

1. Introduction

1.1. Background

Poor performance such as time delays, cost overruns and (at most times) poor quality is not uncommon in construction projects (Lo *et al.*, 2006). The causes of these problems have attracted the attention of construction practitioners and researchers. Examples of academic interest in the causes of poor performance in the construction industry can be seen in research done by scholars such as Doloi *et al.* (2012). They identified the seven most important factors leading to time delays and cost overruns as a lack of commitment, insufficient site management, poor site coordination, improper planning, lack of clarity on project scope, lack of communication and substandard contract. Similarly, Rafel (1994) established that the predominant causes of poor quality in building projects were the client's demand for unrealistically short contract periods, the poor management of subcontractors, the construction environment, inadequately trained and unmotivated artisans, lack of quality control and defined responsibility for quality, inadequate planning as well as inadequate communication. A study by Kaming *et al.* (1997) showed that the predominant factors influencing time delays were design changes, inadequate planning, inaccuracy of material estimate and poor labour productivity, while cost overruns were attributed to inaccurate material estimation, material cost increases and lack of experience of project type.

Kaming *et al.* further grouped the causes of time and cost overruns into three categories: (1) those over which neither party to the contract has any control; for example, inclement weather, skills shortage or equipment and material shortages, (2) those over which the construction owner (or his/her representative) has control, for example, design changes and (3) those over which the contractor (or any subcontractor) has control for example, inaccurate prediction of equipment. Other studies, such as that of Assaf and Al-Hejji (2006) further grouped 73 factors that influence poor performance into nine categories: project related, client related, design related, contractor related, consultant related, materials related, labour related, equipment related and external factors. Likewise Kaming *et al.* (1997) have noted that some of the factors influencing poor project performance are beyond the control of either party to the contract. Meng (2012) showed that most studies have divided the causes of poor performance into external and internal causes. He notes that external causes, which are beyond the control of the project

team, may include adverse weather conditions, unforeseen site conditions, market fluctuation, and regulatory changes. Internal causes of poor performance may be generated by the client, the designer, the contractor, the consultant and various suppliers who provide labour, materials and equipment. As Meng (2012) noted, most studies looked at the internal project participants in isolation.

Given the above mentioned interest in the subject of causes of poor performance in the construction industry, it can be said (with caution) that there might be a gap in the research that has been established on the subject matter. Perhaps the idea of supply chain relationships has been under studied or under developed as a possible cause of poor performance. Few studies have considered supply chain relationship as one of the causes of poor performance. Papo (2004) identified that disputes arising within the contractor-subcontractor relationship affect project performance to some degree and that these disputes are primarily caused by management issues, contractual issues, socio-cultural issues, financial issues, government/statutory issues and quality issues.

Another scholar who has given necessary attention to the subject of poor performance in projects is Meng in his 2012 study on *"The effect of relationship management on project performance in construction"* where he identified ten key relationship indicators pertinent to the construction industry. Based on his findings Meng identified the following relationship indicators which describe a construction supply chain relationship in ten key areas: mutual objectives, gain and pain sharing, trust, no-blame culture, joint working, communication, problem solving, risk allocation, performance measurement and continuous improvement. Based on these relationship indicators, Meng's analysis revealed that the deterioration of the relationship between project parties may increase the likelihood of poor performance. Poor performance can be effectively reduced by improving some aspects of the relationship.

The study further proved that the adoption of supply chain collaboration and partnering helps to solve the performance problems, in which long term collaboration is more favourable for performance improvement than short term collaboration. The study however did not explore the effect that cultural differences amongst individuals would have on the identified relationship indicators. This is especially so when the idea is applied to a non-Western and diverse country such as South Africa.

For the purposes of this study, the research of the effect that cultural differences might have on performance indicators is imperative however it is not the primary objective of this study because of the context in which the research was undertaken. This research report aims to use Meng's study in order to incorporate the relationship indicators to a South African context and thus prove that human elements such as cooperation (taken from the concept of from 'ubuntu') can affect project performance.

Scholars such as Ferris *et al* (1998) suggest that the secret to a successful project is ensuring that the social, cultural and environmental norms are of acceptable standards. It can thus be said that for a project to be successful, a holistic approach that focuses on the human factor needs to be assessed. Human resource management theory suggests that human resource systems present a largely untapped opportunity to improve a project's or organization's performance (Frimpong, 2000). Literature review has broadly established the typical or common factors affecting project performance leading to project failure. However these factors are mostly organizational, managerial or technical issues (Yeo, 2002; Davies, 1999; Becker, 1996). Contrary to such thought, Frimpong (2000) in his analysis of the project environment found that human resources are the most important assets in the organization or project and that the attitude of employees to their work ultimately determines the organization or project's success. It is this type of thinking that will guide the basis for the argument for the inclusion of human resource management having a potential influence on project performance and how this human aspect of management relates to the relationship indicators as stipulated by Meng (2012).

To this end, the people working on a project can be seen as human capital. Unfortunately, the value of human relationships is not as obvious as that found in machinery or profit. The limited literature that is specific to the influence of supply chain relationships on project performance in the construction industry is indicative of this. The same applies to limited research on the impact of the use of 'ubuntu' as a management tool in the South African construction industry. The intangible factors affecting the management of a project also include culture, politics, project environment, institutional arrangements and legislation (Berber, 2004). From these factors, this study will advocate that the success or failure of a project may depend largely on the human factor of the project (how people relate to one another, their job, the project and the environment).

The potential of human factors affecting project success is not a phenomenon expressed only in the construction industry. Studies in the field of Information Systems have also come across failure factors which are similar to those established in the construction industry. Yeo (2002) grouped these failure factors into organizational and managerial contexts as well as the actual execution of an information system development project. He found that the possible failure factors in the organizational and managerial contexts were; hostile company culture, improper reporting structure, political pressures, vested interests, influences and improper level of management commitment. Some of the key influencing factors in the execution of the project itself included technology, focus over human relations, technical fix for a management problem, poor stakeholder management, and poor competence of project management and project team. These findings highlight, to some degree, the importance of human resource management in any organization, more so the human relationship aspect of things. The findings prove that projects/undertakings are largely dependent on human relationships and attitudes, not forgetting their abilities. It is clear that if humans (on any level) cooperate and are able to function mutually, poor performance can be minimized. The idea of a cooperative and mutual human relationship is widely referred to as 'ubuntu' in South Africa.

South Africa, being the multi-cultural country that it is, has in the last two decades seen an introduction of a new management concept called 'ubuntu' which has become popular in the South African management literature (Karsten and Illa, 2005). One definition of 'ubuntu' which is appropriate to its reference or its proposed use in this study is given by Mangaliso (2001, pg 24) who defines it as "humaneness - a pervasive spirit of caring and community, harmony and hospitality, respect and responsiveness - that individuals and groups display for one another". 'Ubuntu' is widely accepted as "the foundation for the fundamental values that manifest themselves in the ways that African people think and behave toward each other and towards everyone else that they encounter" (Mangaliso, 2001, pg 24), for example Non-African people. He further states that the philosophy of 'ubuntu' has driving norms which are reciprocity, suppression of self-interest and the virtue of symbiosis. 'Ubuntu', although in its bare form is a Zulu or Xhosa word meaning humaneness, is a philosophy that is meant to apply to every human being irrespective of their race, gender, or culture. Even though the concept of 'ubuntu' is understood to encompass all people from different walks of life, It should also be remembered that the majority of high level managers in the South African construction industry are white and

thus not of 'bantu' origin. Despite their non-appreciation for the strategic advantages of the concept of ubuntu (Mangaliso, 2001), it might stand true that they do not fully understand it, especially as a human resource and relationship management style.

Karsten and Illa (2005) stated that "African philosophy has long been established in and through 'ubuntu'. It permeates life and the thinking of many Africans." Karsten and Illa (2005) assert that 'ubuntu' does not only apply to the Bantu speaking ethnic groups, who use the word 'ubuntu' or an equivalent for it. It refers to, the whole population of Sub-Saharan Africa. The concept of 'ubuntu' is however fairly new in the field of management, let alone in the construction industry. In South African literature, it can be observed that the philosophy has seen its roots in the social sciences (particularly in politics and psychology) as it became popular after Apartheid (Broodryk, 2006). Unfortunately, with all the talk of 'ubuntu', the philosophy has not been fully embraced in the workplace by managers (Mangaliso, 2005). Since 'ubuntu' is a new concept in terms of African management literature, it has also been criticized by writers who defend the Western management approach (Swartz and Davies, 1997). However, its application in the supply chain relationships can benefit project performances.

This research report investigates ways of improving relationship management in South African construction project performance by looking at 'ubuntu' as a management tool. It attempts to fill in a gap in the knowledge area, incorporating the concept of 'ubuntu' in Meng's identified relationship indicators (Meng, 2012) for the supply chain relationships in the construction industry. The research report will also look at these ten relationship indicators as well as how they affect project performance and the introduction of 'ubuntu' as a management tool. The ten key relationship indicators identified by Meng are: Mutual objectives, gain and pain sharing, trust, no-blame culture, joint working, communication, problem solving, risk allocation, performance measurement and continuous improvement. These indicators will be adopted in the research report to assess the status of supply chain relationships in the construction industry. This is not to take away from the fact that project performance is rightfully measured in terms of time, budget and the required quality (Meng, 2012).

1.2. Problem Statement

The success of construction projects vastly depends on the key indicators of project performance, being time, cost and quality. Studies have been conducted to determine the factors that impact on each of the performance indicators of every construction project. One such study is that conducted by Meng in 2012 where ten relationship indicators were identified to describe the nature of the supply chain relationships in the United Kingdom's construction industry. Construction projects often suffer from poor performance in terms of time delays, cost overruns and quality defects, even those in the South African construction industry. The causes of poor performance have often been analysed, however, few studies have addressed the influence of supply chain relationships on project performance in construction (Meng, 2012).

The purpose of this study is to incorporate the ten relationship indicators, as they are, in the South African construction industry to attempt to improve the nature of the relationship management in the industry. However, there's a limitation as South Africa is a diverse country with cultural dynamics in most business organizations. In order for these indicators to have any form of impact in terms of improving performance within the South African construction industry, one has to take into account the cultural diversity within the country. Therefore, how can the cultural diversity that exist within the South African construction industry be addressed in a positive manner to positively affect the nature of the supply chain relationships that currently exist in the industry?

1.3. Purpose of the Study

The construction industry being the multi-discipline industry that it is and always in continuous evolution and as interlinked as the knowledge areas are across all disciplines and countries, it is of high importance to continuously assess methods and techniques that might contribute positively to the construction sector. This includes companies striving to compete locally and globally and boosting that competitive edge. One way to achieve this is to ensure that the industry stays as current and advanced as it can possibly be. Poor project performance is one of the shortfalls that are continuously haunting the industry. With some of the studies conducted locally and

internationally on the matter of improving project performance, it is of imperative nature that international studies which have contributed significantly to South Africa's global competitors be employed locally to establish the contribution they will bring to the country's construction industry.

This report investigates ways of improving relationship management in South African construction projects by attempting to incorporate the ten relationship indicators as an improvement tool in affecting supply chain relationships, which in turn will affect project performance. The study further acknowledges the limitations that these relationship indicators might have in the South African context as a result of the cultural dynamics that exist in the country, and to address this, the study introduces the philosophy of 'ubuntu' as a management concept. Therefore what this study attempts to establish are the following objectives:-

- Whether poor performance is more likely to occur following the deterioration of a supply chain relationship,
- Whether the association between the deterioration of a supply chain relationship and the occurrence of poor performance is significant,
- What relationship indicators contribute to the significant improvement of project performance, and
- Whether 'ubuntu' can be used as a successful management approach in the construction industry.

1.4. Outline of Chapters

This study contains a standard chapter format, i.e. introduction, literature review, research methodology, analysis and interpretation of data and conclusion, which will be further expanded to enable the addressing of the concept the study wants to bring across. The following forms an outline of the chapters within this research report.

Chapter 1: Introduction

This chapter will look at the background to the concept of relationship management and project performance and the philosophy of 'ubuntu' as a management approach. It will further address the problem statement and the purpose of this study.

Chapter 2: Literature Review

This chapter will look at the review of literature which will be adopted in this study.

Chapter 3: Methodology

This chapter will focus on outlining the research approach adopted in terms of the collection and analysis of data and the selection of the research participants.

Chapter 4: Improving relationship management from the concept of 'ubuntu'

This chapter will focus on briefly defining the values of 'ubuntu' in terms of the collective fingers' theory. It will also look at the guidelines which may be adopted in implementing 'ubuntu' in organizations and will present a theoretical model depicting the relationship between the relationship indicators, cultural diversity, and the values of 'ubuntu' and project performance.

Chapter 5: Analysis of results

This chapter will focus on analyzing the data which would be collected.

Chapter 6: Discussion

This chapter will briefly discuss the results established from the analysis and their significant.

Chapter 7: Conclusion

This chapter will focus on concluding the report and all the discussions in terms of the results and will outline recommendations which will be highlighted.

References

The journal, books and thesis that will be referenced will be listed here.

Appendices

All the supporting documentation will be listed here

2. Literature Review

The construction supply chain relationship has been described by ten key indicators, in ten key areas as being: mutual objectives, gain and pain sharing, trust, no-blame culture, joint working, communication, problem solving, risk allocation, performance measurement and continuous improvement (Meng, 2012), which are then employed to understand the impact/effect they might have on the performance of projects in the construction industry. As it is generally known, project performance is predominantly evaluated based on three parameters; cost, time and quality. If a construction project is not successful, poor performance is reflected in time delays, cost overruns and quality defects (Meng, 2012). The concept of “ubuntu” as a management concept has been introduced as a new suggested management strategy by some South African literature on human resources in the work place (Karsten and Illa, 2005). The likelihood of its success in terms of implementation and practicality has been wildly debated and criticized (Swartz and Davies, 1999). However, the use of the “ubuntu” philosophy as a management concept in the South African business world in particular is inevitable due to the multi-cultured nature and diversity of South Africa as a democratic country. A comparative analysis of how the ten relationship indicators and how “ubuntu” as a management concept affect the three performance parameters is conducted throughout the report; however this section of the report will provide definitions for the relationship indicators and the “ubuntu” philosophy gathered from a comprehensive literature review.

2.1.1. Mutual Objectives

Mutual objectives encompasses the change in traditional relationships to a shared culture; based upon trust, dedication to common goals and an understanding of each other’s individual expectations and values (Brensen and Marshall, 1999). Integrative interactions are characterized by cooperative behavior; hence parties in a business transaction seek ways to achieve mutual objectives while bargaining (Grover *et al*, 1996). Establishing relational goals may reduce the negative influence of formal contractual rules on people’s behavior (Kadefos, 2005) and instead align the goals and objectives of different parties and focuses their efforts on pulling in the same direction (Meng, 2012).

2.1.2. Trust

Trust is a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another (Kadefors, 2004). This could imply that trust is a process that begins within an individual and must rely on certain human qualities or characteristics, such as ability, benevolence and integrity as noted by (Kadefors, 2004), in order for it to arise. Trust is a fundamental component of human relationships throughout the world (Child, 2001) and showing it communicates to a partner that cooperation is anticipated and tends to be reciprocated with a behavior that validates trust (Kadefors, 2004). Lau and Rowlinson (2009) highlighted that trust is of two “umbrellas” – *interpersonal*, comprising of integrity, confidence, faith, reliability and keeping promises and *interfirm*, comprising of credibility, reputation, confidence and keeping promises.

Certain societies believe that trust is generally built on reputation and relationship (Lau & Rowlinson, 2009), however in the construction industry trust has a different meaning for the parties involved in the industry, such as contractors and owners (Pinto et al, 2009). The subject of trust has been extensively studied by different scholars, such as Kadefors (2004), Pinto et al (2009), and Child (2001). In an attempt to compile a universal definition of trust and further to the two trust “umbrellas” identified by Lau & Rowlinson, these scholars have come across three distinct models that depict different types of trust – 1) *The Hartman Model*, which outlines the following as different types of trusts; competence trust, integrity trust and intuitive trust, 2) *The Rousseau Model*, which has calculus-based trust, relational trust and institutional trust and 3) *The Lewicki & Bucker Model* which states that trust builds across three levels, deterrence-based trust, knowledge-based trust and identification-based trust. Based on these models one can deduce that relationships in the construction industry are based on any of these forms of trust, however for relationship management to be effective, the parties need to build up mutual trust (Meng, 2012).

2.1.3. No-blame culture

A blame culture is whereby the various members of an organization seek to minimize their level of exposure to poor performance by transferring the blame to other members of the same organization, rather than working together in a spirit of trust, cooperation, collaboration and joint accountability (Baiden *et al*, 2006). Organizational cultures or Project cultures as in the case of construction projects play a role in determining how parties cooperate to achieve project objectives and is related to successful collaboration in complex projects (Marrewijk *et al*, 2008). When organizations have the do “best-for-project” mentality, its members tend to find solutions to problems rather than to dispense blame (Pitsis *et al*, 2003) and members are encouraged to experiment with new ideas (Dulaimi *et al*, 2002). However one might argue that it is difficult for a construction project team to realize a culture of not blaming one another because the relatively short duration of most construction projects and the temporary nature of many project teams form significant barriers to the realization of such suitable project cultures. No-blame culture is said to have been fully achieved when collective identification and resolution of problems is practiced by all members of the team and when collective responsibility for all project outcomes is realized by all members (Baiden *et al*, 2006).

2.1.4. Communication

Communication mainly involves the transfer of information between people in a group or organization (Gluch & Raisanen, 2009). One of the major causes of delay in construction projects is communication problems, however, delays can be minimized by discussions that lead to understanding (Assaf & Al-Hejji, 2006). Performance can be improved in the construction industry if the focus was shifted to examining the constraints of organizational cultures (Gluch and Raisanen, 2009) such as the lack of the “no-blame” culture, through communication which will encourage individuals within the organization to experiment with new ideas (Dulaimi *et al*, 2002).

2.1.5. Joint Working

Most construction project teams comprise of participants from different organizations that come together to form temporary organizations (Baiden *et al*, 2006). This temporal endeavor aims to

align the goals and objectives of these different parties and focuses their efforts on pulling in the same direction (Meng, 2012). According to Meng (2012), joint working is generally reflected by joint decision making based on clear understanding of mutual objectives, joint effort of problem solving and joint effort for continuous improvement. Bresnen and Marshall (2000) suggested that project performance, in terms of cost, time, and quality can be dramatically improved if participants adopt more collaborative ways of working, however before collaboration can become a team effort it depends on individual behavior (Bresnen and Marshall, 2000). Cooperation and teamwork would provide a paradigm for collective learning within a project organization and the team would develop knowledge by working as a whole (Gunasekaran and Li, 1998). Although the willingness to share information and knowledge occurs over time (Gale and Luo, 2004), construction project teams learn to part and share what they know in a short space of time. Lack of continuity of relationships, due to the short-term nature of most construction projects, undermines attempts to secure full benefits of collaborative working (Bresnen and Marshall, 2000).

2.1.6. Risk Allocation

Risks cannot be eliminated; however they can be effectively managed as they are perceived to be the occurrence of unwanted or uncertain events (Zou et al, 2007) that may negatively affect the success of a construction project. The ACT Insurance Authority (2004) have identified avoiding the risk, reducing the risk, transferring the risk and retaining the risk as the treatment options available in effectively managing risks. However, a successful project risk management process relies on the risk being thoroughly and properly understood before it is allocated or before the method of allocation is chosen (Rahman & Kumaraswamy, 2002). Risk should be allocated to the party best able to anticipate and control that risk, however the willingness of that party to take on the risk is an important consideration in the allocation of project risk (Ward et al, 1991). Conditions of contract are themselves alone not sufficient to allocate risk properly (Rahman & Kumaraswamy, 2002); an open and cooperative attitude towards risk by all contractual parties must be maintained for the risk management process to be successful (Schmidt et al, 1999). Risks are inherent in all construction projects, none the less due to the temporal and unique nature of construction projects, their precise and natural form is project specific (Rahman & Kumaraswamy, 2002). The identification of risks as early as possible in a

project's life is important (Ward et al, 1991) in ensuring that the primary project performance objectives of time, cost and quality are achieved.

2.1.7. Performance Measurement

Performance should be measured on a regular basis (Meng, 2012) by determining how successful organizations, project teams or individuals have been in attaining their objectives and strategies (Kagioglou *et al*, 2001). Project success means different things to different individuals (Chan & Chan, 2004), however ideally it is measured against the achievement of goals that were predetermined at the inception phase (Dainty *et al*, 2003). The construction industry has developed a variety of tools to measure and manage performance such as the “total quality management”, “benchmarking” (Kagioglou *et al*, 2001) and “key performance indicators” which enable the measurement of project and organizational performance throughout the construction industry (Chan and Chan, 2004). Benchmarking is useful in comparing performance between projects within the same industry, in this case, the construction industry (Cheung *et al*, 2004).

2.1.8. Continuous Improvement

Continuous improvement implies successfully establishing a culture of development and constant learning within an organization or a project team, and facilitating the learning process of the individuals is regarded as important to the continuity of the continuous improvement activities (Alstrup, 2000). The construction industry has seen the introduction of various tools, techniques and methods such as partnering (Bresnen and Marshall, 2000), benchmarking (Berber, 2004) and joint ventures (Gale and Luo, 2004), as measures of continuous improvement in the aim of improving the industry's project performance. Partnering assumes that continuous improvement is a joint effort to eliminate barriers to improvement (Larson, 1997) and that it is a possible solution for reducing the adversarial nature of the construction industry (Love *et al*, 1998). Benchmarking is an evaluative tool to provide continuous learning for project organizations (Berber, 2004) by allowing them to compare their own performance with that of other project organizations (Meng, 2012). Continuous improvement has been seen as a way of promoting long term performance improvement (Bresnen & Marshall). However, the short term nature of most construction projects is not a suitable one as it means that most project teams and organizations live from project to project and each time focus on the successful completion

of these projects, as a result this may inhibit the learning process and thus the continuous improvement of project teams (Gieskes and Broeke, 2000).

2.1.9. Gain and Pain Sharing

According to Meng (2012) gain/pain sharing is defined as an agreement that allows the parties in a construction project to share profits or cost savings and to share losses due to errors or cost increases. This can be achieved through construction contracts with contract conditions that are explicitly drafted for the purpose of reducing uncertain events such as risks (Charoenngam and Yeh, 1999). As much as the risks and liabilities should be fairly shared amongst project participants (Charoenngam and Yeh, 1999) throughout the lifecycle of the project, the profits and any cash incentives realized should be shared as well. Risk/reward schemes, as most gain/pain sharing agreements are known as (Meng, 2012), can facilitate the development of trust (Kadefors, 2004) and trust should be at the heart of how people do and think about risks (Zaghloul and Hartman, 2003). Risk sharing and risk reward agreements exist to share the benefits that will be realized if the risk does not occur during the projects lifecycle, however for this to be achieved trust relationship must first exist between contracting parties (Zaghloul and Hartman, 2003).

2.1.10. Problem Solving

Effective project management requires both proactive and reactive strategy in dealing with unanticipated and challenging events, and these unprecedented events are best dealt with through the collective efforts of members of a project team in resolving such problems (Walker and Loosemore, 2003). According to Barron (2000), joint problem solving requires collaboration within peers and a willingness and openness to be influenced by others which will result in joint understanding within the parties involved in a problem solving process. Construction projects frequently encounter unforeseen and unanticipated challenges which require the project team to be highly efficient and effective in responding to resolving such challenges. A focused project team with a range of skills and experiences to cope with such problems (Walker and Loosemore, 2003) and a right attitude to joint working can positively affect the performance of a project. Joint problem solving affords members of a project team the opportunity to learn from

one another and to overcome the challenges of establishing common frames of reference, resolving discrepancies in understanding, and coming to a joint understanding (Barron, 2000).

2.2.1. “*Ubuntu*” Philosophy

‘Ubuntu’ is a concept which is unique to the African continent and its indigenous people. In South Africa ‘Ubuntu’ is a way of life which the communities adopt to relate to and to treat one another (Hailey, 2008). South Africa being a country that is culturally inclined and diverse, the people that live within the societies are highly communal in nature (Lutz, 2009). It is in these communities and because of these different cultures that people believe that living together in harmony, being helpful to one another, loving one’s neighbor and being a collective, signifies the core values of ‘ubuntu’. The origins of ‘ubuntu’ can be traced back to the Nguni speaking nations comprising of Zulus, Xhosas, *Ama-Swati* and Ndebeles in which the English direct translation of the word would be humanity, humility or humaneness (Poovan, 2005). It must be noted, however, that the meaning of the word ‘ubuntu’ exists in all South African spoken languages, e.g. in Setswana it is ‘botho’ and in Shangaan it is ‘munhu’. In South African cultures ‘ubuntu’ has been brought across as being more than just a word. It is a word that inherits its in-depth meaning once it is associated with a certain form of behavior. According to Broodryk (2006) a person who possess the virtues of ‘ubuntu’ must be a kind person, who is generous, friendly and living in harmony, who is helpful in anyway, modest and mostly happy. In Setswana it would be said that this kind of person “O nale botho” meaning the person is full of humility.

Although ‘ubuntu’ has been widely presumed to refer only to the Bantu speaking ethnic groups, ‘ubuntu’ encompasses the whole population of Sub-Saharan Africa (Karsten and Illa, 2005) irrespective of race, culture or gender. It is the result of this holistic view of the South African population that the philosophy of ‘ubuntu’ emerged. This philosophy of “ubuntu” is meant to bring across the teaching that a person is a person through other persons, as translated from the Zulu expression “umuntu ngumuntu ngabantu” (Karsten and Illa, 2005). Lutz (2009) noted that the success of one person depends on the success of everyone. Success being relative in this regard, simply put, this means that the philosophy of ‘ubuntu’ is not of an individualistic nature but of a collective one, and that benefiting other people is also good for the individual. It

is the objective of this paper to associate and incorporate this form of thinking to improving the nature of the supply chain relationships in the South African construction industry.

There has been a diversity of ways of understanding and defining the meaning of the term 'ubuntu' (Hailey, 2008). Scholars such as Mangaliso (2001) defined 'ubuntu' as humaneness- a pervasive spirit of caring and community, harmony and hospitality, respect and responsiveness- that individuals and groups display for one another. Hailey (2008) sees 'ubuntu' as a statement of being that encapsulates the fundamental elements that qualify any person to be human and what it means to be human. Karsten and Illa (2005) further elaborate that 'ubuntu' is an African worldview that is rooted and anchored in people's daily life. Although these are a broad understanding of the concept of 'ubuntu', the meaning of 'ubuntu' becomes clearer when its keys social values, being survival, solidarity, compassion, respect, dignity, sharing, hospitality, obedience, humility, interdependence, communalism and love, are highlighted (Poovan, 2005). For the purpose of this study, the values of 'ubuntu' will be represented by survival, compassion, solidarity, dignity and respect (as adopted from the collective finger's theory which will be explained in chapter 4). It is these basic values that manifest themselves in the ways African people think and behave toward each other and everyone else they encounter (Mangaliso, 2001). Simply put acknowledging another person simply because they exist in the same space as you, respecting an individual because they are older, wiser and in a senior position than you are, respecting a person's opinion and giving them the opportunity to communicate it, are the teachings that can be acquired from the philosophy of 'ubuntu'.

2.2.2. '*Ubuntu*' as a Management Concept

'Ubuntu' as a management concept in the South African business environment can primarily be attributed to the political changes that occurred after the democratic elections in 1994 (Karsten and Illa, 2005). To eliminate the social, political and business imbalances that were created by the country's political history, certain dimensions of African cultures were introduced as a positive resource for catalyzing the business transformation in South Africa (Karsten and Illa, 2005). This saw the emergence of philosophies such as the 'ubuntu' philosophy being integrated in management techniques (Mangaliso, 2001) and later on concepts such as the 'Black Economic Empowerment' to give the formerly oppressed racial groups the opportunity at

economic wealth. However, the concept of 'ubuntu' as a management concept should not be limited to a potential stereotype that it only caters for black people; it is a holistic view that encompasses every individual in an organization.

'Ubuntu' has been seen to have potential in improving the management of organizations once it is incorporated in the management approach adopted within an organization. Hailey (2008) has noted five general areas for the application of 'ubuntu', two of which are pertinent to a business environment (these being "Promoting collective work consensus" and "Supporting organizational effectiveness and productivity"). Under "Promoting collective work consensus" Hailey notes that Africans have learnt to survive through collective action, mutual care and support and not by individual self-reliance. Organizations should strive to ignite an atmosphere and environment of collaborative working and team effort in order to improve performance within the organization. In "Supporting organizational effectiveness and productivity" he elaborates that African management practices should include a humanistic management style which sees employees not just as a strategic asset but rather as valued individuals in their own right.

According to Lutz (2009), 'ubuntu' functions as a unifying factor, bringing people together regardless of their background. It is in its core values and advantages that people generally have respect and empathy for one another and that in organizations, when people sense that they are being treated with respect and dignity, they will respond by showing greater commitment to organizational goals (Mangaliso, 2001). In the business environment, this is an important attribute to have as it should be important to ensure mutual objectives are achieved through each individual member within the organization. 'Ubuntu' is all about synergy (Mangaliso, 2001) and was introduced to improve the coordination of personnel in organizations (Karsten and Illa, 2005). Swartz and Davies (1997) noted that in order to improve the management of companies, organizations in Africa must draw on indigenous cultural practice. The introduction of 'ubuntu' as a management concept will not replace the transfer of knowledge from the Western world (Karsten and Illa, 2005) but will give the practice of management, in South Africa, a competitive advantage (Mangaliso, 2001).

2.2.3. 'Ubuntu' vs. Performance indicators

Meng (2012) identified mutual objectives, gain and pain sharing, trust, no-blame culture, joint working, communication, problem solving, risk allocation, performance measurement and continuous improvement as the ten constructions supply chain relationship indicators which can affect project performance. Mutual objectives encompass the change in traditional relationships to a shared culture (Bresnen and Marshall, 1999). It aligns the goals and objectives of different parties and focuses their efforts on pulling in the same direction (Meng, 2012). 'Ubuntu' values solidarity, mutual respect and supports cooperation by allowing individuals to contribute their best efforts for the improvement of the entire team (Mangaliso, 2001). Trust is a fundamental component of human relationships throughout the world (Child, 2001) and showing it communicates to a partner that cooperation is anticipated and tends to be reciprocated with a behavior that validates trust (Kadefors, 2004). 'Ubuntu' helps in affirming universal human values, like humanness, dignity, empathy, compassion for others and trust (Mangaliso, 2001).

A no-blame culture is whereby the various members of an organization seek to minimize blaming each other for poor performance by working together in a spirit of trust, cooperation, collaboration and joint accountability (Baiden *et al*, 2006). 'Ubuntu' supports cooperation and embraces a set of social behaviours like sharing, seeking consensus and interdependent helpfulness (Karsten and Illa, 2005). Joint working is generally reflected by joint decision making based on clear understanding of mutual objectives, joint effort of problem solving and joint effort for continuous improvement (Meng, 2012). 'Ubuntu' values team work and the decision-making process is a circular, inclusive one (Mangaliso, 2001) and includes the voices of all participants in the organization by building consensus (Karsten and Illa, 2005). One of the major causes of delay in construction projects is communication problems, however, delays can be minimized by discussions that lead to understanding (Assaf & Al-Hejji, 2006). 'Ubuntu' enhances communication between management and employees (Karsten and Illa, 2005) and assures that all voices are heard and that consensus has been reached (Mangaliso, 2001).

Continuous improvement implies successfully establishing a culture of development and constant learning within an organization or a project team (Alstrup, 2000). Young minds and new management in an organization usually employ new and innovative ideas to ensure that their organization remains competitive. The African thought system, the 'ubuntu' philosophy, is

that age is regarded as an ongoing process of maturing and acquiring wisdom (Mangaliso, 2001). A combination of traditional management thought systems, for ensuring continuous improvement, and the African thought system of learning from one another by incorporating 'ubuntu' principles in management holds promise of approaches to effectively managing organizations in South Africa (Mangaliso, 2001).

3. Research Methodology

3.1. Collection of data

Given that the nature of the focus of this research report is supply chain relationships (which are driven by humans), it was important for the study to be conducted in an interactive way. The environment had to be conducive for optimal reporting and the research subjects had to consist of a variety of relevant South African construction practitioners. The research findings and the collection of data were conducted by using qualitative methods of research which employed focus groups and structured question sheets for the collection of data.

The qualitative research method was used for this research report because of the fact that the topic under consideration is a people orientated topic. The topic requires interaction as many people in the construction industry have differing and individual opinions on it. To this end, focus groups and structured questions had to be conducted in order to get the best possible results for this study.

It has been said that focus groups have been extensively employed in various research projects over time. They are primarily set up to explore specific topics, and individual views and experiences, through group interaction (Litosseliti, 2003). As a qualitative research method, focus groups are used to collect data by employing guided group discussions, normally led by a moderator, to generate a rich understanding of the participant's experiences and beliefs on a set topic (Morgan, 1998). The views and experiences of the participants are developed through their daily tasks on the respective roles that they play in the supply chain and in their interactions with one another. Qualitative methods of research are used to explore peoples knowledge, experience, what they think about a subject and why (Morgan, 1998: pg 11). For the ubuntu element of his research report, this method of research seemed to be the most applicable.

The researcher and the moderator can be the same person (Litosseliti, 2003) as this will simplify the analysis of the transcripts or research findings. This approach was

carried out in the study at hand. 'Focus groups are normally made up of people with certain common characteristics and similar levels of understanding of a topic, rather than aiming for diversity' (Litosseliti, 2003: pg 6). As with this particular study, the focus groups consisted of some construction industry professionals mainly in the building and contracting discipline of the industry (i.e. contractors). The selection of the participants and the number thereof is at the discretion of the researcher and the proposed type of research (Morgan, 1998). To enhance the argument for the necessity of including the concept of ubuntu as a relationship management tool in the South African construction industry, the focus groups were made up of black and white male South Africans who work in the industry at different levels in terms of hierarchy and on the supply chain spectrum. The group composition in this study was deliberately chosen to represent different people in the industry for the purposes of being heterogeneous (although representation here is not conclusive). The participants in each focus group consisted of professional members of the senior management staff on a construction site made up of a contracts manager, a site agent, a senior quantity surveyor and a general foreman.

Focus groups work best when what interests the research team is equally interesting to the participants in the group (Morgan, 1998). The participants in the focus groups were interested in the research because it is a topical discussion and it is industry related. The topic affects them in their daily operations as they strive to build and maintain relationships and work towards minimizing poor performance that can be caused by the deterioration of supply chain relationships in their projects. Given the volatility of the environment that the industry functions in (including external matters beyond human control) there is no company that is immune to poor project performances. This is a topic that affects and thus interests all South African construction companies.

3.2. Method and Approach

Prior to conducting focus group discussions, the researcher had to establish background information on the research topic by carrying out a thorough literature review. The literature review was implemented in order to collect information and relevant academic literature to create a foundation or basis for arguments, to provide background and for introduction to the topic. This undertaking facilitated the understanding of the topic to the focus group participants. The literature review was further employed to establish familiar terminologies that are adopted in the research report and to thoroughly define and give background to the relationship indicators which are adopted in the report. The researcher employed relationship indicators outlined by Meng (2012) in his study on *“The effect of relationship management on project performance in construction”*, to compile structured questions which were used to conduct the focus groups (see appendix B). The data collection process commenced with the moderator (also the researcher in this research report) carrying out site visits to construction sites in a random manner, within the area of Johannesburg. The researcher’s intentions were to ensure that the collection of data is as unbiased and unfavorable as possible to ensure that the data would at least be a fair representation of the industry at large. The sites being randomly selected ensured that participants selected were not from the same company or organization as they may have similar views to the topic as a result of the nature of their organizational culture. A total of six sites, run by six different construction companies were cooperative and willing to participate in the study as members of focus groups. It was the researcher’s intention to have members of the senior management staff from each site as participants in the focus groups as they interact with the entire project team on a broader scale. This was the closest way that one could compose a representative sample.

A total of 26 individuals participated in the study as members of focus groups, with each group from different sites (a total of six groups). It was noted that a typical number of focus groups is between four and six groups (Litosseliti, 2003), so the number of groups interviewed for this study was sufficient. Each group in this study had a minimum of four participants with two groups having five participants. It was observed that these small groups offered more opportunity for people to talk and were

more practical to set up and manage' (Litosseliti, 2003). 'Unlike quantitative research methods, the qualitative method is not dependent on the sample size' (Auerbach and Silverstein, 2003: pg25). However, this limits the research findings in that the minimum number of participants makes it difficult to generalize findings to a whole population.

Before participants could partake in the focus group, they were sent a brief summary of results from a prior study (Meng, 2012) and its background and research objectives (see Appendix A). They were asked to read them as part of the forthcoming scheduled focus group sessions. The focus group sessions were scheduled to take place within two weeks, during the lunch hour of each construction site (when daily operations and relations were already underway, thus encouraging honest responses and feedback on the subject matter). Given that the focus group sessions took place with participants from the same sites, the participants were fairly comfortable with interacting with each other and they could therefore give true reflections of their experiences and viewpoints. The first five sessions occurred on consecutive days within the first week. The last group session was held in the following business week, on Monday, after the weekend. A week before the scheduled group session took place, all the participants were reminded via e-mail of the scheduled focus group sessions to be held in the upcoming week to avoid having unplanned events affecting the participants' availability. The e-mail also served to enlighten the participants of the research aims and terminology to be employed in the study. The focus group sessions were held on each site, in their main boardroom and lasted for approximately 1 hour. Discussions and written responses accounted for an equal amount of time, 50/50 split (approximately 30minutes), as they occurred concurrently throughout the session. The researcher/moderator allowed himself 15 minutes prior to the scheduled group session, to set up the boardrooms to ensure a conducive, permissive and non-threatening environment (Litosseliti, 2003) that would enable the participants' mindset to avoid going into "meeting" mode during the group session.

Once the participants arrived in the boardrooms, the researcher (also moderator) reiterated the research aims and terminology definitions to be employed throughout the focus group session. The participants were told to keep the group discussions

confidential. They were also informed that the research would maintain their anonymity in its findings. This was also done to ensure that basic research ethics were observed. Ground rules of behavior to be observed (Morgan, 1998) during the discussion were set to give the group session structure and to set boundaries. A structured question sheet was then given to each participant of the focus group (see Appendix B). The questions were aimed at establishing some understanding and contextualizing the participants' views on the outlined relationship indicators and on the 'ubuntu' philosophy as a management concept. Participants were asked about the type of construction projects they have engaged in and what role they were playing in most of those projects. Questions about participant and project information, supply chain relationship indicators and the effects of 'ubuntu' as a management concept were asked.

To ensure consistency, each focus group was conducted in exactly the same way. First, the participants were asked to read through the questions individually and note their thoughts and opinions. At this point there was no discussion within the group and the participants were not allowed to communicate with each other. In the second stage open discussions were encouraged by the moderator, where each question was discussed individually. The moderator (also researcher in this study) ensured that the questions under section two and three of the structured question sheet were thoroughly elaborated on to encourage in-depth opinions from the participants during the discussions. Questions in section two were more focused on the supply chain relationship indicators identified by Meng (2012) and participants were asked to relate these to their experiences in construction projects and to give their opinions on the impact (if any) these indicators might have had on the professional relationships that the participants have encountered. Their opinions on these indicators and their effects were linked to the next question in the next section about project performance in terms of time, cost and quality. This was primarily to establish whether there was any relation between the nature of the supply chain relationships that existed within each project and how the project performed in terms of the performance parameters that are acknowledged to be the primary project performance indicators within the construction industry (Meng, 2012). The fourth section's questions introduced the concept of 'ubuntu' as a management approach in the construction industry.

Lastly, participants were asked to note and finalize their opinions of all the questions on an answer form. All the hard copy individual scripts were collected by the moderator who ensured that they were all thoroughly completed by each participant, confirming a total of 26 individual scripts collected.

3.3. Analysing the data

In trying to (as accurately as possible) capture and analyze the data from the discussions, a coding system was applied to extract relevant data and classify it accordingly. Every coding project begins with the end objective in mind (Edwards and Lampert, 1993) and with this study the end objective was to determine whether the industry's views on relationship indicators would yield similar relationship indicators as identified by Meng (2012). Adopting this study by Meng (2012) as a guide for data analysis, the coding system followed a top-down approach with the relationship indicators being the categories for the newly established themes to fall under. The analysis still followed the three step coding method of open coding, axial coding and selective coding. Before the coding could begin the transcripts were repeatedly read in an attempt to classify the data and to commence extracting possible themes and subthemes that emerged.

At the first step the data was open coded and the purpose of this form of coding is to crack open the data and to continue systematically the process of noticing a repetition of phrases that may constitute to be possible themes (Lyons and Coyle, 2007). The transcripts were analyzed and the initial themes and subthemes emerged. The next step was for the data to be axially coded. Axial coding is the development and testing of relationships between categories. In this study this process was simplified as the relationship indicators from the study by Meng(2012) were adopted as the main categories for themes. This stage of the coding process was meant to establish where the newly extracted themes and subthemes should be categorized in relation to the indicators. The final stage of the coding process was selective coding. Selective coding involves selecting a central category and once this is achieved the category was related to themes and subthemes (Poovan, 2005). It is this coding process that

completed the top-down coding system that was meant to establish the relation between the focus groups participant's views and the relationship indicators.

4. Improving relationship management from the concept of 'Ubuntu'

4.1. Theoretical impact of ubuntu on relationship indicators

When examining the possible impact of the supply chain relationship indicators (as articulated by Meng, 2012) in the South African context it can be noted that some limitations may exist within these relationship indicators. The indicators were derived to function and to have effect in organizations which adopted the Western approach in their management strategies, meaning that they cannot be universally applied in organizations without considering the cultural diversities that may exist in different countries (such as South Africa). Although most of the business organizations in South Africa have adopted the Western management concept in implementing their management strategies, adjustments to this approach are inevitable as a result of the culturally diverse nature of this country. This change/adjustment is mainly driven by the fact that majority of the workforce in the business organizations are multicultural and organizations have to determine a management approach that will accommodate such diversity. The fact that supply chain relationships are mainly driven by humans and how they relate to one another, it is important to consider the cultural differences that exist within such relationships. The concept of 'ubuntu' is introduced in this paper as a proposed approach and to act as a catalyst in implementing this change.

4.2. Values of 'Ubuntu'

Most scholars who have extensively studied the subject of 'ubuntu' such as (Mangaliso, 2001; Karsten and Illa, 2005; Broodryk, 2006; Hailey, 2008; Lutz, 2009) have outlined its core values as being respect, dignity, collective sharing, obedience, humility, solidarity, caring, hospitality, compassion, interdependence, survival and communalism. However, two scholars in particular (Mbigi and Maree, 1995) have defined the values of 'ubuntu' using a conceptual framework called the collective finger's theory, and they reduced these values to being respect, dignity, solidarity, compassion and survival. The beliefs behind this theory are drawn from an African proverb that says "a thumb, although it is strong, cannot kill aphids on its own. It would require the collective co-operation of the other fingers." Based on this proverb, Mbigi and Maree argue that the hand is a figurative representation of 'ubuntu' and each finger on that hand represents

the five values of 'ubuntu' (being respect, dignity, solidarity, compassion and survival) as seen in figure 4.1. The understanding from this theory is that in order to form and maintain a collective culture such as 'ubuntu', the primary values of the culture must be present (Poovan, 2005). In this study 'ubuntu' is introduced as a concept that will assist the implementation of the relationship indicators as methods of improving relationship management. Comparatively, the values of 'ubuntu' (based on the collective finger's theory) can be linked to the relationship indicators and this study suggests that the gap created by the cultural diversity, which exists in business organizations in South Africa, can be bridged by linking the values of 'ubuntu' to the relationship indicators. Considering this conceptual framework, the values of 'ubuntu' relative to the relationship indicators can be discussed as follows:-

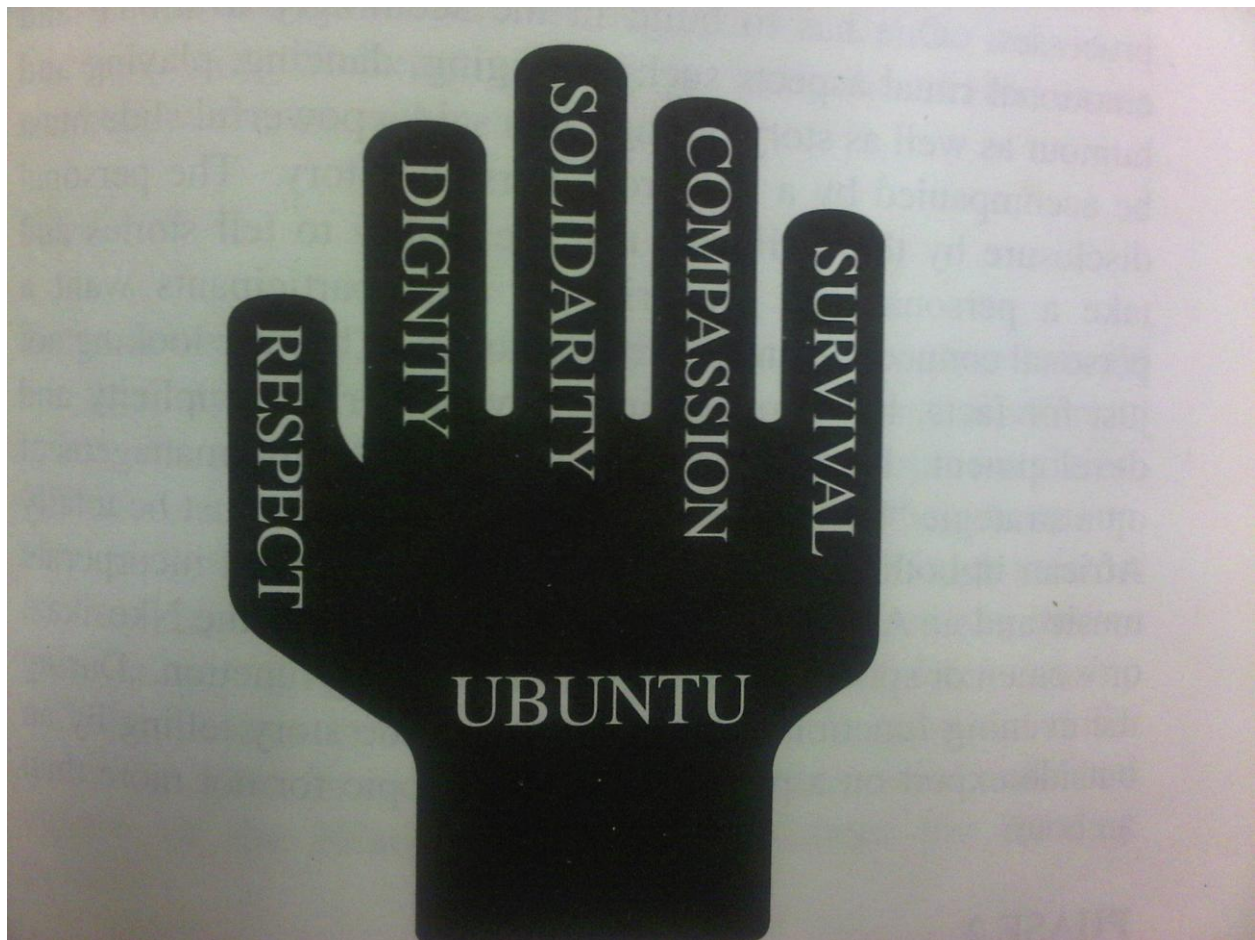


Figure 4.1 Collective finger's theory model as adopted from Mbigi and Maree (1995, pg 111)

a) Survival

Survival can be defined as continued existence especially under difficult circumstances (Oxford English Dictionary, 2012). In an organizational set up this will imply the survival (i.e. continued existence) of an organization, a team or a company in terms of business and market dominance. Organizations, such as those in the construction industry, constantly experience challenges in meeting targets and achieving their goals. Also, with time, these organizations must advance themselves by constantly improving their skills, product delivery and services in order to maintain relevance and a competitive edge within the industry. Regular performance measurement will ensure that an organization maintains a certain performance standard and continuous improvement by successfully establishing a culture of development and constant learning within an organization or a project team.

'Ubuntu' is all about passing knowledge. It is an African belief that with age come wisdom (Hailey, 2008). The older people are perceived as being highly knowledgeable and experienced and to ensure the continued existence of such knowledge, it is passed on to the younger generation. Through this passing of knowledge, the traditions and cultural beliefs of the African people are maintained through time, ensuring survival. This similar approach can be adopted by companies and organizations through training and development which will ensure continuous improvement and regular performance monitoring during and after project completion.

b) Compassion

It can be said that what makes human beings to be truly human is the ability to emotionally relate to one another (Poovan, 2005) (especially in times of misfortunes) without the other person being a member of the next person's blood relative. When these emotions are accompanied by a strong desire to alleviate the suffering of the next person, it is said that the other person is compassionate (Oxford English Dictionary, 2012). In South Africa this is seen frequently when someone has passed away and the members of the community visit the family of the deceased to pass their condolences. In African culture you do not have to be close to the family in order to be able to do this, but because of the 'ubuntu' element in people within a community this will come naturally. It is said that 'ubuntu' has the potential to shape the relationship between people and promote a shared vision (Hailey, 2008).

In an organization, team spirit can be created by encouraging the feeling of compassion amongst team members. When an emotional bond exists within a team it will encourage shared vision and working together towards a common goal. Shared visions are mutual objectives which encompass the change in traditional relationships to a shared culture; based upon trust, dedication to common goals and an understanding of each other's individual expectations and values (Brensen and Marshall, 1999). Being compassionate allows people to think with their hearts and in an organization it will result in people understanding one another and working towards a common goal. A team which has a shared vision and mutual objectives will positively affect the relationships that exist in that team and in turn affect their performance.

c) Solidarity

Solidarity is the spirit of togetherness; it is the idea of working together to achieve common goals. Mangaliso (2001) stated that solidarity supports cooperation and competitiveness by allowing individuals to contribute their best efforts for improving the entire team. Not only is the team's performance improved by collaborative working but the individuals are also improved, as success of one person depends on the success of everyone (Lutz, 2009). A cohesive team is more effective and more likely to achieve and accomplish most of its goals. When a team is working together in a spirit of trust, cooperation, collaboration and joint accountability, the minds of the individual members are encouraged to source new ideas of solving problems (Dulaimi *et al*, 2002) when they arise and minimizing blaming one another for every failure. Joint problem solving requires collaboration within peers and a willingness and openness to be influenced by others (Gale and Luo, 2004). This will result in joint understanding within the parties involved in a problem solving process. Without the principle of solidarity which is the primary source of a team spirit, most team efforts to improve performance would be unsuccessful.

d) Dignity and Respect

Dignity is all about self-respect and for the purposes of this paper dignity and respect are combined together to have the same meaning. Generally a person should not require a reason to respect another person. It should be human nature to respect other people, even before they have shown respect to you. Normally respect should start with an individual. Self-respect, also called dignity, is the ability for an individual to love themselves to a point where they show

respect for themselves (Poovan, 2005). Respect needs to start from within as it must be firstly understood by the individual before they can show it to other people (one must have respect first before they can show it). Respect is part of human nature, in the African context this concept is 'ubuntu', hence dignity and respect form part of the key values of the philosophy. In the African culture, children are brought up and taught to respect their elders (Hailey, 2008). The principle is instilled in these children throughout their lives and it is such basic teaching which allows grownups to easily part knowledge to the young generation. In the African culture, adults are perceived as highly knowledgeable and wise group of people which the clan/tribe rely on for guidance (Hailey, 2008). Showing respect to these wise elders humbles the children to an extent that the lessons they are taught by the elders become a life lesson to them. In the African culture, respect is a way of life.

In the corporate world, organizations and the management approaches adopted in the organization are mainly westernized (Karsten and Illa, 2005). Although majority of the workforce are multicultural, the management approaches adopted have basic principles from the Western cultures. There is a belief that respect must be earned and frequently respect is associated with a certain status. Mostly senior management, clients, sponsors or investors would receive respect from the workforce because of their status. On the contrary, in the workplace, if an individual believes that they are more experienced and educated than their superior, this will in turn affect the level of respect they have for such a person (the ego gets in the way). In order for a team or an organization to be effective, efficient and successful, the members must have and show respect for one another. To improve open communication within the team, members must respect one another enough to listen to each other when they communicate. Collaborative working based on a shared vision and mutual objectives will yield better results in solving problems if parties respected and trusted one another.

4.3. Guidelines for implementing 'Ubuntu' in organizations

The concept of using 'ubuntu' as a management strategy is vastly becoming popular in the management of organizations in South Africa (King *et al*, 2007). The events that led to this approach were inevitable due to the multicultural nature of the South African workforce. Although the application of 'ubuntu' as a management strategy has captured the attention of most managers, most of them are not that familiar with the concept or even how to implement it

as a management tool. In an attempt to counter this, Mangaliso (2001) has compiled guidelines on how to implement 'ubuntu' as a management tool in any organization. Although the guidelines are not exhaustive, as noted by Mangaliso (2001), they are meant to provide a good starting point for incorporating the principles of 'ubuntu' in everyday management strategies. This paper will adopt these guidelines and suggest their use as an implementation strategy in incorporating 'ubuntu' in improving the relationship management of the supply chain relationships in the construction industry. These guidelines are discussed in the next section.

i. Treat others with dignity and respect

As it was mentioned previously, an organization which has members that respect one another will be effective, efficient and successful. Respect a person as a team member implies that you value them. After all, every individual member of a team would like to be appreciated, valued, and respected for their contributions to the team, the project and the workplace in general (Mangaliso, 2001).

ii. Be willing to negotiate in good faith

Negotiating is a communication process where one must talk and listen as well (Paperback Oxford English Dictionary, 2012). In 'ubuntu' when one listens to the other with deep concentration and attention it shows respect and that the other party is being acknowledged. Being acknowledged is the first important step toward agreement and cooperation in the philosophy of 'ubuntu' (Mangaliso, 2001). This is a principle that will create a conducive environment for negotiating, especially when negotiations are taking place to resolve a conflict.

iii. Provide opportunities for self-expression

"Honoring achievement, self-fulfillment, and affirmation of values are all important aspects of creating goodwill among employees" (Mangaliso, 2001). Introducing a reward system, such as performance bonuses and employees of the month incentives, are one way this need can be fulfilled.

iv. **Understand the beliefs and practices of indigenous people**

“Carefully incorporating into standard corporate policies the indigenous practices and beliefs of African people and engaging them in their own belief system will go a long way in ensuring employees self-fulfillment” (Mangaliso, 2001).

v. **Honor seniority, especially in leadership**

In the philosophy of ‘ubuntu’ it is believed that with age come wisdom, knowledge and experience (Hailey, 2008). In order for individuals to have such knowledge imparted to them they must have respect for their elders. In the corporate world these “elders” can be referred to as the seniors or leaders.

vi. **Promote equity in the workplace**

Fairness is a value that is upheld in most cultures, especially the African cultures (Mangaliso, 2001). ‘Ubuntu’ teaches us that everyone is equal and thus should be treated so. The workplace needs to offer equal opportunities to everyone, irrespective of their race, culture or gender.

vii. **Be flexible and accommodative**

As noted by Mangaliso (2001), applying these recommendations on how to implement ‘ubuntu’ requires a careful balancing act by management between the imperatives of ‘ubuntu’ and other tried and tested management principles. With caution, management might find a common ground between the two approaches that will benefit the organizations in terms of performance.

4.4. Theoretical Model

The model below has been conceptualized based on the information derived from the literature review and the research. The model depicts the limitations that exist within the relationship indicators when applied to a diverse country such as South Africa. The model basically shows that for the relationship indicators to be effective in South Africa, the cultural diversity within this

country has to be acknowledged and to bridge this gap created by the diversity the values of 'ubuntu' have to be incorporated in the approach of using the relationship indicators to improve project performance. Therefore this model depicts how the values of 'ubuntu' can be used to assist the successful implementation of the relationship indicators in improving the nature of the supply chain relationships in the construction industry, by closing the gap that is created by the cultural differences that exists in most South African business organizations, which may hinder the effectiveness of these indicators.

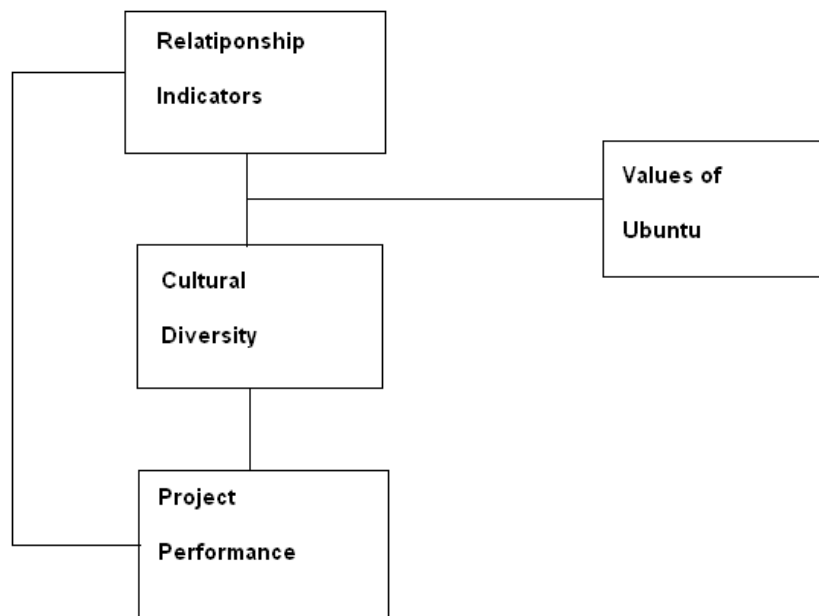


Figure 4.2 Theoretical model depicting the relationship between the relationship indicators, cultural diversity, values of 'ubuntu' and project performance

5. Analysis of Results

This section of the report looks at the results obtained from the focus group sessions that were held on each individual construction site with the relevant participants. A qualitative analysis of the transcripts from each focus group is carried out and discussed. Only data captured for the second, third and fourth section of the structured question sheet is reflected in this chapter. The discussions that were held in the focus groups and the opinions recorded of each participant's from their respective groups are summarized as follows:-

5.1. Focus Group 1

This group session was scheduled for the 30th of July 2012 at 12:00 PM during the lunch hour at a construction site in the northern suburbs of Johannesburg. ABC (Pty) Ltd Construction Company was at their peak stage in constructing a R142 million luxury residential apartments, with the project twelve months into its eighteen months baseline program and the construction works running on schedule as per the program and the finishing stages already started. The session was conducted in the site's boardroom where the moderator (also researcher in this study) had started setting up at 11:45 for the group session to take place. This focus group consisted of four participants, a contracts manager, a site agent, a senior quantity surveyor and a general foreman. The moderator ensured that the session was conducted in a professional manner and the value of time was fully appreciated. The session started at 12:00 PM where the participants were welcomed and thanked for availing themselves to be part of this focus group. The moderator outlined the ground rules which were to be followed throughout the session and reiterated the aims, terminologies to be used (i.e. relationship indicators and 'ubuntu') and his expectations from the participants. With the handing out of the structured question sheet to the participants, the group session was officially underway.

The second section of the structured question sheet dealt with understanding the participants' knowledge and encounter with the use and application of the ten relationship indicators in the projects they have worked on throughout their careers. The question the moderator had placed on the table for discussion was: *"The ten relationship indicators that define the supply chain relationship in the construction industry have been identified as mutual objective, gain and pain*

sharing, trust, no-blame culture, joint working, communication, problem solving, risk allocation, performance measurement and continuous improvement. With regard to the experience gathered in your career, would you say that these indicators are a true reflection of the nature of the relationships you have experienced in the projects you have been involved in?"

General Foreman (GF):not necessarily all of them.... on ground level with subcontractors mutual objectives, gain and pain sharing, trust, no-blame culture, problem solving and performance in terms of production and quality were reviewed on a regular basis.

Site Agent (S.Agt): I would summarize my experience by noting that only mutual objectives, gain and pain sharing, no-blame culture, joint working and risk allocation were more a reflection....

Quantity Surveyor (QS): ...mutual objectives, gain and pain sharing, no-blame culture, joint working, communication and risk allocation I have encountered.

Contracts Manager (CM): ...mutual objectives, gain and pain sharing, no-blame culture, joint working, communication, problem solving, performance reviewing and continuous improvement I have experienced in most projects....

Three of the ten indicators the participants all agreed on and noted these as being present in most of the projects they have worked on (mutual objectives, gain and pain sharing and no-blame culture). Joint working seems to have been present only in the experience of the contracts manager, the quantity surveyor and the site agent. These members are mostly at the center of a construction project team with both client's representatives and consultants, and their own construction team to manage. With such responsibility, the importance of working jointly to deliver a project is highly critical. Communication only the CM and the QS can testify to have experienced with the GF being the only one who has experienced trust. As the individual who coordinates and micro manages activities on site, the GF has to have the ability to entrust his labour force with certain tasks, giving them full autonomy to carry out activities. However, one might argue that in order to give trust, one must communicate it and therefore communication should be at the core of showing and giving trust. The CM and the GF had written problem solving and performance reviewing as other indicators they have experienced

as present in their past relationship encounters. In responding to the question in the first section of the structured question sheet the CM was noted to have said "... I have headed mostly civil type projects with the value between R500 million and R800 million..." (Appendix C). Effective project management requires both proactive and reactive strategy in dealing with unanticipated and challenging events, and these unprecedented events are best dealt with through the collective efforts of members of a project team in resolving such problems (Walker and Loosemore, 2003). As a contracts manager of such high valued projects the principle of joint working needs to be at the root of any project management approach applied.

The third section aimed at understanding the performance of most projects these participants were engaged in, in terms of time, cost, and quality. The moderator then asked the following question and had it for discussion: -*"With reference to the projects that signified to have these relationship indicators, would you say they were completed on time, within budget and with the expected quality performance?"*

General Foreman (GF): ...the only project that was late was two weeks late, however it was completed within budget and had minor defects...

Site Agent (S.Agt): ... we had some projects which were not complete on time but the one that stands out was a project where we were three months behind and were over budget by R15 million..... miraculously the project only had minor defects.

Quantity Surveyor (QS): ...two months behind schedule with an overspending of R2.5 million... our quality control measures were of exceptional standards. Most of our projects had minor defects.

Contracts Manager (CM): most of the projects were completed on time and had minor defects, with one in particular where we had variation orders required of about R100 million.

Most of the participants had been part of a project that was either late or went terribly over budget. Participants who had experienced late projects which were seriously over budget, such as the site agent in section two of the question sheet did not have joint working, communication and performance viewing as some of the indicators they have experienced. However, the

contracts manager who had being part of most projects being completed on time had experienced variation orders only. Variation orders could have been due to additional work which was included in the scope of works of the project or a possible change in certain specifications of the finished product, however, variation orders are not classified as “overspending” mainly because they are a result of the change in the scope of works. The GF at the most had a project that was only two weeks late, where most of the projects he engaged in had principles of mutual objectives, gain and pain sharing, trust, no-blame culture, problem solving and performance in terms of production and quality. Although most of the projects he participated in had a project value of not more than R100 million (Appendix C), the notion here is that with improved use of relationship indicators within a project, the project’s performance in terms of time, cost and quality, may be improved significantly.

The fourth section of the question sheet presented the ‘ubuntu’ philosophy to the participants. The moderator read the statement which summarized what ‘ubuntu’ in a nutshell was and opened the section for discussion by asking the participants a question. The statement read: - *“‘Ubuntu’ is a philosophy defined as humaneness- a pervasive spirit of caring and community, harmony and hospitality, respect and responsiveness- that individuals and groups display for one another. It is the foundation for the basic values that manifest themselves in the ways people think and behave toward each other and everyone else they encounter. ‘Ubuntu’ is a philosophy that is meant to apply to every human being irrespective of their race, gender, or culture.” With the above statement in mind, would you say that ‘ubuntu’ played a major role in the management process of the projects you have worked in, that it was a philosophy that came naturally to parties in the project team and that performance was affected by how parties related to one another?*

General Foreman (GF): ‘ubuntu’ is an African thing. People still have a lot to learn about, especially in the business world..... it certainly did not come naturally to colleagues I have worked with or to the parties involved in a contract... I strongly disagree with the statement that it played a role in the management process. However, performance was affected by how people related to one another.

Site Agent (S.Agt): project performance was affected by how people related to one another. The response rate was improved given the type of relationship you had with an individual... one

needs to consider other people as human being when they deal with them, so yes it was applied as a management process.... It did not come naturally to everyone...

Quantity Surveyor (QS): where there were good relationships the level of performance was definitely better....

Contracts Manager (CM): 'ubuntu' is a philosophy that came natural to the parties in the project in relating to one another and yes it played a major role in the management processes of the project. I do believe that project performance was affected by how parties related to one another...

In most cases the views of the production labour force and its relevant supervisors on a construction project as far as management techniques are concerned will always be different. One can say the labour supervisors are all about production, quality and the people, mostly the people, as the supervisors cannot achieve the production or quality they need without people. However they do not believe that senior management shares the same sentiment; hence the GF's experience is that 'ubuntu' is something that does not come naturally to most parties within a project. On the contrary, in the CM's experience 'ubuntu' is a concept that came naturally in all parties and the management process of most projects he has worked on. This could be of the view that the CM is only looking at this only from his angle of how he dealt with the consultant teams and the client's representatives and how he thinks he relates to his subordinates. The general consensus might be that the CM has to look at this in two-folds; the first one being the version of how he interacts with the professional teams from the client side, and the second one being how he interacts with members of his own organization, his construction team. His understanding of the term 'ubuntu' might mean different things in both scenarios.

5.2. Focus Group 2

This group session was scheduled for the 31th of July 2012 at 12:00 PM during the lunch hour at a construction site in the eastern suburbs of Johannesburg. EFG (Pty) Ltd Construction Company had just achieved practical completion on the project where they were building office blocks with the value of R150 million. The session was conducted in the site's boardroom where the moderator (also researcher in this study) had started setting up at 11:45 for the group

session to take place. This focus group consisted of four participants, a contracts manager, a site agent, a senior quantity surveyor and a general foreman. The same procedure as the previous focus group was carried out by the moderator. What follows are the key points which were noted from this session.

The second section question: *“The ten relationship indicators that define the supply chain relationship in the construction industry have been identified as mutual objective, gain and pain sharing, trust, no-blame culture, joint working, communication, problem solving, risk allocation, performance measurement and continuous improvement. With regard to the experience gathered in your career, would you say that these indicators are a true reflection of the nature of the relationships you have experienced in the projects you have been involved in?”*

General Foreman (GF):...out of the these ten indicators I have experienced the effect of working in projects where mutual objectives, gain and pain sharing, trust, no-blame culture, joint working, communication, problem solving, risk allocation and performance monitoring were key elements of the management approach....

Site Agent (S.Agt): ...mutual objective, pain and gain sharing, trust and continuous improvement only...

Quantity Surveyor (QS): ...mutual objectives, no-blame culture, joint working, communication, problem solving, risk allocation and performance monitoring....

Contracts Manager (CM): ...in my experience I have worked on projects where mutual objectives, fair gain and pain sharing, trust, no-blame culture, joint working, risk allocation, performance reviewing and continuous improvement were practiced....

The GF's experience of most of the relationship indicators could be attributed to the close relationship that the GF has with the labour force and the subcontractors in general on site. Anticipated production outputs and improved quality standards can be achieved where there is full cooperation and collaboration from the production teams. In order for the site agent to realize his production targets and to be on program one can say that he requires cooperation from his foremen and the production labour force and to achieve this could be the reason why

he has experienced mutual objective, no-blame culture, joint working and problem solving in most projects he has worked on. It could also be his management approach which he employs in general. The same can be said for the CM as he also needs to ensure that the team that he leads has the same vision, mission and objectives as himself and the company. Considering his work title it is no surprise that continuous improvement is one of the indicators he came across. As a leader of an organization it is your responsibility to ensure that there is improvement within your subordinates and their careers. QS's focus is more on the financial performance of a project and they monitor this by compiling cost reports monthly which compare the work that was done versus the cash inflows and outflows. Hence the QS noted risk allocation and performance monitoring as some of the indicators they have experienced.

The third section question: *-“With reference to the projects that signified to have these relationship indicators, would you say they were completed on time, within budget and with the expected quality performance?”*

General Foreman (GF): ...most projects were completed on time, within budget and had minor defects....

Site Agent (S.Agt): ... I am still yet to experience paying penalties. Most projects were within budget and had acceptable quality standards.

Quantity Surveyor (QS): ...none of the projects I have worked on have been over budget or had a late completion.... Quality standard were as expected, not bad at all...

Contracts Manager (CM): I have worked on a project where we were two months behind schedule for a number of reasons that were peculiar to the project and because of that the project also went over budget... our quality performance was acceptable though...

This group of individuals has worked on projects where most of them were delivered on time, within budget and had the required quality standards. This past experience of positive achievements could have been a result of their management skills, or the performance of the project team they were part of in those projects or it could have been that the projects they had embarked on were not of a complex nature. Whichever case it was, one can be sure that these

participants in their individual capacity may have fundamental management skills that allow them to blend well with any project team; hence the successful achievement of contractual practical completion in their current project. With this in mind, one can presume that this current achievement coupled with their past experience of projects that have been completed on time could be the result of participants having had exposure to most of the relationship indicators that have been identified to define the supply chain relationships in construction.

The fourth section statement and question: - *“Ubuntu’ is a philosophy defined as humaneness- a pervasive spirit of caring and community, harmony and hospitality, respect and responsiveness- that individuals and groups display for one another. It is the foundation for the basic values that manifest themselves in the ways people think and behave toward each other and everyone else they encounter. ‘Ubuntu’ is a philosophy that is meant to apply to every human being irrespective of their race, gender, or culture.” With the above statement in mind, would you say that ‘ubuntu’ played a major role in the management process of the projects you have worked in, that it was a philosophy that came naturally to parties in the project team and that performance was affected by how parties related to one another?*

General Foreman (GF): yes ‘ubuntu’ came naturally to most people and I believe that project performance was affected by how parties related to each other mainly because the management approach employed was all about the people....

Site Agent (S.Agt): most of the projects I have worked on had elements of ‘ubuntu’ imbedded in the management approach that was used in those projects.... Based on the brief definition of ‘ubuntu’ given by the statement I can say I have been practicing that as a management technique in most of my projects....

Quantity Surveyor (QS): I can agree to the fact that project performance was affected by how individuals related to one another however I’m certain that ‘ubuntu’ had nothing to do with it....

Contracts Manager (CM): ...for people to relate to each other like that in business will take some time. I do believe though that how people related to each other in most projects affected how the project performed...

The one individual who has past experience of projects being over budget and completed late is the same individual who has not yet experienced the application of 'ubuntu' philosophy in the management structures he has been part of. There could be a direct correlation between the CM's past experience of unsuccessful projects with his experience and opinion on the 'ubuntu' philosophy approach in management. The GF claims "it came naturally" in the project teams he has been part of and most of those projects were not over budget and were completed on time. The site agent's views and experience can be interpreted that there exists a relationship between the success of the project and how the individuals within that project's team related to one another. The CM's experience of unsuccessful projects could be a mere coincidence with the absence of the 'ubuntu' philosophy in those projects. Although these four individuals have different experiences on the use of 'ubuntu' philosophy as a management strategy, they have made a success of their current project. This could be in the possibility that the philosophy was implanted in this particular project, or maybe it was not. Traditional management techniques could be the result of this achievement however the fact that three of these individuals have worked on projects where the 'ubuntu' philosophy was present, may imply that they might have subconsciously incorporated the concept of 'ubuntu' in their management style.

5.3. Focus Group 3

This group session was scheduled for the 1st of August 2012 at 12:00 PM during the lunch hour at a construction site in the northern suburbs of Johannesburg. IJK (Pty) Ltd Construction Company had just completed the concrete structure of their 17 floors building which is to be used as offices by a prominent law firm. The project had a value of R200 million and had to be completed in 18months. The session was conducted in the site's boardroom, as per the previous group session, where the moderator (also researcher in this study) had started setting up 15minutes prior to the commencement of the group session. This focus group consisted of four participants, a contracts manager, a site agent, a senior quantity surveyor and a general foreman. The same procedure as the previous focus group was carried out by the moderator. What follows are the key points which were noted from this session.

The second section question was presented to the participants by the moderator and the discussions are summarized as follows: -

General Foreman (GF):...only mutual objective, gain and pain sharing, trust, no blame culture, joint working, risk allocation, performance monitoring and continuous improvement....

Site Agent (S.Agt): ...in the projects I have been involved in only mutual objective, gain and pain sharing, trust, no-blame culture, joint working, communication and problem solving ...

Quantity Surveyor (QS): ...mutual objectives, gain and pain sharing, joint working, communication, risk allocation, performance monitoring and continuous improvement....

Contracts Manager (CM): ...most of these indicators I have seen them in practice. Mutual objectives, trust, no-blame culture, joint working, communication, problem solving, performance reviewing and continuous improvement were principles that were implemented in most projects....

The third section question: *-“With reference to the projects that signified to have these relationship indicators, would you say they were completed on time, within budget and with the expected quality performance?”*

General Foreman (GF): ...the projects had minor defects and were completed within budget and were delivered on program....

Site Agent (S.Agt): ...most projects were within budget, on time and were delivered to the right quality standard...

Quantity Surveyor (QS): ...there was one project we were a month behind schedule and ran a bit over budget but all was not lost. Our quality defects were minor...

Contracts Manager (CM): so far the projects I have been part of were completed on time, within budget and they had minor quality defects which made part of our snag items...

None of these participants has worked on a project that has major quality defects. All of them have worked on projects where acceptable quality defects were recorded and probably these were the items that were reflected on their snag lists, as mentioned by the CM. Past experience

normally reflects on your current endeavors, as the typical cliché in the construction industry that “you are only as good as your last job”, these individuals’ experience of projects delivered on time and within budget could be attributed to the fact that most of the projects they have worked on had basic principles noted by the relationship indicators.

The fourth section statement and question: - *“‘Ubuntu’ is a philosophy defined as humaneness- a pervasive spirit of caring and community, harmony and hospitality, respect and responsiveness- that individuals and groups display for one another. It is the foundation for the basic values that manifest themselves in the ways people think and behave toward each other and everyone else they encounter. ‘Ubuntu’ is a philosophy that is meant to apply to every human being irrespective of their race, gender, or culture.” With the above statement in mind, would you say that ‘ubuntu’ played a major role in the management process of the projects you have worked in, that it was a philosophy that came naturally to parties in the project team and that performance was affected by how parties related to one another?*

General Foreman (GF): ...the performance of the project team and the project itself in most projects was affected by how people within the project teams related to one another. However the ‘ubuntu’ philosophy was a foreign term in the work place...

Site Agent (S.Agt): the performance of the projects was affected by the professional relationships that existed in those projects. Most of the projects people got along professionally... but I am not quite sure if the ‘ubuntu’ philosophy was present...

Quantity Surveyor (QS): definitely no effects of ‘ubuntu’.... The way people related to each other in the project teams did play part in the success of those projects...

Contracts Manager (CM): ...good relationships were formed in most projects amongst the professional team, client representatives and our own construction team. This improved cooperation and I can say influenced the performance of most projects...

It was a general consensus in this focus group that the success in most of the projects these individuals worked on can be attributed to how the members of the project teams related to one another. The philosophy of ‘ubuntu’ could have been a concept which they were aware of however never paid attention to it as having effect to their daily management approach or to

how they related to the entire members of the project team. It appears that the concept of 'ubuntu' and the managerial benefits it might have were unfamiliar ideologies to these individuals. This may imply that within some of the project's team members, such as the production team, 'ubuntu' might have been a present philosophy which influenced the way the labour force worked with each other. However the senior management staff did not pick up on this phenomenon taking place.

5.4. Focus Group 4

This group session was scheduled for the 2nd of August 2012 at 12:00 PM during the lunch hour at a construction site in the eastern suburbs of Johannesburg. PQR (Pty) Ltd Construction Company had just started with the wet trades of their six floors building structure to be used as a hotel, with a construction value of R120 million. The contract was a twelve month contract however the project was already running a month behind schedule due to complications and unforeseen circumstances which the participants did not want to divulge. The session was conducted in the site's boardroom, as per the previous group session, where the moderator (also researcher in this study) had started setting up 15minutes prior to the commencement of the group session. This focus group consisted of four participants, a contracts manager, a site agent, a senior quantity surveyor and a general foreman. The same procedure as the previous focus group was carried out by the moderator. What follows are the key points which were noted from this session.

The second section question was presented to the participants by the moderator and the discussions are summarized as follows: -

General Foreman (GF):...definitely mutual objective, gain and pain sharing, trust, joint working, risk allocation, performance reviewing and continuous improvement....

Site Agent (S.Agt): ...if I were to assess the projects I have worked on holistically as a site agent, I would say mutual objectives, gain and pain sharing, trust, joint working, performance monitoring and continuous improvement.....

Quantity Surveyor (QS): ...each project was different as one would expect but predominantly I have noted mutual objectives, trust, communication, performance reviewing and continuous improvement....

Contracts Manager (CM): ...given my experience somewhat not so successful projects I have been involved in, the indicators that stand out for me would have to be mutual objectives, trust, performance reviewing and continuous improvement...

The participants have noted most of the relationship indicators in their professional careers however one participant who is of note in this focus group is the CM. On average some of the participants have noted at least five relationship indicators throughout their career however the CM only noted four (mutual objectives, trust, performance monitoring and continuous improvement). As a senior member and the leader of the team of this current project they are undertaking it is rather concerning that he would lack most of the relationship indicators in his experience. Normally, the senior member in a project usually compiles a close-out report at the end of each project which summarizes the project's scope, professional team, challenges experienced throughout the project and areas of improvement going forward. The CM's experience of only those four indicators raises questions regarding the last two indicators he noted (performance monitoring and continuous improvement). The close-out report is a document that is meant to serve the purpose of bettering the project team in managing projects going forward. However what the CM noted may imply that the techniques and the approach employed in achieving improved performance monitoring and continuous improvement were focused on everything else other than relationship management.

The third section question: *-“With reference to the projects that signified to have these relationship indicators, would you say they were completed on time, within budget and with the expected quality performance?”*

General Foreman (GF): ...mostly did but one that failed was one month later than the contractual completion date, R2 million over budget and had medium quality defects...

Site Agent (S.Agt): ...yes, most of them were within the expected performance parameters...

Quantity Surveyor (QS): I would have to say yes. So far I have experienced projects that have been on time, within budget and our quality standards were acceptable both to us and our clients....

Contracts Manager (CM):it has been a clean record to this point. Projects delivered on time, within budget and quality standards satisfactory.

Only the GF experienced a project which was not that successful. A number of reasons, such as the complexity of the project, client cooperation, type of professional team and even the competency of the construction team, could have led to that being a fact. What is notable though is how the GF with his past experience of an unsuccessful project, his current project is also a month behind schedule. As the individual coordinating on site activities on a daily basis could this imply that the management approach of the GF has areas where it lacks basic skills or could this be just a coincidence? In his experience of the relationship indicators, the GF failed to note three indicators which are of importance to an individual who holds his position (no-blame culture, communication and problem solving). Could it be that his management approach lacks communication channels with his production team, does not have problem solving abilities and continuously blames everyone for everything gone wrong? Once again, the current project, along with the previous ones the GF was a part of, could have been behind schedule for a number of reasons. However, it is important not to rule out potential possibilities especially when continuous improvement of both the individual and the project team is the primary objective.

The fourth section statement and question: - *“‘Ubuntu’ is a philosophy defined as humaneness- a pervasive spirit of caring and community, harmony and hospitality, respect and responsiveness- that individuals and groups display for one another. It is the foundation for the basic values that manifest themselves in the ways people think and behave toward each other and everyone else they encounter. ‘Ubuntu’ is a philosophy that is meant to apply to every human being irrespective of their race, gender, or culture.” With the above statement in mind, would you say that ‘ubuntu’ played a major role in the management process of the projects you have worked in, that it was a philosophy that came naturally to parties in the project team and that performance was affected by how parties related to one another?*

General Foreman (GF): I have not picked up if 'ubuntu' had an effect on the management approach and processes of the previous projects I have worked on.... I believe how we treated each other affected how we performed....

Site Agent (S.Agt): good relationships gave us good results at the end of most projects but 'ubuntu' was not part of that...

Quantity Surveyor (QS): I am not sure if how parties related to each other had any influence on our performance but I am sure that 'ubuntu' was never a factor in the management process...

Contracts Manager (CM): ...not at all. 'ubuntu' is an unfamiliar concept to most people, especially in this industry. I do not think it had any effect...

A general consensus in this group is that 'ubuntu' is a concept that is unfamiliar to all the participants in this group. Quotes like "'ubuntu' is an unfamiliar concept to most people, especially in this industry." And "good relationships gave us good results at the end of most projects but 'ubuntu' was not part of that." give off an impression that although people are not familiar with the philosophy of 'ubuntu', somehow they are not willing to learn from and about it. Mangaliso (2001) mentioned that the philosophy of 'ubuntu' is not fully appreciated in the workplace since its strategic advantages are not fully appreciated by managers. It appears that these participants might share this sentiment. Does this mean that the incorporation of this philosophy is something which they deliberately overlook or is it a case that they do not bother to educate themselves about the concept? It could be possible that the lack of understanding of this concept, and the strategic advantages it has as noted by Mangaliso (2001), by these participants is what their project is lacking to improve its performance and make up for lost time.

5.5. Focus Group 5

This group session was the last one for the week and was scheduled for the 3rd of August 2012 at 12:00 PM during the lunch hour at a construction site in the northern suburbs of Johannesburg. SUV (Pty) Ltd Construction Company was building a R276 million hotel with up-market finishes. The contract was an eighteen month contract and it was on schedule as per its baseline program. The session was conducted in the site's boardroom, as per the previous group session, where the moderator (also researcher in this study) had started setting up 15minutes prior to the commencement of the group session. This focus group consisted of five participants, a contracts manager, a site agent, a senior quantity surveyor and two general foremen. The same procedure as the previous focus group was carried out by the moderator. What follows are the key points which were noted from this session.

The second section question was presented to the participants by the moderator and the discussions are summarized as follows: -

General Foreman (GF1):...there were projects where mutual objective, trust, no-blame culture, problem solving, performance monitoring and continuous improvement were part of the management approach....

General Foreman (GF2):...mostly mutual objectives, gain and pain sharing, joint working, communication, performance reviewing and continuous improvement I have observed...

Site Agent (S.Agt): ...what I have come to realize was the use of mutual objectives, trust, no-blame culture, joint working, communication, performance reviewing and continuous improvement...

Quantity Surveyor (QS): ...mutual objectives, trust, performance monitoring and continuous improvement...

Contracts Manager (CM): ...majority of these principles I have observed, mutual objective, gain and pain sharing, trust, joint working, communication, risk allocation, performance reviewing and continuous improvement...

The third section question: -*"With reference to the projects that signified to have these relationship indicators, would you say they were completed on time, within budget and with the expected quality performance?"*

General Foreman (GF1): ...the projects were completed on time, within cost and at the right quality level...

General Foreman (GF2):...we have not been late nor over budget at most of our projects. We achieved most of our quality targets...

Site Agent (S.Agt): ...we were on time with most of our projects and always managed to achieve our anticipated margin... our quality control and assurance measures are yet to fail us...

Quantity Surveyor (QS): ...our quality targets were always met and we managed to stay within budget in most of our projects...To this very moment we have never disappointed a client on the projects I have worked on...

Contracts Manager (CM): On most of the projects we did our objectives were very clear, execute the work and deliver it to the right quality standards, on time and give head office the profit margin they needed....

The fourth section statement and question: - *"'Ubuntu' is a philosophy defined as humaneness- a pervasive spirit of caring and community, harmony and hospitality, respect and responsiveness- that individuals and groups display for one another. It is the foundation for the basic values that manifest themselves in the ways people think and behave toward each other and everyone else they encounter. 'Ubuntu' is a philosophy that is meant to apply to every human being irrespective of their race, gender, or culture."* With the above statement in mind, would you say that 'ubuntu' played a major role in the management process of the projects you have worked in, that it was a philosophy that came naturally to parties in the project team and that performance was affected by how parties related to one another?

General Foreman (GF1): projects were successful because we worked hard at achieving our targets....people related to each other in a professional manner and maybe this did play a part as well in boasting performance....

General Foreman (GF2): ...the people I worked with in most projects definitely did not apply the philosophy of 'ubuntu' when they related to one another. It was business as usual, especially with regard to senior management.....

Site Agent (S.Agt): ...'ubuntu' mentality was never present. However on the production level possibly it was since most members of our labour force are black people....

Quantity Surveyor (QS): ... not at all. Most of us were not familiar with the concept...

Contracts Manager (CM): ... according to my understanding of that statement, no. 'ubuntu' did not play a part in our management strategy. Fact is that most of us are not that familiar with the whole philosophy let alone incorporate it to our management approach...

5.6. Focus Group 6

This group session was conducted at the beginning of a new week and it was the last focus group session to be held. The group session was scheduled for the 6th of August 2012 at 12:00 PM during the lunch hour at a construction site in the northern suburbs of Johannesburg. XYZ (Pty) Ltd Construction Company was building a R585 million mixed used project consisting of office blocks, retail space and apartments. The contract was a thirty month contract and it had entered into its twentieth month according to the baseline program. The session was conducted in the site's boardroom, as per the previous group session, where the moderator (also researcher in this study) had started setting up 15minutes prior to the commencement of the group session. Due to the nature and size of the project, the construction team consisted of more than one contracts manager, quantity surveyor, site agent and general foreman. To maintain the consistency with other focus groups which were already conducted this focus group only consisted of five participants, a contracts manager, a site agent, a senior quantity surveyor and two general foremen. The same procedure as the previous focus group was

carried out by the moderator. What follows are the key points which were noted from this session.

The second section question was presented to the participants by the moderator and the discussions are summarized as follows: -

General Foreman (GF1):...mainly mutual objectives, trust, no-blame culture, joint working, communication, performance monitoring and continuous improvement....

General Foreman (GF2):...generally speaking from my past experience on the projects I have worked on, only mutual objectives, trust, performance monitoring and continuous improvement were typically present in our relationships...

Site Agent (S.Agt): ...doing a quick recall to date most of the projects, including this one to a certain degree, the indicators that stood out were mutual objectives, gain and pain sharing, trust, joint working, risk allocation, performance reviewing and continuous improvement....

Quantity Surveyor (QS): ...a brief overview of the professional relationships thus far would include mutual objectives, joint working, communication, risk allocation and continuous improvement...

Contracts Manager (CM): ...in my professional career as a contracts manager I have been involved in projects where all the ten indicators were the primary principles of our management approach.... They were all applicable...

The third section question: -*"With reference to the projects that signified to have these relationship indicators, would you say they were completed on time, within budget and with the expected quality performance?"*

General Foreman (GF1): ...to date the projects I have worked on have met all their primary objectives, specifically being on time, at the expected cost and within quality standards...

General Foreman (GF2):...with the current move to the building projects I am still yet to finish my first project, however most of the civil engineering projects I have been part of were delivered on time, at the required quality standards and within budget...

Site Agent (S.Agt): ...most of the projects were delivered on time except for the previous job I did where we were two and a half months behind program and experienced more additional costs than we had anticipated of close to R4 million....the quality on that particular job was good though....

Quantity Surveyor (QS): ...there was one project where we were six months late on delivering it to the client....we had overspent on the project by 20% more than the original budget...because of that and other factors our quality standards went out the window and we delivered a job that had medium defects..

Contracts Manager (CM): majority of the projects were within the initial scope, agreed quality standards, within budget and delivered on time...

The QS's project which was behind program could be attributed to the lack of some of the indicators which seemed to be absent in most of the project they had worked on. Construction projects are more production based and not achieving the set milestones is the primary set back that results in projects being behind schedule. Relationship indicators such as no-blame culture, problem solving and joint working are some of the basics of a relationship that assists the production team whenever they come across a problem. The QS's experience of these relationship indicators only includes joint working. Possibilities are that the project was six months behind program mainly because there was no cohesion amongst the production team, problems were incurred and without a proper problem solving mechanism, could not be resolved which resulted in members of the production team blaming one another for unresolved problems.

The fourth section statement and question: - *“Ubuntu’ is a philosophy defined as humaneness- a pervasive spirit of caring and community, harmony and hospitality, respect and responsiveness- that individuals and groups display for one another. It is the foundation for the basic values that manifest themselves in the ways people think and behave toward each other*

and everyone else they encounter. 'Ubuntu' is a philosophy that is meant to apply to every human being irrespective of their race, gender, or culture." With the above statement in mind, would you say that 'ubuntu' played a major role in the management process of the projects you have worked in, that it was a philosophy that came naturally to parties in the project team and that performance was affected by how parties related to one another?

General Foreman (GF1): I would agree with the statement that performance was affected by how people related to one another...

General Foreman (GF2): ...I do not think 'ubuntu' was a factor in most of the projects I worked on.... Yes, how we related to each other did have an impact to a certain extent..

Site Agent (S.Agt): ...I cannot really say whether 'ubuntu' was in the heart of the management process in most of the projects I worked on or whether it came naturally to people... I agree that how people related to each other played part in our performance

Quantity Surveyor (QS): ... I am also not quite sure whether 'ubuntu' was a factor in the management approach or how people related to one another. I had not looked at it that way before...

Contracts Manager (CM): ... our management approach has always been about the people and for the people as we believe that they are our most valuable resource...the way we worked with people on each project we were always conscious of the fact that they were human as well. How we related to one another definitely had an impact on how we performed...

In this session majority of the participants were either not familiar with the 'ubuntu' concept or they were not aware of its possible application in the management approach. The CM being the only participant in this group who has observed the use of 'ubuntu' as part of the management approach seem to have a broader knowledge of the 'ubuntu' philosophy as a management technique. The success of the projects he has worked on may imply that the use of 'ubuntu' as part of the management approach and the use of the ten relationship indicators as basic principles for all the professional relationships can affect the performance of any construction project in a positive manner. The site agent, the GF2 and the QS according to their responses

one may presume that in most of the projects they undertook were not that conscious of the management approach that was used. The doubt in their responses could imply that 'ubuntu' as a management concept was applied and they were not aware of it at all, or maybe it was not applied and they could be right, but from their responses one can deduce that they do not know if 'ubuntu' was a factor or not in the management approach and therefore in the success or failure of the projects they have worked on.

5.7. Overview

The six focus group sessions were successfully conducted with all sessions lasting for approximately one hour. The participants ensured that they give their professional and honest opinions throughout the sessions and although some of their current projects were not in a state where they could dedicate their "free" time to research which did not benefit their projects at that particular moment, however they ensured that they remained focused on the group session until the sessions were complete.

6. Discussion

Project performance measurement techniques have primarily encompassed the use of financial performance, time, and quality performance of a project as the main key performance parameters to determine project success. However, according to Meng (2012), the effect of solely emphasizing control has been widely questioned due to various performance problems. Apart from the use of traditional management approaches, literature shows that attempts have been made to consider other management approaches such as the focus on relationship management (Yeo, 2002; Davies, 1999; Becker, 1996) and the introduction of 'ubuntu' as a management concept (Mangaliso, 2001; Karsten and Illa, 2005), as methods that might minimize the various performance problems the construction industry has endured. According to the focus groups in this study, the performance of projects may be improved by implementing some of the relationship indicators which have been labeled as describing the supply chain relationships in the construction industry.

Indicators such as mutual objectives and gain and pain sharing are mostly associated with the behavior that solicits an attitude and the "spirit" of collaboration within a group or an organization. Organizational behaviour that is based on shared culture, dedication to common goals and an understanding of each other's individual expectations and values has an advantage in building a successful organization and accomplishing organizational objectives. The mutual consensus amongst the focus groups, and the success of the projects some of the participants have been on, suggests that it is important for individuals in construction project teams to have goals that are aligned with the objectives of the project at hand. As much as the success of a project brings benefits and rewards, the project team has to be conditioned to apply the same principle in the failure of a project as in its success. Mutual objectives and gain and pain sharing are principles that apply both in good times and bad. Although this may be the case, trust is the fundamental component of human relationships. The success of an organization in achieving its primary objectives, not only does it rely on the project objectives being mutual amongst individual members, however also relies on the trust that exists within the organization. Organizational trust can be both of interpersonal and interfirm nature (Lau and Rowlinson, 2009) depending on the professional and/or social relationships that are associated with most organizations.

Shared culture within an organization is a source of positive outcomes (Pitsis *et al*, 2003). The success of projects in terms of time, within budget and at the accepted quality standards, as noted by the focus groups, can be improved by encouraging and reinforcing collaborative working and reducing the blame culture. The principle of team work and team spirit can be motivated by senior management to ensure that their subordinates are members of a cohesive team. Open communication as a mode of approach, and as noted by the focus groups to be an important relationship indicator that portrays a role in improving project performance, establishes the impression that every individual member of the project team has an important task to complete in achieving organizational goals and objectives. Internal meetings and progress update meetings serve the purpose to ensure that important and relative information is communicated to the respective team members and where project progress is monitored.

Collaborative working encourages responsibility and accountability amongst project team members in a sense that all members are working together and assisting one another where necessary. The focus group participants believe that collaborative working and team work can be improved when performance is recognized and acknowledged and when mechanism, such as performance incentives, are in place to ensure continuous improvement. The use of incentives aligns the objectives of project parties with that of the project during the implementation stage (Meng, 2012). Incentives are usually awarded for excellent performance within and during a project. Continuous monitoring and rewarding of such performance is motivation for the project team members as it encourages the individuals to maintain or improve their performance, therefore ensuring continuous improvement within the team.

The participants of the focus groups agreed that traditional, westernized management approaches were predominantly used in the construction industry, although they were open to the idea of incorporating the traditional management approach with a distinct management approach. However such advancement would not imply that the traditional management approaches would be replaced indefinitely. The philosophy of 'ubuntu' was an unfamiliar term to most participants in the focus groups. They vastly associated the term with and only applicable to the "black" people in general, and not necessarily the ones involved in the construction industry. They understood it as a cultural phenomenon that is only existent amongst the African

people which are culturally conscious. Hence 'ubuntu' as a management approach was a concept they thought has never worked, as most have not encountered a management approach that encompassed the use of 'ubuntu' philosophy, and that it will take substantial time before the industry can fully implement and appreciate 'ubuntu' as a management approach. The relationships that existed amongst professional teams in construction projects were described as being conventional by the participants of the focus groups and 'ubuntu' as a philosophy that came natural to the parties in a project in relating to one another was seen as a statement without fact.

The focus groups believed, however, that the manner in which individuals in a project team relate to one another professionally has an effect on the project's performance. The supply chain relationships, from the coordination and the information sharing perspective to the procurement and material acquisition side, can have an effect on performance, either in a positive or negative manner, depending on the nature of the relationships. 'Ubuntu' is all about how people relate to one another; the focus groups believed that performance can be affected by how parties in a project relate to one another. Based on this, one can deduce that to a certain extent the participants of the focus groups have been incorporating some of the principles of 'ubuntu' in their management approach without being conscious of it. If project performance can be affected by how people relate to one another, and one of the basic principles of the 'ubuntu' philosophy is about how people relate and treat each other, therefore it can be possible that incorporating the philosophy of 'ubuntu' in management approaches can effect project performance.

7. Conclusion

A study was conducted, involving focus groups, to investigate the impact of supply chain relationships on project performance by incorporating the concept of 'ubuntu' as a management strategy. Ten indicators were adopted from a UK study and applied to describe the key aspects of a supply chain relationship in South Africa. The discussion on project performance focused primarily on the key performance parameters being time delays, cost overruns and quality defects. A qualitative analysis of six focus groups discussions, involving 26 participants in total, was carried out and the responses suggest that the supply chain relationship has some significant influences on project performance. However, the 'ubuntu' philosophy was a perception that was not as familiar to most participants and the concept of using the philosophy as a management approach was skeptically appreciated. The main conclusions are: -

- The supply chain relationship indicators which the industry practitioners and professionals identified with were mutual objectives, gain and pain sharing, trust, no-blame culture, joint working, communication, performance measurement and continuous improvement.
- The deterioration of the supply chain relationships has a negative effect on project performance as it results in poor performance. When the supply chain relationship is not fully functional and its integrity compromised this will jeopardize the project and delays, cost overruns and unacceptable quality standards will occur. Improving the relationships amongst parties in a project can, to a certain degree, reduce poor performance.
- Time delays can be significantly reduced through joint and collaborative working, the effects of team work. Cost overruns can be substantially reduced through clearly defined and mutual project objectives, open and effective communication and regular performance measurement. Quality defects on projects can be minimized by adopting a joint and collaborative working spirit, abandoning the blame culture and ensuring continuous improvement, for example, by implementing various quality assurance mechanisms.
- 'Ubuntu' is a philosophy that is unfamiliar to majority of the individuals in the construction industry. There is a general misconception that 'ubuntu' only refers to Black people and their culture and that it can only exist amongst them. As a management approach 'ubuntu' has to be strategically introduced to the industry given the lack of understanding

of the philosophy in the industry. Although the adoption and the implementation of 'ubuntu' as a management concept in the construction industry is a milestone that requires time and patience before it can be successfully appreciated, currently there exists one of the principles that form the underlying factor to the philosophy of 'ubuntu'. There was a general consensus from the focus groups that project performance was affected by how parties in a project team related to one another. To achieve this, basic human characteristics such as respect, integrity, communication and trust must be present within the structure of relationships. It is in its core values and advantages that people generally have respect and empathy for one another and that in organizations, as it was noted by Mangaliso (2001), when people sense that they are being treated with respect and dignity, they will respond by showing greater commitment to organizational goals.

The focus groups were selected to be treated as a sample representing the views of the practitioners and professionals in the construction industry. The study attempted to the best of its ability to reflect such opinions, however, certain limitations exist within the study which necessitates a further investigation in the study. Firstly, due to time constraints the research methodology applied was of a qualitative nature where focus groups, six groups with a total of 26 participants in this study, were employed to collect data. Provided there was sufficient time, the number of the focus groups and the participants could have been increased to give a broader representation of the sample. Secondly, only the senior management staff members of construction teams which are based on site were participants of the focus groups. Opinions of other stakeholders, such as architects, engineers, developers and suppliers, within the construction industry which form part of the supply chain relationships were not considered. Lastly, the cultural differences that exist within the industry may pose to be a barrier in setting up an ideal environment for participants to give their unbiased opinions regarding the subject matter of the research study. Therefore any further research that may be undertaken regarding this research study would have to address such limitations.

Recommendations

The following recommendations can be made to improve relationship management using the 'ubuntu' philosophy:-

- People should treat others with dignity and respect. An organization which has members that respect one another will be effective, efficient and successful. Respect a person as a team member implies that you value them. After all, every individual member of a team would like to be appreciated, valued, and respected for their contributions to the team, the project and the workplace in general.
- People should be willing to negotiate in good faith. In 'ubuntu' when one listens to the other with deep concentration and attention it shows respect and that the other party is being acknowledged. Being acknowledged is the first important step toward agreement and cooperation in the philosophy of 'ubuntu'.
- People should understand the beliefs and practices of indigenous people. "Carefully incorporating into standard corporate policies the indigenous practices and beliefs of African people and engaging them in their own belief system will go a long way in ensuring employees self-fulfillment".
- People should promote equity in the workplace. Fairness is a value that is upheld in most cultures, especially the African cultures. 'Ubuntu' teaches us that everyone is equal and thus should be treated so. The workplace needs to offer equal opportunities to everyone, irrespective of their race, culture or gender.

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9. Appendices

Appendix A (Brief Summary of results of Xianhai Meng 2012 study)



UNIVERSITY OF THE WITWATERSRAND

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08TH June 2012

TO WHOM IT MAY CONCERN

This is to certify that Thabo Lucas Mashele is a post-graduate student at the School of Construction Economics and Management, in the Faculty of Engineering and the Built Environment, at the University of the Witwatersrand.

As part of the requirements for the degree Msc (Construction Project Management) he is conducting research into “Improving relationship management in South African construction project performance from the concept of *ubuntu*”. As participants in the upcoming focus group session, a brief summary of the study on “The effect of relationship management on project performance in construction” by Xianhai Meng (2012) is attached. This summary serves to give a brief background of the relationship indicators as they will be the subject of discussion in the focus groups.

Names of respondents will not be published, and all information obtained will remain confidential.

A handwritten signature in black ink, appearing to read 'Udechukwu Ojiako'.

Prof. Udechukwu Ojiako

BACKGROUND

Construction projects often suffer from poor performance in terms of time delays, cost overruns and quality defects. The causes of poor performance have often been analyzed. However, few studies have addressed the influence of supply chain relationships on project performance in construction. To fill in this gap, a questionnaire survey was carried out in the UK construction industry to explore the specific characteristics of supply chain relationships in construction and to assess their impact on project performance.

. This questionnaire aimed to collect information in an attempt to answering the questions concerning:-

- (1) Whether poor performance is more likely to occur following the deterioration of a supply chain relationship,
- (2) Whether the association between the deterioration of a supply chain relationship and the occurrence of poor performance is significant,
- (3) Whether there is a significant increase in the extent of time delays and cost overruns if the supply chain relationship deteriorates,
- (4) Which performance indicator is most likely to be affected by the supply chain relationship?
- (5) What relationship indicators contribute to the significant improvement of project performance, and
- (6) Whether poor performance can be significantly reduced by adopting partnering approaches.

The study found that a supply chain relationship is described by key indicators in ten areas: mutual objectives, gain and pain sharing, trust, no-blame culture, joint working, communication, problem solving, risk allocation, performance measurement, and continuous improvement. The analysis of the results revealed that the deterioration of the relationship between project parties may increase the likelihood of poor performance. Poor performance can be effectively reduced by improving some aspects of the relationship. The adoption of supply chain collaboration and partnering helps to solve the performance problems, in which a long-term collaboration is more favourable for performance improvement than a short-term collaboration. In addition to the

questionnaire survey, a series of industrial experts are interviewed to provide a deeper insight into the effect of relationship management on project performance

Appendix B (Question sheet for conducting focus groups)

Focus Group Number:

Number of participants:

Position of participant:

Project Types:

Project Budget:

Project Duration:

Date of focus group session:

Question 1

“The ten relationship indicators that define the supply chain relationship in the construction industry have been identified as mutual objective, gain and pain sharing, trust, no-blame culture, joint working, communication, problem solving, risk allocation, performance measurement and continuous improvement. With regard to the experience gathered in your career, would you say that these indicators are a true reflection of the nature of the relationships you have experienced in the projects you have been involved in?”

Question 2

-“With reference to the projects that signified to have these relationship indicators, would you say they were completed on time, within budget and with the expected quality performance?”

Question 3

“‘Ubuntu’ is a philosophy defined as humaneness- a pervasive spirit of caring and community, harmony and hospitality, respect and responsiveness- that individuals and groups display for one another. It is the foundation for the basic values that manifest themselves in the ways people think and behave toward each other and everyone else they encounter. ‘Ubuntu’ is a philosophy that is meant to apply to every human being irrespective of their race, gender, or culture.” With the above statement in mind, would you say that ‘ubuntu’ played a major role in the management process of the projects you have worked in, that it was a philosophy that came naturally to parties in the project team and that performance was affected by how parties related to one another?

Appendix C (Summary of Demographics)

What type of projects have you been involved in?

Types of Projects	Total No.	
Residential	7	
Commercial	5	
Industrial	1	
Retail	5	
Mixed used	3	
Civils	5	
Total	26	Participants

What is/was your role in the project?

Types of Roles	Total No.	
Client	2	
Project Manager	6	
Architect	1	
Engineer		
Contractor	16	
Sub-contractor	1	
Quantity surveyor		
Supplier		
other		
Total	26	Participants

What is /was the duration of the project?

Duration	Total No.	
<12 months	7	
12-24months	18	
24.36months	1	
>36months		
Total	26	Participants

What is/was the budget of the project?

Budget	Total No.	
<R100 000 000	10	
R100 000 000-R300 000 000	15	
R300 000 000-R500 000 000	1	
R500 000 000-R800 000 000		
>R800 000 000		
Total	26	Participants