | 1 | 2 | 3 | 4 | 5 |
| 3.13 | General (site instruction and site safety) | 1 | 2 | 3 | 4 | 5 |

Please use the following scale to answer question 4. Mark “X” in the box.

1 = Very unaware 2 = unaware 3 = Neutral 4 = aware 5 = Very aware

4. What is your perception on the awareness and usage of the following types of budgets towards project completion in your business?

| | | | | | | |
|---|---|---|---|---|---|---|
| 4.1 | The Production budget | 1 | 2 | 3 | 4 | 5 |
| 4.4 | The Material budgets | 1 | 2 | 3 | 4 | 5 |
| 4.3 | The Labour budget | 1 | 2 | 3 | 4 | 5 |
| 4.4 | The overheads budget | 1 | 2 | 3 | 4 | 5 |
| 4.5 | The Administrative budget | 1 | 2 | 3 | 4 | 5 |
| | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 4.6 | The Budgeted Income statement | 1 | 2 | 3 | 4 | 5 |
| 4.7 | The Budgeted Balance sheet | 1 | 2 | 3 | 4 | 5 |
| 4.8 | The Master Budge | 1 | 2 | 3 | 4 | 5 |
| 4.9 | The Cash Budget | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| SECTION B<br>PREPARATION OF CASH BUDGETS, HOW ARE THEY PREPARED AND WHETHER THEY BEING PREPARED EXTERNALLY | | | | | | |
| Please use the following scale to answer question 5.<br>SD = Strongly Disagree D = Disagree N = Neutral A = Agree SA = Strongly Agree | | | | | | |
| 5. To what extent do you agree about the preparation, method of preparation and the outsourcing of cash budgets in your business? | | | | | | |
| 5.1 | Cash budgets are not prepared at all | SD | D | N | A | SA |
| 5.2 | Cash budgets are outsourced | SD | D | N | A | SA |
| 5.3 | Cash budgets are prepaid internally | SD | D | N | A | SA |
| 5.4 | Cash budgets are prepared on a monthly basis | SD | D | N | A | SA |
| 5.5 | Cash budgets are prepared on a quarterly basis | SD | D | N | A | SA |
| 5.6 | Cash budgets are prepared on a yearly basis | SD | D | N | A | SA |
| SECTION C<br>RESPONDENT AND BUSINESS PROFILE | | | | | | |
| To answer question 6 to question 10 please mark “X” in the appropriate box | | | | | | |
| 6. How long has your business been in operation? | | | | | | |
| 6.1 | Less than 1 year | | | | | |
| 6.2 | 1 –5 years | | | | | |
| 6.3 | 6 –10 years | | | | | |
| 6.4 | More than 10 years | | | | | |

7. What is the number of employees in your business?

1 –5 employees [ ] 6 –20 employees [ ]

21 –50 employees [ ] 51 –400 employees [ ]

8. What position do you hold in the company?

| | | |
|---|---|---|
| I. | Manager | |
| II. | Owner | |
| III. | Owner/Manager | |
| IV. | Other | |

If 'Other' please specify

9. What is your highest level of education?

| | | |
|---|---|---|
| 9.1 | Matric | |
| 9.2 | No Matric | |

10. Do you have a post matric qualification? Yes [ ] No [ ]

Thank you for your valuable time and participation. If you would like feedback on the findings of this study, please e-mail Vuyolwethu Mdongwana at the following e-mail address: vuyom48@gmail.com