



**Investigating the effectiveness of production practices at Umpheme Development (Pty) Ltd
in KwaZulu-Natal**

By

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DECLARATION

I, Mzontsundu Marareni, declare that:

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ABSTRACT

Despite being in existence for almost two decades now, Umpheme Development (Pty) Limited is marred by its own unique challenges. Among them is the fact that the organisational records indicate a high number of completed milestones at the various projects, but not claimed from the respective clients. As a result, the company's cash flow reserves are decreasing and there is an unhealthy increase in the working capital employed to the various projects. This exposes the company to the risk of inability to fund both current and future projects, should this trend continue unabated. In this view, the main aim of this study was to establish the challenges associated with the production practices of Umpheme as a construction company, to assess the factors affecting production processes and the performance of Umpheme, as well as to suggest measures to arrest the problems faced by Umpheme. The qualitative approach was employed, where 14 respondents participated in interviews. The findings of the study indicated that the major challenges faced by the organisation include incompetent subcontractors, high speed in the production of the houses, milestone payment of subcontractors upon the respective supervisors' approvals and not the DoHS inspectors D6 certificates. In most cases, these are the same houses that do not get claimed and then remain as cash tied up in working capital. The participants also alluded to poor communication between and among the relevant stakeholders, which affects the flow of the work. Another problem which they identified was that some houses are build and then the beneficiaries cannot be located, then the houses remain idle. Again, this contributes to funds being increasingly tied up in working capital. The use of the manual quality management system by Umpheme demonstrates a serious lag in embracing the technological advancements in this era of the fourth industrial revolution where technology has taken the centre stage. As a way to try and rescue the situation at Umpheme, the participants indicated that it is important for senior managers of Umpheme to attend the initial technical meetings of projects, in order to appreciate the initial problems, rather than relying on the project staff who could be telling them what they want them to hear. Regarding the issue of the missing beneficiaries, the participants suggested the verification of beneficiary availability before building the house slab. The payment of subcontractors upon the issue of the DoHS D6 Certificate was also recommended. They also suggested the recognition and reward of the well performing project team, as well as team building sessions for the project team. Essentially, it was reiterated that clearly defined communication channels can go a long way in improving production activities. It is also important to invest in the development and training of site supervisors and the builders, team building sessions, to ensure the growth of employees within Umpheme. It was also suggested that Umpheme must embrace the current technological advancements by investing in the electronic quality management.

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List of Acronyms

CLO = Community Liaison Officer

DoHS = Department of Human Settlements

KZN = KwaZulu Natal

MANCO = Management Committee

MBA = Master Builders Association

NHBRC = National Home Builders Registration Council

QMS = Quality Management System

RET = Radical Economic Transformation

WCM = Working Capital Management

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CHAPTER 1

OVERVIEW OF THE STUDY

1.1 Introduction and background to the study

Umpheme Development (PTY) Ltd (Umpheme) is a Durban based privately owned housing development company established in April 2001. As one of the transformation success stories of the South African democratic dispensation, the company's roots are embedded in Comhousing Association, a company with a track record of building more than forty thousand (40 000) houses over a period of twenty years. The inherited skills and systems from Comhousing have enabled Umpheme to build its own reputation, as one of the key housing development companies in the province of KwaZulu Natal, with more than thirty-seven thousand (37 000) houses built in its eighteen years' history. The company's key focus is the construction of low-income houses, private housing developments and public infrastructure projects. The Department of Human Settlements (DoHS) funded low income housing projects which consist of anything between 500 to 2000 houses per project have been the main revenue source for this business. The ability to manage projects from inception to completion and the internal possession of construction capabilities enables Umpheme to attract different clients, from direct appointments by various municipalities or the Department of Human Settlements, Implementing Agents and the formation of development partnerships. The Development and the Construction departments are the main revenue generating units within the company and the latter being the major contributor.

Umpheme uses a centralized head office based, internally developed and integrated accounting AS400 software live management system, which is linked to all the housing projects satellite offices. This system mainly tracks the movement of materials and payments to the various subcontractors on each project and for each claimable milestone (foundation, or wall plate, roof, rainwater harvesting, or toilet (VIP), or completion) linked to a specific house built. Umpheme can only claim for each of the milestones from its various clients upon receipt of an approval inspection certificate (D6) issued by the Department of Human Settlements inspector, and this is expected within fourteen (14) days after the payment of the respective subcontractors. Since the company has adopted the organic model of growth, with all its operations funded by its own cash reserves, the speedy turnover of completed milestones into claims is critical for the sustainability

of this business growth model. In view of this, the section that follows describes the problem statement, which forms the basis for undertaking this study.

1.2 Problem statement and rationale

The management reports presented to both the company's Management Committee (MANCO) and the Board of Directors meetings indicate a high number of completed milestones at the various projects, but not claimed from the respective clients for periods longer than fourteen days. As a result, the company's cash flow reserves are decreasing, and there is an unhealthy increase in the working capital employed to the various projects. This exposes the company to the risk of inability to fund both current and future projects, should this trend continue unabated. The explanations given by the construction teams vary and are mainly linked to the current instability of the construction sector in South Africa. Key among the reasons are as follows:

- The hiring of unskilled subcontractors due to the mushrooming of local business forums violently demanding 30% of the value of work to be given to their members on each project, as a result of the populist statements made by the former President Jacob Zuma under the banner of Radical Economic Transformation (RET). This often results in poor quality workmanship and low quality building materials, hence the non-issue of the D6 inspection certificates by the DoHS inspectors.
- The demand of bribes in exchange for the issuing of the D6 inspection certificates by some of the DoHS inspectors has also been cited as a problem on some projects. According to the construction management team, refusal to pay such bribes results in the inspectors going all out to find faults so as not to issue the D6 inspection certificates.
- The extinction of skilled construction personnel in South Africa which is in line with the report by the Master Builders Association, which stated that the average age of skilled personnel in 2017 was 56 years. The shortage of these critical skills has a negative effect on the quality of the company's supervisory personnel, hence they will certify the subcontractor's milestone for payment by Umpheme, but the same is condemned by the DoHS inspector.

Given the challenges highlighted above, the focus of this study is to investigate the production practices within Umpheme, with the aim of establishing the sources of the problems mushrooming the organisation, as well as to suggest possible measures to improve the efficiency and the

effectiveness of the organisation. In view of the issues described above, this study has the following objectives.

1.3 Objectives of the study

The main aim of this study is to establish the challenges associated with the production practices of Umpheme as a construction company. The study aims to fulfil the following objectives.

- To establish the current production practices at Umpheme;
- To assess the factors affecting production processes and the performance of Umpheme;
- To suggest measures to arrest the problems faced by Umpheme.

1.4 Research questions

- What are the current production practices at Umpheme?
- What are the factors affecting production processes and the performance of Umpheme?
- What measures can be taken to mitigate the production problems at Umpheme?

1.5 The scope of the study

The scope of this study will be on two projects in KwaNgwanase and Newcastle towns within the KZN Province in South Africa. Umpheme's offices are in Durban and its activities are mainly within the KZN Province. The category of people that will be the subject of this study are site or project supervisors.

1.6 Significance of the study

This study is very important, particularly for Umpheme Development. Given the issues highlighted in the problem statement, a study like this will obviously provide relevant information to the management of Umpheme, regarding the problems in which the company is embroiled, which will then in turn trigger action on the part of the management, to try and resolve the identified production problems. In the same way, due to the problems affecting the company, the company is undoubtedly losing large amounts of money, particularly due to the fact that most of its finances is held up as work in progress. The aim is thus to try and enhance efficiency and effectiveness by the various stakeholders involved. Thus, the findings of this study will provide the relevant

information which will serve as a manual as regards the direction in which the company should head towards.

1.7 Definition of key concepts

1.7.1 Working capital management

Working Capital Management (WCM) is an optimisation tool used by organisations. Orobia et al. (2013: 139) define it as “the planning and control of inventory, receivables, payables and cash, in order to eliminate the risk of illiquidity and maximize profitability”. The theory simply entails “the interaction between current assets and current liabilities” (Mathur, 2010: 14).

1.8 Dissertation outline

Chapter 1 provided the background of the study, highlighting pertinent issues like the problem statement and rationale, objectives of the study, research questions and the significance of the study. Chapter 2 describes the relevant literature, as well as the theoretical framework underpinning the study. Chapter 3 details the methodological approaches to the study. Chapter 4 presents and analyses the findings of the study, while Chapter 5 concludes the study by describing the conclusion and recommendations.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The previous chapter provided the overview of the study. The essence of that chapter is to set the tone, as well as the direction in which the study proceeds. Having said that, this chapter is equally important as it provides the empirical and theoretical underpinnings of the study. The chapter discusses the literature, as well as the theoretical framework relevant to the study. On that note, the following issues are described: an overview of the issues related to the construction of the low income housing in South Africa, the factors affecting the construction industry in general, as well as the working capital management theory which underpins the study.

2.2 The construction of the low-income housing in South Africa

The low-income housing refers to those houses built by the Department of Human Settlements and given to qualifying beneficiaries who are normally unemployed. The provision of these houses is an important developmental process to the South African majority which cannot afford to build or buy houses on mortgages. Despite the efforts by the government to provide shelter to the needy South Africans, there are many concerns regarding the housing systems, some among others include the issue of corrupt officials who give the houses to undeserving candidates, some undeserving people buy the houses and sell them at higher prices, some officials giving tenders to non-qualifying tenderers who then do not deliver good quality (Housing Development Agency, 2013). The houses themselves are often criticised for being poorly designed and being of poor quality. Most of the houses are located at the periphery of major cities and are without basic services like electricity, water and sanitation.

The development of the housing system does not only clear vacant or abandoned land, but the aim is also to attract investments and create employment for the general populace, thus dealing with some of the socio-economic problems of the society. As mentioned earlier, the housing project is associated with many uncertainties caused by limited resources. Thus, most contractors, when building the houses, often select a system that aligns with the low- income project constraints which include the financial, technical, time and even the conditions (Marzouk, 2010). In their efforts to also deliver quality housing, contractors are often confronted with challenges, some from

within their organisations, while others are external. In view of this, the section that follows highlights some of the internal and external factors which affect the construction companies.

2.3 Factors affecting the construction industry

The management of construction services is supposed to be aligned with the tasks and activities that are related to the design of the building, the documentation of the construction, the procurement, as well as the construction itself (Analsseri, Osborn & Steel, 2013). The approach and scope to construction is mainly determined by the contractual agreement that is made between the company providing the construction services and its client. In the main, the management of the project entails the following: identifying the requirements, highlighting the objectives, balancing the complex demands for scope, cost, time and quality, as well as adapting to the specifications, approach and plans to the different concerns and anticipations of the different stakeholders (Hashim et al, 2012). However, the nature of the industry makes it very difficult to manage construction projects. Besides the regulatory frameworks and the ever-changing government policies during the processes, other issues at play include mobile workforce, working conditions, ingrained culture, the diverse sub-contractors, suppliers, as well as the project-based set-up (Kar, 2009). These factors affect the effective performance of the construction management team, which often results in project failure [Kar, 2009]. It has been noted that in most developing countries, the failure of construction projects is often a result of lack of advance planning, holistic approach, inconsistency in monitoring, review and follow up, lack of comprehensive engineering and management strategy, absence of a methodical approach, as well as co-ordination and communication lapses [Ogege, 2014]. In addition to technical issues, there is also the need to deal with managerial issues. In Nigeria, Agundu et al (2003) found that most construction projects fail due to poor project analysis and management. Othman (2013) pointed that the successful project implementation deeply depends on the manager's appointment of personnel, the control of the human resources, time management, cost management, materials, environmental, as well as quality constraints. However, some also argue that the issue of construction project management is highly embedded in the building procurement system (Bowen et al, 2002). Alnasseri et al (2013) noted that most projects are often difficult to manage mainly due two things: they can be very uncertain and they involve three different but opposing commitments: deadlines, budget, as well as content.

In addition to the above, the construction manager deals with other aspects like money, time, technology, equipment, materials and people (Muir, 2005; Hashim et al, 2012; Ogege, 2011).

These resources need to be organised into activities which will then be executed in logical sequence in order to complete the project within the given timeframe and budget. The manager is responsible for taking the whole building cycle from the beginning to the end, dealing with construction, procurement, design or property management, as well as balancing the conflicting demands of the clients, the end users and the community. Due to their complexity, construction projects often suffer from high fragmentation, poor productivity, large waste, time and cost overruns, as well as conflicts and disputes (Hai et al, 2012).

In addition to the challenges identified above, there are other non-construction challenges which construction managers also need to deal with and these include government regulations, legal issues, socio-political pressures and environmental concerns (Muir, 2006) In Ghana, the main challenges facing the construction industry included the issue of financing of the projects, as well as the harsh corporate environment (Laryea, 2010). Yağmuroğlu, Günaydın, and Arditi (2009) also indicated that most construction projects fail due to various factors which include lack of managerial experience, family problems, insufficient capital, as well as lack of business knowledge.

Overall, the success of any construction company is influenced by several factors, also known as critical success factors. They can be internal or external. In this section, both the internal and external factors are described in detail.

2.3.1 Internal factors

These refer to the factors which influence the internal operations of the organisation and the organisation can control these factors. This means that the management of the organisation can easily identify those contributing factors and deal with them in order to ensure organisational success. These factors include lack of resources, the inability of the organisation to market itself, the management style, lack of financial management and cash flow, poor skills, as well as fronting by leading or established companies. These factors are described in detail in this section.

2.3.1.1 The effectiveness of the management

Management is very critical for any business success. Most business crumble down, particularly in their early stages, due to poor management (Friedrich, 2010). The main reason is the fact that the owners of the organisations, as a way of reducing operational costs, they do not hire the most

qualified people to run the organisation, but rather manage the businesses themselves. Sometimes the organisation is not properly registered, meaning that it cannot be considered in official statistics. The fact that owners manage the businesses themselves often results in poor record keeping which is again a result of poor management skills. In the end, the organisation fails to keep track of its expenses and daily transactions. Phaladi (2009) noted that most businesses fail because the owners fail to separate business and family transactions, especially in the early stages of the business. The common scenario is that business funds are diverted to domestic/ family use, which is detrimental in the context of sustainability and profitability. In other cases, some owners of businesses tend to hire family members and relatives, at the expense of the most qualified people to do the job. This often leads to the failure of the organisation (Abor, 2010).

Rwelamila et al (2004) argue that effectiveness in management entails an in-depth understanding of most of the factors which can affect the business and these range from financial control, pricing, good strategy and marketing. Poor record and book-keeping is one of the factors which is detrimental for organisational success. This means that the organisation should strive to hire the most competent personnel in this regard (Rwelamila et al, 2004). Managerial experience is also extremely important, as the management should know how to deal with the employees. This is summarised by Mahadea (2008: 434) who noted that “An entrepreneur or manager who is well educated, trained experienced and skilled in various functional areas of management and marketing can perform better than another who is less talented”. Mahadea further argued that the effectiveness of an organisation does not only call for a technical understanding of running a business, but he argues that “The skills needed for initiating a business are different from those needed in managing it to a successful market growth stage” (Mahadea, 2008:434). This highlights the essence of effective entrepreneurial skills.

2.3.1.2 Poor financial management and cash flow

Small to medium contractors like Umpheme are often challenged in their financial muscle. Insufficient cash flow can affect the progress of the construction business, as most contractor expenses are needed to be paid in cash at the start of the contract. The cash is need for many things which include labour, machinery, salaries and other indirect cost. The mobilisation of such costs can be a daunting task for many organisations as small as Umpheme, such that some contractors are often forced to use their own personal cash or they borrow capital to cater for that shortfall. Thus, ensuring the availability of cash flow is of paramount importance. In this view, Osama

(1997:12) cautions that “effective financial management and sufficient and strong financial capacity is a key to achieve smooth delivery and execution of contract”. Cash flow management is extremely important in the construction business, just like in any other business, often because of rising costs in raw materials and interest rates. What this means is that the business should be cognisant of its financial status and be able to work out a realistic budget. This therefore should “include, but not be limited to cash in hand, access to credit from concerned banks, etc. to make sure the work once awarded to them shall be delivered in compliance with the requirements of the contract” (Xueyong, 2009:25). Essentially, failure to manage the business’ cash flow often results in financial turmoil and is also likely to damage the integrity and image of the organisation.

2.3.1.3 Organisational skills shortage

The lack of qualified personnel is one factor which often affects the processes of a business. Besides being labour intensive, the construction business requires qualified personnel who include accountants, foremen, managerial personnel, engineers, to mention a few, in order to ensure business success. These people are very important, especially considering that the tendering process, as well as the management of the contract are very professional and technical as well, hence, it is mandatory to have experts in the field (Xueyong, 2009). Thus, the shortage of such skills can be detrimental to the business as a whole. However, due to cost implications, some businesses opt not to keep these experts on a permanent basis, but rather rely on hiring them upon offer of a contract, when they experience problems on site. This affects the performance of the business, thus, it is very important to ensure that the right people are employed for the right job. Some construction companies often experience high staff turnover due to the hiring of incompetent personnel, which then result in low productivity (Karadag, 2015). The advantage of having qualified and experienced personnel is that the organisation will become more established and is likely to get more contracts as the name will be trusted by potential clients.

2.3.1.4. Shortage of resources

The scarcity of resources is a challenge that affects most organisations, and this can be worse in the construction industry. the resources are many and include, but are not limited to plant and equipment, skilled labour, as well as financial. Thus, the availability of resources is an essential aspect of the construction business, especially the technical skilled labour (Kroes & Manikas, 2014). This therefore calls for the training of the human resources in order to improve their skills

and competences. In addition to the skilled and competent labour, the construction industry requires plant and equipment, which most construction business depend on hiring as they cannot afford to have their own. The unavailability of such resources often results in delays in the project and sometimes penalties can be imposed by the client when the agreed upon time is not met (Kroes & Manikas, 2014). It is thus advisable to have these resources, instead of outsourcing. Outsourcing means that the organisation will have to pay for the resources, meaning that it is likely to lose on profit because of that. As indicated earlier, financial resources are very important in the construction business, so that the business can be able to purchase all other resources needed.

2.3.1.5 Inability to market

The construction industry is very competitive such that those organisations which aim to attain market differentiation and strike a competitive advantage ought to improve their marketing strategies. Arditi et al argue that “marketing is considered to be an investment for competitive edge and an empowerment for competitive advantage” (2008: 255). Thus, in an effort to achieve the competitive advantage, marketing is an essential aspect in strategic management. The important aspects of marketing in the construction industry include pricing and competitive bidding, of which the pricing occurs during the bidding process. Other factors include the availability of market information, which is also essential in improving the contractor’s competitiveness. In this view, it is imperative that the contractor has in place marketing strategies which support the pricing strategy (Karadag, 2015).

2.3.2 External factors

External factors can also be regarded as challenges, or as indicated earlier, critical success factors. These refer to the outside or external forces which might affect the operations of the organisation. These include access to finance, competition, availability of skilled labour, fraud, the inability to secure contracts, to mention a few. This section describes these factors in depth.

2.3.2.1 Competition

As indicated earlier, the construction industry is highly competitive and this is often caused by the long-term decline in demand. As a way of dealing with the decline, some contractors resort to reducing their labour (Phaladi, 2009). Competition had also been facilitated by the emergent

contractor development policies for the black economic empowerment. The environment has thus become more competitive, thereby making it difficult for contractors to secure many contracts. As a desperate measure to secure contracts, some contractors take tenders at very low prices which sometimes do not tally with the scope of works. In this view, the contractor is likely to fail, or the quality of work is often compromised. This will in turn affect the reputation of the contractor, let alone the interests of other stakeholders in the project (Gill & Biger, 2013; Karadag, 2015).

2.3.2.2 Fraud

The more the competition in the industry, the higher the chances of fraud. Xueyong (2009:25) noted that “some contractors even venture to engage in fraudulent, coercive, corrupt, collusive or prohibited practice in order to secure works during tender process”, despite the fact that these are prohibited as they are against the procurement principle of fair competitive bidding. Fraud also often results in other problems which include an “increase in material prices when purchasing and selling bidding information to competitors when contracting” (Osama, 1997:12). The buying of cheaper or low quality material can result in compromised quality of work.

2.3.2.3 Access to finance

This is one of the most critical factors affecting the construction industry. the continued existence of organisations heavily relies on the injection of capital. This means that limited or lack of access to financial resources can negatively affect the development of the organisation (Abor, 2010). The limited financial capacity of an organisation often causes insufficient cash flow, thus affecting the progress. In this view, Xueyong (2009:25) argues that “due to limited capital, it is hard for them to go for large and more lucrative works to secure a sustainable growth”. Thus, a healthy financial status is imperative if any organisation is to be competitive, competent and to provide timely deliveries. Unfortunately, most small to medium construction companies struggle to secure finance for their projects, the reason being that “formal financial institutions have structured their products to serve the needs of large corporate” (Abor, 2010:224). This makes it difficult for smaller organisations to penetrate the market, thereby limiting their progress. The South African government made several efforts to promote access to finance by all enterprises, but this has not been effective, the reason being the lack of awareness, as well as the low usage of such opportunities by the intended beneficiaries (Phaladi, 2009). Phaladi (2009: 5) further noted that, “in addition to insufficient access to finance, high interest rates also pose a constraint to micro enterprise growth”. As a result, many organisations are often forced to retrench their skilled

labour, or they consider closing down. Thus, the project manager has to ensure the viability of the project, especially in fluctuating economic environments (Odeh & Battaineh, 2002). It is also important for the project manager to predict both local and global economic trends, to ensure the survival of the project.

2.3.2.4 Construction technology and resources

Technology is an environmental aspect that needs to be considered in project strategic planning. It is important to note that relevant construction technology can be assessed by the presence of locally produced equipment, the level of manpower skills the availability and usage of local material resources. In other words, the lack of technological knowledge, as well as the shortage of human resources (managerial) can largely constrain project management. Back in the 1980s, this was described as the “lack of basic knowledge of production methods and design techniques for machinery constitute a serious constraint to rapid industrialisation of the country. The situation is aggravated by acute shortage of managerial manpower”.

2.3.2.5 Political factors

The political environment involves government policies, as well as how political decisions affect construction projects. The government plays a major role as the client, regulator of the economy, as well as the regulator of the project environment and the legislative environment. This shows that the government can positively or negatively influence the demand for project services, mainly through monetary policies and budgetary systems. As a regulator of the project environment, the government influences the progress and construction approval processes, while at the same time it encourages compliance with various legislative pieces. Mansfield et al. (1994) noted that governments exercises their powers by initiating or halting projects on social, political or environmental reasons. In this view, political stability, good political leadership and national unity, are important for national development.

From the discussion above, it is clear that the succession of construction projects relies on how the company performs. Dissanayaka and Kumaraswamy (1999) noted that one of the causes of poor performance by construction companies is the inappropriateness of the procurement methodology. In the same way, Thomas et al. (2002) described the main performance criteria as including the progress of work, financial stability, health and safety, standard of quality, resources, relationship with subcontractors, to mention a few. Time spent in construction is also very important, as it can

be used in benchmarking the assessment of project performance, as well as its efficiency (Chan & Kumaraswamy (2002)). In terms of project performance categories, Cheung et al. (2004) noted the following: quality, cost, people, environment, communication, health and safety, as well as time. However, some of these factors are outside the scope of this study, while others have been described in depth, in the sections above.

Ogunlana et al. (1996) reiterated that construction performance problems can be divided into three main categories namely infrastructure shortage or inadequacy, client and consultation problems, as well as contractor incompetence. Time control and poor budgetary systems also affect project performance. For Samson and Lama (2002), poor project performance is a result of many things which include change management, poor estimation, incompetent contractors or designers, site related issues, social and technological issues, as well as improper techniques and tools. Navon (2003) on the other hand, indicated that project performance problems can be classified into two categories namely setting unrealistic targets (planning) and constructional problems, for instance, deviation. These can be a focus for another study. For this particular study, the critical issues have been highlighted.

2.4 Theoretical Framework -Working Capital Management

Working Capital Management (WCM) is an optimisation tool used by organisations. Orobia et al. (2013: 139) define it as “the planning and control of inventory, receivables, payables and cash, in order to eliminate the risk of illiquidity and maximize profitability”. The theory simply entails “the interaction between current assets and current liabilities” (Mathur, 2010: 14) and in this context, the term “management” implies the proactive organisation and co-ordination of activities to achieve the organisational objectives. despite many companies having working capital accounts, most of them do not proactively manage them. WCM entails the proactive management of accounts to ensure optimisation (Gill & Biger, 2013; Karadag, 2015).

2.4.1 The objectives of WCM

Working capital is a very important indicator for investors: “It is important as a measure of liquid assets that provide a safety cushion to creditors. It is also important in measuring the liquid reserve available to meet contingencies and the uncertainties surrounding a company’s balance of cash inflows and outflows.” (Subramanyam & Wild, 2009: 222-223). The importance of working capital is summarised in the following assertion: “managing the firm’s working capital is a day-to-day activity that ensures the firm has sufficient resources to continue its operations and avoid costly interruptions. This involves a number of activities related to the firm’s receipt and

disbursement of cash” (Ross, Westerfield & Jordan, 2008: 6). As part of a business’ short-term financial management, WCM’s main objective is to reduce the organisation’s costs while minimising the amount of funds tied up in the working capital accounts, with the aim to ensure enough funds to sustain the daily operations of the organisation (Gitman & Zutter, 2012). Ukaegbu (2013: 2) points that the main objective of WCM is “to ensure that the firm is able to meet its operating expenses and also remain in a position to pay short-term obligations, as and when they fall due”. Overall, the objectives of WCM can therefore be summarised this way:

- To ensure that enough cash (but not more than the required) is tied up or invested in working capital accounts (especially payables, receivables and inventories),
- To balance liquidity and profitability (as they counter each other)
- To reduce the risk of failing to pay the invoices when they become due.

The implications of the above objectives are that “excessive levels of current assets can easily result in a firm realising a substandard return on investment. However, firms with too few current assets may incur shortages and difficulties in maintaining smooth operations.” (Horne & Wachowicz, 2008: 206). This resonates with the situation at Umpheme, where most of its working capital is tied up in the unclaimed houses. The summary of WCM above indicates how important it is to proactively manage working capital accounts. For instance, increasing liquidity implies that the organisation will have more cash at hand, which in turn does not yield any return, but invested cash would yield returns. It is therefore essential to strike a balance (optimisation) where there are adequate levels of liquidity, so as to avoid the risk of become illiquid, while concurrently making the most of the funds to increase shareholder value (Uremandu et al., 2012).

In as far as WCM is concerned, Graham and Smart (2011: 492) highlight the following important issues:

“Turn over inventory as quickly as possible without stock outs that result in lost sales... Collect accounts receivable as quickly as possible without losing sales from high-pressure collection techniques...Manage mail, processing, and clearing time to reduce them when collecting from customers and to increase them when paying suppliers... Pay accounts payable as slowly as possible without damaging the firm’s credit rating.”

WCM is extremely important for small organisations like Umpheme, because the concept is about matching cash in- and outflows. Overall, this speaks to liquidity management, which basically entails “the planning and controlling of cash flow by owner-managers in order to meet their day-

to-day commitments” (Ekanem, 2010: 123). WCM becomes equally important, particularly with the view that liquidity management is “[t]he most problematic aspect of small firm financial management” (Ekanem, 2010: 124). McMahon and Stanger (1995: 24) actually noted that “[l]iquidity is a matter of life or death” for small organisations like Umpheme. Thus, an efficient and effective liquidity management is extremely essential for organisations like Umpheme’s survival. Ekanem (2010) noted that while big organisations strive to achieve optimisation, small organisations often adopt the “‘good enough’ approach” (Ekanem, 2010: 135), which could be detrimental for any organisation. Rather, optimal decisions should be achieved at all times.

It is important to note that WCM is directly linked to profitability. As indicated earlier, WCM is about optimising the organisation’s funds, inventories, receivables, as well as payables, in a way that maximises the organisation’s profitability (Kaur & Singh, 2013). Particularly in uncertain markets like South Africa, it is important for an organisation to maintain sufficient levels of cash in order to meet the daily running expenses, while at the same time reducing the cost of holding cash. From an inventory management point of view, managers ought to find an optimal level which balances both the costs and benefits of maintaining inventory (Shockley & Turner, 2014). WCM’s focus entails aligning current assets and liabilities to the ever-changing market, as well as operational requirements. Indeed, there is a significant relationship between WCM and profitability (Aktas et al., 2015; Gill & Biger, 2013; Kroes & Manikas, 2014), even though the magnitude and nature of the relationship vary from one industry to the other (Gill & Biger, 2013). Orobia et al. (2013) pointed that the knowledge, skills and experience of business owners and managers are essential in moderating the relationship between WCM and profitability. Caballero, Teruel and Solano (2014) share the same sentiments with Orobia et al. (2013), arguing that managers could improve profitability by ensuring efficient WCM.

2.5 Summary

In summary, this chapter described important issues about the construction industry, particularly the internal and external factors which affect the industry. An overview of the housing construction in South Africa was also given. Essentially, the theoretical framework underpinning the study, the WCM, was described, as a way of enhancing our understanding of the organisation in question, Umpheme. Having discussed the above, it is clear that an integrated development approach to the construction business requires considerable support from all corners: the senior management officials, as well as the public sector and the clients. In order to ensure effective delivery of quality

housing, the procurement policies should also encourage longer contract periods and desist from frequent tendering, which tends to be both expensive and disruptive.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

The previous chapter described the literature relevant for the study. The chapter was also important in describing the theoretical framework of the study, the WCM, which was described in depth, particularly its objectives. This chapter describes the methodology employed in order to answer the research questions. The nature of this study indicates the need for an exploratory study that establishes the production problems being encountered by Umpheme. In this view, this section describes and justifies the methodology to be employed in this study. Prior to that, it is important to reiterate that the objectives of the study were as follow:

- To establish the current production practices at Umpheme;
- To assess the factors affecting production processes and the performance of Umpheme;
- To suggest measures to arrest the problems faced by Umpheme.

The section which follows describes the research design.

3.2 Research design

Research design is defined as the blueprint that directs the data collection and analysis procedures (Babbie, 2012). The concept refers to how data for the study are collected, measured and analysed, in line with the objectives of the study (Sekaran & Bougie, 2013). This means that the design is the conceptual configuration of the entire study. As alluded earlier, this exploratory study aims to uncover facts about the problems affecting production processes at Umpheme, largely by asking question like what, where, why and how (Babbie, 2012). In order to clearly understand the research design for this study, the section that follows describes it in the context of the research onion, as described by Saunders et al (2007).

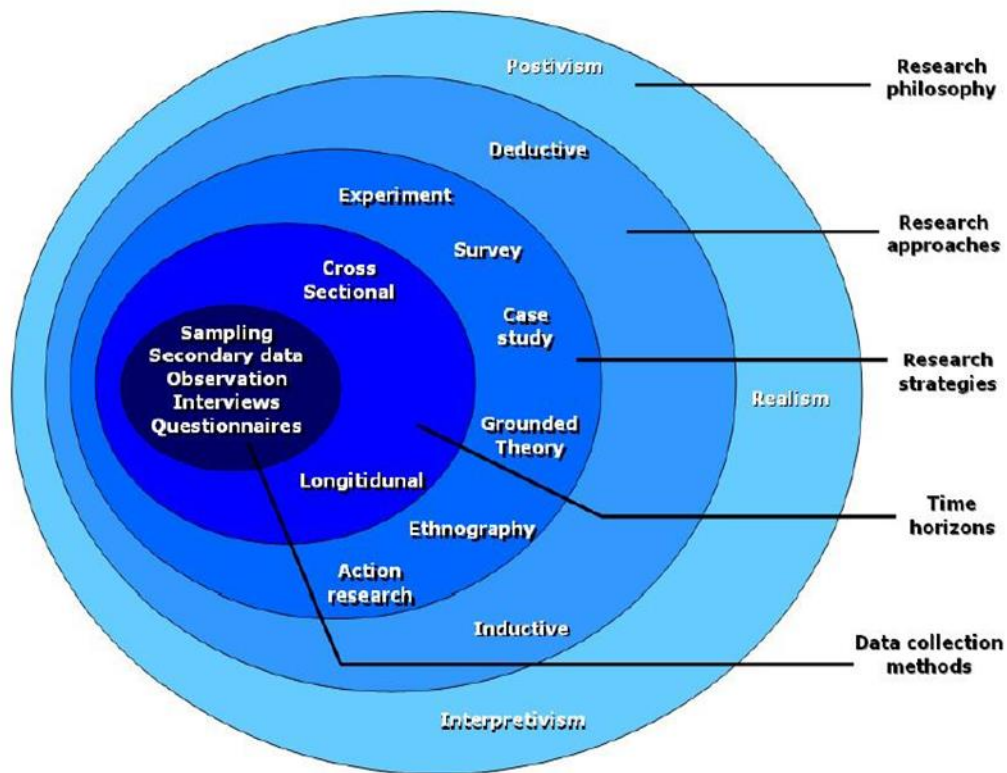


Figure 3.1. The research onion

Source: Saunders et al (2007)

Figure 1.1 depicts the research onion that was developed by Saunders, Lewis and Thornhill (2007). In the main, the onion illustrates the process through which a research methodology is designed and it comprises five main stages which include the research philosophy, research approach, research strategies, time zones and data collection methods. These are described in depth, in the following sections.

3.3 Research Paradigm

Research paradigms refers to the philosophical views from which we perceive the world. Also known as the research philosophy, Bryman et al (2012:382) define paradigms as the principles underpinning the nature of the study. As indicated in Figure 1.1, there are three main types of paradigms namely positivism, interpretivism and realism or the critical paradigm (Golafshani (2003:436). The positivism highlights that reality exists independently of the subject under investigation, while the interpretive paradigm subscribes to the fact that there exist multiple realities and the world can be viewed from a subjective perspective. For this particular study, the

interpretive paradigm is best suited, as the study aims to critically investigate the production problems inherent in Umpheme. In this view, the study is therefore qualitative in nature, and as argued earlier, the method is employed based on the circumstances surrounding the nature of the inquiry (Edmonds & Kennedy, 2013). The study thus aims to understanding the problems from the perspectives of the employees of Umpheme, gathering their opinions and perspectives regarding the nature of the problem. The qualitative method provides the room for identifying detailed cases by prompting the participants' perceptions, accounts of meaning and experiences (Denzin and Lincoln, 2010:26).

3.4 Research Approaches

There are two main types of approaches, the deductive and the inductive. The deductive approach is aligned with the quantitative research design, while the inductive approach falls within the qualitative design. For this study, the inductive approach is regarded as the most appropriate, as it is aligned with the qualitative approach (Bryman et al, 2012:384).

3.5 Research strategy

A research strategy refers to how the research will be done. The strategy can be experimental, case study, survey, or ethnography. This particular study employs the case study, as it uses Umpheme as the case study. A case study is an in-depth investigation of a single unit at a point in time. In other words, it is a detailed investigation of an event or situation and it focuses on organisations or individuals (Yin, 2012). The description given herein fits with the aim of this study, which envisages to describe Umpheme as an organisation, in terms of the production problems that the organisation is facing.

3.6 Target population and sampling

Population refers to all the elements (individuals, objects, or substances) of study, which meet certain criteria for inclusion in a study. This refers to the relevant group from which a sample can be drawn to be included in the study. Sekaran and Bougie (2013:262) define population as “the entire collection of individuals, items, cases, things or events of importance under evaluation when conducting a study”. The target population in this study included the on-site supervisors on two (KwaNgwanase and Siyahlala la) out of seven current construction sites within KwaZulu Natal. In total, there are about 60 supervisors in these sites and these comprised the population for the study.

On the other hand, sampling refers to the actual selection of the participants for the study. Thus a sample represents the elements chosen from the target population. Sekaran and Bougie (2013) define sampling as “the process of choosing suitable individuals, entities or events as representatives of the complete population chosen for the study”. There are two main types of sampling, probability and non-probability. The former refers to sampling whereby all the elements in the population have got a chance of being selected to participate in the study and this is often applicable in quantitative studies which often employs random sampling. Non- probability sampling on the other hand, refers to the careful selection of participants to participate in the study. again, “non-probability sampling does not attempt to select a random sample from the population of interest, rather, subjective methods are used to decide which elements are included in the sample” (Battaglia, 2008). The sampling is carefully done in the sense that the researcher has to select participants who are able to provide the required information. In this study non probability sampling was employed, as the researcher aimed to engage participants who were knowledgeable about the matter under investigation. In this view, purposive sampling was done, whereby the researcher selected participants based on the fact they were knowledgeable about the issue being investigated. On that note, the sample size envisaged for this study was 14 respondents out of 60 site personnel currently working on these projects. These projects have been specifically chosen as two (KwaNgwanase and Newcastle) have the highest number of units built and not claimed.

3.7 Data collection methods

Data collection entails the ways in which data for the study were collected, in order to be able to answer the research questions. In this view, the researcher collected both primary and secondary data. Primary data refers to the data which is collected by the researcher, the research being the sole gather of the data (Bryman, 2012), while secondary data refers to the data which the researcher can consult, but has been gathered by other researchers. On that note, the interview guide was used to collect data from the participants, while secondary data were drawn from sources like journals, company documents like financial statements, as well as any other relevant literature.

3.7.1 The interview guide

The researcher interviewed key people in the management position in Umpheme, as these people were more knowledgeable regarding the day to day running of the company. Thus, the interview guide was used as the research tool, with relevant questions which seek to answer and fulfil the

objectives of the study. Interviews are advantageous in the sense that the researcher has the room to probe the participants regarding a certain issue, hence, they provide the chance for an in-depth analysis of a phenomenon, in this case, the production problems associated with Umpheme (Babie, 2010). In-depth interviews also give the researcher a platform to get to the bottom of an issue, which cannot be done when other research tools are used. In this view, 14 participants were interviewed and these include the Management Accounting Executive, Construction Manager, Contracts Manager, Site Managers, Project Engineer, NHBRC inspectors, Department of Human Settlements inspectors and Municipality inspectors of the identified projects. The researcher asked for permission to record the data.

3.7.2 Pilot testing

The purpose of pretesting is to eliminate whatever errors or biasness that may occur. It also ensures that there are answers to the objectives of the study. Hutchinson (2013:39) describes the process as a mini research experiment aimed at testing the research tool, for the purpose of rectifying any complications, as well as minimising any risks. The researcher therefore conducted a pilot study with four members of Umpheme, who were not be part of the actual study.

3.8 Data analysis

Once the data were collected, it was transcribed verbatim and the coded for analysis. This entails identifying relevant information using specific coding methods, then generating categories and themes before presenting them, hence, the name thematic analysis.

3.9 Ethical considerations

The researcher abided by the ethical guidelines as indicated by the University of KwaZulu-Natal. Prior to collecting information from the potential participants, the researcher sought permission to do so, then the agreed people were asked to sign the informed consent form, as sign of acceptance to voluntarily participate in the study. Anonymity of the participants is an important aspect that was highly considered by the researcher to protect the identities of the participants who might be victimised or harmed by the disclosure of their details. Confidentiality is also an important aspect of the research as it protects the identity of the participants from any harm of victimisation that may arise from the disclosed information. Where people are specifically recruited for participation in this research study, they were told about the nature of the study to be conducted and given the

choice of either to participate or not participate. They were also advised that if they agreed to participate, they had a right to withdraw from the study at any time, without facing any negative consequences.

3.10 Validity and reliability

The meaning of validity and reliability in qualitative study is different from the quantitative. Creswell (2014) argues that qualitative validity implies that the researcher checks and verifies the accuracy of the study's findings. This is essential as it determines the accuracy of the study from the researcher and participants' perspectives. In the same way, reliability speaks to the consistency of the study's approach. To ensure these, the researcher conducted the pilot testing of the research instrument, as well as verifying the data collected with the participants (member checking).

3.11 Summary

This chapter highlighted the methodology underpinning the study. The research design, research philosophy, as well as the research approach, were described. The population of the study and the sampling strategy were also described. The data collection tool used was explained, while the data analysis process was also explained. The next chapter presents and analyses the data collected, based on the objectives of the study.

CHAPTER 4

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

The previous chapter described the methods that were used to answer the research questions. The methodology employed was explained step by step, as a way to validate the data collection procedures. This chapter presents and analyses the findings of the study, in line with the objectives of the study. As indicated in the previous chapter, thematic analysis was employed in the data analysis process. In this view, the themes derived from the data collected are highlighted as subheadings and then further explained. In the process of presenting and analysing the data, themes will be discussed and importantly, evidence of the collected data is presented in form of the participants' actual words (verbatim), to ensure that the researcher does not misrepresent or misinterpret the participants' opinions.

4.2 Participants' roles at Umpheme

The participants at Umpheme were aware of their roles and responsibilities, which is a good sign in every organisation. Knowing one's roles and responsibilities ensures that people discharge their duties with due diligence and there is no duplication of tasks. In the main, the participants summarized their roles as follows:

...the DoHS Control Works Inspector. I am responsible for checking the quality of completed milestones on behalf of the DoHS in line with the National Home Builders Registration (NHBRC) approved specifications for this project.

...the Engineer's Representative (ER) at the KwaNgwanase Rural Housing Project. I ensure that the quality of houses built are of the required specification. I am the first line of checks before calling inspectors, for all milestones from foundations, wall plates, roof and completions. Upon my approval, the inspectors are invited for the respective inspections.

... the Building Inspector. I am responsible for checking the quality of completed works in accordance with the approved specifications and plans on behalf of Umhlabuyalingana Municipality.

... the Home Inspector on behalf of the NHBRC. I am responsible for checking the quality of workmanship and the quality of materials.

...the Project Structural Engineer for both KwaNgwanase and Siyahlala la Housing Projects. I am responsible for issuing and signing off each milestone certifying that it meets the required quality standards, which is in turn used as one of the supporting documents by Umpheme when claiming from the DoHS.

... General Foreman at the KwaNgwanase Rural Housing Project. My main daily responsibility is to ensure that houses constructed on this project are of the required quality and meet the set delivery targets in terms of the program; Ensure that the D6 certificates for the respective milestones issued by the DoHS Control Works Inspector are submitted to the Head Office for the processing of the claims; Monitor and supervise the core construction team, the ordering of materials, subcontractors and the resolution of various project issues; Keep the Construction Manager updated on the project progress; and ensure all staff and suppliers comply with the Occupational Health and Safety requirements.

... the Building Inspector on Behalf of the Newcastle Municipality. I conduct and monitor compliance with the project specifications.

... General Foreman at the Siyahlala-la Rural Housing Project. My main daily responsibility is to ensure smooth running thereof and quality production, making sure claims are done accordingly.

... General Foreman at the Siyahlala-la Rural Housing Project (acting). My main daily responsibility is to ensure that the monthly production targets are met and the required resources of material and labour, at the same time resolving any social problems.

.... the DoHS Control Works Inspector. I am responsible for inspecting house milestones from foundation to completions, ensure quality is not compromised and all requirements are met and advise on technical issues.

...the Home Inspector of NHBRC I am responsible for ensuring that quality homes are built on this project.

Looking at the roles described above, it is clear that these roles are meant to ensure quality production at each and every milestone of the construction project. Every participant indicated issues of quality assurance in their roles, to ensure that the end product (the house) is of good quality. The description of roles thus also speaks to issues of accountability, so that if anything goes wrong at some stage in the construction process, and it goes unaddressed or unseen, someone has to be responsible, hence, the roles and responsibilities of the participants. For instance, the DoHS Control Works Inspector of KwaNgwanase Project indicated that it is important for senior managers of Umpheme to attend the initial technical meetings of projects, in order to appreciate the initial problems rather than relying on the project staff, who could be telling them what they want them to hear. This is informed by the fact that there is an impression created by the general Umpheme staff that the inspectors were unreasonable, when in essence there might be real issues of genuine concern that need attention. The actions of the Inspectors actually echo some sentiments discussed in Chapter 2, regarding the effectiveness of the management team and how it affects productivity. Friedrich (2010) indicated that most businesses crumble down, particularly in their early stages, due to poor management, and the inspectors at Umpheme projects are therefore doing the right thing of ensuring things are smooth from the beginning. It is thus a positive thing that there are some quality control measures put in place on Umpheme projects, embedded in the roles and responsibilities of the personnel, to ensure quality production.

4.3 Participants' perceptions of the current production practices at Umpheme

In as far as the production practices at Umpheme are concerned, the participants highly commented that the organisation does its processes according to the book, that is, what they do is in line with the objectives of the organisation. In this view, this is what the participants had to say:

I am not fully aware of Umpheme's production practices, but from the DoHS perspective, this project is producing houses in line with the business plan.

Umpheme has section or milestone Foremen or Supervisors and the Site Agent who is ultimately responsible for managing the entire project. Foremen are supervising subcontractors for each specific milestone.

They are good at what they do, but their production output or speed is very high, which sometimes result in compromising the quality of works.

Umpheme's production practices consist of establishing a strong supervisory team led by the General Foreman or Site Agent, that can preferably take correction when necessary with effective communication; The supervisory team is equipped with all the necessary tools and equipment to effectively carry out their respective duties; The supervisors or foremen are assigned responsibility of looking after specific project milestones and subcontractors with whom they also establish effective communication and meet the set targets in line with the program.

Umpheme is a good company with immense capacity or muscle; very organised company even though there are social issues, they are still producing good quality houses.

There is much improvement. We have been trained. Each site has a Contract Manager, General Foreman, Junior Foreman and Charge hands to segregate duties with the general foreman playing a critical role in coordinating materials and human resources.

When commencing the project, we employ skilled people at the same time recruit local people while using skilled people to construct a show house, which upon approval by the respective inspectors becomes the standard against which the quality will be measured. Umpheme has the ability to carry on with production even when not paid.

Good on production output, meeting targets unless there are issues beyond their control such as missing beneficiaries. Use good subcontractors and good supervision of staff

They have technically savvy people who know their respective roles. Proper planning seems to be in place from Head Office.

Some of the responses provided by the participants were quite interesting. For instance, one of them said everything is in order except the speed at which the projects are delivered, which somehow compromises the quality. This statement implies that somehow, some of the personnel in the project are more concerned about producing numbers and not the quality of the final product. Another participant indicated that “*There is much improvement. We have been trained*”. These statements also carry the connotations that previously, things have not been the same at Umpheme, they give the impression that previously, the organisation had unskilled or untrained people who did not produce the required products in terms of quality, due to their lack of knowledge. However, the positive thing is that the participant indicated that things have changed, and this also means that the organisation realised the need to train the employees in order to enhance their effectiveness in their job. This resonates with literature which indicates that organisations should strive to hire the most competent personnel (Rwelamila et al, 2004). Mahadea (2008: 434) also noted that employees should be “well trained, experienced and skilled in various functional areas” for them to be effective in discharging their duties. Mahadea further argued that the effectiveness of an organisation does not only call for a technical understanding of running a business, but he argues that “The skills needed for initiating a business are different from those needed in managing it to a successful market growth stage” (Mahadea, 2008:434). Overall, it is thus possible to argue that Umpheme is on track, in as far as monitoring its performances and identifying areas that need improvement, which is a basic ingredient for any organisational success. This is highly commendable.

4.4 Consistency in Umpheme projects

Most of the participants indicated that Umpheme is consistent in how they do their operations. The participants agreed with each other, that there is consistency, even though some indicated that it is not possible to be consistent, because every project is different from the other. These are some of the sentiments which emerged from them:

There is no consistency in my experience. My first encounter with Umpheme was at the KwaJobe Rural Housing Project which in my view was a disaster compared to this project

(KwaNgwanase). On this project it is like working with a different company as there is so much improvement.

In my five years of interacting with Umpheme on various projects, I am of the view that they use the same system on all their housing projects.

Production practices are not necessarily constant, as they are subject to project related matters such as the terrain and social issues.

Umpheme's production practices are similar across all its projects, but projects do not necessarily have the same conditions, and are affected by issues such as the terrain and community dynamics.

Yes, they are very consistent, except for external forces such as social issues and other stakeholders.

Yes, all Umpheme projects are run the same way. It can differ from Foreman to Foreman when implementing.

It is not necessarily consistent, as it is dependent on the project area and the level of specifications, for example here the site is rocky and has plumbing which is not common to other projects, this project is also urban different from rural.

In my six years' interaction with Umpheme, I have to say all their projects are run the same way, hence my view that they are consistent.

From the above responses, one would agree that there is consistency in some things, particularly those procedural issues that are standard for every project, then as indicated by some participants, it is possible to divert from the norm, considering that projects differ in one way or the other. So, the fact that there is no consistency can be valid, some projects are different and they need to be managed exceptionally, as given in the example by a participant who noted that *"it is dependent on the project area and the level of specifications, for example here the site is rocky and has plumbing which is not common to other projects, this project is also urban different from rural."* This is acceptable in project management, the management by exception rule.

4.5 Overall Umpheme's practices

The issue of the organisation's practices was asked so as to establish if the organisation differs from similar organisations in the same industry, or it operates the same way as all other organisations. In response to that question, the following are some of the responses which emerged:

Umpheme seems to give this project extreme support particularly with materials, which is often a problem with other companies. This places Umpheme in a better position.

There are differences, as Umpheme allocates a foreman for each milestone, as opposed to other companies where one foreman is responsible for all the milestones. This puts Umpheme's foreman in a disadvantage compared to the other companies' foreman if he is only limited to the trade or milestone, but from a company perspective it makes Umpheme's production process to be fast.

From a distance, production practices seem to be similar to industry practices, but Umpheme seems to be producing houses at a higher rate than other contractors. This places Umpheme at an advantage.

The difference is that other companies are not as organised as Umpheme. This places Umpheme at an advantage, the high production output tends to compromise quality at times.

The difference between Umpheme and other companies is that, other companies pay their employees on the basis of a daily rate, while Umpheme's payment method is task based; Other companies also lack effective control systems to manage the materials for each house, which Umpheme does through the AS400 data base system.

Umpheme is able to consistently deliver the production output expected by the client; This is a very organised company from its top management to its ground staff; and yes they are at an advantage.

Umpheme is different as there are processes of empowering their staff to perform at the best level possible. The adequate allocation of human capital with properly segregated duties as opposed to competitors. Umpheme is at an advantage and its success is informed by proper planning.

It is not the same. Umpheme's system account even for the single nail which is different from other companies. Other companies only pay their subcontractors upon the issue of the D6 by the DoHS. Yes, Umpheme is at an advantage in the market as even on this project is regarded as best producing in the region.

The employment of quality supervisors and subcontractors, always meeting delivery targets and this places them at an advantage, and they are able to deal with many social issues that can negatively affect production.

Umpheme has sufficient resources with a well-balanced structure as opposed to other projects which are led by a single person with a lot of responsibility. With Umpheme, duties are properly segregated. This positions Umpheme at an advantage.

The responses of the participants clearly show that Umpheme does things differently, as compared to their counterparts in the same industry. They indicated that Umpheme is different in many ways, from producing high quality products, paying their employees based on completion of certain tasks, while other companies pay a daily rate. They also indicated that Umpheme is well resourced and the management is well organised and informed. These issues are what sets the organisation apart from the rest and this is critically important, particularly in the highly competitive construction industry. The sentiments shared by the participants show that the organisation is fairly resourced, judging from their responses. It is indicated that the availability of resources is an essential aspect of the construction business (Gill & Biger, 2013). The unavailability of resources often results in delays in the project and sometimes penalties can be imposed by the client when the agreed upon time is not met (Karadag, 2015). The participants in this study indicated that *“Umpheme seems to be producing houses at a higher rate than other contractors. This places Umpheme at an advantage”, “Umpheme is able to consistently deliver the production output expected by the client; This is a very organised company from its top management to its ground staff.* Delivering on time is a good indication that resources are in order.

4.6 Participants' conception of quality in Umpheme's projects

The concept of quality is widely defined and it means different things in different contexts. In the construction business, quality entails achieving acceptable levels of performance from the construction processes. This is achieved when the activities meet or exceed what is required by the client. It is important to note that the quality of a service or product is attained upon conforming to the desired specifications. This means that in construction, achieving quality can be very complicated, as it encompasses a lot of things which include satisfying contract specifications, completing the project within the stipulated timeframe, enhancing customer satisfaction, motivating or empowering the employees, to mention a few. In this view, it was essential to get a sense of what the employees of Umpheme regard as quality in their different roles. The following sentiments were shared by some of the participants:

Umpheme possesses a lot of capacity to produce quality works, but there were initial instances of carelessness where quality was compromised.

Umpheme Development places quality in high priority as I am happy and the supervisors task it upon themselves to make sure quality materials are used and good workmanship, and they are proactive in informing the Engineers Representative of any changes or challenges.

The quality of houses produced by Umpheme is very good, which is a huge improvement compared to the beginning of the project.

I rate Umpheme at 8/10 relative to the quality their works. The high production output in my view does compromise quality. The site personnel claim pressure from the top as reason for the high production output.

Umpheme's quality is above average. This is witnessed by the fact that we seldom encounter approval problems by quality assurance inspectors.

The DoHS, Municipality and NHBRC inspectors, the Engineers and Umpheme supervisors are all looking after quality; Technical meetings are helpful in resolving many project quality issues.

They are giving quality work, but there are instances of snags that need attention.

Siyahlala-la has good quality. This is due to the properly segregated construction management structure. The collaboration of Foremen and Resident Engineer is done so that by the time the inspectors come they are generally impressed together with the beneficiaries.

UmpHEME produces quality work. UmpHEME employs milestone Foremen who are responsible for each milestone, the ER, Inspector, NHBRC, DoHS and Municipality, make use of QMS checklist.

Quality is to buy quality material, have competent subcontractors and supervision especially at Amajuba district.

UmpHEME's quality is generally okay and it is mainly linked to the site leader which is helpful in quality.

Interestingly, none of the participants could define the concept of quality per se, but were able to define it in the context of their organisation. For them quality entails buying good quality material, having foremen inspecting each and every milestone, having competent subcontractors, as well as having regular technical meetings to resolve quality issues. Indeed, all those issues constitute quality, in their context. One aspect that constantly emerged from the participants, is the issue of the high production output, which they suspect highly compromises the quality of their products. This issue also emerged on the question of the production practices of the organisation, and with regards to quality issues, one participant again pointed that “*The high production output in my view does compromise quality*” and this participant allegedly pointed to “*pressure from the top as reason for the high production output*”. From the researcher’s perspective, this is a very serious claim which might need to be investigated, particularly assessing the end products of the various projects of UmpHEME. In the very first chapter, it was indicated that one of the problems or challenges being encountered by UmpHEME is the fact that a high number of completed milestones at the various projects are not claimed from the respective clients for periods longer than fourteen days, resulting in the company’s cash flow reserves decreasing and there is an unhealthy increase in the working capital employed to the various projects. It is further noted that this exposes the

company to the risk of inability to fund both current and future projects, should this trend continue unabated. This problem, as explained in the first chapter, could possibly relate to the high production rate described by the participants, which results in poorly constructed houses which then remain unclaimed because they would have failed to meet the required specifications. Going back to the theoretical framework of this study, the WCM, it is possible to argue that the management of Umpheme is failing to maximise profitability, because it is failing to proactively organise and co-ordinate activities in order to achieve the organisational objectives (Orobia et al., 2013). The fact that there are many unclaimed houses might be linked to the mass production which results in poor quality, thus ending up having funds being tied up in the working capital accounts. It is indicated that WCM's main objective is to reduce the organisation's costs while minimising the amount of funds tied up in the working capital accounts, with the aim to ensure enough funds to sustain the daily operations of the organisation (Gitman & Zutter, 2012).

In addition to the participants' conception of quality in their organisation, a related question probed them to identify what they thought were some of the factors affecting quality at Umpheme. Interestingly, most of the responses pointed to the quality of material being used in the projects. Despite some of the participants defending the organisation by saying that there are no real challenges in this regard, other participants did not shy away from revealing what they thought was the elephant in the house, which needed to be dealt with:

We had weak mortar challenges and after investigation, it was established that it was due to lack of supervision and therefore the matter was resolved through close supervision. There is sometimes resistance from the teams.

There was a weak mortar issue which affected plastering, of which the cause was eventually discovered to have been the type of sand quality, but has since been resolved; The quality of doors was also an issue at some point, but has since been resolved; There was also a gutter issue of which it was established to have been due to the wide span between the trusses and has also been resolved by installing fascia boards.

Lack of supervision mainly leads to poor quality.

The engagement of local suppliers and workforce including political issues and unrests.

The quality of materials needs the required testing. People from local area that are given to Umpheme for the respective milestone who mostly do not possess the requisite skills and expertise. The services work not properly done is affecting completions.

The hiring of incompetent subcontractors but these are rectified. The hiring of local subcontractors who are untested, who often demand the so called 30% allocation of work.

Really important issues were mentioned by the participants, from the poor materials being used, lack of supervision, as well as incompetent subcontractors. In the main, Karadag, 2015 indicated that the buying of cheaper or low quality material can result in compromised quality of work. The lack of qualified personnel, as indicated by the participants, is a critical factor which often affects the processes of a business, hence, it is mandatory to have experts in the field (Xueyong, 2009). However, due to cost implications, some businesses opt not to keep the skilled experts on a permanent basis, but rather rely on hiring them upon offer of a contract, when they experience problems on site. This affects the performance of the business. It was noted that some construction companies often experience high staff turnover due to the hiring of incompetent personnel, which then result in low productivity (Karadag, 2015). The advantage of having qualified and experienced personnel is that the organisation will become more established and is likely to get more contracts as the name will be trusted by potential clients.

4.7 Quality assurance measures in place at Umpheme

As a follow up question to the quality issue which was constantly being raised by the participants, it was very important to enquire from them, as to what quality assurance measures were in place in the organisation, to ensure optimisation and profitability. The following are some of the sentiments shared by the participants in this regard:

The Project Engineer and the Engineer's representative; Quality Management System checklist; Milestone supervisors/foremen; and Inspectors from the DoHS, Municipality, and NHBRC.

The Engineers Representative uses the QMS per milestone schedule to check the quality of the works and the Foreman and Inspectors are using the similar tool.

The Engineers Representative, Sectional/Milestone Foremen including pre-inspection the outcome of which is either positive or negative.

Umpheme has a Quality Management System (QMS) checklist for each milestone.

Experienced subcontractors or teams; The use of SANS certified materials; Various tests such as concrete and mortar; Experienced supervisors; and The use of the Quality Management System (QMS) checklist for the respective project milestones.

Each milestone is done in accordance with specifications using QMS forms, the Resident Engineer with foreman, invite DoHS, NHBRC, Municipality inspectors. The outcome of this is a D6 certificate for claiming.

Approved plan by NHBRC and Engineer. Each trade or milestones assigned supervisor, Foreman, responsible ER full time on site, inspectors from NHBRC, DoHS and Municipality QMS.

Employment of competent staff and competent subcontractors.

Project Engineer, Resident Engineer, with the inspection procedure starting from the milestone foreman, to Resident Engineer, to Home Builder Inspector, which includes the use of appropriate inspection tools.

An important point which emerged from one of the participants was that Umpheme uses the “Manual QMS which is not being properly utilised and perhaps the Contracts Managers are not enforcing the same as they should.”. this is problematic, particularly in the fourth industrial revolution where technology has taken the centre stage. This implies that Umpheme is not keeping abreast of technology and this poses its own kind of challenges and obviously positions the organisation in a compromising state, considering that their competitors might be integrating technology in their operational activities. In response to this challenge, one participant noted that “There is a need to go to electronic system in line with competitors like WBHO.” This is in reference to the electronic Quality Management System that is used by Umpheme’s competitor WBHO, as opposed to Umpheme’s current manual QMS which is not properly utilised as stated

by one of the participants. The managers who were part of the participants also indicated that there are monitoring and evaluation measures in place: *“Production practices are established at the beginning of the project and the monthly targets often trigger the review especially when the project is falling behind the programme”, “Each and every milestone is planned for a month in advance including ordering material and labour force requirements. Planning and reviewing of production practices is done monthly”*.

Despite the measures highlighted by the managers, it is possible to argue that more needs to be done in as far as quality issues are concerned, as quality is the cornerstone of organisational success. In this case, the quality issues heavily revolve around the effectiveness of the Umpheme management. This is evident where one participant pointed that *“A lot of Umpheme’s supervisors are sometimes conflicted or have an interest in the work of the subcontractors, thus turning a blind eye on some of the quality issues.”* This again is a critical issue that warrants further investigation on the part of Umpheme management.

4.8 Factors affecting the performance of Umpheme

The better part of Chapter 2 highlighted some of the factors or challenges which affect the construction business, be they internal or external. In this view, it was essential to get from the participants themselves, as to what are some of the factors affecting their performance. Their responses indicated both internal and external factors as affecting their performance:

The lack of understanding and a negative attitude towards the importance of quality control by some subcontractors, which results in works failing inspections.

Shortage of materials, improper construction of milestones. The delay in fixing condemned units or milestones.

The beneficiary issues relating to the DoHS policy of one house per household.

The main problem in my view is with the DoHS inspectors in particular who are inconsistent, who are less experienced, less qualified and not at the same level of

knowledge with the Engineer, yet they seem to throw their weight around, abusing their authority by trying to direct the Engineer on matters of design which are clearly above their grade.

Ineffective communication with project stakeholders; and Un-informed conclusions by the inspectors based on the unfavourable past experience with Umpheme on another project.

Inadequate skilled employees, inadequate plant and equipment, miscommunication between the construction team.

People who are introduced to the projects by senior managers who sometimes use that connection to intimidate site personnel; Limited resources sometimes affecting production output and an extend project duration.

Missing beneficiaries affect claims. Lack training of local staff.

Payment delays, vandalism by local people.

Some recurrent issues which continue to be highlighted by the participants include the scarcity of material resources, as well as the shortage of skilled personnel. These have been discussed at length in the previous sections and therefore, need no emphasis. The aspect of communication also emerged as a challenge, one participant indicated that there is ineffective communication among various stakeholders, which often affects the decision-making processes. Communication is the lifeblood of any organisation and poor communication might be detrimental for the organisation. An important point raised by one of the participants is that of “*People (subcontractors or suppliers) who are introduced to the projects by senior managers who sometimes use that connection to intimidate site personnel.*” This is very important as it speaks to the reasons that often give rise to the poor quality or performance by some of the subcontractors or suppliers, with some even getting paid for incomplete works. It is also a negative scenario which is related to corruption or fraud. In Chapter 2, fraud was described as one of the eternal factors which affect organisational performance. It was noted that the more the competition in the industry, the higher the chances of fraud. Xueyong (2009:25) noted that “some contractors even venture to engage in fraudulent, coercive, corrupt, collusive or prohibited practice in order to secure works during tender process”, despite the fact that these are prohibited as they are against the procurement principle of fair

competitive bidding. Fraud also often results in other problems which include an “increase in material prices when purchasing and selling bidding information to competitors when contracting” (Osama, 1997:12). Therefore, this aspect is one that the Umpheme management should not ignore because it might result in serious negative consequences with greater implications on the organisation. Other serious challenges mentioned by the participants included “*Materials delivery delays.*”, “*The use of conflicted site personnel and dishonesty by site personnel giving false production numbers.*”, “*Beneficiary issues, Umpheme should have confirmed the availability of beneficiaries before commencing the construction of each house.*”, “*Over focusing on production and in the process overlooking the claiming of the built units.*”, “*Failure to track units or milestones that fail inspections.*”

The issue of beneficiaries is a common one in the construction of the low-cost housing in South Africa. The first issue is that some people who are listed as beneficiaries do not really qualify to be beneficiaries. The second issue is that some beneficiaries’ names just disappear on the beneficiaries list, while some beneficiaries just disappear such that they cannot be located. These and other issues regarding beneficiaries open up loopholes for corruption and nepotism. Oftentimes, there are many concerns regarding the beneficiaries, some among others include the issue of corrupt officials who give the houses to undeserving candidates, some undeserving people get the houses through bribes because they are connected to some officials in the municipalities or politicians, then they either rent them out or sell them mainly to non-South Africans who are desperate for accommodation. In some beneficiaries’ lists, there tend to be non-existent (ghost) names, which affects the process when some houses remain unclaimed because the people on the lists cannot be located. Some beneficiaries die before they are allocated the houses, which also complicates the whole process. This in turn affects Umpheme, either directly or indirectly, especially due to the fact that the unclaimed houses remain the funds that are tied to the working capital account.

The unclaimed houses were indicated to be one of the challenges or factors affecting the performance of Umpheme. It was noted in the first chapter, how the unclaimed houses affect the working capital of the organisation, as most of the capital remains tied up in those houses. As a follow up on that issue, it was noble to probe them regarding the reasons why many houses which they build are not claimed. In response to this question, some of the participants indicated that:

This was initially caused by the negligence of ignoring the inspection failure of the initial foundation milestone, but going ahead with the rest of the milestones; Carelessness of excluding some of the units that have passed inspections when compiling the D6 Certificate; and lack of equipment on site such as a printer to print the D6, thus taking long for the D6 to be signed.

Houses that fail during inspections which are neglected and not followed up by the supervisors concerned.

As mentioned above, the DoHS inspectors have been the main obstacle especially at the KwaNgwanase Project, where they were arguing with the Engineer on structural design matters and tolerances, using their authority and refusing to issue the D6 certificates that will enable Umpheme to claim from the DoHS.

Poor supervision of not recording completed units or milestones that still need to be claimed; Not getting identified quality issues fixed on time; and Failure by the DoHS inspector to appreciate the construction processes, which resulted in the DoHS inspector demanding that the raft slabs to be screeded prior to building walls and roof, while Umpheme insisted that the screeding will be done at a completion stage to limit damage.

The approved beneficiaries missing; and building of milestone below the required standard.

Missing beneficiaries; Duplication of units numbering and deceased beneficiary

The major concern with the unclaimed houses is that they increase the amount of funds tied up in the working capital accounts, which in turn threatens the operations of the organisation in the long run, as the organisation might find it very difficult to meet its operating expenses and being able to pay its short-term obligations (Gitman & Zutter, 2012; Ukaegbu, 2013). The shortage of capital in the organisation obviously has some ripple effect on the overall operations of the organisation. What this implies is that the management of Umpheme should be proactively manage its working capital accounts. It is also essential for Umpheme management to strike a balance (optimisation) where there are adequate levels of liquidity, so as to avoid the risk of become illiquid, while concurrently making the most of the funds to increase shareholder value (Uremandu et al., 2012). This is important because, from the participants' observations, the repercussions of the unclaimed

houses on Umpheme's working capital can be detrimental to the organisation. Probing them on the effects of the unclaimed houses on the organisation, the participants highlighted that:

It can actually cost Umpheme Development more if the completed milestones are not timeously claimed. There could be fixing costs associated with getting the units\milestone passed.

This should be having a serious effect on Umpheme's working capital.

It must be huge as the company has spent the money upfront, when financing the project.

Causes a loss of income and fruitless expenditure

Huge or great impact on Umpheme's finances. To invest money and not be able to claim does affect Umpheme.

It affects the projects as cash flow is very important on the project, can cause serious problems.

The participants indeed confirmed that the unclaimed houses affected the working capital of the Umpheme. As people in designated positions, it was also important to hear from them, about what measures or what efforts they had made to try and deal with the issue of the unclaimed houses. The next section discusses the findings that were recorded in this regard.

4.9 Participants' efforts to mitigate the impact of the unclaimed houses on Umpheme's working capital

All the participants of the study had special roles and responsibilities with the Umpheme projects, as indicated at the beginning of this chapter. What this means is that each one of them can play a very significant part in ensuring that quality houses are produced and the number of houses being claimed can be increased. In response to how they individually or organisationally contribute to reduce the effect of the unclaimed houses, some of the participants indicated the following:

I thoroughly check the D6 to ensure that all passed milestones or units have been included and to sign the D6 immediately thereafter.

The Engineers Representative keeps a book with failed units and make regular follow ups with the supervisors concerned to make sure the same are fixed.

I encourage the site staff to facilitate the fixing of units where required and even use days outside of agreed inspection dates to inspect completed works.

Technical meetings are the platforms to discuss all items of concerns where the same is reported to senior managers for workable solutions.

Beneficiaries are now verified before the commencement of the construction activities; we make sure that the beneficiary is available to sign for the completed house.

Umpheme workers are staying on some of completed houses where beneficiaries are missing. We ensure that the beneficiary is available before building a house.

In addition to the above, the participants were also asked about some general possible measures which can be put in place to mitigate the challenges which they identified. In this view, they indicated the following:

The training of subcontractors on quality assurance in line with the NHBRC guidelines is essential; Keeping the best performing milestone supervisors instead of frequently changing them.

Improve communication between buyers and site supervisors and within specific time frames. Put pressure on teams to fix condemned works on time.

The Community Liaison Officer (CLO) needs to check houses to be built in advance to identify beneficiaries that are affected by the limitations of the DoHS policy of one house per household.

Reduce production speed, establish correct communication channels, engagement of community members upfront to eliminate disruptions.

Clear communication from top to bottom and from the bottom to the top. This will enable the effective resolution of problems quicker as communication is the key.

Each milestone payment to subcontractors must only be done upon receipt of the D6 from the DoHS.

The bilateral agreement between DoHS and Municipality and thereafter, the bilateral agreement between the Municipality and the Implementing Agent should be scrapped; Consumer education to beneficiaries.

Among the issues raised by the participants was the fact that communication is poor within the organisation and this should be resolved. Another important point raised was that “*Each milestone payment to subcontractors must only be done upon receipt of the D6 from the DoHS*”, and “*Other companies only pay their subcontractors upon the issue of the D6 by the DoHS.*” Such comments were raised because Umpheme pays subcontractors upon inspection and approval of the respective supervisor, even prior to the issuing of the D6 certificate by the DoHS inspector. This approach which seems to be the standard practice, was initially adopted by Umpheme due to periods where the DoHS inspectors were not available for inspections over long periods of time, and thus delaying the issue of the respective D6 certificates. Considering the fact that this was beyond the control of the respective subcontractors it was then felt that payments should be processed on the assumption that the milestone approvals by the respective supervisors should also yield DoHS inspector approvals. This approach assisted with increased production output from the respective subcontractors motivated by shorter payment cycles as opposed longer cycles linked to the issuing of the D6 certificates approach. The D6 Certificate approach on the other hand limits the risk of Umpheme paying the subcontractors for milestones that may not be approved by the DoHS inspector.

4.10 Summary

This chapter presented and analysed the findings of the study, based on the major themes which emerged during the data collection phase. Among other things, the following were discussed in this chapter: the participants' roles and responsibilities in Umpheme projects, their descriptions of the current production practices of Umpheme, their overall perceptions of the current practices, which they said Umpheme is doing very well, as compared to other organisation in similar business. Participants also indicated their perceptions of quality, particularly in the context of Umpheme, they also described the quality assurance measure being in place at Umpheme. Essentially, the participants identified the factors affection the production process at Umpheme, which seem to be both internal and external. They went to describe what they are doing, or what their roles as individuals imply in mitigating the challenges which they identified. Lastly, the participants also suggested some possible measures which Umpheme can put in place to mitigate the production challenges being experienced by Umpheme. In view of the above, the next chapter concludes the study by highlighting the summary of the study, as well as making recommendation and also identifying areas for further research.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter concludes the study. Prior to that, it is important to recap on the overall study. The first chapter provided a general overview of the study, it highlighted the pertinent issues of any study: the background of the study, the problem statement and the rationale, the objectives of the study, as well as the significance of the study. Chapter 2 discussed the literature relevant to the study, that is literature around construction, mainly focusing on the factors affecting the industry. Chapter 3 described the methodology underpinning the study, while Chapter 4 presented and analysed the findings of the study, based on the main themes identified during the data analysis phase. This chapter provides the summary of the study, the recommendations, based on the findings presented in the previous chapter, as well as the limitations of the study. Areas for further research are also identified in this chapter. Before summarising the study, it is important to reiterate the objectives of the study, which are as follows:

- To establish the current production practices at Umpheme;
- To assess the factors affecting production processes and the performance of Umpheme;
- To suggest measures to arrest the problems faced by Umpheme.

Based on the objectives presented above, the section that follows summarises the findings of the study, as way of showing how the objectives were fulfilled.

5.2 Summary of the findings

Based on the findings presented in the previous chapter, it is evident that Umpheme as a construction company is doing well, despite the challenges that it is, or it has to deal with, both internally and externally. Overall, the participants of the study acknowledged that Umpheme is doing well as whole, as compared to other organisations offering similar services. An important aspect realized by the researcher is the fact that the participants are clear when it comes to their roles and responsibilities, they know exactly what they are supposed to do and from their perspectives, they discharge their duties with due diligence. The fact that the participants are

allocated roles and responsibilities is a positive idea, in the sense that it ensures accountability while at the same time ensuring that roles are not duplicated.

Among the issues highlighted by the participants as major challenges include incompetent subcontractors, high speed in the production of the houses, milestone payment of subcontractors on the basis of the respective supervisors' approvals and not the DoHS inspectors D6 certificates, which tends to result in poorly built houses which then do not meet the requirements upon inspection. In most cases, these are the same houses that do not get claimed and then remain as cash tied up in working capital. The participants also alluded to poor communication between and among the relevant stakeholders, which affects the flow of the work. Another problem which they identified was that some houses are build and then the beneficiaries cannot be located, then the houses remain idle. Again, this contributes to funds being increasingly tied up in working capital. The current use of an ineffective manual quality management system (QMS) by Umpheme as opposed to its competitors demonstrates a serious lag in embracing the technological advancements, which is a serious risk particularly in this era of the fourth industrial revolution where technology has taken the centre stage.

As a way to try and rescue the situation at Umpheme, the participants indicated that it is important for senior managers of Umpheme to attend the initial technical meetings of projects, in order to appreciate the initial problems, rather than relying on the project staff who could be telling them what they want them to hear. Regarding the issue of the missing beneficiaries, the participants suggested the verification of beneficiary availability before building the house slab. The payment of subcontractors upon the issue of the DoHS D6 Certificate was also recommended as opposed to the milestone approvals of the respective supervisors. They also suggested the recognition and reward of the well performing project team, as well as team building sessions for the project team. Essentially, it was reiterated that clearly defined communication channels can go a long way in improving production activities. They also indicated that Umpheme should bring capable subcontractors from the beginning of the project to prevent the reoccurrence of the negative issues experienced at the beginning of this project. It is also important to invest in the development and training of site supervisors and the builders, team building sessions, opportunities to study in furthering their studies, to ensure the growth of employees within Umpheme. The participants reiterated that the maintenance of the good work is essential for the sustainability of the company, while the management of the organisation should attend to all areas of concern at an early stage. It was also suggested that Umpheme must embrace the current technological advancements by

investing in the electronic quality management system in line with its competitors. Overall, the participants of the study emphasised that transparency between the different levels of management can go a long way in motivating employees to make them appreciate that they are important stakeholders in the production process.

5.3 Implications for change

The rate of failure of construction projects can be very alarming, particularly in the South African context where cases of bribes and corruption are rife. Thus, the results of this study have both social and practical implications. It has been shown that besides the technical issues, there are also management challenges within Umpheme. Therefore, for the managers to face these challenges head on, there is need for upskilling, while at the same time they need to apply the right strategy within their framework. The complexity of the construction business, coupled with the dynamic nature of the clients, as well as the continued demand for better and effective delivery, all have put unwarranted pressure on the managers, thus presenting them with challenges which demand a high sense of business acumen, skills, capabilities, as well as strategies to deal with the challenges. In this view, this study has become an eye-opener to the Umpheme and all the managers in the construction industry. The study provides them with the requisite knowledge and skills, as well as strategies to tackle the ever-increasing management challenges in the construction arena.

5.4 Recommendations

Based on the findings presented in the previous chapter, as well as the implications described above, some important recommendations can be made and these are as follows: There is need for Umpheme to design an efficient and effective WCM. The organisation's ability to optimise WCM and thus maximise profitability have the potential to empower the organisation's employees through improved benefits, better working conditions, better compensation, as well as training and development (Muller et al., 2012). Muller et al. (2012) further highlighted that profitable businesses would often in the long run supply goods and services at lower costs, while at the same time they can hire more employees. It is also suggested that Umpheme should hire highly skilled subcontractors, this may guarantee better and improved quality of the end products. This emanates from the issue that was raised by the participants that some houses are not being claimed because they are of poor quality. If the right skills are possessed and the appropriate management strategies are in place, the challenges being encountered by Umpheme could efficiently be handled. A related point to this is the issue noted by the participants that the production speed is too high, which also

compromises the quality of the end products. This again can be dealt with by giving certain timeframes to complete certain milestones. As suggested by the participants of the study, it is also important to locate the beneficiaries of the houses prior to building them, so that the number of unclaimed houses can be reduced. It is further advocated that the subcontractors are paid on the basis of the DoHS D6 certificates issued by the control works inspector, as opposed to Umpheme's supervisor approval only. There is also a need to improve communication within Umpheme, from top-down to bottom-up. The issue of poor communication was indicated as a major hindrance to productivity. It is critical for Umpheme to embrace the current era of the fourth industrial revolution by urgently investing in the development of an electronic quality management system.

5.5 Limitations of the study

This study focused on two construction projects only, in KwaNgwanase and Newcastle towns within the KZN Province in South Africa. What this means is that the findings of this study cannot be generalized to similar projects.

5.6 Areas for further research

This study was qualitative in nature, which implies that it mainly focused on the participants' views and opinions. A quantitative study, or one that uses the mixed method approach, could be done to establish more pertinent issues regarding the organisation, for instance, the conflict of interest between Umpheme employees and subcontractors, the relationship among the production, financial and the operational activity cycles of Umpheme or similar businesses. Essentially, this study can serve as a basis for further studies which can focus on other ways of conceptualising and operationalising the relationship between WCM and profitability.

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Appendices

Appendix 1: Interview Guide

UNIVERSITY OF KWAZULU-NATAL GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP

**MBA Research Project
Researcher: Mzontsundu Marareni
Supervisor: Dr Bibi Zaheenah Chummun
Research Office: Ms P Ximba (0312603587)**

Title of study

INVESTIGATING THE EFFECTIVENESS OF PRODUCTION PRACTICES AT UMPHEME DEVELOPMENT (PTY) LTD IN KWAZULU-NATAL

Interview Questions

1. What is your role at Umpheme, and briefly describe your day to day activities?
2. Briefly explain your understanding of the current production practices at Umpheme.
3. From your experience, do you think the production practices are consistent across all Umpheme projects? Please explain your answer.
4. In your view, how do Umpheme production practices differ from the general construction industry practices or norms? Do the differences position Umpheme at an advantage or disadvantage in the market?
5. How would you define quality, in the context of Umpheme projects?
6. What challenges have you encountered, or do you encounter, in your efforts towards ensuring quality work at Umpheme?
7. What quality assurance measures are in place at Umpheme?
8. How often do you review the production practices? If you don't review them, how do you go about it, in terms of quality assurance, monitoring and evaluation?
9. What do you think are the factors that are negatively affecting the production processes and ultimately, the performance of Umpheme?

10. Are these factors in your knowledge unique to Umpheme? Explain your answer.
11. In your view, what do you think must be done to mitigate the factors that you have identified above?
12. In my understanding, there are some houses that were built but have not been claimed. What do you think are the reasons behind this?
13. With regards to the completed houses which have not been claimed (which is an outcome of production processes), what do you think is the effect on Umpheme's Working Capital?
14. In your project role, what efforts do you make to mitigate the impact of houses built and not claimed on Umpheme's Working Capital?
15. Is there anything that you would like to bring to my attention?

THANK YOU FOR YOUR PARTICIPATION

Appendix 2: Informed Consent

Informed Consent Letter 3C

**UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP**

**MBA Research Project
Researcher: Mzontsundu Marareni
Supervisor: Dr Bibi Zaheenah Chummun
Research Office: Ms P Ximba (0312603587)**

Dear Respondent,

I, Mzontsundu Marareni am a MBA student, at the Graduate School of Business and Leadership, of the University of KwaZulu-Natal. You are invited to participate in a research project entitled:

“INVESTIGATING THE EFFECTIVENESS OF PRODUCTION PRACTICES AT UMPHEME DEVELOPMENT (PTY) LTD IN KWAZULU-NATAL”

The aim of this study is to investigate the effectiveness of production practices within Umpheme Development in the light of the high number of houses or milestones built but not claimed from the Department of Human Settlements.

Through your participation I hope to understand production problems and solutions thereof for the future sustainability. The results of the interview are intended to contribute to improved efficiency at Umpheme Development.

Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this interview. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Graduate School of Business and Leadership, UKZN.

If you have any questions or concerns about participating in the interview or about participating in this study, you may contact me or my supervisor at the numbers listed above.

The interview should take about 45 minutes to an hour. I hope you will take the time to participate.

Sincerely

Investigator's signature _____ Date _____

This page is to be retained by the participant

Appendix 3: Informed Consent

Informed Consent Letter 3C

**UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP**

**MBA Research Project
Researcher: Mzontsundu Marareni
Supervisor: Dr Bibi Zaheenah Chummun
Research Office: Ms P Ximba (0312603587)**

CONSENT

I..... (full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

I hereby consent/do not consent to record the interview.

SIGNATURE OF PARTICIPANT

DATE

.....

This page is to be retained by the researcher

Appendix 4: Gatekeeper's Letter



26 March 2019

Mzontsundu Marareni
38 Warbler Way
Yellowwood Park
DURBAN
4004
Email: mzom@umpheme.co.za

RE: AUTHORITISATION TO CONDUCT RESEARCH AT UMPHEME DEVELOPMENT

Dear Mzontsundu

This letter serves to grant you permission to conduct research at Umpheme Development (PTY) Ltd, in fulfilment of the requirements of the Master of Business Administration degree with the University of KwaZulu Natal.

This permission is granted on condition that the research will be conducted in line with the University of KwaZulu Natal's Research Ethics Policy prescripts.

Your attention is further drawn to the importance of treating all data collected with due confidentiality and anonymity.

Yours Faithfully

Shadrack Khumalo
Company Secretary

Appendix 5: Turnitin Report

Turnitin Originality Report

INVESTIGATING THE EFFECTIVENESS OF PRODUCTION PRACTICES AT UMPHEME DEVELOPMENT (PTY) LTD IN KWAZULU-NATAL by Mzontsundu Marareni
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Appendix 6: Ethical Clearance Approval



08 August 2019

Mr Mzontsundu Marareni (216071067) Grad
School Of Bus & Leadership
Westville Campus
Dear Mr Marareni

Protocol reference number: HSSREC/00000127/2019

Project title: Investigating the effectiveness of production practices at Umpheme Development (Pty) Ltd in KwaZulu-Natal

Full Approval – Expedited Application

This letter serves to notify you that your application received on 30 July 2019 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. **PLEASE NOTE:** Research data should be securely stored in the discipline/department for a period of 5 years.

This approval is valid for one year from 08 August 2019.

To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

Yours sincerely,



Dr Rosemary Sibanda (Chair)

/dd

Humanities & Social Sciences Research Ethics Committee
Dr Rosemary Sibanda (Chair)
UKZN Research Ethics Office Westville Campus, Govan Mbeki Building
Postal Address: Private Bag X54001, Durban 4000
Website: <http://research.ukzn.ac.za/Research-Ethics/>

Founding Campuses: Edgewood Howard College Medical School Pietermaritzburg Westville

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