

Building Trust and managing Risk between the Client, Consultant, and Contractor in Traditional and Relational Construction Projects.

Thesis submitted in accordance with the requirement of the University of Liverpool for the Degree of Doctor of Business Administration:

By

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PREFACE

THESIS

This thesis is in fulfillment for obtaining a Doctor of Business Administration degree at the University of Liverpool. Students are required to create an original piece of research that is acknowledged as significant in the Management academic and practice communities and generates new, actionable knowledge. Students are expected to carry out a research intervention with the purposes of understanding and working towards solving an identified, organizationally based problem.

DEDICATION

To my wife and family who were supportive of my four-year sojourn to do this Doctorate. Thank you, Sheila, Farai, Tatenda, and Simbai, forgive me for being a little reclusive during this period and all the absence from home as I chased my research projects between Zimbabwe and Malawi. Your continued support and love were invaluable. The reward is that I can now participate in this life of inquiry from an informed insight.

ACKNOWLEDGEMENTS

I am forever indebted to my Supervisor, Dr. Caroline Ramsey for the guidance and encouragement when the way forward seemed closed and progress was hopelessly slow. She would tell me to try another type of experimental intervention if one failed and thus guided me in the "scholarship of practice," where the emphasis was on developing the way I ran my Engineering Consultancy Practice as opposed to narrow minded production of knowledge.

Phenomenological research can have an emotional toll on the researcher. I was a participant Action researcher, and sometimes the politics and ethical considerations took their toll on my emotions. I am also grateful to my work colleagues for putting up with me and the many hours of "diversion" while I pursued my research. A phenomenological inquiry means that one looks for embedded facts and evidence in lived experiences, organisational stories, and artifacts. For this reason, I acknowledge all my respondents for their patience and openness during my research.

ABSTRACT

This research examines the relationships between the tripartite of Client, Consultant Engineer, and the Contractor during construction project implementation. It examines contract behaviour and how collaborative practices build inter-organisation Trust in construction contracts. Five projects were selected for the study. Three were trust-based Public Private Partnership contracts, while two were Traditional standard contracts. The initial research question was: *How do inter-organisational Trust relationships affect construction project management with respect to Cost, Time and Quality?*

This qualitative research identified the threefold nature of Trust as Contractual Trust, Competence Trust, and Goodwill Trust. By analysing and clustering of respondent themes, two overarching concept themes emerged on how to build Trust between the Client, the Consultant, and the Contractor. The first theme was on financial matters, which included Working Capital Advance payment and Materials pre-purchase schemes. Addressing this theme created inter-party collaboration and Trust which positively affected project Cost, Program and Quality. The second theme was on creation of tripartite Trust by aligning Contractor and Consultant skills, capacity, and experience. The evidence indicated that it was essential to take advantage of any history of previous professional acquaintance and to frequently work together. It emerged that if collaborative action was taken on the basis of the above two themes, Trust could be built and used for more equitable construction project risk sharing. The actionable knowledge was that the numerous indemnity clauses, Working Capital Advance guarantees and excessive experience requirement of Site staff are all project constraints which must be removed. Clients were using indemnity Clauses to shirk away from Risk and responsibility. Contract start dates and liquidated delay damages must be coordinated with the payment date for the Advance in the standard Traditional Contracts. In some cases, time overruns arose because Contract signatures and start dates were preceding the Advance payment date by three months. The Contractor was failing to commence actual construction work due to delays in the release of the Advance payment. The study furthermore found that trust, collaboration and risk sharing is essential to facilitate short-term transactions in Traditional standard contracts.

There was evidence that in order to get repeat work the Contractor was punitively depending on the Client's goodwill and benevolence. A paradigm shift based on

implementing recommended action on the two themes of financial issues and technical capacity building could reduce this dependency or eliminate it altogether.

The research revealed that as of 2017 there were less than five Public Private Partnership (PPP) contracts implemented in Zimbabwe and Malawi. This number of PPP projects was insignificant given the gaping need in these countries to construct public user infrastructure such as roads, electricity generation, ICT, water, and sanitation.

The study also synthesized the problem of the massive brain-drain and the fragility of the economies of these two countries which has resulted in the lack of appropriately skilled and experienced construction project site staff. The study proposed to alleviate this skills shortage with the formation of a Retired Engineers and Allied Professional's Organization. No such organizations exist in these two countries.

KEYWORDS

Trust building, Collaboration, Competence Trust, Contractual Trust, Goodwill Trust; Risk sharing, Working Capital advance payment, Materials pre-purchase, Site staff experience.

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List of Abbreviations

| | |
|--------|-----------------------------------------------------------|
| ANOVA | -----Analysis Of Variance |
| B.O.Q. | ----- Bill of Quantities |
| FIDIC. | -----The International Federation of Consulting Engineers |
| GMP. | -----Guaranteed Maximum Price |
| IPD. | -----Integrated Project Deliverables |
| JCT. | -----The Joint Contract Tribunal |
| JV. | -----Joint Venture |
| MOS. | -----Materials on Site |
| NEC. | ----- New Engineering Contract |
| NHS. | -----National Health Services |
| PA. | -----Project Alliancing |
| PFI. | ----- Private Finance Initiative |
| PPP. | -----Public Private Partnership |
| PMBOK. | ----- Project Management Body of Knowledge |
| RPDA. | -----Relational Project Delivery Arrangements |

| | |
|------------|------------------------------------|
| SEM. ----- | Structural Equation Model |
| SME. ----- | Small and Medium Enterprise. |
| SPP. ----- | Strategic Project Partnering |
| SPV. ----- | Special Purpose Vehicle |
| TCC. ----- | Targeted Cost Contract |
| TCE. ----- | Transaction Cost Economics |
| TMO. ----- | Temporary Multi-Party Organization |
| WCA. ----- | Working Capital Advance |

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CHAPTER 1

INTRODUCTION

To implement Infrastructure Civil Engineering Construction Projects, one can use Traditional or Relational contracts between the Client or Employer and the Contractor or Builder. In Traditional standard contracts, every activity is defined by an economic transaction. A Bill of Quantities is used. The Bill of Quantities has estimates of the work to be carried out in the Construction. As work progresses, each activity is measured in standard units and multiplied by a previously agreed rate, to get the amount due. Thus the transactions are short-term and enable continuous progress as the Contractor is regularly paid. In Relational contracts, on the other hand, the emphasis is on the social benefits of the project, and some issues are left unstated. The Contractor arranges his own financial and material resources to complete the construction. He will recoup his investment and make a profit through user charges when the building is complete. The period during which he collects revenue from the project is called a concession.

National Governments have successfully fulfilled their mandate to provide public infrastructure services such as Roads, Electricity, Water and Sanitation using Relational Contracts. Some of the Relational contracts include Joint Ventures (JV), Public-Private Partnerships (PPP), and Private Finance initiatives (PFI). When I started the research, I wanted to study relational contracting and show how it could be used to enhance PPP, PFI, JV construction projects. According to the Project Management Body of Knowledge (PMBOK), 20 % of construction projects are inexplicably not completed in spite of being adequately resourced. I wondered why? Could it be that the Client, Consultant, and Contractor lost Trust in each other and took uncompromising positions that brought the projects to a halt? The context of my research is the two Sub- Sahara African countries of Zimbabwe and Malawi. The demand for infrastructure in these two developing countries is very high and yet the appetite for Public-Private Partnerships, Private Finance Initiatives, and Joint ventures is meager and there are numerous uncompleted projects.

These questions made me focus on the role of creating Trust, Collaborating and Risk sharing between the Client, Consultant, and Contractor. From the literature review, I defined Trust as the acceptance of vulnerability from the future actions of others. I selected five projects, 2 in Zimbabwe and 3 in Malawi. Of these projects two were based on traditional Engineering Procurement and Construction contracts, while three were on relational Turnkey, PPP or JV contracts. As I gathered evidence through narrative

enquiry, interviews of project staff and artefacts, I observed that there was interplay between Collaboration, Trust and Risk. My focus, therefore, changed from researching inter-organization Trust just to enhance and increase the number of Relational Contracts. I now wanted to determine the collaboration, Trust creating and Risk sharing strategies between Clients, Consultants, and Contractors project management. I aimed to use, collaboration practices, Trust and Risk sharing inter-play to improve construction Project management. Typical of qualitative research, another theme emerged during my study. I observed that all the projects had Cost, Program and Quality risk. I noted that the Contractor seemed to bear the bulk of the risk. The Contract burdened the Contractor with onerous Working Capital Advance payment guarantee requirements, Site staff demands, and late or non-payment of Invoices. I show in the study how this risk allocation anomaly can be corrected. The study noted that project progress can be enhanced using a paradigm shift which encourages fair risk sharing instead of risk allocation. The research is relevant because it looks at the relationships that must exist between the Client, Consultant, and Contractor for successful and efficient project implementation. It identifies and explores how various forms of Trust and collaboration can be used to mediate the Risk allocated to the Client, Consultant, or Contractor.

From the literature study, Macneil (1974) is cited for saying that Relational contracts are long-term contracts sometimes with informal agreements and unwritten codes of conduct sustained by Trust and the value of future relationships. In another earlier seminal paper, he also stated that in Relational Contracting the legal procedures are not strictly followed, but that the parties to the contract govern transactions through mutually acceptable social behaviour guidelines based on Trust. The roles of the Client, Consultant, and Contractor become blurred. It is clear from the extant literature that the focus in Relational Contracts is on trust, cooperation, and commitment to the project objectives and goals.

As stated above, inter-entity Trust emerged as a significant theme as I proceeded with the data collection and analysis. Later in the study, I began to notice the importance of collaboration, Trust and Risk interplay. I, therefore, started to investigate the effect of abandoning some of the contractual requirements of risk allocation. I refer to these contractual obligations as exonerating *indemnity clauses*. Some authors, including Marshall (2016) have said that reflection and self-study are a means to increase the quality of a practice. In order to improve the quality of my practice, I therefore reflected and intervened to replace some indemnity Clauses with Trust and collaboration in the

Contracts I was supervising. From the evidence, I argued and showed that Trust lubricates performance on construction projects, and some of the strict Contractual requirements like irrevocable Bank guarantees for Advance payment and Site staff with 20years experience could be relaxed. These can be taken as construction risks which can be mitigated in a joint and collaborative manner.

My thesis is structured as follows: First I carried out a thorough Literature review which revealed the various schools of thought on the definition and forms of Trust. I found no Literature on Trust building and its mitigation of construction Risks on projects in Zimbabwe and Malawi. Initially, I selected two projects to investigate my original research on inter-organizational Trust. One project was based on Traditional engineering procurement and construction contracts, while the second one was a Relational Turnkey contract. After I started data collection, I added three more projects because I realized that there was not enough scope to articulate the inter-entity Trust in the original two projects. I ended up with five projects. Two projects were in Zimbabwe, and three were in Malawi. Of these five projects, two were based on Traditional short-term Transaction type of Contracts, while the other three were on Relational contracts, that is, Public-Private Partnership, Joint Venture, and Turnkey Projects.

My data collection consisted of narrative interviews with Clients, Consultants, and Contractors on the projects. I also collected project documentation such as Minutes of Site meetings and other artifacts. I found financial and trust building issues in both my Traditional contract projects and Relational contract projects. Project Cost, Program, and Performance were the three main criteria against which I evaluated the role of Trust in Construction Projects.

However, as the study proceeded, another theme developed. This theme tracked the interplay between collaboration, Trust and Risk. I found evidence in my five projects that Trust building is critical to managing construction projects. In all the five Contracts it appeared construction Risk was allocated to the Contractor, instead of sharing it between the Client, Consultant, and Contractor. My argument was then that this subjective construction Risk allocation to the Contractor is detrimental to project progress.

I looked for the interplay between collaborative practices, trust and risk using Action Research in my evidence. I synthesized construction management problems in the five projects and found that the issues fell into two categories. The first category of the

issues was on financial matters, in particular, Bank Guarantees, Working Capital Advance Payment and late payments. The second category of problem issues was Trust building in the face of limited financial resources and Site staff experience. I analysed these issues and took deliberate action to find practical, actionable solutions. To construct necessary infrastructure for sustainable economic growth requires a substantial financial commitment. I argued that this must also include an investment in collaborative practices and Trust relationship between the Clients, Consultants, and Contractors. Trust encouraged the construction Risk sharing. In my qualitative Action Research, I found that through construction risk mediation, Trust relationships motivated the Client, Consultant and Contractor tripartite to partner and successfully implement these projects. Inter-organizational Trust led to confidence that each counterpart would meet its future obligations to the project objectives. If there was participation in contract collaborative practices, Trust could be created and then the Client, Consultant and Contractor were willing to share construction Risks. My research shows what collaborative practices were possible and how Trust could be built.

1.1 Background

Relational contracting is found in many businesses where the contracting emphasis is on social benefits and provision of Public service for a future cash inflow. This arrangement suits large complex projects that have high uncertainty and high risk. Chan & Yeung (2010) argued that this is because such projects have the highest potential for gain-share (or pain-share) in their implementation. Infrastructure Projects are by nature substantially risky. However, the return on infrastructure investment is also very attractive. Only a few studies have been carried out to empirically determine strategies that can be used to foster the creation of Trust and mitigating risk in construction projects in Africa, a continent where there are scarce financial resources. Scarce financial and skilled manpower resources motivate the Public sector to make Public Private Partnership arrangements for infrastructure construction. This way, the Governments can provide and maintain the mandated public services. The literature reveals several types of Relational Contracts in the Construction Industry. These are Trust based. Some Researchers such as Fischer, R. (2011), Yeung, Chan & Chan (2011), Vincent-Jones (2012) and others identified five main types of Relational Projects. These include Public-Private Partnership (PPP), Private Finance Initiative

(PFI), Project Alliance (PA), Joint Ventures (JV) and Strategic Project (SPP) Partnerships. In developing countries such as Zimbabwe and Malawi, there is a gap in infrastructure construction. There is, therefore, the pressure to identify potential projects. Further, these two Governments are required to complete the infrastructure not only as soon as possible, but also outside the national budget balance sheet. Only a handful of PPP projects have however been implemented in these two countries. These are listed below as follows:

1. New Limpopo River Bridge at the South African- Zimbabwean Border (in 1994, the first PPP project in Africa)
2. Zimbabwe, Bulawayo to Beitbridge Railway line
3. Newlands By-pass road in Harare.
4. One project for Civil Aviation in Malawi.
5. There are others such as the Shire Valley Irrigation Project (SVIP) in Malawi, which is still at feasibility study stage.

In all the Relational projects above, the strategy was to complete construction as soon as possible and immediately enjoy the social and economic benefits, in anticipation of future income flows.

The International Federation of Consulting Engineers (*FIDIC Standard Contracts*, *the New Engineering Contract (NEC)*, and *the Joint Contract Tribunal (JCT)*) are some of the Traditional standard contracts. These consist of short-term economic transactions between a Client and a Contractor during the span of the Project construction. There is no long-term view of the contractual relationship. The Traditional standard Contracts are characterized by monthly financial transactions from the Client to the Contractor or Consultant. The Client is the employer. There is an emphasis on Transactional management through strict Contract clauses and Bills of Quantity or fixed lump sum. The various forms of Traditional Contracts are on the first premise that the Client is the project owner and he has enough financial resources to immediately pay the Contractor and Consultant for work done, up to the completion of the project. If the Client has no funds, however, then he makes a direct arrangement with a Funding Agency who becomes a Financier and fourth player outside the main Construction contract. Secondly, the premise is that the Contractor should have adequate skills, equipment, and human resources to perform the work. The third assumption is that there is a Consultant who can be an Engineer, Architect

or Project Manager. The Consultant has the dual role of being the client's professional agent, but at the same time, he is an independent and fair mediator between the Client and the Contractor. I argue that, in managing these Contracts, the Consultant follows contract documents which unfairly pass most of the construction risk to the Contractor and that he has a bias towards the Client who pays him.

Relational contracting, when contrasted with Traditional Contracting, is a partnering and risk sharing arrangement premised on, cooperation and commitment to the project by the Client, Consultant, and Contractor. In practice, the Contractor becomes responsible for the funding, design, construction, and maintenance of the infrastructure, in return for future income flows. The tenure of the Relational Contract is called a concession. The Contractor is supposed to recoup his investment and make a profit through the projected income flows during the concession period. In this study, I found that some of the contract management problems are similar in both Traditional and Relational Contracts. Based on the themes of significant research interview statements, I coded and categorized the construction problems into two and viewed them as either Financial or Trust creation related. These research findings are significant because they can be used to implement projects in the Central African context. The results ensure that the Cost, Quality and Time objectives are fulfilled.

1.2 **Aims of the Study**

- a) The first aim of the study was to use a phenomenological and lived-experience approach to discover what collaborative practices the tripartite could participate in to create inter-organisational Trust. The study was contextual to Sub-Sahara Africa.
- b) The second aim was then to develop these project participants' collaborative practices which could balance the building of Trust and Risk sharing in projects. The objective was to ensure effective construction project governance, cost control, good quality deliverables and completion on time.
- c) The overall aim of the research, however, remained to contribute to the body of knowledge on the role of collaboration between the Client, Consultant and Contractor in building Trust and sharing Risk in the management of Construction projects.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction to Literature Review

In this literature review Chapter, I first discuss the various definitions of trust. I then look at the forms of Trust and the current strategies for building this trust between organizations. My reading of the literature made me realise that there is no universal definition of trust, but its concept affected both standard traditional Contracts and the more recent relational Contracts. There is limited empirical research of the interplay between Collaboration, Trust and Risk sharing in construction projects management, particularly in the context of Southern Africa.

Structure of the Literature review Chapter

My literature review chapter is structured as follows; In Section 2.1 I give a brief chapter introduction. In Section 2.2 I discuss the role of trust in construction projects, with particular emphasis on Traditional contracts and the new innovative Trust-based Relational agreements. I then examine the existing literature definitions of inter-organisation Trust in Section 2.3 and differentiate personal Trust from inter-organizational Trust. In this Section, I also identify Contractual Trust, Competence Trust and Goodwill Trust as the primary three forms of inter-organizational Trust in construction projects. In Section 2.4, I explore the extant literature for the basic Contract behaviour and list the Trust-based types of Relational contracts currently in use. At this stage of my research, I was under the misconception that Trust was only required in Relational agreements and that collaboration and performance in standard Traditional Contracts was entirely covered by written down contractual clauses. I then discuss the literature arguments on the forms and usage of Trust in Section 2.5. I review the crucial factors and strategies used to build inter-organization Trust in Section 2.6. In Section 2.7, I discuss the difficulties of evaluating Trust. In Section 2.8 I look at the literature contentions on the impact of Trust on Transaction Cost Economics (TCE). In this section, I also recap on the developments of Macneil's (1974) norms of relational

contracting as seen by the more recent researchers. In Section 2.9, I discuss what the literature is saying regarding Trust and organizational policy and culture. I compare the definitions of Competence Trust, Contractual trust and Goodwill trust with three other types of trust identified by Smith, & Rybowski (2012), Wong et al. (2007) and Cheung et al. (2003) as System trust, Cognitive trust and Affect trust. I searched the literature for the connection between Risk and Trust in Section 2.10. That is when I realised that Trust is not just a Performance enhancing factor in the newer Relational contracts, but it also affected standard Traditional Contracts

In Section 2.11, I elaborate on the schools of thought regarding the effect of Trust and collaboration on repeat business. Section 2.12, contains what the literature is saying about the impact of Trust on performance and contract governance. I confirmed that some authors (for example; Rahman, Kumaraswamy & Ling, 2007; Laan, 2008; Smith & Rybowski, 2012; Strathorn et al., 2015) were arguing that Trust is the cornerstone of not only Relational Contracting but also Traditional standard contracts. In Section 2.13 I reviewed the causes and impact of lack of Trust. I finally summarize the Literature review in Section 2.14 and explain how it influenced my thinking, the questions it raised and its effect on my research.

2.2 The role of Trust in Construction Projects.

This Section tracks the arguments supporting the use of Trust in both Traditional standard contracts and the newer Relational agreements in construction projects. I briefly and critically review the relevant previous research and raise questions which guided this study. Traditional construction contracts are implemented through a tripartite structure of Employer, Consultant, and Contractor. The Employer or Client is the project owner and traditionally responsible for the inception and funding of the project. There are many examples of these structured construction contracts such as the International Federation of Consulting Engineers (FIDIC) Standard contracts, the New Engineering Contract (NEC), and Joint Contract Tribunal (JCT) contract. In these standard traditional and structured contracts, the Engineer or Architect has a dual role. First, he has the role of being the Client's agent and secondly that of an independent mediator to administer the Contract between the Contractor (builder) and the Client (Employer). His control and governance of the project Cost, Program and Quality are through various enforceable contract clauses or disclaimers.

However, the more recent and innovative contracts are Trust-based. The theory of Trust-based Relational Contracts was first proposed by Macneil (1969). He defined Relational Contracts as contracts that are based on relationships between the contracting parties. In coming up with this definition, the first query he faced was whether "there are more accurate and comprehensive descriptions of contract behaviour?" Later, Macneil (1974) defined Relational contracts as long-term contracts, sometimes with informal agreements and unwritten codes of conduct sustained by the value of future relationships. In his seminal paper, he proposed ten norms for a Relational Contract Theory. These included collaboration, integrity, solidarity, reciprocity and "harmonization with the social matrix." The norms led to one of his first conclusions, that "every transaction is embedded in complex relations." While Macneil (1974) came up with these norms, he did not explain how the potential Risk in the unwritten clauses could be mitigated using Trust. I started questioning how Trust, Collaboration and Risk sharing were linked. The question that arose is that can some of the risks and impediments to project progress such as Cost, construction Program and lack of site management experience be successfully tackled with Trust and lead to collaboration?

Strathorn et al. (2015) also investigated the role of Trust and collaboration in standard Traditional construction contracts. They blamed Traditional contracts for motivating opportunistic behaviour and a tendency to exploit work variations and other contract weaknesses. They viewed Trust as a "fundamental requirement of any human interaction." For this reason, they proposed that even in standard Traditional construction contracts, this interaction should be designed to have "prescriptive protocols for developing and maintaining Trust." It is however not clear in their research what these protocols are, nor their universality. Further, if their solution to build Trust were based on rigid rules as implied by "prescriptive protocols," this would destroy the very spirit of Trust because one argues that its very nature is based on unwritten clauses of expected positive human behaviour. The literature does not show much research on Trust building and collaboration in standard Traditional Construction contracts. An examination of these Traditional Contracts revealed that there is a strong emphasis on Risk allocation to the contract tripartite of Client, Consultant, and Contractor. Traditional contracts were observed to be short-term and consisted of discrete economic transactions. Some researchers had studied inter and intra-entity organization Trust building. However, the extant research has not been contextual and specific to infrastructure construction. Some

of the researchers who have studied inter and intra-organisation Trust include (Chan & Yeung, 2010; Laan, 2008; Ning & Ling, 2013; Oyegoke et al.,2009; Rahman, Kumaraswamy & Ling, 2007; Vincent –Jones,2011; Yeung & Chan, 2011;). My research focused on inter-organization trust and the resultant collaboration in construction projects management. In all the Contracts, I found that the Contractor was required to issue to the Client several Bonds and Guarantees. These included Bonds to Bid, Bonds that the Contractor would perform and Bonds that would enable the Contractor to get Working Capital Advance. If all these Bonds are given to the Client, then what risk does the Client have? After noting this excessive Bonds requirement culture of the Traditional standard contracts, I examined the newer trust-based Relational Contracts. My Region of study is Southern Africa, in particular, Zimbabwe and Malawi. I found that there is very little research on Trust-based Relational contracts in the Southern African Region. These Trust-based Relational contracts are the Public Private Partnerships and Joint Ventures. There was a solitary research by Zinyama & Nhema, (2015) who argued that the failure to flourish of trust-based Relational Construction Projects in these two countries is due to the absence of a legal framework and uncertainty of the political environment. Further, according to a significant Financier, the African Development Bank, the establishment of policy, regulatory and legal framework for Public-Private Partnerships provides an enabling environment for trust-based Relational contracting. Later research has however now revealed that the Government of Zimbabwe established Public and Private Partnership Guidelines in 2009 and that the Government of Malawi established the Malawi Public Private Partnership Commission through an Act of Parliament in 2011. In spite of this initiative, however, Trust-based Relational projects such as Public-Private Partnerships or Joint Ventures have not thrived. I noted the many Project failures in Zimbabwe and Malawi. Early evidence from my research suggested the importance of Trust between the Client, Consultant, and Contractor. The Project Management Body of Knowledge (PMBOK) also stated that an average of 20 % of construction projects is inexplicably not completed in spite of being adequately resourced. Due to the above reasons, I decided to contextually research inter-organisation trust, collaboration and risk sharing in managing Construction Contracts in Zimbabwe and Malawi.

2.3 Definition of Inter- organization Trust

Inter-organisation Trust has been defined by many researchers. McEvily, & Perrone, (1998) describe inter-organization trust as *"the extent to which members of one organization hold a collective trust orientation toward another organization."* Mayer et al. (1995) define trust as *"when one believes in and is willing to depend on another party."* Smith et al. (2003) also defines trust as *"a willingness to be vulnerable."* Nooteboom (2002, 2006,) defines trust as *'expectation that things or people will not fail us'*. All these definitions have two critical themes that stand out, that of inter-dependence with others and the second is on acceptance of being vulnerable. The definitions are well summed up by Rousseau, Sitkin, Burt & Caterer (1998) who defined trust as *"a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviors of another"* This definition, like that by McEvily, & Perrone, (1998) indicates that trust occurs in a person's mind when going into a contract. It is an expectation of positive behavior. Laan (2008) concurs and argues that personal or individual trust can be aggregated in persons of one organization. This idea leads to viewing of Trust in two forms. The first is that there is individual or personal Trust. The second is to view the aggregation of this Trust in individuals of one company as the organisational Trust. Lau & Rowlinson (2011) researched the implication of Trust in construction projects using "real life evidence." They concluded that the impact of Trust and its real meaning was multifaceted. Thus, Trust has many dimensions, and its definition varies across the disciplines because it is complicated and dynamic. The extant literature shows that there is no universal definition of Trust. It however agrees that Trust is a state of mind accepting possible vulnerability from others' actions. According to Lau & Rowlinson (2011), extended time horizons change inter-organizational behaviour. This observation is essential in construction projects because they take a long time to implement. From inception to completion, even a small project on average takes two years and the effect of time horizons has to be considered. Lau & Rowlinson (2011) also define and argue that to Trust is to accept risk and uncertainty. The key word here for this research is that all the parties to the contract must *accept* risk and vulnerability. They state that both personal trust and organizational trust must be built because "trust is not self- generating." However, the assertion of lack of self- propagation of Trust can be

argued. This is because certain unsaid Contractual positions force the Client or the Consultant or the Contractor to trust each other without making a deliberate effort to create Trust. It can then be said that dependence generates Trust. Deliberate efforts have however to be made to enhance it to the extent that it becomes a business and project success strategy. Lau & Rowlinson (2011) in their paper, state that interpersonal Trust is more important than inter-organization Trust. They argue that this is because, besides a requirement to meet technological and economic needs, construction projects are also required to achieve moral and social objectives. However, it is worth noting that in their argument they accept that inter-organisational Trust is the sum of interpersonal or intra-organisational Trust.

I discuss the interplay between inter-organisation Trust and intra-organisation Trust under essential Trust factors in Section 2.6. In that Section, I look at the schools of thought by Zaheer & Harris (2006), Fulmer & Gelfand (2012), and Laan (2008). In their survey of inter-organisational Trust literature, they found that intra-organization trust or personal trust is much more delicate and needs to be differentiated from the organisational Trust. I argue that for both the individual and inter-organisational perspective, Trust is affected by time because of the expectation of future income flows. Time becomes one of the Trust building variables.

Some researchers have suggested that Trust is captured in three forms. For example Broadbent et al. (2003), Das & Teng (2001), Vincent-Jones (2012), and Zaghoul & Hartman (2002) argue that the first form is *the Contractual trust* which is defined by the contract documents and contractual clauses. Contractual trust is the stated and written down contractual obligations which govern and control either party's performance concerning construction time, cost, and quality of deliverables. The second form of Trust defined in the literature is *Competence trust*. This, according to Hartman (1999), comes from the ability to perform the task; it is the answer "*Yes we can do the job.*" Thirdly, as quoted from Swan et al. (2002), there is *Goodwill trust*, which is "*a by-product of previously working together.*" These three forms of Trust appear to be the ones accepted as the Trust spectrum for Construction Contracts in the extant literature. I have used this three-fold form of Trust to evaluate the existence and role of Trust in this research because of its proximity to the manner in which Construction Contracts are controlled and managed. First, Contracts have to be drawn up between the tripartite of Client, Consultant, and Contractor. For the Contracts to be consummated there has to be Contractual

Trust. Second, any of the three parties have to have Trust that the other side is competent to carry out its obligations. Thus the Client has to be responsible for paying, the Consultant has to be qualified to design and specify the works, and the Contractor has to be competent to construct the works as defined within time, budget and with good quality. These Contractor obligations are enshrined in the Competence Trust before project implementation. Thirdly, Goodwill Trust which can be presumptive or from a history of previous work together can govern the future contract behaviour of the tripartite.

Some researchers, including Dyer & Chu (2003), Fischer (2011), Lau & Rowlinson (2011), Rahman & Kumaraswamy (2008), Shazi (2014), Vincent-Jones (2012), and Zaheer & Harris (2012) have looked at the long-term overview of Trust relationships. However, these glimpses have not been specific to Construction projects. This left a gap which needed to be investigated, particularly in Relational Projects which have a long tenure in the form of a concession. However, Rahman & Kumaraswamy (2008) ranked Trust and Trust-based operational strategies as significant incentives for relational contracting and team building in Singapore. They hinted at how such executive arrangements could be used for "post-contract partnerships in Relational Contracts," but did not specifically refer to how project risk and uncertainty can be mitigated with Trust.

The literature identifies five types of Trust-based Relational Contracts in construction. These comprise of Public Private Partnership (PPP), Project Funding Initiative (PFI), Project Alliancing (PA), Strategic Project Partnering (SPP) and Joint Venture (JV). Several authors including Bloomfield (2006), Geringer (1988), Li et al. (2005), Mowery et al. (1998), and Walker et al. (2002) argued that all these relational contracts are based on trust. Indeed there was an expectation of future income flows to recoup the financial investment and make a reasonable profit. In these trust-based Relational Contracts, the role of the Client, Consultant, and Contractor became blurred.

As stated earlier, in contrast to trust-based Relational Contracts, standard Traditional Contracts have distinct tripartite roles of Client, Consultant, and Contractor. The original functions are that the Client is the employer. The Client comes up with a project concept and has adequate funds to implement the project. The Engineer has a dual role of being an agent of the Client as well as an independent mediator in managing and supervising the construction contract without being party to it. The Contractor has an agreement with the Client, and his role is to marshal Manpower, Materials, and Machines to implement the project within a specified period.

2.4 Basic Contract Behaviour

The basic Contract behaviour is to get value for money or fair payment for work done once all the Contractual obligations have been met. Dyer & Chu (2003) have argued that the Traditional Contract is based on a theoretical framework of short-term Transaction Cost Economics (TCE). They illustrated their argument by using a sample of 344 suppliers and car makers from the United States, Japan, and Korea, and found that Trust reduced Transaction costs significantly.

What is significant in their research is that in the absence of Trust the Car supplier was observed to charge up to five times more than a trusted supplier. Transaction costs can be reduced by removing opportunistic behaviour in contracts. In the Dyer & Chu (2003) research, we see that Trust was a competitive advantage because it cut Transaction cost. The question was whether this Trust -Transaction cost saving phenomenon could also be used as a collaborative strategy to minimize Construction projects costs.

On analysis, the International Federation of Consulting Engineers (FIDIC), New Engineering Contract (NEC) and the Joint Contract Tribunal (JCT) standard traditional contracts are no more than, structured contracts, focusing on incorporating numerous enforcing clauses and disclaimers. These enforcing clauses allocate responsibility and risks to parties to the agreement. In a way, this contract structuring is not dependent on Trust in spite of the supportive evidence from Dyer & Chu (2003), that the more Trust there is, the less the Transaction Costs. Never-the-less it forces a specific Contract behaviour to get value for money. To understand inter-organization Trust, I reviewed the literature for both the standard Traditional construction contracts and the Relational Public Private Partnership or Joint Venture construction contracts which emphasized Trust. English & Baxter (2010) studied the changing nature of agreements between Government and the Private sector. Although their interest was in the prison services in Australia, they tracked the change and metamorphosis of contracts and found an overall preference for Trust-based Relational contracting. They concurred with earlier researchers that Contractual Trust came from the written Contract clauses. Competence Trust was based on the capability to meet obligations to perform and finally that Goodwill Trust was based on the dependability of behaviour. Even in the face of unexpected turn of events,

Goodwill Trust gave protection from the possible threats of opportunistic behaviour. Thus according to English and Baxter (2010), Contract behaviour should sustain a Trust-based relationship with emphasis on a risk-sharing and fair rewarding.

As seen earlier, Macneil's original (1974) Relational contract theory defined Trust-based Relational contracts as being anchored in 10 norms which include collaboration, integrity, social harmony, expectation, solidarity and restrained use of power. His theory is relevant because it informs on possible Contract behaviour by clearly distinguishing that trust-based Relational contracts were different from standard Traditional and structured Contracts. He argues that much of the current Traditional Contract behaviour could be covered by just a few written clauses which were based on discrete short-term transactions and cost economics. He states that the unwritten Clauses could be guided by socially constructed Contract behaviour. Other researchers, for example Cohen (2010), Hartman (1999), and Strathorn et al. (2015) also showed from "lived experience" research that even traditional standard Construction Contracts do indeed require inter-organisation Trust to moderate contract behaviour. The above literature brought to the fore my view of the importance of Trust in contracts. To illustrate the dynamics of Trust, I examined the Fulmer and Gelfand (2012) review of 375 articles covering a period of 10 years from 2000 to 2011. They found that Trust has multiple organizational levels starting with individual trust, and then secondly team trust and finally organisational level trust. They noted the importance of Trust to various management areas like teamwork, leadership, human resources management and strategic alliances among other areas. They differentiated the effect of Trust at the organizational level by using Transactional cost economics theory and Relational exchange theory. They argued that equity and reciprocity are essential for inter-organizational level trust. Further, from the Relational Exchange Theory, they observed and confirmed that the antecedents to organizational level trust include integrity, shared characteristics, previous work together, communication, voluntary compliance with external regulations and asset specificity. This supports the argument by Lau & Rowlinson (2011) that organizational Trust is an aggregation of individual Trust shared by the people in each organization. From this research, they were able to consider Trust at the three levels of individual, team and overall organisation. Thus, Fulmer and Gelfand (2012) found that the impacts of Trust for an Individual, a Team, and an Organisation were different, but the Trust could be inter and intra-aggregated between levels because of common project objectives. I was influenced to think that that the way they argued can be extrapolated for Trust in

construction projects because there are also three organizational level referents consisting of the Client, Consultant, and Contractor. Therefore, in each organisation, if the project objectives are the same, there has to be individual Trust and team Trust which can be aggregated to inter-organisational Trust. What is inherent in the trust based relational Contract arrangements like PPP, JV, PFI etc. is that Contract behaviour is influenced by long-term relationships motivated by lack of financial, technical and intellectual resources. Above all, there has to be value for money in the provision of services or construction of essential infrastructure.

Cohen (2010) also studied Integrated Project Deliverables (IPD) using a *scorecard*. He used 6 case study building projects ranging from schools to hospitals. Participants were then required to evaluate 6 IPD characteristics. The IPD characteristics to be assessed were shared risk or reward, early participant involvement, multi-party contract, collaborative decision making, absence of Liability waivers and mutually developed project targets. I saw that these IPD essential elements are closely related to Trust and Risk. Further, what was thought -provoking was the fact that Cohen (2010) put the absence of a *waiver of liabilities* on his scorecard. This can be interpreted as dislike of Indemnity Clauses in standard Traditional Contracts. The score in the Cohen (2010) scorecard showed the degree of savings on Project costs that could be achieved through Trust and Trust-based Relational contracts. The emphasis was on trust, appropriate risk and reward sharing, with minimum bureaucracy. Throughout the Cohen (2010) article, there is an emphasis on Trust, risk sharing, and blurred boundaries and but at the end, they advocate for a matrix of responsibilities showing distinct roles for each party to the construction contract. This seems incongruous though, with Trust contract behaviour based on shared risk, reward, and absence of liability waivers. Further, although at the top of Cohen's (2010) IPD scorecard there was "*mutual respect and trust*" based on integration between the Client, Consultant and Contractor in project delivery, all the contracts contained "*to sue clauses*," which were then waived. The presence of these to-sue-clauses in a way suggested non- integrated and positional behaviours, which were contrary to a Trust and Risk-sharing relationship.

After noting the adversarial attitude and low productivity in Traditional contracts, Smith and Rybowski (2012) questioned the capacity of new project implementation methods such as IPD, Lean Construction, and Relational Contracting to depend on Trust. They reiterate in their literature review that blurring of roles is a natural correction of the

overemphasis of the positions and "fear of liability" by Clients, Architects, Engineers, and Contractors in project implementation. They recommended further research to "determine if IPD and Lean construction can be used to systemically support higher levels of Trust than traditional methods of structured contracts." The evidence showed that both Traditional standard contracts and Trust-based Relational Contracts have many Indemnity Clauses. Presumptive Trust which should be the backbone of Relational agreements is demanded, documented and enforced by Indemnity Clauses. It appears in these contracts that you first trust, and then second you seek to be indemnified against specific occurrences. I argue that these Indemnity Clauses are contrary to the spirit of Trust. Further, these Indemnity clauses arise from Risk allocation instead of Risk sharing between the Client and the Contractor. I will show with evidence from my research that risk is almost wholesale allocated to the Contractor, both in Relational and Traditional Contracts.

Some authors for example Rahman, Kumaraswamy & Ling (2005), and Swan et al. (2002) argue that the pressure for IPD and Integrated Team Work comes from the need for innovative and cost-saving work methods. Further, they found that the demand for productivity and quality construction has risen due to increasing uncertainty and complexity of the projects. The uncertain and incomplete project specifications require that some issues be solved as the project progresses. This, they argued, can be done through Trust-based relations. Blois (1998) further carried out a case study using interviews and observations. He showed that the background of the Client, Consultant and Contractor forming the Temporary Multi-Party Organization (TMO) established to implement a project has a significant influence on their Contract behaviour. He argued that a sound business to business relationship based on Trust leads to better insights and a reduction in transaction costs. In a subsequent research Mouzas & Blois (2013) were concerned with the efficacy of framework or incomplete contracts which left out many contractual clauses. What is interesting is that Mouzas & Blois (2013) still recognized that disputes must be mutually resolved and that they are caused by four factors as follows:

1. Divergent expectations
2. Asymmetric information
3. Uncertainty about the nature of interaction
4. Either party has locked itself into unfavorable irreversible commitments

The common thread from the argument by Mouzas & Blois (2013) and other researchers above is that Trust is essential for all types of Contracts.

The basic contract behaviour that has been shown above is to obtain the value for money and excellent quality outputs. I questioned if this could be done through collaborative practices and creation of Trust. The extant literature defined Contract Trust, Competence Trust and Goodwill Trust as the three fold forms of Trust that should be considered in construction contracts to reduce transaction costs and mitigate the uncertainty of the outcomes. In the next Section, I discuss these different forms of Trust as identified in the literature.

2.5 Forms of Trust.

Some researchers including Fulmer & Gelfand (2012), Laan (2008), Lau & Rowlinson (2011), and Zaheer & Harris (2006) suggested that Trust first exists as inter-personal Trust. This is when individuals accept to be vulnerable to the future action of others. Trust comes with vulnerability or liability in Construction projects. However, the individuals recognize that their associates will act in their best interest. Fulmer & Gelfand (2012) researched how this inter-personal Trust aggregates first from personal individual level to team Trust and then to inter-organizational level Trust. The forms of Trust identified from the literature, and their referent is shown in the following Table 1. As shown in this table, I realised that some types of Trust have significance only at a personal individual level, while others aggregate to have significance at an organisational level. This supports the view by McEvily& Perrone (1998) that Trust is a state of the mind and it must, therefore, start with the individual.

Table1: Forms of Trust

| Item | Form of Trust | Definition | Significance level | Prominent Researchers |
|------|-------------------|----------------------------------------------------------------------|--------------------|------------------------------------------------------------------|
| 1. | Contractual Trust | Trust based on Contract Documents and Guarantees | Organisational | Broadbent et al. (2003), Vincent-Jones (2012), Das & Teng(2001), |
| 2. | Competence Trust | Trust based on partners' capability to perform | Organisational | Hartman (1999), Broadbent et al., (2003), Faem et. al (2008) |
| 3. | Goodwill Trust | Trust based on reputation and history of previous work done together | Organisational | Dyer and Chu. (2003), Das & Teng(2001), Swan et al. (2002) |
| 4. | Intuitive Trust | Trust based on emotions or "gut feeling." | Individual | Hartman (1999), Zaheer et al. (1998) |
| 5. | Integrity Trust | Trust based on ethics and dependability | Individual | Hartman (1999), Zaheer et al. (1998) |

After scanning the literature and concluding that in all cases Trust was embodied as the acceptance of vulnerability from the action of others, I then looked specifically at the types of Trust that were relevant to construction projects. Construction projects only commence after participants have drawn up a contract to provide services at an agreed amount. It is then apparent that contracting parties must consider Contractual Trust important. Secondly, I also noted that Construction projects involved large sums of money and the Client requires value for money and the Competence of the Consultant and the Contractor was essential to get value for money. For this reason, I concluded that Competence Trust was important in

construction projects. Finally, for a sustainable business activity, Managers must look at repeat contracts through Customer satisfaction. This made Goodwill Trust important. In Table 1 above, it is worth noting that Hartman (2000) later attempted to explain the three forms of Trust further, but somewhat differently. However, the meaning remained the same. First, he said Competence Trust was *cognitive trust*, which is based on skill and capacity to perform. Second, he added *intuitive trust* as an affect-based trust which is based on emotions. Thirdly he added *integrity trust* and referred to it as individual trust. In this research, however, I focused on the insight and analysis of inter-organizational Trust between the Client, the Consultant and the Contractor in construction projects. I, therefore, turn my attention to Competence, Contractual and Goodwill Trust for the rest of my research in the five projects I selected.

After realizing the threefold nature of Trust, I wondered if Trust was influenced by the culture of the country where the contract was implemented. The effect of culture and working environment on Trust was discussed by several authors including Dyer & Chu (2003). Their research was not specific to construction projects, although the findings reflected on how culture affected Trust building in contracts in general. They perceived Japan as being a "high-trust environment," America as "low-trust environment" and Korea as a "mixture of both high and low trust." Unfortunately, they did not rank Europe and Africa in the Trust-culture spectrum. The Dyer & Chu (2003) argument shows that Trust is a competitive economic asset. Thus Trust can be used to reflect the efficiency of national financial institutions and how to do business in those countries. Edkins & Smyth (2006) suggested that the strength of relationships in a contract is proportional to the amount of inter-entity Trust that is built in it. This supports my thinking that Trust management could be used for construction project management. In their argument, a contract starts with faith and hope, and through the mediation of Trust, it moves to confidence and legalities. While Faith is intangible, but it can be argued that once it emerges, Contractual Trust will have been formed and the Contract can be consummated, through legal clauses which are tangible. In the Edkins & Smyth (2006) proposal, the components of the intangible Trust were Expectation, Faith, Hope, and Confidence that the partners would perform their obligations. I linked these intangibles and unwritten procedures to the creation of Competence and Goodwill Trust in a construction contract.

2.5.1 Affect Trust, Strategic Trust and System Trust

In this Section, I briefly discuss other schools of thought which refer to *Affect Trust*, *Strategic Trust*, and *System trust*. I mainly look at how these forms of Trust are positioned concerning the earlier definitions of Competence, Contractual and Goodwill Trust between organizations. I inferred that Affect Trust is synonymous with both personal and Goodwill Trust. This is because some researchers for example Cheung et al. (2003), Smith & Rybowski (2012), and Wong et al. (2007) refer to *Affect trust* as personal trust since it is based on emotions and culture. Organizational trust, on the other hand, is based on knowledge and competence. It is sometimes called *Cognitive* or *Strategic trust* by these authors because it is influenced by the organizational strategies. For this reason, I equated Cognitive or Strategic Trust to Competence Trust. Wong et al. (2007) further discuss a third form of Trust which they called, *System trust*. It is based on organizational policy, communication, contracts, and documents. Due to that, I equated System trust to Contractual Trust. Wong et al. (2007) also proposed a Trust framework which enabled measurement of Trust by tracking the partner behaviour due to the three types of Cognitive trust (Strategic Trust), System trust and Affect-based trust. They then used a structural equation model (SEM) which showed that Cognitive trust (Strategic trust) was the essential type of Trust among the three, followed by System Trust and lastly by Affect Trust. I opine that this ranking seems superfluous because the three forms of Contractual, Competence and Goodwill as represented by Cognitive, System and Affect Trust respectively, themselves have blurred boundaries.

After looking at the positioning of Cognitive, System and Affect Trust in the Trust spectrum, I concluded that the three headline forms of inter-organisational Trust are Contractual Trust, Competence Trust, and Goodwill Trust. These are the threefold forms of Trust that I examined in the rest of this research. The other two forms of Trust called *Intuitive Trust*, and *Integrity Trust* were introduced by Hartman (2000). These two latter forms of Trust are related explicitly to Individual Trust and Goodwill Trust respectively. They are not considered separately further, because they are at a personal level, whereas the purpose of the research was to target inter-organisational Trust in Construction Projects.

2.6 Important Factors which Build or Harm Trust relations

The extant literature shows that there are many potential factors which can be used to encourage the building of Trust in construction contracts. Swan et al. (2002) from the Centre for Construction Innovation University of Salford, UK, carried out a qualitative analysis using interviews and came up with several Trust building variables. These variables are discussed below, including works by other researchers.

2.6.1 Project complexity and uncertainty

Swan et al. (2002) found that it is easier to build Trust in smaller projects because of the lower number of personnel and short lines of communication. Thus according to them, the more complex and uncertain plans are, the more difficult it is to build Trust. For example, Zaghoul and Hartman (2003) found that Contractors added between 8% and 20 % to prices to cover uncertainties in the contract. This supports proponents of structured and fully specified legal agreements who advocate for every contingency to be stated in the contract and costed. However, others such as Dyer & Chu (2003) suggest that in Trust-based Relational Contracts if Trust is invested for a long-term relationship with the Client, there is a reduction in the Contractor's markup and overall procurement cost.

Jiang et al. (2013) researched the effect of Goodwill Trust and Competence Trust as mediating factors in preventing leakage of knowledge assets between partners. This is a crucial aspect of complex and uncertain projects which have a potential for innovation. They argued that the risk of knowledge leakage and opportunism increases with too little or too much Goodwill trust. Thus they found that Goodwill Trust has a "U" relationship with knowledge leakage. Opportunism and knowledge leakage is very high if there is too little Goodwill Trust. At an optimum level of Goodwill Trust, opportunism and knowledge leakage is very low but spikes up in the "U" relationship if there is too much Goodwill Trust. This upturn happens primarily when there are no protective measures in place to prevent knowledge leakage because the two parties completely trust each other. Competence Trust, on the other hand, is inversely related to knowledge asset leakage. Thus, if there is an increase in Competence Trust, knowledge leakage decreases. Fulmer and Gelfand (2012) also suggest that the disadvantage of excessive Trust is stunted innovation because firms feel comfortable with an existing status quo and they continue to invest in under-performing

processes. A strategic oversight of U-relationship between Trust and opportunism and knowledge leakage is critical because it can affect the progress of construction projects.

In conclusion, the balance of inferred evidence from the extant literature seems to suggest that complexity and uncertainty increase the need for Trust, but at the same time these same factors make it challenging to create Trust between the Client, Consultant, and Contractor in construction projects.

2.6.2 Temporary Transfer of project ownership to build Trust

According to many researchers, transferring ownership of a construction project from the Client to the Contractor, even for a limited tenure, makes Trust and creates incentives for the Contractor to perform. For example, Liu, & Pradelli, (2012) argue that in PFI and PPP contracts, Government and the Private sector should go into an agreement and establish a Special Purpose Vehicle (SPV) company which will own and run the affairs of the project on their behalf. The negotiations usually set a period after which ownership of the facility reverts to Government. In these Build Own Operate and Transfer (BOOT) contracts the tenure of temporary ownership transfer is called a concession period. Some researchers for example Oyegoke et al., (2012), and Best & Valence (2002) have shown that Temporary transfer of ownership of the facility to the SPV during the concession period helps to build Trust. This is because project ownership also facilitates project fundraising, investor confidence and "risk/return negotiations." Das & Teng (1998) added that project ownership promotes control, which will have a regulatory role to achieve mutual interests and objectives. I noted that in the Traditional standard contracts in use in Southern Africa there is a clause where the Project site is handed over to the Contractor in a temporary transfer of ownership to facilitate control. Complete Site handover in these contracts is to be encouraged because it influences performance by the Contractor.

2.6.3 Removal of punitive Clauses in the contract.

Faems et al. (2008) also looked at Contracts from both the standard Traditional structured and the Trust-based Relational perspective. The Structured perspective contracts are the traditional ones based on *Transaction Cost Economics* theory and contain many clauses which elaborate on how a partner in a joint venture or alliance must behave to fulfill the project objectives. These limitations enforce participant obligations, but they are also punitive. On the other hand, according to Faems et al. (2008), the Relational perspective of contracts is grounded in *Social Exchange* theory, on the premise of Trust. They argued that

Trust relationships are based on reciprocity, justice, and fairness. Thus, from the Social Exchange Theory, punitive clauses should be minimized in a contract relationship

Swan et al. (2000), besides their first variable that project uncertainty encouraged Trust building, also came up with a second Trust building variable of *joint problem-solving*. Most construction projects come across problems during implementation and thus solving those difficulties jointly to mutual satisfaction without invoking the Indemnity clauses, or blame passing contributes to Trust building. The third variable according to Swan et al. (2000) which encourages building of Trust is shared goals. They state that goals are better shared if one builds a Trust team. Thus, it is contingent that a Trust team has a special relationship of mutual acceptability and confidence in each other's capability.

2.6.4 **Inter-organizational network relationships**

Shaz (2014) researched the Trust building impact of Network ties or *Simmelian ties*. These are triadic ties suggested by Simmel (1950). According to Shaz (2014), network ties encourage Trust building and knowledge transfer. The network's research by some authors for example Rahman, Kumaraswamy & Ling(2005),and Swan et al.(2002) seems to support that the more complex and uncertain a project is, the more dependent it is on Relational Contracting and Trust within a network. In a similar research, Lahdenpera (2012) focused on multi-party relational project delivery arrangements (RPDA). He studied Project Partnering (PP), Project Alliance (PA) and Integrated Project Delivery (IPD). He also found that these arrangements were different from Traditional short-term and discrete economic transactions of structured Contracts in that they focused on long-term Trust-based Relational Trust investment. What comes out from the above researchers is that commonality of project objectives builds Trust in Contracts. Macneil (1974) stated that in Trust-based Relational Contracting some Clauses are not written, and contract behaviour is based on social guidelines for fairness and trust. From a legal point of view Mouzas & Blois (2013) called these Relational contracts as "Framework Contracts or Incomplete Contracts" because of their lack of finality and leaving the door open for change, if circumstances should so demand. Ring & Van de Ven (1994) had earlier proposed that for continued cooperation between two organizations, there must be both formal and informal relational processes. They argued that transfer of resources leads to disputes when enforcing legal clauses start conflicting with managerial processes. In their model, they argued that Trust relationships are "cyclical and not sequential" Thus, trust relationships in a team or network develop, reach a peak, and then they start to deteriorate. Hence, Ring & Van de Ven (1994) continued to argue and concluded that the only way to retain Trust relations equilibrium was to balance formal

and informal processes in the network. This conclusion is important in a Project construction team, because the Trust relationship has to endure to the Project completion, at least.

2.6.5 A history of previously working together

Faems et al. (2008) researched Contractual control and Contractual coordination by the organizations' history of previous collaboration. They observed that for new acquaintances because Trust was low, the new acquaintances failed to exchange information for fear of expropriation of commercial secrets. This corroborated Garcia-Canal et.al (2003), who had researched Trust relationship using 80 Spanish joint ventures where there were multiple partner alliances but no previous history of working together. They had found that new partnerships should be encouraged, because they helped to build inter-organisation Trust through sharing of the resources and risks. This aspect of the positive effect of a history of working together was confirmed by other researchers for example, Dayan et al. (2007), and Swan et al. (2000) who found that history of working together and close continuous contact encouraged inter-personal trust building and knowledge transfer. I felt that this needed to be confirmed in my projects, particularly since some of the Projects have Government as the Client and they go through a competitive cost based selection procedure with the State Procurement Board. Could this competitive bidding keep Government, Consultant or Contractor relationship at arm's length?

2.6.6 Information asymmetry and presumptive trust

Information asymmetry between partners may compel them to have to Trust each other. This was brought out in the Akerlof (1970) seminal research on quality uncertainty and the market for second-hand cars (lemons). He argued that it is the seller of a second-hand vehicle who knows more about its performance than the buyer who has to depend on Trust. According to Brewer (1981), the less informed party must have presumptive Trust in the more informed partner to consummate the contract. Presumptive Trust may also just be given for mere membership to a professional group. For Example, Clients put the condition in their request for Bids that Engineers must be members of the Institution of Engineers or that construction Contractors must be registered with the National Construction Industry Confederation. Being a member of these professional groups bestows upon them presumptive Trust that they can do the work

2.6.7 Hybrid Arrangements and Trust

The literature shows that a hybrid of written and unwritten clauses can also be used as a strategy for building Trust. Vincent-Jones (2012) found that some managers would instead

substitute Trust with elemental Contract Clauses and leave room for future negotiations and re-writing the contract if issues arise. Another school of thought convincingly investigated by Ring & Van de Ven (1994) proposes that for both standard Traditional and trust -based Relational contracts, there has to be a balance between intangible Trust, which is not written down and tangible Trust in the form of written-down enforceable Contractual Clauses. This is a flexible hybrid approach which was based on Macneil's (1974), concept of Trust-based Relational Contracts. Ring & Van de Ven (1994) argue that the Contract Clauses give guidelines on expectations and foster cooperation in a win-win philosophy, thus suppressing opportunism and self-maximization. The hybrid arrangements on Trust appear to suit Construction Contracts because tri-partite members can always have nominal enforceable clauses to fall back on in case of fundamental performance default by the other party.

2.6.8 Reciprocity

Swan et al. (2000) also studied how reciprocity could build Trust. They argued that one partner could go out of his way to protect the rights of the other in the expectation that the partner would do the same for him. The argument is that reasonable and non-confrontational behaviour also builds Trust. Many other researchers, including Caldwell & Karri (2005) linked the role of governance in building trust to reciprocity. They argued that traditional agency and stakeholder theories which are based on teleological and utilitarian focus alone were not adequate to create Trust. Further, they state that even incentives and the most explicit control mechanisms cannot build Trust. They argued that only stewardship theory contract governance based on a "Covenantal relationship" and ethics would enhance Trust building in an organization. This ethics pledge can later be cascaded to inter-organizational Trust. Thus, organisations must trust each other to act in both their best interest without resorting to opportunism.

2.6.9 The Cost of Trust

Although I did not find clear empirical evidence in the extant literature showing cost savings from a long-term Trust relationship, a qualitative study by Fukuyama (1995) showed that the cost of construction variations could be significantly reduced if there is Trust between the construction tripartite. This saving is more evident in a trust-based relational contract than in a structured traditional contract. In a somewhat related study, Schepker et al. (2014) argued that due to contract incompleteness, managers should invest in the development of inter-organisational Trust to deal with the construction variations and uncertainty. Variations and change orders in the scope of works can increase costs due to moral hazard, self-

maximization, and opportunism. In earlier research, Ring & Van de Ven (1994) had also concluded that to enjoy the cost savings from a Trust relationship, participants need to make their expectations of future business exchanges clear to each other, not necessarily in a written commitment, but even in informal verbal communication. However, the shortcoming of the Ring & Van de Ven (1994) argument is that it assumed that Risk and Trust are separable. In my later Findings Chapter I explain that Trust mediates Risk and I could not separate the two. It becomes clear from the empirical evidence, that where there is Risk, there has to be Trust for any contract to be consummated. The research by Schepker et al. (2014) however vindicated an earlier conclusion by Dyer & Chu (2003), that the procurement and transaction costs from an untrusted supplier were as much as five times higher than from a trusted supplier in the Motor Spares supply industry. Risk attracted a premium. Besides cost savings, Schepker et al. (2014) also concur with Lumineau & Oxley (2012) that expectation of future repeat work can keep costly and time-consuming litigations at bay. Unfortunately, as observed and quoted from Dyer & Chu (2003), the extant literature had only anecdotal case study evidence of cost savings. It showed no direct empirical research on how Trust resulted in procurement and transaction costs savings. Dyer & Chu (2003) attributed this lack of significant empirical research to the difficulty of measuring and operationalizing "Trust" and "Transaction Costs." This lack of empirical research evidence influenced my study and made me search for possible cost savings that could be credited to Trust relations in Construction Contracts.

2.6.10 Performance of Contract participants

Zaheer & Harris (2006) in their "Four Theme Staged Trust Model" studied the nature of Trust, how it is developed, nurtured, its role and outcomes. However, I appreciated that even this view of Trust from a general alliance management perspective informs on an organization's behaviour and how performance can influence the building of Trust. Swan et al. (2002) also did some case studies to measure Trust and how it could be related to project performance. Their conclusion on performance and building Trust was not an event but a process which entails building the Trust over the entire horizon of the project and sometimes over many projects. Further, they proposed the building of "Trusting Teams" at different levels of the organisation to improve project performance. Though an innovative proposal, the weakness seems to be in that these Trusting teams are temporary and the organisation has to keep rebuilding them for each project as opposed to Trust being a core organisational value on which strategic plans can be made.

2.6.11 Reliability and dependability in Construction Projects

The purpose of building inter-organisation Trust in Construction contracts is to have reliability and dependability among fellow project participants. Jaskowski (2015) researched reliability in construction contracts but unfortunately limited it to project scheduling only. Therefore the link between reliability and Trust still requires further research. Yiu and Lai (2009) also researched reliability, but their study was limited in that they looked at reliability in the mediation of construction disputes, but not at reliability in building Trust.

An analysis of the three salient forms of Trust, that is, Contractual trust, Competence trust and Goodwill trust shows they all contribute to Partner reliability and dependability. The three, however, have some inherent differences on how they contribute to the contract control and governance. Firstly, the standard documents such as the New Engineering Contract, Architects Contract and FIDIC Contract anchor Trust in clearly stated, deliberate and formal documentation. These are the enforceable contract clauses that govern the behaviour of the temporary multi-party construction project team. They enforce intangible contractual Trust through actual control and governance of partner behaviour through obligation, indemnity or exculpatory clauses, as researched by Zaghoul & Hartman (1999). Secondly, Competence Trust, on the other hand, requires evaluation of the partners' capability to do the work. For Competence Trust to exist between organisations there must be inter-organisational behaviour predictability and dependability of skills. Finally, I perceived that of the three forms of Trust in the literature, Goodwill Trust was the only form that remained intangible. It requires either party to act with benevolence and integrity on behalf of the trustor. Though invisible, Goodwill Trust has a distinct longitudinal timeline and is an investment in expected future good behaviour from a current acquaintance.

2.6.12 Summary of Important Factors which Build or Harm Trust relations in Construction Contracts

In Sections 2.6.1 to Section 2.6.11 above, I have shown from the extant literature, the critical factors that encourage the building of Trust relations. In this Section, I now summarize what the literature has said about building trust and how it might apply to sub-Saharan countries like Zimbabwe and Malawi. I discuss the questions that the literature raises and possible ideas and effects on the construction tripartite of Client, Consultant, and Contractor. The first significant factor in trust relations is project complexity and uncertainty. Since at inception a project is just a proposal which is not visible and exists only in the minds of the Client and Consultant, it forces the implementers to trust each other. Secondly, some researchers, for example English & Baxter (2010) and Vincent-Jones (2012) have shown that

transferring the project ownership to the Contractor, be it for a temporary period, builds trust. This transfer of ownership is essential in the Sub-Sahara context because in these countries one has to borrow project finance. Clients often have to use the temporary transfer of their property Title Deed as a loan guarantee.

A third vital factor to build trust relations in construction projects was the effect of Indemnity Clauses in the contracts. There was no detailed discussion in the literature on the impact of these Indemnity Clauses on Trust relations, and yet these Indemnity Clauses seemed to completely exonerate the Client and Consultant from any responsibility on emergent construction problems. In Sub-Sahara Africa, numerous construction problems are brought about by the lack of Funds, Equipment, and Skills. I questioned the shirking away from this inherent Risk by Clients and Consultants and how it was left entirely to the Contractor. The fourth factor which could build trust but which the literature lacked detailed research on was the positive effect of frequently working together. Instead, some researchers cautioned on the possibility of collusion in long-term networks, for example Cummings et al. (2009), Fischer (2011), Shazi (2014), Vincent-Jones (2012), and Zaheer & Harris (2012). In addition Swan et al. (200) only briefly mentioned that frequently working together encouraged interpersonal trust building. This left unanswered questions on whether frequently working together could actually build inter-organisational Trust relations which could help to enhance Contractor capacity through resource sharing and skills transfer. Some researchers including Rousseau et al. (1998), Schepker et al. (2014), Zaheer & Harris (2012), and Jaskowski (2015) discussed a fifth factor of reliability and dependability of trusted partners. As a sixth factor, what if trusted partners failed to perform or failed to meet expected future behaviour? Partner competence and performance are important because the potential for error in construction projects is significant. These errors have in most cases a considerable cost implication. Is some benevolence required from senior partners in a joint venture? This brought to the fore a seventh factor of the Cost of trust. There was no detailed empirical research in the literature of how cost could be a factor in building Trust. These questions occupied my mind as I proceed to do the research. Reciprocity was an eighth factor in Trust building which was considered by Swan et al. (2000), and Caldwell & Karri (2005). However, there was no detailed research and they only based their argument on covenantal relationship and personal ethics pledge. The literature revealed a ninth factor of information symmetry which compelled the less informed partner to trust the other partner as elaborated in the Akerlof(1970) research on the market for second hand cars. Finally, the

literature as shown by Macneil (1974) and Ring & Van de Ven discusses how a hybrid of written and unwritten Clauses could be used to build Trust, because it allowed for future negotiations.

2.7 Evaluating Trust

This section briefly discusses the difficulty of measuring Trust in construction contracts. Many Authors have given suggestions for measuring or assessing Trust, these include McEvily & Tortoiello (2011), Paine (2003), Yeung et al. (2012), and Zaheer & Harris (2006). To understand the impact of Trust on relations in construction projects, one needs to know how Trust is evaluated. In the extant literature, there is no universal agreement on how Trust in construction projects should be assessed. I noted many schools of thought on how to make this assessment. The methods suggested by the above authors are contextual. They vary from measuring Trust as Excellent, Good, Average and Poor, to even using the number of weeks it takes to agree on how to solve a new problem as a measurement of Trust. This lack of a universal index for evaluating Trust can be attributed to the fact that Trust is intangible, dynamic and multidimensional. What is important is to agree on the evaluation criteria for Trust at the beginning of the project and that any contractual behaviour was being influenced by the presence or absence of Trust.

2.8 Trust and Transaction Costs Economics

As stated above, I had found no clear empirical evidence in the literature of how Trust could save costs. I only saw anecdotal evidence. To narrow the search, I decided to limit the area to just that of transaction costs. In this Section, I discuss what the literature is saying about Trust in Transaction Economics. Zaghoul and Hartman (2007) surveyed the Canadian construction industry, to identify opportunities for risk allocation based on Trust relationships. I figured out that risk influenced construction cost. Zaghoul and Hartman (2007) found that Clients try to allocate as much risk as possible to Contractors using Disclaimer clauses. These risks include risks on the uncertainty of work conditions, delaying events, liquidated delay damages, guarantees and incomplete contract documents. They also found that on the same risk exposure, the use of disclaimer clauses encouraged Contractors and Consultants to increase their Bid prices. Based on their survey they assessed that the premium placed on a bidder's price due to risks and disclaimer clauses is 8- 20%. Thus, Trust and appropriate risk sharing are critical to the final contract cost.

This is because Contractors and Consultants will include in their price, insurance or a contingency to deal with risks. Here it is crucial to discuss Risks in the same vein as Trust because the two are inseparable. In theory, it is not necessary to generate Trust where there is no Risk. I questioned and concurred with Zaghoul and Hartman (2007) that the use of disclaimer clauses must be investigated. Later in the study, I suggest that at worst, these exonerating disclaimer clauses should only be used as performance guidelines and not as penalty clauses. Zaghoul and Hartman (2007) found that the disclaimer clauses were used in as much as 75% of the construction contracts. They concluded that a full understanding of the risks to be borne by each team member leads to project cost reduction through an appropriate risk-sharing and risk-reward plan. This far in the study, I had only found anecdotal evidence which showed that for possible reduced costs and enhanced performance, Risk should be allocated to the team member who is best suited to deal with it. The question that arose was whether a trusting relationship reduces the number of disclaimer clauses and the final cost of the project.

Rahman, Kumaraswamy & Ling (2005) studied factors that facilitated or deterred Trust-based contracting in Singapore. In the subsequent Factor Analysis, they ranked 'Mutual trust' as the most important factor out of a possible 24 that facilitated Trust-based Contracting. They further discussed Trust and Trustworthiness. If a partner is trustworthy, he resists opportunism they argued. Among the mutual trust factors, they stressed communication, coordination and a win-win philosophy. In the same research, Rahman, Kumaraswamy & Ling (2005) also found that lack of Trust was the highest deterrent to Relational contracting. This was out of the 24 deterrent factors which included erosion of trust, lack of top management support, client bureaucracy, cultural barrier, the absence of contractor and consultant risk-reward plans, poor differences resolution mechanism, poor risk-reward allocation and reliance on price based selection. Thus, Rahman, Kumaraswamy & Ling (2005) concurred in principle with the Zaghoul and Hartman (2007) study but showed no clear empirical evidence that Trust was at the center of risk allocation and dispute resolution.

Rahman, Kumaraswamy & Ling (2005) further carried out an analysis of variance (ANOVA) to determine whether the factors that enhanced Trust-based relations in construction contracts had equal importance to the tripartite members.

The Client, Consultant, and Contractor all agreed on the relative importance of inter-entity Trust to both standard traditional and trust-based construction contracts. The above studies

by Rahman, Kumaraswamy & Ling (2005) vindicated the award-winning article by Dyer & Chu (2003) who had found that Transaction or procurement costs were five times higher for a less trusted buyer. However, it was not clear whether Trust also improved governance issues in contracts and reduced opportunistic behaviour. Nevertheless the study by Dyer & Chu (2003) although in the Car Manufacturing sector validated that Trust lowers transaction costs. Their arguments can also be applied to the Construction industry because the procedural framework of a Client procuring the services of a Consultant and Contractor is the same. In a follow up to the readings on Trust and Transaction Cost Economics, I again noted the lack of attention on the Trust payoff. This is in spite of the costs centrality to most contracts in construction projects. Zaheer et al. (1998) noted that although there is some theoretical evidence of the economic pay off of Trust, it is difficult to measure this financial compensation off. I, however, argue that the Trust pay off can simply be measured by adding productivity and performance payoffs, reduced project time cost savings, Client satisfaction and repeated business. Thus, suggesting that the difficulty of measuring the economic payoff is a weak excuse for not computing the cost savings emanating from Trust in a construction contract. The Transaction cost saving can be investigated and calculated as the sum of the cost of Site instructions, variations, idle time, and interest payments for late payment and liquidated delay damages.

2.9 Trust and Top Management Support

As I continued with the Literature review, it became evident to me that Company policy influenced the Trust orientation of the Client, Consultant, and Contractor. Rahman, Kumaraswamy & Ling (2005) found that Companies where top management support intra-organizational associations build Trust easier. This is because senior management is responsible for formulating strategies and making business decisions. Those Companies that have an excellent financial standing also tend to act justly and put an effort in protecting their subcontractors from being exploited by Clients. Such companies price their bids reasonably. On the other hand, Companies in financial difficulties are usually desperate to win Bids. I think they, therefore, bid very low to win the job, but later try to make a profit from spurious claims as the contract progresses. This behaviour then builds mistrust and damages the trust relationships between the Client, Consultant, Contractor, and Sub-contractors. Pinto (2009) et al. moved a step back in their investigation of Trust. They found that the Client (who is the project owner) and Contractor must first build private trust between corresponding persons at department levels. This personal Trust at department level

must then be supported by the top management to develop inter-organisation Trust. They assumed that the support started at the bottom. This is where it can be argued that it is necessary to have company policy and strategy which encourages or supports inter-organisation Trust between the two entities.

2.10 The Risk and Trust Link

As I progressed in my study, the issue of the Trust Risk link became critical, and I had to review the Literature. Chan et al. (2012), Doloi (2009), and Jin & Ling, (n.d.) also researched the connection between Trust, Risk, and Relationships in the Chinese Construction industry. They aimed to come up with a model that could be used to foster Trust and build Relationships. First, they noted that Trust was the dominant mechanism for building relationships when doing business in China. An exciting feature of their research is that they subdivided a construction project into four stages as, pre-bidding, bidding, construction and post-construction. At each step, they identified the risks and the trust tools that one could use to mitigate the risk. For example, at construction stage, there are construction risks which include poor quality work, time delays, and disputes. The tools to reduce these risks included assigning experienced staff, with excellent technical and interpersonal skills. The limitation of their findings was that the bulks of their respondents were from State-owned enterprises and based in the very developed City of Shanghai. However, the significance of their study was that the allocation of Risks and the impact of Trust at each project implementation stage was an enduring link.

In Hong Kong, Chan et al. (2012) researched how risk could be mitigated in two types of Contracts, namely Guaranteed Maximum Price (GMP) and Targeted Cost Contract (TCC). The emphasis of each of these two types of contracts is self-explanatory in their names.

Chan et al. (2012) came up with seven consolidated factors which could be used to mitigate Risk. These factors included: relational contracting and trust, the well-defined scope of works, Contractor involvement in decision making, a well-selected project team, independent project design check, standard contract clauses and fair treatment of the Contractor. The limitation of this research was that the types of Contracts they studied were specialist and very positional, with a strong risk allocation culture. They interviewed 141 construction professionals, and as much as 33% had no hands-on experience in GMP and TCC contracts, and they had to return the survey forms uncompleted. This perhaps indicates that the researchers' selection of the type of contracts to study risk mitigation was not suitable. Their use of GMP and TCC contracts procurement to explore risk and trust was

therefore not appropriate. In these types of contracts, first there is a permanent presence of the threat of punishment if there is over expenditure. And secondly, there is the incentive of a reward if a cost saving is achieved and this can be shared by the participants. These two factors wholly changed contract Risk and Trust behaviour as the contractors were only concerned with how to avoid punishment and how to maximize profits. The overall project goals, in my opinion, were forgotten.

The literature reading on Risk allocation and its alleviation using indemnity clauses made me question and argue that risk is unfairly allocated to Contractors particularly in Traditional standard contracts, like FIDIC, NEC, JCT and Architect's Contract.

2.11 Trust and Repeat Business

In this section, I discuss how Trust influences repeat business and repeat partnerships. This is important since the literature earlier asserted that Goodwill trust is an essential factor in Trust-based relational contracts. The question is, should one invest in Goodwill Trust in expectation of future repeat business? Schepker et al. (2014) acknowledged that Trust between organizations generates repeat business due to exchange satisfaction. They argued that prospects of repeat business "outweigh gains from self-interest behaviour". This incentive to perform because of possible repeat business may also be just an expectation and not necessarily written in the contract, but even then, this gives Goodwill Trust a long-term perspective. In a case study by Swan et al. (2002), a Client kept giving projects to the same Contractors and Consultants as a way of developing common goals and tripartite understanding of the project objectives. The participant Contractors were obliged to give a "fair price" to continue getting the repeat business. This study shows that price discounting is one possible benefit of investing in Goodwill Trust.

In another reading, Kometa et al. (1996) found that repeat business was good for all, the Clients, Consultants, and Contractors. However, when the Client started having financial problems which lead to him closing down, the Consultants and Contractors were also negatively affected, and this led to their collapse. This suggests that while repeat business is a positive Goodwill Trust investment outcome, caution should be exercised and a valuable lesson is that a diversity of Clients ensures longevity of Consultants and Construction Contractors.

I sought literature on the role of Trust creation on the Public Sector contracts. Ning & Ling (2013) found 21 drivers for building Trust, among them the expectation that a future

mutually beneficial relationship could facilitate the building of Trust for repeat business. Their focus was on Public Sector project outcomes. The five results considered significant by Ning & Ling (2013) were Cost, Time, Performance, Quality and Client Satisfaction. Although they did not focus on Trust, they drew upon the Relational contract theory and Network embeddedness theory to show that Trust-based contracts improved these five outcomes in Public projects. In spite of the need to keep "arms-length" relationship in Public Projects and the competitive public tendering system, they concluded that good Trust-based relationships benefit Public Sector projects. It is, however, worth acknowledging that the competitive system of project procurement in the Public sector and bureaucracy does not guarantee future work and tends to reduce the positive repeat business effects of Goodwill Trust relationships. Fischer (2011) also researched a case on how Trust and Networking led to collusion in Chile. He found that repeat business was fraught with fraud and in his study it led to the dismissal of the relevant Minister and the Public Private Partnership Department.

The effects of repeat partnerships in the U.K. were researched by Siemiatycki (2011) He found that stable repeat partnerships also have a significant positive effect on the Ning & Ling (2013) parameters of cost, time, quality, performance and client satisfaction. While concurring with the potential for collusion due to repeat partnerships, I also questioned whether these repeat partnerships do not reduce competition and innovation. Siemiatycki (2011) argued that repeat partnerships also had cultural and social root influences from their geographic and strategic origins. For this reason repeat partnerships in spite of any presumptive Trust that they may have, do not automatically multiply across international boundaries. In support of my question on competition and innovation, I found that Siemiatycki (2011) had further recommended research on the effect of repeat partnerships on performance. His findings are intriguing in developing countries where local partners need the alliance with well-established international partners to enhance technology transfer and to build capacity. I discuss this a little later in my investigation and findings chapter. The immediate question is whether Performance continues to improve with multiple repeat contracts between Clients and Contractors or repeated partnerships. It may be argued that performance deteriorates when there is excessive Trust and that participants may take each other for granted. This is vindicated by the U relationship between trust, knowledge leakage and opportunism as researched by Jiang et al. (2013), which I discussed earlier in Section 2.6.1

Swan et al. (2002) carried out a somewhat related research on repeat business as opposed to repeating partnerships. He concluded that to get repeat business; there has to be reliance on the partner's performance. He argued that the Consultant and Contractor will consistently have to perform and deliver. In the same way that Ning & Ling (2013) researched repeat partnerships with the five parameters above, they suggested that future research should look at the effect of repeat partnerships on Trust, with special emphasis on construction project cost, quality, and program. Anecdotal evidence seems to indicate that Cost, Quality, and Program are positively related to repeat business which is generated by Goodwill Trust.

2.12 The effect of Trust on contract governance and performance

Poppo, Zhou, and Zenger (2008) carried out research which showed that Trust is relevant to contract governance. They argued that Trust is positively related to asset specificity, exchange tenure or contract length. In a trust-based relationship, parties learn from each other and engage in a collaborative and information sharing behaviour on the assumption of a long and repeated relationship. As inferred above, Trust has a coordinating role in contract relationships when parties act for mutual benefit.

There is however insufficient literature on how trust contributes to governance and contractual collaborations. Strathorn et al. (2015) carried out a phenomenological research to get insight into the influence of Trust in managing Traditional standard contracts. They came up with a *thematic model of trust* with four themes; the first theme was on *Human variables* which included "Relationships, trust and project environment." The second theme was *Attribution variables* which included "benevolence, competence, integrity, and communication." The third theme was based on *Contextual variables* which included "risk, vulnerability, uncertainty and team environment." The fourth theme was *Trust Failure* which included "trust breakdown, trust repair, competence and integrity violations." In spite of their very detailed factor analysis in their thematic model of trust, and the potential of Trust in project management, they found little evidence of deliberate procedures to build, maintain and sustain Trust in the governance and performance of traditional construction contracts. This influenced me to seek insight into how Trust could be used to control and govern construction contracts.

2.13 Breakdown of Trust

After examining the extant literature on the creation of Trust relationships in projects, I then investigated the effects of loss of Trust in contracts. Some Researchers for example, English & Baxter (2010), Macneil (1974), Schepker et al. (2014), and Vincent-Jones (2012) show that Clients, Consultants, and Contractors view trust-based Traditional and Relational contracts as the future of construction projects. Ariño & Torre (1998) found that positive feedback loops on procedural dispute resolution issues helped to build and reinforce mutual Trust. They traced a Joint Venture of two partners in a Skin Care division. They found that divergence in focus of the two partners, inability to read the external business environment, incapacity to renegotiate a new equity arrangement and failure to learn from failures resulted in mistrust between the Joint Venture members. This led to the Joint Venture being eventually dissolved. On a similar research on Partnerships, Swan et al. (2002) state that the leading causes of breakdown of Trust include poor communication, blame culture, mistakes, and circumstances beyond the control of the partners. Besides, failure to perform, adversarial attitude and excessive use of contractual power affect Trust negatively. A blame culture encourages opportunism and taking advantage of other tripartite members' weaknesses. Swan et al. (2002) continued to argue that for good Trust-based contracts the partners must move from a blame culture to a culture of problem-solving. This is the processual interplay between trust and risk sharing that could lead to a collaborative way of construction project implementation in sub-Saharan Africa that I sought in my research.

In Construction contracts, the tendency to pass-on-blame is very high because any mistakes made also have a very high-cost implication. It was on this basis that while researching Client and Contractor collaboration on capital projects in the Netherlands, Suprpto et al. (2014) ranked "No- Blame-culture" in the top 4 factors that enhance Trust relationships in projects. The "No- Blame-Culture" was positioned among other factors which included, open and honest communication, shared objectives and personal affective trust.

2.14 Summary of Literature Review

In this section, I summarize the important ideas that shaped my research after reading the existing Literature. I also reiterate the questions that the Literature raised for me. Could the Client get better value for money if there was a paradigm shift in managing Contracts

through collaborative relationships as opposed to mere Contractual Clauses? For the Consulting Engineers or Architects, could they manage the contracts better using Trust? And for the Contractor could he meet the cost, time and quality objectives of the project more efficiently through Trust relationships?

As seen above, some authors for example Dyer & Chu (2003), Fulmer & Gelfand(2012), Hartman (1999), Laan(2008), McEvily & Perrone (1998), Swan et al. (2002), Wong et al.(2007), and Zaheer & Harris (2006) defined Trust as acceptance of vulnerability and interdependence on each other. Three important forms of Trust stood out and were relevant in construction contracts. Firstly there was *Contractual Trust*, which is based on clearly defined contract clauses. Secondly, there was *Competence Trust*, which is based on the ability to do the work. Thirdly there was *Goodwill Trust* which is based on frequently working together, expected repeat contracts and acceptable future contract behaviour. The evidence from these previous researchers showed that these three forms of Trust were equally important in traditional standard contracts (for example FIDIC, NEC, and JCT) and Relational Contracts (for example PPP, PFI, PA, and JV)

The other question that arose was, how could these three forms of Trust be built and what was their effect on the key construction project success factors of Cost, Program, and Quality?

In summary, many researchers including Rahman, Kumaraswamy & Ling (2005), Swan et al.(2002), Faem et al.(2008), Zaghoul and Hartman(2007),and Ring & Van De Ven (1994) showed interest in how contract transaction costs could be reduced by building inter-entity Trust. But there has been no empirical study to research this role of Trust in economic cost reduction in a construction project. This point became important in the context of my study of trust- based Contracts in Southern Africa because many projects do not get completed due to Financial and Skills constraints. Thus both Standard Traditional Contracts and Relational Contracts contained many disclaimer clauses that according to Zaghoul and Hartman (2007) and other researchers caused Contractors to over-price by 8-20%, therefore defeating the objective of reducing transaction costs.

I found no literature on building inter-organisational Trust in Construction Projects in the developing Southern African countries. In their research, Zinyama & Nhema (2015) found that for these countries, the Private Sector and Public Sector cannot meet the infrastructure construction mandate. Zimbabwe and Malawi, therefore, have a

particular interest in how Trust can unveil Private and Donor funding for infrastructure construction and maintenance. As I went through the literature, I saw the need to research how the Client, Consultant and Contractor inter-organisational Trust impacts on both the Traditional standard contracts and the newer Relational construction contract projects in these developing economies. There was a need for Action Research on Trust relationships which could lead to insight and practical solutions to enhance Performance reduce Cost and improve Quality of Construction projects in these same developing countries. This is because of the many infrastructure projects in these countries which have performed poorly, resulting in Cost and Time over

CHAPTER 3

RESEARCH AND DESIGN METHOD

3.1 Research design and method

In the previous Chapter, I carried out a literature review. I discussed definitions and the primary forms of Trust in Construction projects and how Trust could theoretically be built to improve project Cost, Quality and Time. The literature review, however, left many questions unanswered on why there are so few Trust-based Relational Contracts in Zimbabwe and Malawi and why in general there was poor Cost, Quality and Time control and governance on these projects. The literature review also left me with questions about how I could contribute to the building of Trust in particular projects on which I was involved. As a Consultant and participant researcher, I wondered whether the creation of such Trust would have an impact on the performance of these projects.

In this chapter, I describe the phenomenological qualitative method I followed as an immersed participant. I was an Action Researcher in an Engineering Consultancy Firm which was involved in 5 Construction projects. I took guidance from other phenomenology experts for example Moustakas (1994), and Creswell (2013). Thus, I "exhaustively" used my immersed position to describe the various phenomena that were impacting on the construction projects I was supervising. I was looking for inductive and deductive knowledge and meanings of statements by the Client, fellow Consultants, and Contractors in the five projects. In the following Sections, I explain the methods that I used to collect the data, the limitations I had and what action I took to mitigate these constraints.

3.2 Methodological Approach

The objective of this research was to have insight into collaborative practices which could lead to Trust creation in construction projects. I followed an Action Research approach. This is applied research used to solve practical problems through deliberate cycles of action, reflection, and learning. The outcomes of Action Research produced useful and actionable knowledge. Creswell (2013) describes five qualitative research methods. These include Narrative, Phenomenology, Grounded Theory, Ethnography and Case Study. I followed an interpretive phenomenological approach using lived experiences as a Consulting Engineer in construction projects.

3.3 The selection of sample projects

Initially, I selected three construction projects that I was working on, to carry out my Action Research. As I proceeded, my focus changed from just researching Relational Contracts to a broader spectrum of the role of building Trust in both Standard Traditional Contracts and Trust-based Relational contracts. I then increased the number of Projects to 5. Two projects were in Zimbabwe, while three were in Malawi. The selected five Projects were what I could manage in this *productive inquiry*. As suggested by Nonaka (1994), quoted by Cook and Brown (1999), I was seeking to reveal tacit knowledge in my projects. This way I could produce practical solutions to construction project management problems. Besides, the 5 Projects were at different stages of implementation and allowed observation at these various stages of construction. The project procurement types and contracts were also different. Two of the Projects were procured through Traditional standard competitive bidding process based on short-term transaction cost economics theory. These two were the 3000 Low-cost Housing (LCH) project and the JPC 102 kilometers long Road Construction project. The other three projects were based on Trust-based Public-Private partnership or Joint venture partnership. These were the construction of a USD 22million University Library (UL), the construction of the 120 Kilometer road in Linia (LR) and the construction of an International Bus Terminal(MBT). My primary interest was to use tacit knowledge to identify collaborative practices and create Trust between the Client, Consultant, and Contractor in these construction projects. I wanted to know how the participants related to each other and what could enhance their inter-entity trust and project construction progress. The Five study projects primary data is given in Table 2 below:

TABLE 2: Projects Data Summary

| Item | Project Identity | Contract Type | Value(USD Million) | Scope | Tenure (Months) |
|------|--------------------|---------------|--------------------|------------------|-----------------|
| 1 | Low-Cost Housing | Traditional | 70 | Housing | 24 |
| 2 | University Library | Relational | 22 | Building | 24 |
| 3 | JPC 102 km Road | Traditional | 22 | Road | 22 |
| 4 | Linia120 km Road | Relational | 120 | Road | 36 |
| 5 | Moni Bus Terminal | Relational | 35 | Roads& Buildings | 18 |

The extant literature had shown me that Trust could be at the individual or personal level or it can be at corporate or inter-organization level. My primary interest was inter-organisation Trust. I wanted to find out if Trust was critical in both standard Traditional and Relational construction contracts? The literature review had helped me to define inter-organisational Trust in construction projects as threefold, being Contractual Trust, Competence Trust, and Goodwill Trust. The question was what could be done to build these three forms of Trust in my projects and would they enhance the construction, project Cost, Program, and Quality? To decide on what deliberate action I should take to build Trust on each project, I carried out ethnographic research using contract documents, carrying out observations at meetings between the Client, Consultant, and Contractor. I also had informal conversations in my day to day project management duties as a Consulting Engineer. In addition I carried out formal interviews using semi-structured questions. My narrative style of inquiry on the project stakeholders encouraged a more honest response. In particular, it permitted the Clients, Consultants, and Contractors to appreciate my investigation and to answer freely. I examined project artifacts, such as contract documents, correspondence and minutes of management and site meetings. I used qualitative research to get insight into concepts and knowledge on construction project management. I focused on making sense of the phenomenon and lived experiences as the construction projects progressed and met various constraints to fulfilling the key success factors of Cost, Program and Quality.

From an immersed Participant Action Researcher position, I synthesized the problems on each project. After synthesis and analysis, I took deliberate action to find practical solutions to the live project management problems using some strategies that I wanted to test in building inter-organisation Trust. I found that some of the project management problems were common and therefore some of the strategies of dealing with these specific issues that I had learned in one project could be applied in whole or in part to another of the five projects. The similarity of the problems presented an opportunity for learning from a lived experience for me.

3.4 Methodology

It was important to initially bracket some pre-knowledge of contracts to allow solutions to emerge from the discussions, and interviews with the contract tripartite of Client, Consultant and Contractor. Fortunately in three of the projects I was a team leader responsible for coordinating the Consultant teams. For example in the Housing project I had six discrete consultants under me. These consisted of the Architect, Civil Engineer, Electrical Engineer,

Quantity Surveyor, Clerk of Works and Cadastral surveyor. This position allowed me to carry out interviews and gather data as a semi-detached researcher. The partial and total project immersion permitted an analytical approach before taking deliberate action to seek practical solutions to the problems facing the projects. In the Linia road project, I was a detached researcher. The data from that project was useful to benchmark data from other projects where I was immersed. However, as a participant researcher in one's organization, I had the distinct advantage of being an indigenous researcher in real practical organizational problems. Thus, as an insider, I had access and background familiarity with the politics, culture and working environment of the construction projects I chose to research. Nevertheless, being an insider researcher also had its problems. These included the tension of emotional involvement and possible conflict of interest while obtaining primary data. I strove to resolve this by bracketing issues that I felt would compromise my synthesis and analysis of the Contracts that I was studying. In some cases, I had to recuse myself from meetings, for fear of conflict of interest. I, however, obtained secondary data from the post meeting minutes, transcripts and other artifacts.

After it emerged from the extant literature that Trust was also a salient standard Traditional Contract behaviour in spite of all the clauses that encouraged short-term transactions, I focused my research on how to build Trust between the Client, Consultant, and Contractor in the Traditional standard contracts and the Relational Construction Contracts that I had chosen. I started looking for collaborative processes that could enhance the interplay between Trust and sharing of risk amongst the construction tripartite.

I made ethnographic participant observations of meetings, used contract documents and conducted informal conversations during my day to day duties while managing contracts on behalf of Clients. The formal interviews I described above were part of my primary data collection. These were narrative interviews with unstructured dialogue that allowed my respondents to use their own words to tell their stories of not only the projects that I was researching, but also other projects that might have influenced their contract behaviour. This Narrative style of data collection and analysis allowed me to reveal embedded knowledge in construction personnel from their lived experiences. I selected some interviewees that included Clients, Consultants and Contractors in Zimbabwe and Malawi. I later decided to add project Financiers because early data that I had gathered indicated that they influenced the success of the projects significantly in these two developing countries. For example, while trying to solve the problem of delays on one project it emerged that work had stopped

because the Borrower or Client had not received a letter of "no objection" from the Financier on the proposed downstream contract between the Client and the Contractor. I will discuss this particular case in greater depth in the findings Chapter.

The economic fragility of these two countries and the shortage of domestic loan funds for construction projects mean that most plans depend on external loan funding. My field data also contained memos and Field Notes. In some cases I used 3- column analysis to assist me in making decisions on what action I should take in an iterative process of action research. The next stage was to analyse my Field notes, memos and the interviews by coding and grouping the similar patterns and then to link them to the artifacts for the five projects in which I was a participant. As a Participant Action Researcher, I took deliberate action, evaluated it and further investigated my findings. Some of my conclusions failed under investigation, and I had to get more information in an iterative cycle of inquiry. For example, when I was investigating the University Library, the Contractor suddenly stopped work on the project. This work stoppage was confusing because I thought that perhaps he had run out of Funds. Further interviews with him, however, revealed that he had stopped work because he had Trust issues with the Client. From this type of iterative cycle of inquiry, I observed how collaborative and Trust relations developed in the particular five projects that constituted my research.

3.5 Procedure for Data collection

I collected data from a purposeful sample of Clients, Consultants and Contractors on the five projects that I was engaged as an Engineering Consultant in Zimbabwe and Malawi. As stated above, my data collection design is based on a narrative style inquiry. The premise was that narratives and organizational stories have embedded knowledge which is revealed when carefully analysed and can be transferred to solve current problems. Again as stated above, the 5 Projects were selected because they were at different stages of construction and they also represented both the Traditional standard contracts and trust-based Relational contracts. I used semi-structured interviews to learn from the Clients, Consultants, and Contractors their stories of working on these projects (See Appendix 3). Table 3 below, shows the categories of respondents in my five projects.

Table 3: List of Respondents Interviewed

| Project | Clients Interviewed | Consultants Interviewed | Contractors Interviewed |
|------------------------------------------|--------------------------------|------------------------------------|------------------------------------|
| Low-Cost Housing | 4 | 10 | 10 |
| Library | 3 | 5 | 4 |
| JPC Road | 3 | 4 | 4 |
| Moni Bus terminal | 2 | 3 | 0 |
| Linia Road | 4 | 2 | 3 |
| Respondents not in the above projects | 10 | 20 | 10 |
| TOTAL | 26 | 44 | 29 |

In addition to the above 99 interviews, I also carried out additional post recommendation interviews including 15 new ones which included representatives of Funding agencies and other Construction stakeholders making a total of 114 Interviews. In these interviews, I was trying to learn relational aspects and events which impacted on contract behaviour and could influence the management construction projects. The Moni international bus terminal had not reached the stage of construction. A Contractor, therefore, had not yet been appointed, and this explains the figure zero shown in Table 3 above.

3.6 Data collection

I carried out a qualitative research to get insight into concepts and knowledge on construction project management. I focused on making sense of the phenomenon and lived experiences as the construction projects progressed. I chose to use interviews of the stakeholders, in particular Clients, Consultants, Contractors and Financiers to collect data. I sifted through the minutes of meetings, contract documents and other artifacts trying to find practical solutions and concepts on how collaboration, building Trust and risk sharing could be used to manage construction projects. After collecting the data, making sense out of it

through analysis and clustering themes, I took deliberate iterative action and reflection to find practical solutions to construction problems

Being an Engineering Consultant on these five projects, I was able to interview the Clients, Consultants and the Contractors involved in them. It was easier to talk to high-level Client and Contractor's representatives than to the lower level. The higher level of both Client's representatives and the Contractor's representatives appreciated the purpose of my research and the potential benefits.

In spite of my assurances of the academic nature of my inquiry, the lower level or Site staff was a bit apprehensive and wondered whether I was taking the Client's side or the Contractor's side depending on who they were. I had to assure and make them relax first before deep questioning. As a Consultant, I was supposed to be an independent mediator in the projects, but sometimes the research action forced me to act with a bias towards the Client or the Contractor. For example in one project a Contractor went on unpaid for over ten months, it was difficult not to feel for him. I found that collection of data from the Consultants and Contractors was easier compared to collecting it from the Clients. I believe that one of the limitations of insider Action research is that one cannot remain anonymous. The research cycle has to influence the project that one is investigating. Respondents may, therefore, be reluctant to be completely open. It is for this reason that I had to bracket my pre-understanding of the pre-research issues and consistently use 3-column analysis to help make decisions on what action to take. First, I developed an interview protocol Form to help me focus. The protocol was preceded by a Participant Information Sheet (Appendix 1) and a Consent Form. These two forms were compliant with the University of Liverpool Ethics Committee for research involving Human participants and human material. They were designed to cause minimum discomfort or harm beyond the participants' daily organizational life. As shown in the Participant Information Sheet (Appendix 1), Respondents fully understood the nature of the research. It was necessary to explain, particularly to the Contractors that I was supervising, that the interviews were wholly voluntary. I did not want to take advantage of the positional power I had over them. I assured all the participants of anonymity and confidentiality during and after the research.

3.7 Interview Questions and analysis methods

As stated above, I used the stories from the interviewees to get embedded knowledge on the role of Trust in construction projects from practicing Consultants, Contractors, and Clients. The interviews involved me balancing my desire for the participants to be able to use their

own words to tell their story, but at the same time having every interviewee responding in a way that would enable me to compare accounts across similar questions. I settled on a compromise of semi-structured interviews with a set of general questions and prompts. I thus made sense of the similarities of the strategies used to build Trust by the participants and collaboration strategies in the construction projects. I audio-taped most of the interviews and transcribed them within two days after the meeting. In some cases, it was not possible to audiotape the interviews. Thus, meetings where I felt the audiotape would intimidate or induce measured and incorrect answers for fear of loss of confidentiality, I had to hand write the interview in loco or immediately after the meeting. In this qualitative research, I then carried out memoing, analysis and coding of significant statements from key informant interviews, minutes of meetings, correspondence contract documents, and other artifacts. My semi-structured questions were designed to try to get the embedded knowledge from the lived experience of the respondent. After the interviews and collecting the data, I analysed and reflected on the interview. The typical 3-Column Analysis not only helped me to make decisions on what action to take, but it also showed the logic of my theme findings. Primarily I noted the significant themes in the interviews and other artifacts. I gave these ideas a theme code. Initially, I had 54 respondent focused thematic codes. The full list of these starter codes is given in Appendix 3.

I further re-categorized the themes in an iterative process and came up with four critical respondent focused codes. I finally reduced these four to two theme codes which contained some concepts and strategies for building collaborative practices through trust and risk sharing. These final two themes highlighted Financial issues and Technical capacity. The theme clustering was based on the Gioia et al. (2013) methodology as shown in Appendix 5.

Shah & Corley (2006) stated that one of the weaknesses of qualitative analysis is reliability and validity of data. However, in my case, the simultaneous investigation of the five projects allowed me to triangulate significant respondent statements from the data. In the Appendix 4, I show how I used the Gioia methodology for qualitative rigor, Gioia, Corley and Hamilton (2013)

3.8 Study implications

The data collection posed a few challenges. As stated above it was not possible to be in all the meetings which could impact on Trust building or lack of effort in building Trust. The Client and Contractor held individual meetings in my absence as the Supervising Engineer.

Some of my absence was just that I could not be in two places at the same time as I had to attend to other meetings of the five projects. At the same time, it was necessary to pursue this minimal number of 5 projects to make sense of the tripartite relationships during analysis. Even with all the commitment, I could not attend some meetings as there would be a conflict of interest, for example on the Library project I was also on the Client's side as a non-executive Board member. I had to recuse myself from some of the Library Contract meetings because a firm I had interest in was the Consulting Engineer, while at the same time I was also on the Client's Board. Thus in that meeting, I would have been both the Client and the Consultant, this was unacceptable. However, after recusing myself from these meetings, I would collect the minutes of the meetings for research analysis purposes only.

The Project Management Body of Knowledge (PMBOK) claims that 20% of construction Projects fail. I questioned, what the contextual cause of this failure in developing countries was because most of the infrastructure construction projects are Donor or Loan funded? The study focused on answering these questions and on ways to increase the body of knowledge on building Trust in construction projects. I questioned whether the absence of Trust could cause both standard Traditional and Trust-based Relational construction projects to fail? I wanted insight on how the interplay between Trust and risk sharing could be used to create collaborative practices in construction projects and thus govern or control project performance and success. I sought some understanding on the excessive use of Disclaimer and Indemnity clauses which seemed to exonerate the Client from any risk entirely and passed it wholesale to the Contractor. I wanted to know if both standard Traditional and Trust-based Relational contracting should be risk sharing and not risk allocation. I questioned if the current practice of Risk allocation in these contracts could be constraining project progress?

I asked if Client, Consultant and Contractor tripartite relationships could have anything to do with the project failures. There are many independent variables to project success. I presumed that the project management "iron triangle" of Time, Budget and Quality was the significant criteria for evaluating Project success. I wondered if there was a platform of trust and risk sharing which could be created to contribute to collaboration and Projects success. The aim of the research was then to answer some of the above questions.

By the end of this thesis the five projects I selected had progressed as follows:

Firstly, the Low-Cost Housing project based on a Traditional contract had proceeded to completion. Secondly, the Library project which was a Relational (Turnkey) contract got terminated. Thirdly, the JPC road project, a Traditional standard contract was still in Progress. Fourthly, the Linia road project which had started off as a Relational contract was terminated and restarted as a Traditional project. It was again discontinued for financial reasons and restarted as a Relational Contract. It was in progress as a Relational Contract. Finally, the Moni International Bus Terminal project based on Relational contract (Joint Venture) was still at feasibility document stage.

CHAPTER 4

INVESTIGATION, ANALYSIS, AND FINDINGS

4.1 Investigation

In the previous chapter, I explained how I selected my sample of projects to investigate and the methods I used to collect my research data.

In this coming Chapter, I explain my investigation and how I created theme codes based on highlighted respondent statements and artifacts of the projects.

When I started the research, I aimed to come up primarily with practical solutions to motivating Public-Private Partnerships and other Relational Contracts in the Construction of infrastructure. I soon learned that there was no panacea for stimulating PPPs and other Relational contracts. I thus started creating Trust in the temporary multiparty construction organisations whose members were the Client, Consultant, and Contractor. At this stage I found out that even my three trust-based Relational Contracts were fraught with management problems due to lack of inter-entity trust. My literature review had revealed that various researchers had carried out studies on inter-entity Trust, but not specifically on construction projects in developing countries. Some of these researchers included Vincent –Jones (2012) in the United Kingdom, English & Baxter (2010) in Australia, Rahman, Kumaraswamy & Ling (2005) in Asia and Fischer (2011), in South America among a few examples. They were excited with innovative but incomplete trust-based Relational contracts whose norms had been stated by McNeil (1974). However, there was no research on Trust building and Risk mitigation in Relational or Traditional construction projects in Africa.

From my early research Project work and the literature review, I found no simple and common cause of project failure. I, however, realized that although there was a whole spectrum of possible reasons that I needed to investigate, inter-entity Trust and risk sharing were some of the critical factors required to complete projects. In later Chapters, I will also show how Risk sharing and its management were interwoven in every Project which I studied. In the following section, I show the attempts I made to build Trust in my five specific projects.

4.2 The Full list of Thematic Codes.

The full list of the respondent themes is given in Appendix 3. The number of times I observed the theme statement or artifact as evidence is also shown in the last column. I used a starter list method. I bracketed and did not force my pre-conceived knowledge and solutions of construction problems. In this technique, I highlighted what I thought was

initially important based on my expertise, relevance to my topic of inquiry and comparison with the existing literature. From Section 4.3 to Section 4.4 I will show how I chose the data collection method, collected data and finally proceeded after the thematic starter code list.

4.3 Thematic Coding and Analysis

As the research proceeded, I used memoing and three- column analysis to assist me to make sense of the concepts and make decisions on what action to take. When I reflected on the formal and informal data I had collected, respondent outstanding themes began to emerge. Initially I had 54 starter theme codes. I re-looked at these starter theme codes and decided to cluster them. My initial clustering was based on my sense making and rationalisation of the respondent themes. However, I further searched the literature and decided to rationalize my theme clustering using established practices such as the Gioia methodology for “seeking qualitative rigor in inductive research”, Gioia, Corley and Hamilton (2013). In this method, one starts with themes obtained from the data. In my case it was data from the interviews, site minutes and other artifacts. Thus from these interviews, 54 informant or respondent themes emerged. These were too numerous and the sense was scattered. Appendix 4 shows the full list of the respondent focused themes. In Appendix 3, I started to make sense out of the 54 themes in a further analysis, which the Gioia methodology calls 1st Order Analysis. At this stage I came out with four themes. Finally after further reflection and what the Gioia methodology calls 2nd Order Analysis I found that I could aggregate and categorise the four themes to just two overarching concepts and practical Themes. I have shown the three stages analysis that I carried out based on the Gioia Methodology in Appendix 3 and Appendix 4.

I went through all my evidence looking for significant theme statements and artifacts. I spent many hours with the evidence, trying to get some logic, sometimes going back to the participants and further listening to them. I highlighted themes of Trust and Contractual Obligations. During the data collection, I had started memoing, and 3-column analysis which facilitated the decision making and action I took to find solutions. Through a process of reading and re-reading the data, the codes became more precise and more transparent. In the 3-Column analysis, in the first column I gathered all the available information and significant statements from interviews, minutes or other artifacts. In the second column I then analyse this information or data trying to understand and formulate what it means. In the third column I arrange meetings and follow up on the issues. The arrows show how I kept in touch with the problem and the direction of my intervention. In

some cases after the initial analysis, I would arrange a meeting with the Client, Consultant and Contractor participants to get logic. I repeated this several times till I reached a definitive solution or lack of it in the identified problem. I found that collaboration and inter-entity Trust was repeatedly coming up in the evidence as a possible factor to improve project progress. There were, however, some threats to this Trust as I will show in later chapters.

4.4 Initial Reduction of Starter Themes Codes to four.

I read and re-read my codes. In this process, I refined them or combined them in an iterative process. From the 54 starter theme codes, I reduced these to just four overarching themes which I considered to be exciting and original. I did this in an inductive process. In the Gioia, Corley and Hamilton (2013) analytical method I followed, I will show how I further summarized these four arguments into just two themes. However, in the following section, I list the four themes and show the evidence and analysis that led me to that categorization. The four overarching themes based on the 1st order analysis are as follows:

1. The theme on Good Performance and Competence.
2. The theme on Working Capital Advance and Timely payments to the Contractor.
3. Theme on Joint Ventures, improved skills transfer and capacity building in the Contractor
4. The theme on the history of previous and frequently working together.

The 2nd order analysis and clustering led me to the two final themes and concepts which I would apply to my practice.

Theme 1 on Performance and theme 2 on Working Capital were clustered as Financial issues.

Theme 3 on Joint Ventures and theme 4 on history of frequently working together could be clustered to one theme of Technical Capacity.

I proceeded to seek reference to Trust and what practices were building it in the interviews and artifacts. Where I found reference to Trust, I evaluated it as being: Excellent, Good, Average and Poor. I continued to consider the forms of Trust as being three-fold, that is Contractual, Competence and Goodwill Trust. The threefold split was referred to in researches by Hartman (1999), Zaghoul & Hartman (2002), and Swan et al. (2002). From the extant literature, I found that Trust was a phenomenon which comprised, hope, faith, and confidence in the future behaviour of the acquaintances. In this case trusting someone meant accepting vulnerability from the actions of the Client, Consultant, and Contractors on

a construction project. In this section, I briefly explain how the evidence helped me to identify the significance of these four central themes.

4.4.1 Theme of Good Performance and Competence.

As listed above, the first theme that came out was that of performance by the Client, the Consultant, and the Contractor. Each party had different roles and. These determined the expected return. The drafting of my construction contracts was done such that the obligations and risk allocation was given to the party best suited to deal with them. The Client, the performance meant paying the Consultant and Contractor; this was stated in the Contract documents which I had as evidence. For the Consultant, the performance involved designing, specifying and supervising the construction of the works. The Client–Consultant contract documents for all my projects stated this explicitly. For the Contractor, the performance meant marshaling the workforce, equipment, materials, time and monetary resources to complete the construction works on time, within budget and with good quality workmanship. All 5 Contracts demanded this from the Contractor. The client obligations were not stated, except for a clause in the standard contracts which said that the Contractor could claim interest payment on overdue invoices. I therefore, decided to investigate Client performance and competence to implement the project deeper. I started by analysing the meetings and artifacts, I had on the JPC road construction Contract. Again using 3column analysis, I kept in touch with what was happening. The arrows indicate my direction of intervention and how I came up with the findings.

3 COLUMN ANALYSIS: Performance of Contractual obligations and Competence to pay by Client

| Information | Analysis | Meetings |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>In the JPC project, the Contractor protested in a site meeting, "We have been working on this project for ten months without payment. We are suspending and reducing work till we have been paid".</p> | <p>The Client contractual obligation was to pay the Contractor and Consultant. He was not performing. The Contractor and Consultant could also not perform</p> | <p>At a site meeting, I advised the Client to pay the Contractor, because he had moved to site Trusting that the Client would pay.</p> |
| | <p>Client appeared not to have had his finances ready for disbursement to the Contractor and Consultant</p> | |
| <p>The Client sought immediate release of funds from the Financier, who accused the Client / Borrower of failing to get "no objection" to the construction contract from the Financier</p> | <p>I realized that in spite of the funds being a loan, the Financier was getting involved in the particular usage of the loan funds. Thus, the Client failure to perform was causing project stoppage.</p> | <p>I advised the Client to submit the contract to the Financier and to seek his "No objection." The receipt of the no objection from the Financier created the Client's ability or competence to pay</p> |

Thus, I found from the various observations and conversations including the above discussion that performance and meeting of Contract obligations by each tripartite member was an outstanding statement from the Contractors.

In the JPC project, the Contractor protested in a site meeting, that the Client was not meeting his obligation to pay for work done and therefore he was not performing. He had lost Trust in the Client performing the contractual obligation. In contrast to the Low-Cost Housing Project, the Client was fulfilling his obligations and paying the Contractors monthly. The Contractors appreciated this, and in a site meeting one Contractor said: "We wish to thank the Client for paying us on a monthly basis and even paying for some of the materials directly to the suppliers". The Contractor clearly trusted the Client. Both the above conversations show that it was important for the Client to perform his obligations by paying the Consultants and the Contractor if work was to proceed.

For the Consultant, performance means he had to do a proper design, specification of the works and site supervision. To commence the project, the Client had to give presumptive Trust to the Consultant.

In all the five projects under study, the Consultant started preparing designs and Bid documents to procure a Contractor for the construction of the works. It was necessary for the Consultant to perform his obligations. Otherwise, the Projects would not have commenced. "Engineer please issue works commencement orders" demanded the Client in one meeting.

For the third tripartite member, the Contractor, performance of contractual obligations meant actual construction progress on site. He measured his performance by his ability to keep to a pre-determined program. The performance was enforced using performance Bonds and these pre-determined construction Programs. At the commencement of both the JPC and Low-Cost Housing Project, for example, the Clients did not take the competence of the Contractor for granted. They demanded Performance Bonds for up to 10% of the Contract price. The contract documents requested a 'Performance Bond within 28 days of signing the contract', as a way of guaranteeing Competence and that the Contractor could be trusted to perform. These Bonds had to be issued by a Bank, Insurance Company or other financial institution. They guaranteed that the Contractor would act as per contract. Intangible Competence Trust alone was not adequate for the construction to start. If the Contractor failed to perform, the Performance Bond Clause in the agreement would allow the Client to seek recourse by encashing the Performance Bond and engaging another Contractor to complete the works.

No payment could be made by the Client to the Contractor before submission of this Performance Bond. I was surprised to read in the Contract documents that not even the Working Capital advance could be paid before the production of a Performance Bond, in spite of it having a separate irrevocable Bank guarantee. I made a memo to argue that in future contracts, I would advise my clients to pay the Working Capital Advance, even before submission of the Performance Bond, because it was separately guaranteed.

In another example before the JPC contract, I was instructed to "issue a notice to terminate the contract due to non-performance." The agreement was indeed terminated, and the Client was compensated by cashing in a Performance Bond. At this stage, I found out that the Performance Bond could be used in the Standard Traditional Contracts as a tool for control and governance of the contracts. I then questioned that if the Contractor's performance could be monitored and evaluated so directly, how was the Client's performance to be also monitored and evaluated.

In the Library Contract, I soon found that the performance of the Client was tacitly measured by the Contractor and Consultant in terms of his ability to pay promptly. Six months in the Library Project contract, the Contractor demanded monthly payments instead of Turnkey payments at the end of the project. He approached me as the Consultant one evening, very distressed. "Engineer I need to be paid on a monthly basis."

I replied that "But your contract is a Turnkey contract, and you can only be paid at the end of the construction." He responded that he had submitted a contract amendment for him to be paid on a monthly basis. "I am now afraid that if I wait until the end of the project, there may be no funds to pay me," he alleged. "The Client has been purchasing a fleet of cars for his staff, and he is starting other new construction projects where he is making monthly payments. So why can he not pay me on a monthly basis also?" He said emotionally. Clearly, the Contractor had lost Goodwill trust in the Client and doubted the Client's ability to perform in the future. In response to the Client's failure to pay, the Contractor moved off-site. Contract amendment negotiations between the Contractor and the Client started.

The above conversations led me to come up with the first Theme of the importance of good Performance from the Client, Consultant, and Contractor in building Trust. All three participants had to be competent to meet their obligations to each other.

4.4.2 Theme on Working Capital Advance and Timely payments.

In this section, I show how I found the second thematic code on the role of Working Capital Advance Payment and Timely payment in building Trust in Contracts. The evidence showed that Working Capital advance payment (WCA) was necessary for Traditional standard contracts. There was a problem of 7 small Contractors in the Low-Cost Housing project who were failing to raise "pay- on- demand Bank guarantees" which would enable them to access Working Capital from the Client. This issue was also stressing me as the Consultant and contract supervisor because there could be no progress on the site works without the Advance payment. The following 3-Column analysis shows the evidence and how I learnt and solved the problem of Working Capital Advance payment.

3 COLUMN ANALYSIS: Low-Cost Housing Project, Working Capital Advance, and timely payment Problem

| Information | Analysis | Meetings |
|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Seven small Low-Cost Housing construction Contractors were failing to raise "pay- on-demand Bank guarantees." So there was no Working Capital | No work could start because of high Bank collateral demand and lack of Working Capital Advance payment. | I spoke to the client, suggested that he buys free-to-issue materials for the Contractors. These Materials were to be incorporated into the permanent works. This innovative pre-purchase scheme was less risky for the Client, but he was skeptical |
| | I was working with the Client for the first time, and I was not sure how he would take my advice to pre-purchase materials | |
| Three days later, the Client agreed to buy the construction materials | The need for a Bank guarantee for Working Capital was obviated, and work was able to start. | |

"Without an advance payment it's difficult for us to commence works," one of the 7 Contractors said. In developing countries, Contractors do not have easy access to bridging finance from the Banks. The Banks demanded strict collateral conditions. The number of projects that a Contractor could, therefore, work on simultaneously was limited by WCA payment guarantees required. To get an irrevocable Bank guarantee, the Bank the demanded collateral in the form of a fixed cash account or immovable property Title Deed cession.

The small to medium-sized Contractors moaned "the bank is demanding that we put some money in fixed cash accounts which we should not use. They will only give us a guarantee to get WCA from the Client on this basis". Thus, the seven small to medium Contractors on the Low-Cost Housing project had problems in getting Bank guarantees. I had to find another way they could access the Working Capital Advance payment to commence the works. The remaining two bigger Contractors, however, had collateral and good relationships with the Banks and could get loan funds. This relationship with the banks was to them a competitive advantage in kick-starting the projects. "We guard this Trust relationship with the Banks intensely because it unlocks interest-free capital from the Client" one prominent Contractor disclosed.

In my meeting with the Client, I advised that. "Sir, we are not making any progress because the Contractors have no bridging funds to enable them to commence the works and raise the first Invoice for work done. They are also failing to raise Bank guarantees for you to release the WCA without risking losing it". Although it was my first time to work with that particular Client, I hoped that the Client would trust the Contractors and me. "I am recommending an innovative scheme which I feel will be less risky to you as the Client. I am requesting you to free- issue some pre-purchased materials for incorporation into the permanent works." The Client looked at me skeptically but advised me that he would discuss it with his colleagues. He reverted to me after three days. "We have considered your recommendation and accepted this option of the pre-purchase of materials for permanent incorporation in the project." This decision was inspiring for both the Contractors and Consultants because it was going to enable the work to start. I felt relieved because it obviated the need for the WCA bank guarantees. In the 3-Column Analysis above, I show how the small Contractors did not need to struggle with bridging funds anymore. They could start building with the free-issued materials. The Client also felt secure with direct payment to suppliers of the construction Materials. However, it was a clear indication that the Client had not trusted the Contractors to advance them actual money to commence the works without an irrevocable Bank guarantee.

Further, in following up trust relationships, I found many references in the data I collected that showed that Contractors built Trust in the Client if they were paid on time. "Previous financial constraints and payment delays have led to Government not being trusted to meet its financial obligations," said one of the Contractors about a Contract where Government was the Client. On the other hand, in the Low-Cost Housing contract where there was a Private sector client, the Contractors were being paid mostly on time. This was an outstanding statement from the Contractor interviews. The Contractors noticeably built Trust in the Client. As the project proceeded, the Contractors would submit payment applications on a monthly basis. "We are grateful to the Client for paying us regularly on a monthly basis because this is enabling us to work continuously."

In both the JPC road Project and the Low-cost housing Project, the Working Capital Advance (WCA) payment date was significant. I examined my other standard Traditional contracts and found that in all of them "the contract start date was the date of the signing of the contract and that works must start within 28 days of the date of signing of the Contract". The actual situation on the ground from both the JPC Contract and the Low-Cost Housing

Contract was that, even after signing, the Contractors were unable to start work until they were paid Working Capital Advance (WCA).

Contractors were issued with works commencement orders and were instructed to begin work, but they could not start until they received Working Capital Advance payment. Apparently, they had no bridging finance. As Consultant, I found that this clause that the Contractors should begin work before Advance payment as an unfair attempt by the Client to get the Contractors to capitalize the initial tasks. Why should the Contractor capitalize the works when he is not the ultimate beneficiary of the project? In a conversation with the Contractor, it became clear that this Clause was obstructing the start of the projects. For this reason, I then asked the Client for the Low-Cost Housing project to show Trust in the Contractor and proposed a *Client pre-purchase of materials facility*, as shown in the 3-Column analysis above. The Client was uncomfortable with this request, but he eventually accepted it. I also followed the same intervention instead of WCA on other projects and the Contractors were able to commence without WCA, as I will show later in my argument.

The WCA payment situation in Relational contracts, such as Private Finance Initiatives, was different. The Contractor was responsible for sourcing Finances, so the WCA and start date depended on the Contractor and not the Client. Thus, unlike Traditional Contracts, in Relational Contracts, WCA was not used to build Trust.

In the Moni International Bus Terminal project, I decided to use a different way of collaborating and creating Trust for the project construction to begin. I did this using "Sweat Equity" from the Consultant. I did this by preparing Feasibility reports and detailed Documents. To kick-start the project, I provided these initial services free and came up with a bankable feasibility study document. I invested my expertise in the expectation that when the project commenced, I would then be paid or convert the cost of the earlier work into equity.

The Sweat equity was a low-cost input strategy to begin the project. As Consultant, I trusted the Client and took the risk of project startup cost, expecting some positive future developments on the project.

4.4.3 Theme on Joint Ventures (JVs), improved skills transfer and capacity building.

3 COLUMN ANALYSIS: Joint Ventures for skills transfer, capacity building and Competence Trust in the Contractor

| Information | Analysis | Meetings |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Local Contractors lack skills and experience. There is a statutory instrument which gives them 10% domestic preference from Govt. | Local Contractor could not construct large Projects. | The Tender adjudication committee meeting found a bid where a local Contractor had gone into a Joint Venture with a sizeable foreign Contractor |
| | The Local and Foreign Contractor Joint venture was given a 10% domestic preference | |
| The Client awarded the Joint venture the contract | The relationship resulted in a skills transfer and capacity building of the Local contractor. Construction progress was good because the scheduling improved. | In a site meeting, the Client insisted on Joint decision making between Local and Foreign Contractor |

I found the above and third thematic code from some meetings with both Clients and Consultants in the JPC project. There was an open request for Bids to construct a 100 km road. Responses came from both local and foreign bidders. One particular bid consisted of a Joint venture of a domestic and international contractor. Analysis showed that the local contractor lacked capacity while the international contractor had good experience and skilled staff. The bid was not the lowest on price. The lowest was a Contractor registered in Portugal. However, the client, who was Government, used the Malawi Public Procurement Regulation 2004: 82 which stated explicitly that domestic and local contractor should be given preference. This preference is meant to empower and capacitate local Small and Medium Enterprises (SMEs). Thus; the price of the Joint venture was discounted by 10%. The discount allowed the joint venture to win the contract. In an interview, the Government Client representative told me that the deliberate action to give domestic preference to the Bidder who was part foreign and part local was taken to build capacity in local Consultants and Contractors. "We encourage collaboration through Joint Ventures (JVs) between small local Companies and large foreign Companies as an effort to mitigate lack of skills, experience, and resources in our country," he said. After the project commenced, the Client

was so keen on skills transfer that he told the smaller local company "We want to see your JV partner from overseas, on site. You must have joint decision making?" The Client had thus encouraged such JVs to the extent of classifying the JV between the foreign Contractor and a local Contractor as a domestic Contractor even though it was not entirely local. In another earlier interview, a World Bank Project Advisor had advised me that in the two developing countries of Zimbabwe and Malawi, projects often came to a standstill even when financial resources are available because of lack of knowledge of the project "road map" by local Contractors. This vindicated the Government Client representative's earlier concern and his encouragement of collaboration practices through JVs between domestic and foreign Contractors. He argued that if the two legal organizations worked together, making joint decisions, then they would jointly own the product and the skills transfer would justify the Trust he had in the JV.

4.4.4. The theme of the history of previous and frequently working together.

The fourth thematic code that emerged was based on presumptive Goodwill Trust from any history of the Client, Consultant, and Contractor having worked together before. In the University Library project, the Contractor had previously built two Hostel blocks for the Client. He was now required to build a Library on a Turnkey basis. These meant constructing the Library using his resources and only expect payment after two years from a levy on Student Fees.

3 COLUMN ANALYSIS: Presumptive Goodwill Trust created from previously working together

| Information | Analysis | Meetings |
|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Two Bidders in a University Library construction Project submitted technically and financially very close bids. | A breakpoint was required to decide the winner. | At a Tender adjudication meeting, the committee was having difficulty to award the Contract |
| | The experience of both contractors was re-assessed. | |
| The committee found that one of the Contractor had a history of previously working with the Client | This created presumptive Goodwill Trust and the Contractor with a history of previous work with the Client was awarded the contract | |

In the first round of negotiation which I attended, there were three contractors whose prices were very similar. The lead Consultant was an Architect. He agreed with the State

Public Procurement Board to debrief the three Contractors and assess who of the three Contractors could be more responsive. Debriefing is a process where the Contractors are given more information on the project and granted an opportunity to adjust their bid prices. In the second round of negotiating with the contractors, one was dropped out because his price was higher than the other two. The remaining two again had very similar rates. The tension was high in the adjudicating committee until the committee Chairman brought up the issue that the proposed contractor had a history of previously working with the Client. This history of having prior worked together with the Client motivated the adjudicating committee to award the contract to the Contractor.

As it turned out later, however, this Contractor wanted to change this contract to a monthly payment contract based on work done for that month. The agreement amendment was unacceptable to the Client, and the contract was terminated. "The history of having worked together before could have compromised our investigation of due diligence on the Contractor" declared the Client's Director of Works after losing Trust in the Contractor.

The evidence from the Low-Cost Housing project also showed that the effect of Goodwill Trust from previous acquaintance was that the Client set up a list of approved suppliers of construction services. "We have trust and want to continue working with you and promote indigenous contractors," said the Client's Manager. The shortlisted Consultants and Contractors are now maintained on the Client suppliers list. They are called to bid for work from time to time. "The shortlist saves us the cost of open Tenders and the uncertainty of contracting with a new party whose capacity is unknown each time," said the Client. I further had a conversation with the Director in the Ministry of Public Construction and the Secretariat of the Zimbabwe National Construction Industry Federation. They told me that they also use the history of previous work and assessments from Clients to categorize Contractors and rank their capacity.

Thus from the above conversations, I created the fourth overarching Theme on how previous and frequently working together resulted presumptive Goodwill Trust.

Chapter 5

BUILDING A PRACTICE FROM THE RESEARCH

In this chapter, I show that after identifying the problems for each project, I reduced my four thematic codes from four to just two. I explain how I combined the codes and how Trust in project financial issues and Contractor technical capacity could be used to share and reduce Risk. I go into details of each project and show how I intervened and used these two theme collaborative practices to build Goodwill Trust, Contractual Trust and Competence Trust. I required these two main codes, one on capital and the other on technical capacity, to manage my projects in future. I visualized the two main codes as energy quanta or cells managing the link between Trust and Risk. However, this very Trust was under threat, and I had to find a solution.

5.1 Project Problem Identification

I identified the main problems and synthesized them for each project. The projects had different problem emphasis, but some of the issues were common. In each problem, I looked to see if there was any link with Trust. In other words, if the problem could be tackled differently if there was collaboration and a trust relationship. When I reflected, I in fact was using the Gioia et.al (2013) methodology for theme clustering as illustrated in Chapter 4 above. From the scattered 54 Starter themes I did the 1st order analysis and four respondent themes surfaced. These themes were on Competence, payments, skills and history of working together. I took each theme and sifted it through each project and indeed, I could see where it was referenced in every project. This comparison is shown in Table 4 below. These four themes guided my deliberate action to find collaborative practices that I could use in my practice to balance Trust and Risk in construction project management. For example, the problem emphasis for the Low-Cost Housing project was on Working Capital Advance guarantee. In the Library project, the problem arose when the Contractor wanted to amend the Contract from a Relational Turnkey contract to a Traditional monthly payment contract; this led to a loss of Trust by the Client. The main problems in the JPC road contract were again Working Capital Advance payment and Site staff experience. In the fourth Project, Linia, the problem was that the Client kept changing the form of contract, first from a Public Private Partnership project contract to a Traditional Contract and back to a Public Private Partnership project contract. Questioning the Client again revealed that the dithering was a result of lack

of capital to start the project. In the Moni international Bus Terminal project, the initial capital issue had been provided by the Consultant who gave Sweat equity. However, there was another problem of bringing in more formal contract clauses to a semi-formal Joint Venture and a Trust-based relational contract. The clauses were viewed as self-maximization by the other partners. In the following Table 4, I summarise the evidence of all the four thematic problems and their commonality in each project.

Table 4: Identification of Problem Themes for each Project.

| Theme | | Theme evidence identified | | | | |
|-------|------------------------------------|----------------------------------------------------|-------------------------------------------|----------------------------------------------|--------------------------------------------------|--------------------------------------------------------|
| | | Housing project | Library Project | JPC Road project | Linia Road project | Moni Bus Terminal |
| 1 | Performance/ competence | A laggard Contractor had his workload reduced. | Contractor abandoned site | Contractor reduced work due to non-payment | Contractor moved to site before contract signing | Engineer's competence trusted and he gave sweat equity |
| 2 | WCA and timely payments | Contractors appreciated timely payments | Client could not make monthly payments | Contract WCA reduced to 10% | Contract changed to PPP, to get Capital | Sweat equity used as capital raising strategy |
| 3 | Skills transfer/ capacity building | Contractors Joint Venture (9 No.) | Trust in contractor capacity was lost | JV formed with large International Company | The Client Trusted a competent Contractor | Engineer's competence trusted, by Client |
| 4 | History of working together | Presumptive Goodwill Trust led to contract signing | Contract award based on past work history | Previous work Contractor on site with no WCA | Contract awarded partly on prior work history | Engineer selected on previous work history |

Using the above comparison matrix of theme against evidence exhibited in each project, I came up with a major analytical step which justified the initial clustering to four themes.

5.2 The Final two main theme Codes

The initial combination of similar respondent statements gave me four themes. These were on Competence Performance, Working Capital, Technical Capacity and frequently working together. These are the themes I have discussed above.

Iterative cycles of action and reflection focusing on these four themes in my projects lead me to a further clustering to just two practical concepts.

1. The first final practical concept theme was on Financial matters;
This combined Working Capital Advance and timely payments and how they created collaboration and built Contractual Trust between the Client and Contractor.
2. The second final practical concept theme was on Technical Capacity;
This combined Joint ventures and frequently working together. These strategic actions were desired collaborative practices that generated tripartite Competence, Contractual and Goodwill trust.

The above two practical action themes were arrived at after sense making and reflecting in what could be called the the equivalent of 2nd order analysis in well-established clustering practices such as the Gioia et.al (2013) methodology.

In the following Section, I briefly explain how these themes were evident in each project.

5.2.1 Final Theme on Financial matters.

The release of Working Capital Advance (WCA) and the timely payment of Invoices motivated the Contractor to continue working on the JPC and Low-Cost Housing projects. As explained before, in all the contracts the Contractors struggled to get Working Capital Advance from the Client. In my many interviews, most contractors echoed that "We are not able to find loan funding because of the very onerous collateral requirements from the local Banks. We need the Working Capital advance Payment from the Client to commence the work". On the other hand, the Client demanded a pay-on-demand Bank guarantee before releasing the Advance payment. Also, late payments to the Contractors were resulting in the work stoppage. In the JPC contract, the Contractor threatened to move off-site and wrote to the Consultant saying that "We are giving 21 days' Notice of reduced work productivity and moving off-site because of non-payment". The Contractor had lost Trust in the Client's capacity to pay him. The loss of Trust due to non-payment was similarly demonstrated in the Library project, where in spite of having agreed to a Turnkey arrangement, the Contractor

lost Trust in the Client and demanded monthly payments. When the monthly payments demand by the Contractor was not availed, he stopped work.

In the analysis and subsequent iterative action cycles I combined all the statements on Working Capital and timely payments into just one super theme of financial issues. These were affecting inter-party Competence, Contractual and Goodwill Trust on construction sites and thwarting collaboration to meet the project construction objectives.

5.2.2 Final Theme on Technical Capacity.

The second final overarching theme code was on Contractor technical capacity. It emerged by combining the statements on local and foreign Company Joint Ventures, lack of skills and experience of contractor staff, brain-drain for greener pastures by local Engineers and Architects. In the JPC Contract, the Client insisted on an apparent Joint Venture effort between the local contractor and a well-established international contractor. The Request for bids stated that "Bidders are encouraged to form Joint Ventures to increase their Capacity." The Client did not have confidence and therefore Competence Trust that a local Contractor could perform on his own satisfactorily. He felt that the local contractor's capacity needed to be enhanced through Joint Venture arrangements with a well-established international Contractor. The international and local Contractor responded that "We are in the process of coming up with a dedicated Joint Venture set-up to run the project." Indeed the resulting Joint Venture that was formed increased the skills and construction capacity on the project. The Client and Consultant trusted the competence of this Joint Venture.

The other way in which Trust hedged capacity risk was the Client's insistence on having very highly experienced Contractor's Site staff. However, employing highly experienced site staff proved to be a problem because of the prevalent brain-drain of professionals and skilled staff in these developing countries. Such competent staff was attracted to developed countries. This is because the salaries and working environments were better there compared to developing countries where site staff is often based in rural bush setting. When I discussed the problem of inexperienced site staff with the Client for the JPC project, we resolved that the Joint Venture partner and very experienced Consultant staff would compensate for the lack of Contractor's staff experience. The Consultant collaborated and had to attach more experienced Site Engineers to supervise the relatively less qualified Contractor's site staff.

After synthesizing each problem, I took some deliberate action to solve it. As I took these actions based on the surfaced themes, it began to arise to me that these collaborative practices were creating Trust which was facilitating palatable risk sharing. The Contractor

for example, was burdened with most of the construction Risk. Some ways of creating Trust and sharing the Risk required the tripartite to mutually engage in collaborative practices of Working Capital Advance payment and technical capacity building. The Consultant was also allocated Risk, and he built the three forms of Trust for example by deploying very experienced site Engineers as a collaborative measure, because the Contractor did not have such experienced staff.

However, one Financier declared "the Engineering Procurement and Construction contract should provide for risk mitigation instruments such as Performance Bonds; Liquidated damage Bonds; Materials, Workmanship and Equipment warranties; the benefit of these Bonds will go to the Bank." These Bonds in favour of the Client showed that both the Client and the Financier were shirking from Risk and allocating it to the Contractor. The demand for the various Bonds seemed to me to be impinging on Trust and trying to make intangible Trust tangible. In the next Chapter, I will discuss how I interpreted the themes on financial concerns and technical capacity as strategic and collaborative measures that could be used to create Trust and therefore practically result in more equitable risk sharing in construction projects. What I had seen was the asymmetric risk allocation by the Financier and Client to the Consultant and Contractors. At the finalization of my theme codification, I started to visualize ideal Contract behaviour as a hexagonal cluster of Trust relationships. These relationships were originating from presumptive Goodwill, culminating in Contractual Trust and Competence Trust.

I show this cell visualization in Figure 1 below. At engagement, the tripartite top management had to have presumptive Goodwill and then create Contractual and Competence Trust to manage the relationship.

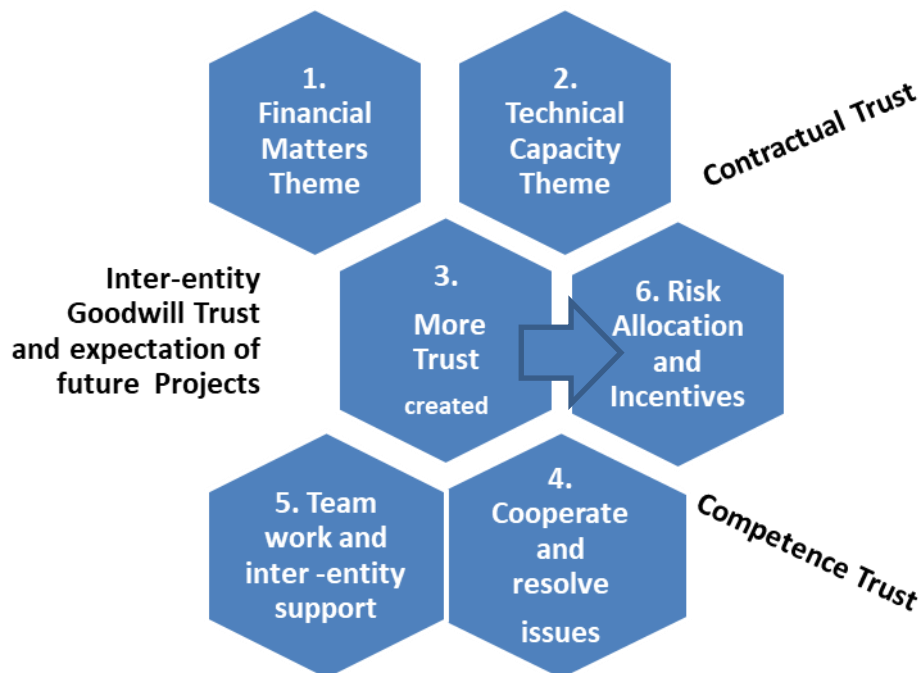


Figure 1: The creation of Competence and Contractual Trust from presumptive Goodwill Trust.

Thus, I visualized Trust as a set of an all-encompassing honeycomb of cells. These cells are quantum of issues which started from limited resources which management mitigated with fair risk allocation and incentives such as the promise of future work. The yield from these cells was that the Goodwill Trust created Competence and Contractual Trust which was then used for collaborative teamwork. The Competence and Contractual Trust so created enabled the projects to be completed on time, within budget and with high-quality workmanship. This was the perfect relationship, but the tripartite relations in my projects were never ideal. I show later in the analysis some evidence of how this Trust relationship had to be created using an intervention of a materials purchase facility and a reduction in Claims for extra payment by the Contractors.

5.3 Threats to Trust

In Section 2.6 of my literature review, some researchers, for example, Swan et al. (2002), English & Baxter (2010), and Vincent-Jones (2012) had noted some threats to Trust.

These threats included project complexity and uncertainty, collusion, lack of project ownership and failure to meet contractual obligations by tripartite members. After my cell visualization of Trust and in particular how it was built in the Low-Cost housing project, it began to emerge to me that in fact, the essence of Trust building was not just relational, but to control and govern the Project through managing Risk. The faith and confidence generated by Trust were consequently reducing the premium on Risk and uncertainty. Thus, in all these themes I noticed that there was a theme of Risk sharing that wove through them. The risk was being alleviated through Trust. If there was Trust, then none of the tripartite members talked about Risk. And yet the risks were there and almost 40 are listed by Cook and Brown (1999). The prominent ones are: change in scope, incomplete designs, and omissions in Bid documents, cost escalations, ground conditions and lack of labour and construction materials. All these could be categorized as construction project Cost Risks, Program risks and Quality Risks. In some of my projects, the Contractors were going about fulfilling their project obligations without asking for monetary compensation. I saw this as a collaborative action on part of the Contractor. There was evidence that each tripartite member wanted the construction project completed, but at minimum or no risk to them. The Clients were using the indemnity clauses to minimize risk to them. Consultants and Contractors were accepting this vulnerably. I thus wanted to use my themes to reduce exposure to this risk by creating Trust. But this very Trust was under threat. Some events that were happening on some of the Contracts threatened to banish Trust and bring these projects to a halt. I now faced a problem of learning ways of minimizing these threats and maintaining the collaborative efforts that would ensure that there was mutual Trust which would give rise to fair Risk sharing.

In the next Sections, I show the threats to Trust and the emergence of asymmetric Risk sharing which eventually stopped some project. As I explain these possible threats to Trust, I bear in mind the vague threats to Trust that I earlier had discussed in Section 2.6 of the literature review. These were stated at the beginning of that section as project complexity and uncertainty, lack of project ownership, information asymmetry and punitive clauses in the contracts.

5.3.1 Low-Cost Housing Project

In the Low-Cost housing Project, there was evidence on how necessary Contractor competence was in the tripartite relationship. Lack of performance by one of the laggard Contractors was threatening Competence Trust.

This Contractor was failing to perform, and in the following 3-Column Analysis, I show how this practical problem was analysed and solved.

3 COLUMN ANALYSES: Contractor Performance and Competence, its Role in Building Competence Trust.

| Information | Analysis | Meetings |
|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| In the Low-Cost housing project, the Senior Site Engineer showed concern with the lack of progress by a Contractor. | Adherence to a predetermined program is a Contractor performance measurement indicator. | Senior Site Engineer wrote to me as the Project Manager. "I am concerned with the Civil Contractor's lack of progress." |
| | I analysed the Contractor's performance capacity | |
| The analysis showed me that the Contractor had both skills and financial capacity limitations | I proposed that one way to manage the progress was to take away part of the work from him and allocate it to another Contractor. | I called the laggard Contractor and explained to him that reducing his workload was for his benefit so that he could perform and complete the work on a program. Begrudgingly he concurred with this. |

The above analysis shows how I arrived at decisions in taking intervention measures that could result in collaborative practices in Construction management. I had lost Competence Trust in the Contractor. I reasoned that, in a way, by reducing the laggard Contractor's scope of works it could improve his capacity to perform.

5.3.2 Library Project

The Library Building project had one Client, a three-member Consultants' team, and one Contractor. The goal of the project was to build a University library. The Contractor was to construct the Library over a two year period and after handing over the keys he would be paid over 24 months. From this point of view, the Contract was a trust-based Relational contract with a Turnkey arrangement. Work commenced within two weeks. This speed of site establishment and work commencement was very pleasing to both the Client and the Consultant. However, six months later, in December 2015, the Contractor moved off-site citing that he had lost Trust in the future capacity of the Client to pay him after completion of the work. This was after seeing the Client extraneously purchasing a fleet of cars. The course of events is shown in the 3-column analysis below:

3-COLUMN ANALYSIS: Emergence of Risk and how Presumptive Goodwill Trust and Contractual Trust were lost in the Library Construction project.

| Information | Analysis | Meetings |
|-----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| The contractor had a two-year Turnkey contract with the client. | Work started and progressed well for first six months. Trust existed here. | Monthly site meetings were held to monitor and evaluate project progress |
| The client started other monthly paid projects. The client bought a fleet of cars which were not part of the project. | The Contractor started feeling uneasy with the Client's ability to pay him in future. Trust was under threat. | Contractor requests a meeting with Client and Consultant to discuss frequency of payment |
| The contractor wants the contract to be amended for monthly payments instead of payment at the end of Turnkey project. He abandons site | At the start of Contract, the Contractor showed healthy Bank Balances. Therefore Contractor's decision to leave site could only be due to loss of Trust in the Client's future payments. | A Contract amendment meeting was held by the tripartite. The Contractor wanted monthly payments for work done. |
| | Client terminates Contract | |

For the Contractor, non-payment risk emerged from under the veil of Trust because he had observed that the Client was constructing other buildings on Traditional contracts and paying other Contractors on a monthly basis. In addition he observed that the Client was purchasing a fleet of new vehicles for his Staff. The Contractor was now demanding that he also be paid for work done on a monthly basis. This proposed significant change of the Contract payment terms distressed the Client. He saw the Contractor as now being calculative. Thus, the Contractor's demand damaged the Trust that the Client had in him and he immediately gave the notice to determine this contract. He argued that the demand for monthly payments by the Contractor was a fundamental contract breach. The Client had gone into this trust-based Relational agreement because he had no immediate availability of financial resources and he wanted to manage his cash-flows. The contract was such that the Client would fulfill his Public mandate to build a Library, while the Contractor would expect payment from the Client from future cash-flows from student fees. The Contractor's demand

for monthly payment as work progressed was therefore not attainable, and it was a significant Contract default and breach of Trust as far as the Client was concerned.

Analysis of the Library project showed that the three forms of Trust which I had encouraged in my earlier project work and which were defined by Hartman (1999) and Broadbent et al., (2003) as Contractual Trust, Competence Trust, and Goodwill Trust existed before the Contract termination. The Contractor was proficient and therefore had Competence trust, and he had a history of working with the Client and consequently had Goodwill Trust, but he failed to sustain Contractual faith when he saw the Client engaging other Contractors on standard Traditional Contracts where they were being paid on a monthly basis. During the tenure of the contract, the Contractor wanted to make significant changes and to be paid on a monthly basis, instead of being paid after completion of construction as agreed in the contract. The significant finding on this project is that for a Relational contract based on Trust, all the three forms of Trust must exist concurrently for the contract to sustain. In the case of a first-time acquaintance of Client and a Contractor, Goodwill trust can be assumed to exist as benevolence trust. This type of Trust is the Trust which motivates either party to act for the other. Benevolence trust was suggested in a research by Strathorn et al. (2015), but it is considered as part of Goodwill trust in this study. Another finding was that mid-tenure Contract amendments were a significant threat to Trust. The changes were viewed as being calculative on the part of the Contractor.

5.3.3 The JPC Road Construction Project

The JPC project was a Traditional standard contract based on FIDIC conditions of a contract. There was a tripartite of Client, Consultant, and Contractor. The Financiers were Government of the Republic of Malawi, Kuwait Fund for Arab Economic Development (KFAED), and Arab Bank for Economic Development in Africa (BADEA) and OPEC Fund for International Development (OFID). I realised that the Financier's influence was emerging in all my major construction projects because in most cases the Client lacked the financial liquidity to make frequent and timely payments as the project progressed.

The JPC project endured a slow start. Realizing that the Trust which had existed at the contract signing ceremony was now waning, I made three recommendations to the Client. The course of events and the actions taken are analysed in the 3-column analysis below:

3-COLUMN ANALYSIS: Threat to Competence Trust due to late Payment of Working Capital

Advance.

| Information | Analysis | Meetings |
|--------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| Contractor was having difficulty in raising Bank Guarantee for 25% of Contract Working Capital Advance (WCA) | With no WCA, work could not commence. Consultant recommends ordinary insurance for WCA, but Client rejects this as too risky | Meeting with Client and Contractor, A reduction of WCA to 10% approved |
| Financiers reduce WCA to 10%. | The Contractor was able to get a Bank guarantee for WCA. He is eventually paid, and work progresses | |

The first recommendation was to reduce the stringent requirements of a 25% Bank guaranteed Working Capital Advance payment. The Bank's collateral requirements were making it difficult for the Contractor to get start-up Working Capital Advance. I, therefore, requested, through the Client, that the Financiers agree to the Contractor getting usual insurance cover to the WCA. This was rejected by the Financier and Client as being too risky. I then recommended a smaller amount of Working Advance Capital, for which he could afford the required collateral. The funding Agency gave no objection to reducing the Working Capital advance payment from 25% to 10% of the Bid price. This was a paradigm shift because the usual percentage for WCA is 25 %, but this was proving unattainable for the Contractor. After these negotiations and signing of the contract, I issued the Contractor with works commencement orders. However, he could still not commence the works because he had no bridging Finance. He needed the WCA to be paid to be able to begin work. Despite having agreed to a smaller Working Capital Advance, the Financiers were taking time to release the Working Capital Advance. It was now evident that the Contractor could only be able to commence substantial works after receipt of the Working Capital Advance. This was a significant threat to the tripartite contractual Trust.

The delay in significant works commencement until the Contractor was paid made me realise that there was a problem in the structuring of the Contract start date. In standard Contracts, the start date of the contract is the date of signing of the contract. This meant that the Contractor, even at start date was behind the program because of the time it took between signing and receipt of the Working Capital Advance payment.

I, therefore, recommended the shifting of the start date of the contract to the date of Advance money payment. The Client reluctantly accepted my recommendation and increased the Contract period by two months.

Thirdly the Contract required the Contractor to have Site staff with 20 years' experience. The Contractor could not get such staff locally, and engaging expatriates was too expensive. This lack of technical staff started threatening Competence Trust.

3-COLUMN ANALYSIS: Threat to Competence Trust due to lack of Contractor experienced staff.

| Information | Analysis | Meetings |
|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| The contractor could not get local Engineers with 20 years experience | Work started. Supervising Consultant concerned with the workmanship. Competence Trust under threat | In a Monthly site meeting, I raised the issue of failure to employ experienced contract site staff |
| The Consultant had Engineers with the required experience. On this basis, the Client agreed to reduce 20-year experience for some Contractor staff | The Contractor capacity increased through higher supervision overview and a JV formed by the Contractor. Competence Trust which had been under Threat was restored. | Client requests regular technical site meetings during the tenure of the project as a collaborative practice. |

As shown in the analysis above, after synthesizing the Contractor's problem, I recommended that the staff experience requirement be reduced to 10 years. As a collaborative practice, the Consultant also covered for the Contractor's experience shortfall by assigning Supervising engineers with over 20 years site experience. It was observed in site meeting statements that this increased the Client's competence trust in the project team

In both the Low-Cost Housing Project and the JPC road project, the Client made all the payments to the Main Contractor, who would then pass on due payments to the sub-contractors. This was presenting a problem because the Main Contractor was taking time between receipts of payment and disbursing it to the sub-contractors. The Contractor, Sub-Contractor trust relationship which was discernably strained was restored by this decision. In the 3-Column analysis below, I show my experimental intervention and how I found a solution.

3-COLUMN ANALYSIS: Threat to Trust due to Sub-contractor Payment.

| Information | Analysis | Meetings |
|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| The Contractor was paying sub-contractors and equipment suppliers late after receiving payment from Client. | The main Contractor was using the subcontractor's payment for own use on the project. He argued he could do this since they were domestic, as opposed nominated subcontractors. Inter-entity Trust was under threat. | We held sub-contractors meeting to discuss this delayed transmission of sub-contractors payments. |
| Discussed the option of making direct payments to sub- contractors and equipment suppliers. | Sub-contractors were paid directly, and they worked more efficiently and were directly responsible for keeping to their part of the work program. Competence Trust restored | . |

Thus, I recommended that subcontractors and equipment suppliers be paid directly, instead of being paid through their main Contractor. This reduced conflicts due to delays in passing on payments from the Client.

The Goodwill, Competence and Contractual Trust created by resolving the problems of WCA, Start date and Site staff experience enabled the JPC Project to progress well. The original Completion date was not going to be met, but the product quality was satisfactory, and the project was within Cost and Budget.

5.3.4 The Linia road project

In 2014, ME (Pvt) Ltd. Contractors went into a Public Private Partnership with the Government to construct 120 km long road in the northern region of the country. The Consultant was then contracted by ME (Pvt) Ltd Contractors to carry out the technical design. There was a groundbreaking ceremony in September 2015. Soon after the groundbreaking ceremony, however, the Client, who was Government, suddenly changed its mind and now wished to construct the road on a Traditional standard contract. They wanted a Bill of Quantities (B.O.Q) and monthly measured works. The question was whether by this

sudden change, Government had lost Trust in the Contractor. Did Government think that the Contractor was making super profits on the project and wanted specific payments on the basis of a priced BOQ? The other possibility was that Government suddenly got the financial resources to pay the Contractor on a monthly basis and thus meet its mandate to provide this public road. I could not get a satisfactory answer from the Government officials I interviewed and therefore reasoned that the decision to move from a trust-based Relational Contract to a standard Traditional and transactional Contract was political. Perhaps Government wanted to be seen to have sponsored the project by the electorate. While following up to answer these questions, Government again changed its mind on how it wanted the project to be implemented. It reverted to the trust-based Relational Public-Private Partnership approach. It now wanted a Relational Contract where the private Contractor would use his resources and construct the road. The Contractor would be paid from future income flows over a concession period of 30 years. This was now a trust-based relational contract. It can be inferred that the Contractor and Government had Goodwill Trust because they had previous work contracts together. All their previous engagements had however been based on Traditional standard forms of contracts. These were short-term transactional Engineering procurement and construction types of contracts. I inferred that, on discovering that it had limited resources to meet its mandate to provide Public infrastructure, Government resorted to a Private Public Partnership contract. This transferred the Government's responsibility, financial risk and construction risk to the Contractor. The Contractor accepted this high Risk and vulnerability, and he commenced the project construction. I inferred that his decision was based on existing Goodwill Trust of previously working together with this Client. The prospects of higher profit margins that come with high-Risk projects have been suggested by many researchers including Chan & Yeung (2010). "The Government owes us a lot of money, but we trust we will be paid in due course," responded the Contractor's Chief Operating Officer when I questioned him why his company was entering into such a risky and uncertain contract. Trust was used as a Contractor procurement tool. At closure of this research, the Contractor was working on site in a Trust-based contract with the Client.

5.3.5 The Moni Bus Terminal Project

This project comprised of the construction of an international bus Terminal in the Capital city. The project originator went into an informal alliance agreement with the Consultant and several other bus companies. Many contract issues were left unsaid, and everybody trusted the future behaviour of the others. Indeed with no guarantees of next

payment, as the Consultant, I decided to start preliminary feasibility work. This is called Sweat Equity. I did this because I knew that by providing technical designs it would assist in the negotiations for land allocation from Government. This was a demonstration of Goodwill Trust on my part. However, the contract signing and closure by all the other consortium members was not happening. The Project was not taking off, and I began to think that the other consortium members had not fully committed to the project. They seemed not to trust each other. From the pre-feasibility study, it was such a promising project. It had a super profits potential, and it would also improve trans-border transportation for Central Africa. In general, it would uplift the living standards of the local community by providing small business incubators and employment. I wondered what was threatening Trust?. Things came to a head one afternoon after the project originator called a meeting. It started off as a reasonably relaxed meeting, and I was looking forward to triumphantly presenting the feasibility documents that I had prepared so that the project could start off.

3 COLUMN ANALYSIS: How Sweat Equity was used to build Trust in the International Bus Terminal .

| Information | Analysis | Meetings |
|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Patent holder Client wanted to build a Bus Terminal but had no Funding. | Bankable Feasibility Documents required by possible Financiers. | Client meets Consultant to discuss the way forward. |
| | The client gives presumptive competence Trust to Consultant to produce documents to source for Funding. | |
| Consultant, accepted to work at deferred invoices to be paid later or converted to Sweat Equity at project started. | Consultant commences Feasibility study work. Mutual Trust generated between Client and Consultant. Some issues left unsaid and informal. | Client calls a meeting. He unilaterally tries to get other equity holders onto the Project. This shows an absence of joint decision making and lack of transparency. |
| | Some existing consortium members walk out of the meeting. As the Consultant, I saw the Client action as being calculative. I lost Trust in the Client and stopped work. The lack of transparency resulted in the project termination | |

The Client displayed Competence Trust in the capacity of the Consultant. "I have been working on this project for many years, and I know that you are a well- established Consultant, and I would like to work with you on this project," he told me in a meeting at my office. My reaction was to trust the Client, and I decided to provide Sweat Equity. Thus, I carried out the preliminary design and provided feasibility study documents for the project for no immediate payment. Some contractual issues such as the decision-making process and percentage equity that would later become due to the Consultant were left unsaid.

The Client held a meeting with lawyers and other potential equity holders without the Consultant and existing consortium member's knowledge. It later transpired that he wanted to craft a legal document. The legal document showed that he would still retain control of the project. Decision making would remain in his hands, and it appeared like he alone could terminate other project participants if he felt so. Due to this lack of joint decision making and transparency, I decided to opt out of the project, because I thought I could not Trust the future behaviour of the Client. Some of the consortium members he had brought also lost Trust in him and decided to leave. This surprised the Client who wanted to have control and significant decision-making rights. He argued that decision making was his entitlement since he was the project originator. I analysed this relationship breakdown and felt that it was due to the absence of Contractual Trust between the participants. There was only Competence and Goodwill Trust between the Client and the Consultant. Reflection on the turnout of this project suggested that all the three forms of Trust which are, Competence, Contractual, Goodwill Trust need to exist simultaneously for a trust-based relational project to succeed. The terminal project tripartite relationship lacked Contractual Trust. This finding agreed with the results of the Library project, where all the three forms of Trust were vitiated, and again the contract was terminated. At the closure of this research, it was not possible to assess the critical project success factors like the cost, program and output quality of the project, because it was still at feasibility and fund sourcing stage.

CHAPTER 6

CREATING TRUST AND SHARING RISK IN CONSTRUCTION PROJECTS

6.1 Emergent Risk Theme

In the previous Chapter, I discussed my investigation, analysis, and findings on each of the five projects. The investigation revealed that the problems on these projects could be categorized into two, firstly into Financial issues and secondly into Technical capacity problems. The financial difficulties included Working Capital Advance and timely payment of the Contractor. The technical capacity problems required the Contractor to have experienced Site staff and frequently working together with the Client or Consultant. In this Chapter I show how by taking action I created collaborative practices that created Trust and facilitated equitable risk sharing.

As my analysis progressed, I found that Trust was under threat. The whole purpose of generating Competence, Contractual and Goodwill Trust was not just to get a good feeling, but indeed, it was to hedge against construction Cost, Quality, and Program Risk. In one interview the Financier's voice boomed "we don't know anything about Construction Risk, it is you, the Consultant and the Contractor, who must deal with the construction Risk." This statement was significant because it implied that all the construction risks on the Cost, Program and Product Quality were now being allocated to the Contractor and a lesser extent to the Consultant. In coming up with the theme codes, I had noted in the voice of the JPC Contractor that the issue of collaboration, trust and risk mitigation was a significant statement. "The risk to set out the works is with us, and you must trust that we will do it correctly, and then you can come and check later," he said. He merely wanted to be trusted to do his work and mitigate the risks as best as he could. The demoralized acceptance of the possibility of his works getting demolished for poor quality as implied in the Contractor's above statement was evidence revealing that to develop collaboration it was necessary to manage Risk through initiating and possibly enhancing Trust in construction Projects. This was necessary where ever there was uncertainty.

Another example of risk acceptance was when the JPC Contractor moved to the construction site before he was paid the Working Capital Advance (WCA). This meant that he had to endure start-up working capital Risk. For ten months he was not paid the WCA but was contractually forced to remain on Site and carry out some construction works. He had to find the bridging finance. The Contractor thus, trusted that the Client would pay for work done in the

near future. He had to make difficult business decisions to withstand the start-up financing hardship. "We have been funding this project for over ten months without receiving Working Capital Advance payment or any other payment for that matter," said the JPC Contractor irritably. I inferred that the Contractor was feeling the financial strain due to this non-payment but was continuing to endure because of apparent Contractual and Goodwill Trust that the Client would eventually meet his contractual obligations. He remained on site doing some nominal work.

A study of the standard Contracts signed by the Contractor showed that there were numerous Disclaimer clauses. The risk was transferred from the Client and allocated to the Contractor using these Disclaimer Clauses. For example in both the standard FIDIC and Architect's Contract documents which were signed by the Contractors, in the Low-cost Housing Project and the JPC Project, there was an indemnifying Clause regarding construction accidents. The Clause stated that "The Contractor shall indemnify and keep indemnified the Employer against all accident damages and compensation." This was evidence that the Risk was being transferred wholesale to the Contractor. And yet in the very definition of Trust by Rousseau et al. (1998), Hart (1999), and Strathorn et al. (2015), Trust is about accepting vulnerability by the action of others and sharing risk as opposed to risk allocation. In the Library project, when the Client attempted to transfer all the financial risk to the Contractor in a Turnkey contract, there was a stalemate because the Contractor wanted the Client to also accept some financial risk by changing from a post-construction payment scheme in the Turnkey contract to a monthly payment scheme.

My earlier empirical work and some research by English and Baxter (2010) have suggested that Project implementation has moved towards trust-based Relational PPs, PFIs, and JVs due to project complexity and uncertainty. This is specially to manage risk by restructuring incentives and payment mechanisms. I observed that there was lip service on collaboration and intention to blur the strict boundaries of responsibilities between the tripartite members, in some of my projects. In the first JPC contract site meeting, the Client declared that "we are a team, jointly responsible for the success of the Project," and yet it took ten months to give the Contractor his first payment. The Financier was supposed to bring, financial control and monitoring in the example above. He, however, also requested some Risk hedging measures such as stringent Bank guarantees for Working Capital Advance, bidding Bonds, and Performance Bonds.

Laryea (2008), after detailed research, concluded that Risk management is more developed in the financial sector and there are many mathematical models of risk computation used in Economics and Insurance. However, I am argued that the Financier and Client, even without these models in the construction sector, must also accept project construction Risks which emerge from contingencies. Typically on this contract, some of the construction risks included lack of Construction materials or equipment, the difficulty that the Contractor had in obtaining guarantees for Working Capital Advance payment, the scarcity of skills and capacity in a developing country. The risk aversion by the Clients and subsequent asymmetric Risk allocation to the Contractor and Consultant was delaying the project.

In an effort to spread start-up risk and ease the Contractor's difficulty to obtain Bank guarantees for Working Capital Advance, I intervened in iterative cycles of action and reflection to come up with an actionable solution. My final action was to propose that the Client pre-purchases the construction Materials. After I gave a lengthy explanation of the advantages, the pre-purchase facility was eventually accepted by the Client as less risky because these Materials were free-issued for permanent incorporation into the works. This enabled the Contractors in two of my projects to commence work and to issue their first Invoices for regular jobs done. I was still however really perturbed by the issue of irrevocable Bank guarantees that were required to release Working Capital; my projects were just failing to take off. I decided to tackle the issue head-on and proposed a paradigm shift in this practice of financing projects to start off. I first requested all my Clients to share the construction start-up Risk by accepting standard insurance cover instead of the onerous Bank guarantees for the Advance money to be paid to the Contractor. Sadly the Financiers and my Clients on the Low-Cost Housing Project and the JPC Project did not accept this recommendation, "we cannot accept this Risk of losing our money to Contractors who may misuse the Advance payment. We are playing our part, by making this interest free Advance payment available, but it can only be accessed using an irrevocable Bank guarantee." said the JPC Client. I argued that the fact that the WCA was interest-free was not benevolence on the part of the Client because if there were any interest charges as in bridging finance, the Contractor would still pass on this cost to the Client by raising his unit rates. However, I was not able to convince them. The JPC Financier and Client were only prepared to reduce the quantum of Working Capital Advance to 10% so that the Contractor could afford the Bank Guarantee. The Low-Cost Housing Project Client was not willing to consider any other form of Guarantee as well, and I had to find another solution to get the work started. There was no

willingness to share this start-up Risk, and they insisted that the Contractor must find the bridging finance if he was unable to raise the irrevocable Bank Guarantee.

6.2 Using Trust to reduce project start-up Risk

In the last section, I showed how the theme of Risk arose and how it was being veiled under three-fold shrouds of Contractual, Competence and Goodwill Trust. In this Section I list the five risks that constitute cost, program and quality risks and analyze specific instances where Trust was used to alleviate start-up Risk.

In the JPC contract, the Contractor established his camp on site before the Financier had given his "no objection" to the structure of Contract. As soon as he was advised that he had won the contract, through a letter of acceptance by the Client, the Contractor started mobilizing and moved to Site trusting the Client. In any case, this is what the Contract demanded. In 14 days he was obliged to start establishing on site. However, when the contract was sent to the Financier basically for information only, it came back with some amendments. These amendments among other things included approval of the reduction of the Working Capital Advance payment from 25% of the Contract Price to just 10 %. This was good news because I had previously recommended this WCA reduction to the Client. It was on the premise that like most contracts in the country the collateral required for providing the irrevocable Bank guarantee could not easily be obtained by the Contractor. My intervention was to combine a lower Working Capital Advance payment and free-issue of construction materials so that the Contractor would manage to raise his first Invoice. Further, I had also recommended a minimum Invoice value of \$300 000 of work to be done before a claim submission. The Client did not initially accept the recommendations, and the Contractor moved to the site. I felt that although the Client had virtually ignored my initial recommendations, the Financier decided to descend into the loan usage arena and flex his positional power. The Financier became a significant player in the construction project. The analysis shows that the Contractor was able to accept the Risk of establishing on Site before receiving the Working Capital Advance payment because he had developed Goodwill Trust from previous contracts with the same Client. "We have had many projects with this Client," he said.

This event showed explicitly how collaboration and Goodwill Trust developed. It eventually shortened project start-up time. The contract was finally signed with these amendments after more than four months delay.

Although I had set forth to study Trust, I found that collaboration, Trust and Risk were inseparable. The emergence of the Risk sharing theme forced me to review the literature again. This was so that I could learn and understand the perception of Risk. As stated earlier there were numerous construction risks, Cook and Brown (1999) listed nearly forty. I reflected on my current and previous projects, and ranked the five most important risks for my study as follows:

1. Materials Risk,
2. Manpower or labour risk
3. Machines or equipment Risk
4. Money or cost escalation risk
5. Minutes or program risk

I called these the 5 M risks of construction.

I also found that many authors for example Chihuri & Pretorius (2010), Laryea (2008), and Xiang et al. (2012), had combined these risks as cost escalation, time overruns, financial and skills risks. Thus summarized the Construction Risk was of Cost, Program, and Quality of product. The above authors had attempted to study how these Risks could be managed in the construction industry. They found that Construction Risk management is more by intuition and "linguistics" as opposed to definite mathematical models. This quick review of the extant literature on construction Risk showed that indeed where there was Risk and multi-organization interdependence, there had to be Trust. My project examples gave me evidence explaining the necessity of Trust and inter-dependence between the Financier, Client, Consultant, and Contractor to successfully implement project delivery.

6.3 Asymmetric distribution of risk

The present practice of managing construction uncertainty is by allocating the Risk using indemnity Clauses and not collaboratively sharing Risk. For example Chan et al. (2006), in their research concluded that clients in Targeted Cost Contracts (TCC) and Guaranteed Maximum Price (GMP) contracts chose to accept documentation and project design risks only. All the other construction risks were transferred to the Contractor. The only two accepted risks from a list of over 34 were just change of scope of works and Acts of God (*Force Majeure*).

In my earlier empirical work, I found that the asymmetric risk allocation was done by loading all the risk on the Contractor using disclaimer and indemnity clauses in the construction contracts. As an example, in the JPC contract the Client did not pay the Contractor on time and there was worker industrial action which delayed the project. The Client refused to accept that he was partly responsible. A paradigm shift was required to blur these responsibilities. Another example was in my Library and Linia project. As the project became larger and more complex, broader consortia of Contractors with financial capacity were required for long-term contracts. The arrangements were for the Contractors to complete construction of the infrastructure and then recoup their investment and profit over some years using the income flow from the finished project. From my earlier work and also as suggested by Vincent-Jones (2012), Contractors felt overwhelmed with uncertainty due to project complexity and the amount of risk generated. They sought to redirect some of the construction risks to Funding agencies. This is also evidenced by case studies of some Private Funds Initiatives (PFI) in the United Kingdom and the conversation below.

"Why should we bear the burden of WCA through the huge costs of the Bank guarantees," The Contractors asked me. "We are not the ultimate beneficiary of the Project." In the following 3-column analysis, I examine the cause and effect of asymmetric risk allocation. This analysis assisted me to make decisions on what action to taken to solve the stalemate between the Client and the Contractor.

3-COLUMN ANALYSIS: Asymmetric distribution of Risk.

| Information | Analysis | Meetings |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Large construction projects have five-fold risks as construction Materials risk, labour risks, equipment risk, finance, cost escalation risks, program risks and output quality risks</p> | <p>Contractor asked to rework section or demolish works and indemnify Client. Financiers and Clients have high-risk aversion</p> | <p>Consultant calls for management meeting and shows concern for time overruns.</p> |
| <p>Contractor applies for Extension of time to complete the project. He cites, late payment of WCA, labour strike, shortage of cement and diesel</p> | <p>Client entirely rejects the application for extension of time. He quotes indemnifying clauses in the Contract. This is an Asymmetric distribution of Risk to Contractor.</p> | <p>Disappointed, Contractor calls for another meeting to discuss his application for extension of time due to late payment of working Capital Advance.</p> |
| | <p>Consultant adjudicates Claim by Contractor. It is appreciated that the Client was partly responsible for delays by paying the Contractor late, but he still rejects the claim on the basis that it was submitted 60 days after the event and had therefore expired. I recommend Transactional reciprocity that the Contractor does not claim interest on late payment, while the Client does not levy liquidated delay damages. This is accepted by both parties, and the project proceeds to completion</p> | |

As the project Consultant I paused and relooked at the problems I was having in inequitable sharing of the construction risks between the tripartite. In the literature, I found that there had been an emphasis on more and more financial analysis and extensive pre-knowledge of any forms of risk. Doloi (2009) and Barry (2005) suggested extensive financial

analysis and modeling as a way of anticipating probable project progress constraints. However, the benefits of higher financial analysis, scheduling and product quality risks identification were not followed by any more equitable risk sharing. The Contractors continued to state that they were "heaped with Risk." Thus, as I proceeded with this action research, I gathered that the Contractors wanted Risk to be shared more fairly. It became evident that for more equitable Risk sharing, there had to be Trust that each project participant would carry out its obligations satisfactorily. The Trust creation had to be on the basis of two themes of Capital and Technical capacity that had emerged from my coding. Thus, the Financier and Client were obliged to fund the project, the Consultant to design it, specify it and supervise it and finally the Contractor to construct it with good quality, at optimum cost and minimum time overruns. Projects were stalling and I started seeing proper management of the two overarching themes on Finances and Technical capacity as the collaborative way of blurring the strict four party contract obligations and balancing Trust and Risk.

The Financier in the Linia project, for example, carried out detailed cost-benefit analysis and evaluated the various project risks. This review was geared towards reducing Financier and Client Risks, but it shifted all the other construction Risks, like WCA, Skills, Time and quality of product to the Contractor. This is corroborated by a Financier's statement that "we expect you to indemnify the Financier and the Client against all cost and time overruns." Apparently, there was a reluctance to share risk. Thus, I found in my above analysis that in a single stroke of refusing to approve the Contractor's application for extension of time in the JPC contract, the Client had shifted the time-related cost risk and the program overrun risk to the Contractor. As stated above, I intervened by recommending transactional reciprocity. I requested the Contractor not to claim late payment Interest, in return the Client would not charge the Contractor liquidated delay charges. I was seeking a practical solution to the problem.

6.4 The potential of using Trust to manage construction Risk

An interesting phenomenon on how developing Trust could be used to lessen the risk aversion was however evident in all these five research projects. The Contractors and Consultants were keen to maintain post contract relationships and reputation. Thus, in all the Bid documents I studied, the Consultant and the Contractor were required to list previous projects of a similar nature. This brought presumptive Goodwill Trust which was then the basis upon which a Consultant or Contractor could be invited to submit an expression of

interest (EOI) in a project or shortlisted for bidding. However, I did not see where the credentials or previous similar works experience of the Client were required. This was an evident lack of disclosure and due diligence of the Client. The Consultant and the Contractor were left to make their assessment and conclusions on whether the Client could be trusted or not. In my post research interviews with the Consultants and Contractors, there were proponents of the Client to establish a Letter of Credit to the Contractor before the start of the project. This can be seen as an attempt by the Contractors to verify that the Client could pay the Contractor and the Consultant. The Client became a risk in the project. One well-established Contractor proposed that "this should be a win-win situation where the Client gives an irrevocable letter of commitment to pay the Contractor". He felt very bitter because of some projects which he did and had problems in being paid. He proposed that in the same manner that as Contractor he submitted a Performance Bond to the Client, he must also be given a Payment Bond or guarantee by the Client.

I argued that Trust and Risk had an effect on the collaboration in Project implementation. In all large construction projects, wherever there is Risk, measures to build Trust had to be found. Trust reduces the tension between the various forms of risk. It is created in three types as Competence Trust, Contractual Trust, and Goodwill Trust. The interplay between Trust and Risk has to be managed. For example, in a related study in Australia; Dolo (2009) used a Structural Equation Model to investigate the role of Joint Risk Management in Partnerships. He concluded that Trust and Joint Risk Management have a significant impact on the success of a business partnership. Osipova (2015) attributed Risk allocation to the type of the Construction contracts. Traditional standard Contracts are based on the principal-agency Theory relationship where the two parties have adverse and positional attitudes. In some cases the two even have different project objectives and they only worry about risks that affect their part of the project objective and not joint risk management. In my research the evidence shows that Joint Risk Management and Risk sharing helps to build Trust between the Client, Consultant, and Contractor. For example, in the Low-Cost Housing project, the Client, Consultant, and Contractor shared the construction Risks of the delayed sale of the houses to avoid Cost overruns. I argued that although the Financier, Client, Consultant, and Contractor are connected by distinct and different contracts, they should jointly share project uncertainty and Risks. I visualised building Trust and sharing Risk on a project as a four-point diamond shaped phenomenon which could lead to a collaborative inter-entity relationship. This process which is based on Trust building and Risk sharing is shown in Figure 2 below.

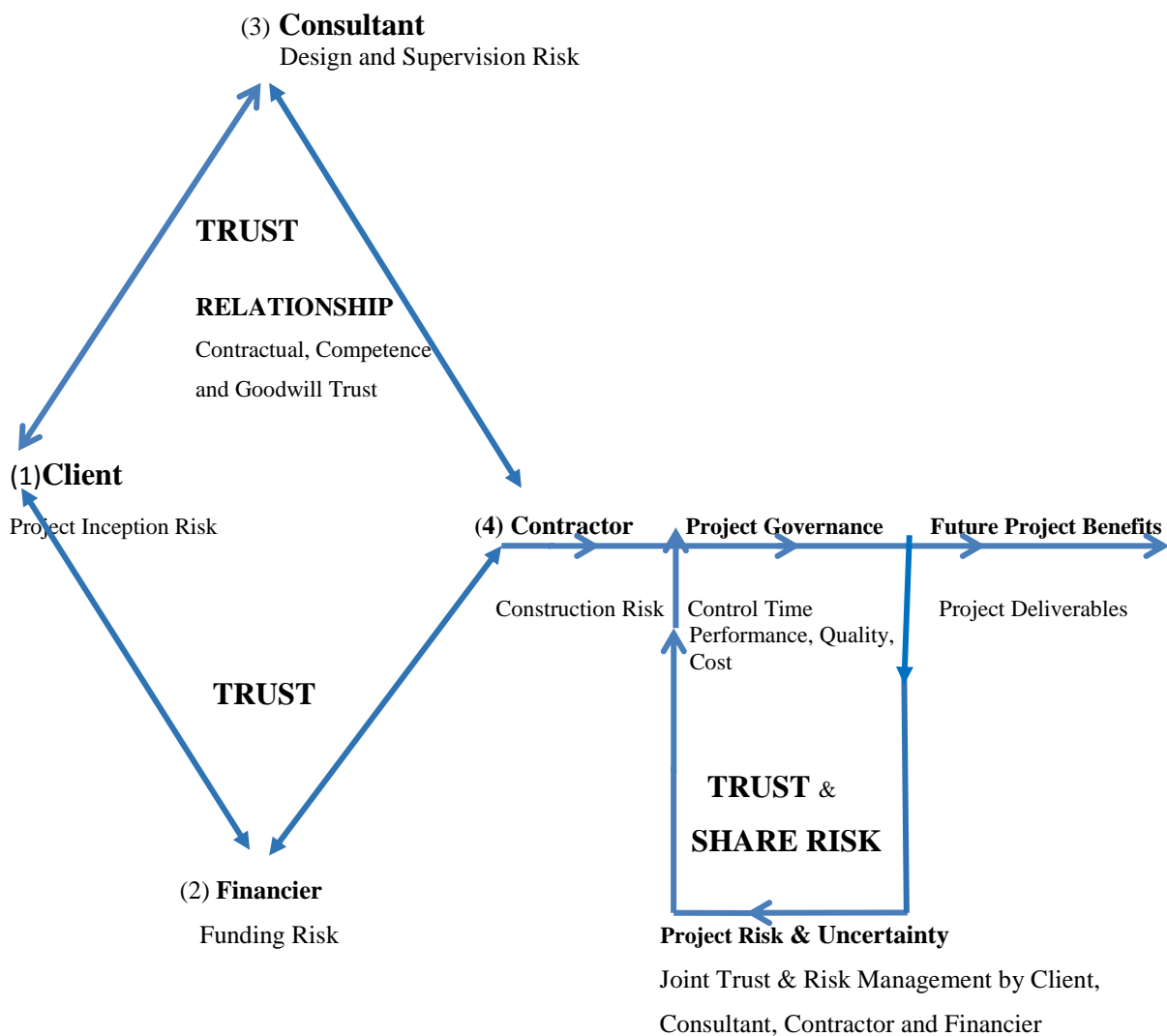


Figure 2: Practical Diamond Model of Collaborative, Trust and Risk Sharing

In the diagram, at each point of the diamond there is a participant. If read clockwise; it starts with the Financier, then the Client, Consultant, and Contractor respectively. To the original tripartite I had added the relationship with a Financier because, in large projects, the Client lacked the capacity to self- finance. The emergence of a Financier as a significant stakeholder became evident in all these large construction projects.

I initially called this four-member relationship the "Diamond model" because of the hard positional stance and discrete project obligations for each of the four participants. On analysis, I realised that though discrete, the responsibilities and unbreakable rhombus of obligations could be used to share the project Risks by building inter-party Trust. This could be by using the collaborative practices that were emerging from my study as two themes on Financing and building Technical capacity.

The project cycle moves from left to right, and it shows its transition from inception to completion. As I analysed the relationship further, I realised that project risk and uncertainty could be reduced by the four stakeholders collaborating, trusting each other and accepting risk jointly. In the sample Contracts studied, however, the four were being positional, and most of the construction Risk was unfairly allocated to the Contractor. In the Low-Cost Housing project for example, I made deliberate efforts to share and jointly manage Risk between the Financier, Client, Consultant and Contractor. There was phenomenal project progress. I distributed risk with the Client's approval by putting in place a construction Materials pre-purchase facility so that Contractors could start work. I also requested the Contractors to condone interest payments and accept Security costs for the completed houses. This was again my intervention of transactional reciprocity to build Trust. This prevented Cost overruns which could have come due to the failure to sell the completed houses quickly. In contrast, in the JPC contract, project delivery could have been done earlier if risks such as lack of Working Capital Advance payments, inexperienced Site staff and delayed start date had been more equitably shared. The Contractor ended up applying for a substantial 256-day extension of time on a 365-day contract. This was a 70% extension of time application.

Another event where Trust and Risk-sharing worked initially but was later vitiated by other extraneous circumstances was in the Moni Bus Terminal Project. The Client requested pre-project assistance from the Consulting Engineer. This was to be by contributing Sweat Equity to the project. It meant that some project enabling work had to be done for no immediate payment. The Consultant was to be paid later in the form of equity if the project was successful. This arrangement could only be made if both the Consultant and the Contractor trusted each other because no payment would pass hands. Further, the Consultant had to have confidence that the proposed project was going to be successful and that the Client would not take advantage of him. On the JPC road project the Client, Government, sought Financiers to assist with funding so that the Client could fulfill its mandate to provide infrastructure to the Public. The Financier, wielded significant power on how the project should be implemented.

He had to be brought into the Trust equation and to manage financial risk. First, the Financier had to trust the Client to whom he was lending money for the project, and second, he had to trust the Consultant and the Contractor who were in the implementing team. In this arrangement it was much more challenging to build Trust compared to solely relying on the traditional tripartite Trust creation between the Client, Consultant, and Contractor in project implementation. Trust was still necessary, but it now involved four players, the Financier, Client, Consultant, and Contractor.

What emerged was that the Contractor was being allocated most of the construction Risk. He accepted this vulnerability sometimes totally ignoring good business sense.

In my diamond visualization of Trust and Risk mitigation in a collaborative relationship, the risks and referents were as follows:

1. Funding Risk – Financier
2. Project Inception Risk – Client
3. Design and specification Risk - Consultant/Engineer
4. Buildable and Function of the product Risk – Contractor
5. Construction Risk - Contractor

Again as revealed in the Trust theme clustering above, these Risks could be combined into two as financing Risk and technical capacity Risk. Clearly collaboration and project delivery lay in the interplay between Trust and Risk. In my analysis, the four participants formed a system which managed the project uncertainty and the main Risks above. Some of the construction Risks such as cost escalations, inclement weather, lack of skills and equipment breakdowns could not be adequately defined and documented. In the absence of this clarity, the Contractor responded that he was using "experience" and a contingency sum to hedge against the Risks. I argued that the other three members must appreciate the Contractor's risks and help to alleviate these risks' adverse effects. For inclement weather for example, when there was excessive rain which stopped work on the JPC project, the Client ridiculously required the Contractor to prove that for the past 20 years there have been no such similar rains. This clause was passing risk to the Contractor. The financial, design, quality, utility and time Risks were ever present; for example, the Financier who admitted to not having detailed "knowledge of the project construction Risks," trusted that the team of Consultant and Contractor would deliver the project within the budget. In the Traditional standard contracts, there was a shirking of responsibility through disclaimer Clauses as shown in the FIDIC and Bank references above. The above section has described and demonstrated how by nurturing collaboration, trust and risk was used to manage project uncertainty. The argument is continued in the following Section with an emphasis on the experimental intervention I carried out.

6.5 Risk Management: Experimental Interventions in sharing the Contract Risks.

In section 6.5.1 to 6.5.4 below, I elaborate how the life cycle of the construction projects exhibited that there is interplay between Trust and Risk sharing. This interplay is brought about by the uncertainty in the factors that influence the project. In all the projects,

the Client was responsible for the needs identification and coming up with a project concept. The Client then invited an Engineer to provide Designs, Specifications and Tender documents to procure a capable Contractor to carry out project construction. The project progress was exercised by the Contractor who controlled the completion Time, Cost, Performance, and Quality of outputs.

6.5.1 Experimental intervention to sharing Financial and Completion risk

An example of where intervention enabled Risk sharing was in the Low-Cost Housing project. The Client did not just stop with Project inception Risk but continued to share the emergent Risks at the construction stage of the Project. When the Contractors failed to get Bank guarantees for Working Capital Advance, I intervened and requested the Client to pre-purchase some construction material to enable the Contractors to commence work. In reciprocity, the Contractors did not charge the Client for extended security when the completed houses were failing to sell.

Some of the Risks for large projects included the Client not having the capacity to fund the project, and a Financier had to be found as the fourth player to support the project. I found that the Financiers have a significant influence on the direction of the project. The observation and analysis of the artifacts showed that without the Financier's "no objection" and concurrence, a Client's needs and wishes could be ignored by the Consultant and Contractor. In the Low-Cost Housing project, one Contractor declared that "We will not start work on site until we have received Working Capital Advance." In the two projects below, I explain how the project implementation proceeded because of collaboration and creation of Contractual Trust. "We have been running this project with our resources for almost ten months without financial input from the Client." said the JPC Contractor after the Consultant demanded more construction progress. Analysis of these significant statements shows that the Contractor was demanding more equitable sharing of the construction risks between the tripartite. It's as if he was saying, why should I capitalize the project? I am not the ultimate project beneficiary. In the JPC project, a renegotiated contract with reduced Advance Payment and regular monthly Invoices, smoothed cash flow spikes made construction progress sustainable. This action intervention result showed that while Trust can drive project progress, understanding the Risks and sometimes amending the controlling contractual clauses can enhance the Contractor's performance and project progress. After examining the standard contract Clauses, I found that there was disproportionate Risk sharing. This anomaly

forced the Contractor and the Consultant to create Contractual Trust and Goodwill Trust in the Client. They stoically invested in Goodwill Trust in the Client because they had no option. However this made them less efficient in providing services to the project. This is evident in the applications for extension of completion time they made and sometimes the fact that parts of work had to be demolished because of bad workmanship. For example in the JPC Road Project, the Low-Cost Housing Project and the Library project, the Client struggled to meet his funding obligations. Financial and completion risks became issues as shown in the 3-Column analysis below.

3-COLUMN ANALYSIS: Experimental intervention to sharing Financial and Completion risk

| Information | Analysis | Meetings |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>External Loan funding available for only 75% of a 100km road project. 25% was to be Funded by the Borrower who was Government. Due to an economic downturn, Govt did not have its portion of the funds.</p> | <p>Available funding could only complete 75% of the project. Project funding became a Risk. The road construction would end in the middle of nowhere and not link the intended towns which were economic centers.</p> | <p>Participants meet to tackle the completion problem and mitigate the Financial Risk. There was a possibility to get the balance of funding in the next Public Sector Investment budget in the following year.</p> |
| | <p>Road link completion Risk. All participants asked to share the risk. Financiers accepted that their funding would be for a road not joining the intended initial two towns. Contractor accepted splitting contract into Lot1 and Lot 2. Govt. /Client promised to put the rest of funding for Lot 2 on a future budget. The Consultant made designs for staged construction.</p> | <p>.</p> |

After negotiations, the Financiers accepted to fund a reduced portion of the project as part of the risk sharing. He had not initially taken any of the new project completion risks. The contract was divided into Lot1 and Lot2, being respectively the first 75 km and subsequent

25km. Work commenced, but the project carried the risk of non-completion if Government failed to get funding to complete the unfunded 25% in the following budget year.

On the same project, there was an unpredicted sudden shortage of material. On one occasion there was lack of diesel and cement in the country, but the Client expected the Contractor to continue performing. He did not accept this risk which impacted on the cost and completion time. As Client, he asked to be indemnified by the Contractor in the Contract. My intervention and persuasion failed to solve this problem because the Client refused to approve importation of the materials at a higher price. The Contractor had to absorb the extra cost until the materials became available locally.

On another occasion in this JPC contract, there was industrial action. There was a labor strike because of non-payment; again the Client did not accept responsibility. This was in spite of the fact that the origin of this industrial action was that the Contractor was not receiving payment of the Working Capital Advance. The Financier and the Client again requested to be indemnified in the Contract for the industrial action. My intervention was to recommend an Extension of Time for the Contractor due to this Client-induced industrial action. I, however, failed to get the Extension of time, even though the Client was responsible for delaying payments. "We do not know anything about Construction risk," claimed the Financier and Client. I argued that logically the Client should at least accept and share part of this construction Risk because he was responsible for the industrial action by failing to pay the Contractor on time. He still wanted to be exonerated of the late payment consequences. As shown above, construction risks in the form of cost escalations, working capital advance, skills, quality of work and time overruns were unfairly transferred to the Contractor. I continued to develop my two overarching themes of managing Financing and Technical capacity as collaborative practices that could develop Competence Trust, Contractual Trust, and Goodwill Trust. In iterative action and reflection research cycles, I would intervene and this enabled the projects to proceed. In the next Section, I will explain some more intervention actions I took to manage the projects by balancing Trust and Risk sharing.

6.5.2 Sharing Project Cost Risk

A significant cost risk is price escalation of materials and labour during construction. I found that in all the standard contracts there was a basic Materials and Labour cost list. The purpose of this list was that if prices went up, the Contractor could claim for the increase by showing the price variations compared to those at the start of the project. And the Client would pay. This was

the strategy for mutual Cost Risk sharing. In the first research Project, cost was particularly significant because it was a Low-Cost Housing project, meant to benefit low earning beneficiaries. The first aspect was that the Contractors had been selected on a bidding basis which in itself was a hedge against project Cost risk. Further, Contractors were required to be registered with the Confederation of Construction Industries. This registration alone brought presumptive Competence Trust throughout the contract implementation because it was assumed that the Confederation had vetted the Contractor before registration. The second aspect was that the Contractors decided to build Goodwill trust because the Client promised them opportunities for future projects by placing them on their list of preferred Contractors. I encouraged and nurtured this Goodwill Trust because it reduced construction Costs risk. The Contractors wanted Goodwill Trust; they sacrificed and condoned late payment interest claims and the cost of Site security after they had completed the Construction of the houses. They did this in expectation of future projects. In contrast in the following 3- Column analysis I show how loss of Goodwill Trust and Contractual Trust and failure to mitigate financial risks lead to the contract termination

3- COLUMN ANALYSIS: The role of Trust in a Project Cost Risk.

| Information | Analysis | Meetings |
|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| In the Library contract, it was a turnkey contract | Client was to pay settlement after two years | Contractor demanded monthly payment contract |
| The client started other projects in which he was paying on a monthly basis. Client bought a fleet of Cars | The Contractor was concerned that Client would be unable to pay after 2years wait. Relationship started to be positional | |
| Contractor and Quantity Surveyor also started arguments on rates and quantities for compacted foundations | The Contractor was losing Trust in the Client. He felt that all the financial risk was being transferred to him. | Contract termination meetings started. The contract could not proceed. |

In this Library project, the Contractor started arguing and showed lack of Trust when he claimed under-payment for compaction work done on the foundations. "The Quantity Surveyor has unfairly reduced my claim for volume of compacted foundations." In addition, the Contractor was showing signs of losing Trust in future payments by the Client. This was mainly after the

Client purchased a fleet of cars for staff and engaged other Contractors on different projects where they were being paid on a monthly work done basis. He also wanted his Contract amended to a monthly payment Contract instead of a Turnkey contract. "How do I know that I will be paid at the end of the Contract if the Client is spending all the money buying a fleet of staff vehicles," he asked the Engineer. These arguments were some of the issues that came up and were evidence of loss of Trust. The Contract was eventually terminated. This showed that where there was no Trust between the Contractor and the Client; each took a defensive and self-maximizing position. There was no collaboration and the Client's risk dumping could not be contained by the Contractor.

In the third research Project, the JPC road project, a Trust relationship to mitigate construction start-up Cost risk appeared to be one sided. First, the Contractor unwillingly accepted a reduced Working Capital Advance payment from the Client. Further, the payment took more than ten months to be given to the Contractor. Here, most of the financial and construction Risk was transferred to the Contractor and Consultant. It made them less productive. Again the contract clauses exonerated the Client from this dereliction of his obligations. However, transaction costs were saved by transferring the Risk to the Consultant and Contractor because they could not claim interest because of their wish to remain in the good books of the Client.

6.5.3 Sharing Performance and Program Risk

One of the significant themes which I identified was competence or performance. This was Project performance regarding meeting the product Quality and Program. The performance was fundamental to achieving the Project's intended objectives. I found that the three forms of Trust, which are, Competence Trust, Contractual Trust and Goodwill Trust, were being used to reduce performance risk. To start with, in the JPC contract, for example, the Contractors continued to perform in spite of non-payment. In a way, he was carrying the performance Risk. In the Low-Cost Housing project, some 8 out of 9 contractors had performed well. I had to intervene and take away work from the non-performing Contractor and redistribute it to a better performing contractor. The Consultant and Client had lost Trust in the Contractor's Competence and ability to complete the project on time. In the standard Traditional Contracts, the Client was compensated for time overruns using "a liquidated delay damage clause." This Clause passes the time overrun Risk from the Client to the Contractor. In reflection, I think that this Clause should only be used as a completion time control tool and it should not be punitive. For this reason, I supported that its value be minimal in my contracts. However, this was contrary to the

evidence obtained in an interview with the supervising Engineer for Linia Road project. He stated that, "I don't think the Contractors find liquidated delay damages deterrent enough. Perhaps the permitted maximum of 2.5 % liquidated damages payment by the Contractor is too low". He had found that Contractors were not perturbed by this penalty. On the other hand, he said, the Client sometimes suffers more, from the project completion delays. This is "because the loss-of-use could be significant". After reflecting I used a different strategy to get the project completed on time in other Contracts. In the Low-Cost Housing project, for example, work was completed on time by intervening and taking part of it away from one of the slow Contractors and giving it to a more capable Contractor who could perform. In the second research project, the Library Construction project, the Contractor failed to perform, resulting in the Contract being terminated. When a Contract gets terminated, all the three forms of Trust will have been lost, and Trust will have failed to mitigate the project implementation Risk. This was shown in the Library project at termination because the Contractor moved off-site. There was no Contractual Trust as each party began seeking self-maximization and there was also no Goodwill Trust because neither side expected to work with the other on future projects. In the Library Project, to show lack of any intention by the Contractor to build the three forms of Trust, the Client wrote a letter to the State Procurement Board. He stated that "the Contractor did not bother to insure the works. He also did not assign qualified personnel to the project, nor did he respond to communication and instructions from the supervising team". Such behaviour can only be exhibited by someone who has lost all forms of Trust and is not prepared to accept any further risk from the project. In the third research project, the JPC road construction project, the Consultant, and the Contractor continued to perform despite non-payment. In this case, I wondered if it was Goodwill Trust being used to alleviate the financial risks or just that they had no alternative. This Risk was being borne entirely by the Consultant and the Contractor. On enquiring from them, I found that they were both keen to retain the Client. It made me infer that it was an issue of investing in goodwill, because they worked with the client frequently. However it was clear that they were working less efficiently because the contractor applied for extension of time to complete the project. In the site meetings the Client began to realize that the project would not be completed on time unless he paid the Contractor and the Consultant. Regular and timely payment of the Contractor and Consultant was one measure which could enhance construction progress. During the non-payment period it was evident that, the program Risk had been transferred from the Client to the Contractor. In interplay of Trust and Risk sharing, the Client suddenly agreed to extend the project completion time. I inferred that this was due to the development of Competence, Contractual and Goodwill Trust between the two.

One of the concerns of the Client on this project was that of the experience of the Contractor's Site staff. This was a case of a low level of Competence Trust and its effect on the Quality of work. The solution which was used to maintain the Client's confidence and Competence Trust was to hedge against product quality risk. This was done by moving this responsibility to the Consultant. I negotiated with the Client to reduce the site experience requirement. There was noticeable relief on the Contractor when his lack of experience staff risk was reduced by combining very experienced Consultant Site staff with the relatively less experienced Contractor's Site staff. Further the larger foreign company in the JV also contributed competence and experienced Site staff to the Joint Venture. This was a collaborative action which resulted in risk sharing due to the blurring of contract responsibilities. It can be argued that the more experienced the Contractor's Site staff were, the more Competence Trust he got from the Client and the better the product Quality, Programming and Risk alleviation. Again the standard contract clauses show that the Product quality and program risk was allocated to the Contractor. Through these iterative action and reflection cycles, Trust was used to alleviate and share Risk, resulting in better overall project governance and control. In the Research project 4, the Linia road project, the Client, and Contractor first signed a Relational Public Private Partnership Contract. They changed it to a Traditional, standard Construction contract. The fact that the two moved to a new contract but did not terminate their engagement meant that they still had Competence and Goodwill Trust in each other and what they first thought lacked was Contractual Trust in their Relational Contract. They then made a more explicit Traditional Contract. However, due to resource constraints on the Client, the Contract was changed back to a Public Private Partnership Relational Contract. This is the Contract which was then finally used to implement the project. The analysis of the changes from Relational to Traditional and finally back to Relational Contract showed that the Client was again passing on Risk to the Contractor. He exonerated himself from any project risk and depended on the Trust he had of the Contractor.

6.5.4 Sharing Product Quality Risk

Product Quality was an important parameter in all the projects. If the quality of works was right, it meant that the product satisfied its intended use and the Client got value for money. In many contracts, however, Contractors were asked to demolish poor quality work and reconstruct at their own cost. In the JPC contract, to hedge against poor quality work the Client intervened and he demanded to have a full-time Resident Engineer on Site. The Resident Engineer ensured that the works were built according to the design and specifications. However, to share the Quality

Risk, the Client demanded a Resident Engineer with more than 20 years' experience because the Contractor did not have adequately experienced staff. Also, the Consultant demanded that the Contractor should provide a list of all equipment he owned or leased and it had to be adequate. This was a pre-contract check of the Contractors' capacity for quality work. During the project implementation, the site minutes always had a page on which the Contractor listed his equipment and materials on site. This seemed to be a measure to establish Competence Trust. From the balance of evidence, there appeared to be justification in allocating this equipment Risk to the Contractor as he knew more about the methods of construction and the equipment required. In fairness in my analysis, the materials availability risk should have been shared between the Client and the Contractor. A case in point is when there were national materials shortages such as the time the Contractor could not procure diesel and cement locally. The materials shortage risk was offloaded to the Contractor. Workmanship and Quality Risk which was also allocated to the Contractor was on action and reflection, reduced by regularly testing the construction materials and workmanship. The Consultant seemed not to carry any workmanship and quality Risk. He could ask the Contractor to demolish unsatisfactory work. This was in spite of him being present and the supervisor during construction. I argued that the product quality risk should have been shared between the Consultant and the Contractor, instead of wholly leaving this risk with the Contractor as was done in all the Contracts.

6.5.5 Moving from Trust to Risk sharing

In the last Section 6.5.4, I showed how the research revealed that the Cost, Quality, and Program of a project were collaboratively enhanced through a Trust relationship and Risk-sharing between the Client, Consultant, and Contractor. In this Section, I show how my theme moved from just creating Trust to sharing Risk. Thus, I reflected that to overcome the issues that were stalling progress the two themes of Finance matters and Technical capacity required that I make changes within the Contract management practice itself. I had to create inter-entity Trust through collaborative practices first and then move from Trust to Risk sharing. I reflected on the initial research question which was: *How do Trust Relationships affect the construction project management with respect to Cost, Program and Quality?*

Plainly the research had answered that there are 3 forms of Trust, namely Competence Trust, Contractual Trust and Goodwill Trust which must be created through collaborative practices between the Client, Consultant and the Contractor for efficient construction project performance. In the first instance, these three forms of Trust were shown to practically affect

the three fundamental parameters of cost, time and quality in project management. Further the research emerged with collaborative practices that could create Trust and enhance efficient project implementation by sharing inherent and emergent Risk between the project participants. As the study proceeded, the evidence had shown that the purpose of creating Trust was not only to manage the projects with respect to cost, time and quality, but also to mitigate construction Risks. In the process and sometimes unfairly, Risk had been allocated to the Contractor and the Consultant by the Client in that order of magnitude. I argued that construction Risk needs to be shared equitably by the four project participants, who now also included the Financier. I, therefore, found myself not just studying how Trust could be created, but how from a manager's position, Trust could be used to deal with issues of finance and technical capacity Risk. The literature review showed that there has been interest in detailed research in inter-entity Trust building. Most of it, however, has concentrated on the social aspect of Trust, particularly at a personal level. In this study I scanned the literature for studies of Trust in construction contracts in Zimbabwe and Malawi. I found no literature or a research attempting to bring Trust relationships to the fore in construction projects. As stated before, the emphasis had been on transactional interactions. Due to this, the interplay between Trust and Risk sharing was understated. I studied the numerous clauses in the Standard and Relational Contracts. These clauses required each party, in particular, the Client to be indemnified from specific project occurrences. In the following Tables 5.1 to 5.3, I show the forms of Trust which were required by each referent and the evidence of the Risk mitigation by the Contractor, Consultant or Client. Thus, after identifying the three types of Trust as Competence, Contractual and Goodwill Trust, I suddenly realised that project construction progress was determined by how the various construction Risks could be made palatable using these three forms of Trust. Further, I found that there was a deliberate effort by the Client to transfer most of the Construction Risk to the Contractor. I learnt that managing Working Capital Advance, timely payments, the experience of Site Staff and frequently or a history of previously working together were the collaborative practices that could be used to create Trust and alleviate Risk. My interviews, contract documents, meetings and artifacts provided the evidence in Tables 5.1 to 5.3 below. The tables show the Trust that was generated by collaborative practices centered on the two final themes. This is the Trust that was required to ease the underlying intrinsic Risk. In the last column, I show and clarify the action taken by the Financier, Client, Consultant or Contractor as evidence to mitigate Risk. In latter sections I criticize some of the actions taken and I try to bring change, for example the requirement for irrevocable Bank guarantees for Advance payment. I attempted

to have this Guarantee requirement substituted with regular insurance cover. I was unsuccessful because this was rejected by the Clients. I however came up with the idea of pre-purchasing some materials by the Client and this worked because the project work could commence.

Table 5.1: Evidence of Competence Trust, Collaborative Practices and Risk mitigation

| Item | Processual Building of Trust required | Intrinsic Contract Risk | Current and proposed Risk Mitigating Processes |
|-------------|----------------------------------------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Contractor Competence | Competence Risk | <ol style="list-style-type: none"> 1. Submitted Performance Bond 2. Submit List of previous works 3. Long experience for Site Staff 4. Listed Equipment owned or leased by the Contractor. 5. Registration with Confederation of Construction Industry was required |
| 2 | Consultant Competence | Competence Risk | <ol style="list-style-type: none"> 1. Due diligence of Consultant Qualification pursued. 2. Registration with Professional body was required 3. List of previous similar projects done was provided 4. Many of years' Experience 5. Professional indemnity cover 6. Redistributed work from a non-performing Contractor |
| 3 | Client Competence | Competence Risk | <ol style="list-style-type: none"> 1. Contract Signature 2. Letter of Credit to Contractor 3. Disclosure of the Loan Arrangements with Financiers 4. Previous project record |

The above table shows some Practices that can be used by the Client, Consultant and Contractor to ensure competence for the project. For the Client, I proposed four discerning practices to enforce his competence. These were based on creating Trust in the Clients' ability to manage the financial issues. Importantly, I proposed use of a letter of credit to the Contractor to ensure payment.

Table 5.2: Evidence of Contractual Trust, Collaborative Practices and Risk mitigation

| Item | Processual Building of Trust required | Intrinsic Contract Risk | Current and proposed Risk Mitigating Processes |
|-------------|----------------------------------------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Contractor Contractual Trust | Contractual Risk | <ol style="list-style-type: none"> 1. Reduce Indemnity Clauses. 2. Put Contingencies Sum in BOQ 3. Include Contract amendment Clauses 4. Force Majeure Contract Clause to be included |
| 2 | Consultant Contractual Trust | Contractual Risk | <ol style="list-style-type: none"> 1. Reduce Indemnity Clauses 2. To be Registered with professional body |
| 3 | Client Contractual Trust | Contractual Risk | <ol style="list-style-type: none"> 1. Rectify late or non-payment 2. Reduce Indemnity Clauses 3. Pay Working Capital Advance. |

The above Table 5.2 focuses on some collaborative and risk sharing Practices that I used to build the Client's, Consultant's and Contractor's contractual confidence and Trust. These practices emphasize a reduction of indemnity clauses that exonerate the Client from any risk, as a collaborative practice. Financial issues and in particular Working Capital Advance Payment (WCA) surfaced as an overarching theme. There was significant project construction progress in the Low Cost Housing project and the JPC road project when WCA was made available.

Table 5.3: Evidence of Goodwill Trust, Collaborative Practices and Risk mitigation

| Item | Processual Building of Trust required | Intrinsic Contract Risk | Current and proposed Risk Mitigating Processes |
|-------------|----------------------------------------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Contractor Goodwill Trust | Goodwill Risk | <ol style="list-style-type: none"> 1. Reduced Transaction Costs 2. No Claim for Contractor idle time 3. Client forgiven for reasonable late payment Interest 4. Reduction of self- maximization and illegitimate claims. 5. Contractor and Consultant valued the history and frequency of working together with the Client |
| 2 | Consultant Goodwill Trust | Goodwill Risk | <ol style="list-style-type: none"> 1. Condonation for reasonable late payment interest 2. Registration on Client’s list of approved Consultants. |
| 3 | Client Goodwill Trust | Goodwill Risk | <ol style="list-style-type: none"> 1. Liquidated delay damages were pardoned 2. Materials Pre-purchase Facility 3. Put on approved Contractor or suppliers list |

The above Table 5.3 focuses on some collaborative and risk sharing Practices which I inferred as depending on intangible Goodwill trust. This Trust was making the Contractors in particular assume excessive levels of risk, for example the JPC road contract continued to work for 10 months without payment. He had an option to stop work, but expressed his confidence and Trust in the Client by saying that he trusted that the Client would eventually pay. He was indeed paid and the project rate of progress improved. The collaborative practice that I found above encouraged Goodwill trust. They brought to the fore the overarching themes of financial issues and technical capacity building.

6.6 Summary of findings

In the above Section I have flagged my surprising results, how they agree or disagree with previous research and current practice. More details are given later in Table 6 where I reflect on what I have learned in the study and how I should manage the interplay between trust and risk in construction projects.

As stated earlier, this was the first Participant Action research which showed that inter-entity trust between the Client, Consultant and Contractor could be used to alleviate project construction risk in Malawi and Zimbabwe.

The study went through 3 cycles of enquiry. I started with a focus on motivating relational contracts because I had observed too many projects that were left incomplete. I also wished Zimbabwe and Malawi to benefit from infrastructure projects created through these relational contracts. I then shifted my focus to building Trust. I found ways of creating Trust which could improve construction project progress. These ways of building Trust are explained in thematic areas which were clustered to two overarching themes on financial issues and technical Capacity of the Contractors. I summarise that from the evidence collected in my five projects, the two thematic constraints of financial issues and technical capacity impacted significantly on the project progress. The economic fragility of the two countries and lack of loan financing facilities encouraged the wholesale transfer of construction project risks from the Client to the Contractor. Finally in a third cycle of enquiry, I uncovered that the Contractors were accepting Working Capital Advance (WCA) payment risk, inexperienced Site staff risk and non-payment risk by investing heavily and voluntarily in Goodwill Trust in anticipation of future work from the same Clients. This benevolence was making the projects proceed, but on a less effective trajectory. Thus, although they were mitigating these Risks through Trust building, the WCA, Non-payment and inexperienced Site staff were a primary constraint to efficient project implementation. In some cases it led to project failure in these countries. Hence my argument was for change in construction contract management practice by developing collaborative methods in WCA, regular payments, Technical capacity through frequently working together and thus creating Trust and sharing Risk equitably.

CHAPTER 7

REFLECTIONS: MEMORIES, LEARNING, AND INTENTIONS

In the previous chapter, I showed that suddenly during my study I found out that the whole purpose of creating Trust was to mitigate Risks in Project Cost, Program, and Quality. Most of this Risk was being unfairly allocated to the Contractor. Clients and Consultants were shirking away from their obligations. Osipova (2006), in a detailed study of the Swedish construction projects showed that risk sharing and risk management was superior in Design-Build and Partnership projects. It was a problem in Traditional standard contracts because of the principal-agent and positional relationship. However there was no literature that sought to link trust and asymmetric risk allocation. I wanted to establish the importance of this link and how risk symmetry could be improved with Trust. First I proceeded to list the evidence that showed how Trust was mitigating Risk in my Projects. I then summarized my findings from the deliberate action I took. I reflected and recollected that there were two overarching themes from my clustering of themes. The first theme was on financial issues, comprising Working Capital advance and timely payments. The second theme was on Technical capacity issues, which included Site staff experience and the effect of frequently working together. A third theme had emerged on how to use collaborative practices to create trust and share Risk. In this final Chapter, I present what I learned and my recommendations on how to deal with these construction Risks using Trust. The Risk factors arose from project financial matters like non-payment or late payment of Working Capital Advance and the need for technical capacity. I also reflect on how I can work differently on construction projects with the new practices I developed. I examined the evidence I had from the interviews and other artifacts that Contractors were behaving in a collaborative manner because they wanted to complete the projects and be in the Clients' good books for future projects. The main practices that I developed meant that Contractors should be paid WCA before moving to site and subsequently be paid regularly as they progressed. This displayed the capacity of the Client to fulfill his contractual and performance obligations, in other words tangible solutions that depended less on benevolence and good will. In the LCH and JPC contractor I observed that after failure of the Contractors to get irrevocable bank guarantees that would release the WCA, the construction work could not commence. It's only after negotiations were carried out by the consultant that resulted in the Client pre-purchasing materials for permanent incorporation in the works that work commenced. Thus the pre-purchase facility comes out as a practical option to the WCA. By way of a

paradigm shift, it should be incorporated in contract documents and in some ways it will reduce dependence on Goodwill trust by the Contractor, which had led to him being punitively or less fairly treated.

7.1 Risk Management and proposed change of current practice

The risk parameters and the proposed change of current construction management methods are directed towards six aspects. Below, I list these parameters and the lessons learnt and risk management methods. I also show the actionable knowledge created and proposed change of practice that follows:

- 1) The research showed that there should be Risk sharing as opposed to risk allocation between the Financier, Client, Consultant, and Contractor. The current tendency had been to transfer all construction risks to the Contractor. The first lesson learnt out of this research is to have collaborative practices that balance the inter-play between Trust and Risk.
- 2) A financial paradigm shift is required, and this includes a reduction of the Working Capital Advance payment Guarantee requirements or acceptance of regular Insurance to cover advance money paid to the Contractor. Payment of the Working Capital Advance reduced tension; it created Trust and spread the Risk. The second lesson learnt is that the Client and the Contractor should share project start-up risk. The current practice was that the Contractor would bear the burden by seeking loan funds directly or through expensive irrevocable bank guarantees.
- 3) The research showed that a collaborative and risk sharing practice was to institute a pre-purchase of construction Materials by the Client at the start of the project. These materials would be free issued to the Contractor for permanent incorporation into the works. Issuing the Materials was a collaborative practice which generated Trust and reduced project capitalization and cost escalation Risk for the Contractor.
- 4) Another lesson learnt was that a good practice was to change the start date of construction contracts from the date of contract signing to the time of payment of the Advance in Traditional contracts. In the Relational contracts the start date of the Contract should be changed to the date of release of the first tranche of financing. Synchronisation of the construction start date and contract start date was a collaborative practice which created Trust and reduced the Risk of program overruns.

5) A paradigm shift is also required by reducing the mandatory 20-year experience required for the Contractor's Site staff to only 5 to 10 ten years. This is because of the lack of skills locally and the brain-drain in developing countries. The Product quality risk with trusted but less experienced Contractor site staff would be reduced if the Consultant collaboratively provided more experienced Resident Engineers. Consultants generally have more experienced staff than Contractors.

6) The sixth and final practice to be adopted was to have a direct payment system to sub-Contractors and Equipment suppliers. This practice reduced Main Contractor and Sub-Contractor conflicts. It created Trust and reduced Program time overrun risk. .

The study questioned the tripartite competence on financial issues and technical capacity to manage construction projects. Competence trust was defined as the confidence in the ability of the Client, Contractor and the Consultant to perform the construction contract obligations. The competence of the Client and Financier to finance the Project has always been taken for granted. In this research, this position has been questioned. The Contractors demanded the Client to fully disclose his funding capacity and provide a funding guarantee in favour of the Contractor. Goodwill trust was found to reduce transaction costs considerably and to avert litigation between the Contractor and the Client. However, the research also found that the Contractors in all the projects were sometimes being forced to punitively invest in Goodwill trust beyond good business sense. In some cases they were being taken advantage of and treated harshly. Thus the pre-purchase facility surfaced as a practical option to the WCA. By way of a paradigm shift some of the practices discussed above for example the WCA payment, regular payment arrangements and prepurchase of materials facility should be incorporated in the contract clauses in future Contracts. This will reduce dependence on goodwill which was leading to the contractors sometimes being treated punitively and performing their work less competently. The evidence is shown in the LCH and JPC Projects when the Contractors threatened to move off site. .

7.2 Construction Contract Management Trend

The extant literature review showed that there is a movement towards collaboration and partnering between Clients, Consultants, Contractors, and Financiers. There have been many researchers after Macneil's' (1974) seminal presentation of the theory of Relational contract norms. Trust is at the core of Relational Contracting. The research disclosed that

the very process of detailed contractually enforceable indemnity Clauses destroys Trust. These indemnity or disclaimer clauses should be substituted with Trust, which is a voluntary acceptance of vulnerability in contracts. In the literature, I found no contextual study based on Action Research of construction project management constraints in sub-Saharan African countries. This study thus gave insight into possible collaborative practices that can result if there is tripartite Trust in construction projects in Zimbabwe and Malawi. It emerged that emphasis should be on Risk sharing as opposed to Risk Allocation. The evidence showed that the Contractors were unfairly allocated most of the Risk. Further, there had been no study to show how creating of Trust can be a powerful tool to mitigate risk. Contractors were giving informal Contractual, Competence and Goodwill Trust to the Client and accepting vulnerability beyond good business sense to achieve cost savings, program and quality control in the construction projects. In principle, I argued that the four stakeholders consisting of the Financier, Client, Consultant, and Contractor must accept vulnerability due to the action of others and through the collaborative practices described above; they can manage the interplay between Trust and risk sharing. In this paradigm shift, there is no room for indemnity clauses.

It emerged that Relational, PPP, contracting is based on Trust and expectation of decisive action from the trusted party. On the other hand, standard Traditional Contracts in the construction sector are based on short-term economic transactions guided by a Bill of Quantities. Blois (1990) argued that Networks theory requires that all the costs of contracting, construction and project coordination be captured and be paid in the short term. Analysis, however, showed that it was practically impossible to define and cost all the potential construction contingencies. These contingencies were the risks in the construction projects.

Trust was required to lessen the contingencies' negative impacts on progress. In the Low-Cost Housing project, the Contractors trusted and accepted that deferred payments would be paid later. Further, no interest claims were made on outstanding amounts by the Contractor. This was inferred as acceptance of vulnerability and contingent risk sharing on the part of the Contractor. This was an investment in Goodwill Trust because this cost-saving behaviour was in expectation of future repeat work. In a way, Trust was used as an informal cost control and contract governance tool. There is, however, formalized risk allocation and enforceable disclaimer clauses in Traditional standard contracts. The research showed that in cases where there are too

many exculpatory clauses these become unfair and punitive. They do not enhance performance.

7.3 **Practical Actionable Knowledge Contribution**

The research contributed practically by showing that construction contracts should be based on optimum Trust and Risk sharing relationships. The threefold Trust identified in the study can be used in a processual manner to manage project Risks. There is no option but to accept Risk and share it equitably through trust relationships. In an interview, a Client summed up the issue of risk sharing with the Contractor by stating that "As clients, we are prepared to pre-purchase materials for permanent incorporation into our project because there is less risk even if the Contractor is dismissed, we will retain our materials." This showed the need for a paradigm shift for the Clients to start Risk sharing instead of the current Risk allocation attitude. Both Relational and standard Traditional contracts often have some construction risk issues omitted or left unsaid in the Contracts because it is not possible to foresee all future risks and contingencies before project commencement. These omissions must be accepted as vulnerability. Attempts to document and formalize Trust based on mid-tenure contract amendments were not taken positively by participants in the Library and Moni projects. They were considered as calculative or enhancing self-interests and being positional. Even in the Traditional standard contracts, such amendments will have to be on a win-win philosophy.

In the two developing African countries that I studied, there is a brain- drain for greener pastures to developed countries. Thus it is challenging to find professional, skilled and experienced site staff such as Engineers, Architects, and Quantity Surveyors. This is the current burden of developing countries and to get both the Consultant and the Contractor to have local Site staff with over 20 years' experience was difficult. However, the practical solution was to balance the Consulting Engineer's Site staff experience with marginally experienced Contractor's Site Staff. This can be done for ten years until the local Construction industry has built experience and capacity. Also, as a practical contribution, local Contractors and Consultants were advised to go into win-win Joint Ventures with well-established International Contractors and Consultants to boost their skills, experience and for technology transfer. Another recommendation out of this research was to start Retired Engineers Voluntary organisations. Such Organisations are common in the first world but non-existent in the study countries. There are now threshold numbers of retired Engineers, Architects, and other professionals to establish

these volunteer organisations. The retired Engineers and Allied Professionals with many years' experience can then mentor going concerns of Contracting and Consulting firms for a nominal tax-free allowance. Their incentive would be to leave a legacy of professionalism in the industry.

Another practical contribution was to include financial disclosure and a letter of credit in favour of the Contractor, in the Construction contract document. This will guarantee payment of the Contractor or Consultant by a Bank on terms, conditions and stages agreed before the Contract. This is because it was noted that Clients, mainly Public Sector Clients do not settle both the Contractor's and Consultant's invoices on time. As seen from the research, some Clients even accept the late payment interest charges but subsequently offset them by invoking the liquidated delay charges clause to the Contractor for late completion. This leads to the question, who should pay for an extension of completion time costs due to late payment by the Client? The current Standard Contracts state that the only remedy for late payment is for the Contractor to charge the Client interest costs. However, this does not compensate the Contractor for the cost of accelerating or getting additional human and equipment resources to complete the works on time. The standard Government of Malawi contracts do not even permit Contractors to slow down work due to non-payment. The only solution was to claim interest for late payment or to terminate the agreement. This again reflected the attitude of shifting all the capital and payment risks to the Contractor. In this Chapter 7, Table 6 below, I link the generally accepted key success factors for construction projects with the risks. The key success factors constitute “the iron triangle” of Cost, Program and Quality. I collated all the risks which I had identified earlier in Chapter 6 to include WCA, timely payments, material shortages, equipment shortages, contract start or completion date, tripartite competence and staff experience. The collaborative risk management action taken is shown in the last Column.

Table 6: Project Key Success Factors showing the identified Risks and solution

| Item | Key Success Factor | Identified Risk | Risk Management Action |
|-------------|---------------------------|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | <i>Cost</i> | Working Capital Advance payment risk | Reduce the WCA from 25% to 10% and the pay-on-demand criterion |
| | | Regular/timely payment risk | Timely payments to Consultant and Contractor. |
| | | Paying interest on delayed payments risk | Contractor to condone reasonable interest payment to create Goodwill. The Client to reciprocate by placing the Contractor on his list of preferred service providers. |
| | | Risk of the Client failing to pay the Contractor and Consultant. | Client should disclose financial capacity and issue a letter of credit to the Contractor and Consultant guaranteeing payment |
| | | Subcontractors' poor works progress and conflicts with Main Contractor | Subcontractors to be paid directly by Client to avoid conflicts with Main Contractor. |
| 2 | <i>Program</i> | Contract Start date risk | Contract start should be on the date of receipt of first payment and not date of contract signing |
| | | Completion date risk and | Client to share emergent delays, particularly those caused by delay in |

| | | | |
|---|----------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | overruns. | payment to the Contractor |
| | | Liquidated delay Damages risk | Raise payable liquidated delay damage amount so that Contractors are forced to complete as per program. Enforce payment of idle time to Contractors so that Clients pay Contractors on time. |
| 3 | <i>Quality</i> | Consultant and Contractor Competence risks | Consultant and Contractor to be registered with Board of Engineers, Architects' Council, National Construction Industry Confederation |
| | | Site Staff Experience risk | Reduced Contractor experience to be compensated by more experienced Resident Site Engineers. Establish voluntary Retired Engineers, Architects, and other construction industry experts Organisation to mentor going concerns. |
| | | Materials national shortage and importation cost escalation | Create Materials Basic Price list at start of project. Client to share emergent national materials shortages, delays and cost escalation due to importation. Engineer to ensure Quality, through testing. |

The table shows that processual collaborative practices based on the two overarching themes of finance and capacity can be used to manage construction projects so that they are completed at optimum cost, with good quality outputs and within program.

7.4 Final Interviews

I carried out some final round of interviews with some well- known and experienced Clients, Consultants, Contractors, and Financiers at the end of my thesis write-up. These experts gave

their suggestions and opinions on my findings. The interviews lead me to refine and improve the quality of my proposed new collaborative practices to manage the interplay between Trust and construction risk. In an interview, a well-established Contractor said "Regarding construction risk, currently most of the risk is with us. For example, when the Client delays to pay, the Contractor is blamed for lack of project progress and all the time overruns".

I also found that the Contractors reluctantly accepted the Client's request for some Guarantees for Working Capital Advance, but demanded less onerous conditions. Further, they welcomed the free-issue of pre-purchased construction materials instead of Working Capital Advance. The Contractors also preferred regular insurance Bonds for WCA, Performance and Bidding because they are more affordable. They argued that the irrevocable Bank Guarantees were expensive, unattainable and unnecessarily increased the Cost of the project. In response to cases of non-payment Risk which they were carrying, the Contractors demanded full disclosure of the Clients' financial capacity and payment arrangements, such as a letter of credit in their favour as part of the contract clauses.

7.5 Research Limitations

There were four research limitations to the Study.

The first limitation was that Action research can be emotive and in this study, some caution had to be exercised so that the investigation was not seen as supporting a particular participant's position. I was a participant researcher studying the inter-entity trust in projects I was working on. For example when I requested the Client to extend the start date until the Advance payment had been made; this was seen as concessionary and being supportive of the Contractor's capacity limitations.

The second research limitation was that the evaluation of the Trust continuum was difficult; its presence had to be inferred from the evidence and the relevant party's reaction to the deliberate action I took. For example by accepting punitive conditions such as irrevocable bank guarantees, was the contractor investing in goodwill or was it just that he had no option? The third research limitation was that, of the five research projects selected, some of them could not be taken to their full completion during the research tenure and some deductive conclusions had to be made.

7.6 Suggestions of other Action Research Interventions

In this section, I give my research reflections. I mention the things that I wish I had done in the research and a possible direction for future analysis based on the weaknesses of my study. I also flag what I think still has to be learned on Financier, Client, Consultant and Contractor Trust relationships and Risk management in construction projects.

This research was done from the Consultant's Action Research viewpoint. The first suggestion for future research is to have the Client as Participant Action Researcher. This is because as a significant project stakeholder, the Client can take more deliberate action after synthesizing the problems. It was not easy for me as a Consultant Action researcher to take some steps which could impact on the Contracts without courting the Clients' resistance. I wish I could have been more aggressive in some of the deliberate action I took, but my hands were tied with the general conditions of the contract I had to administer. For example, the Client totally rejected my proposal to use ordinary insurance for the Contractor to access the Working Capital Advance. Secondly, some Clients refused to align the contract start date with the date of receipt of the Working Capital Advance. These Clients insisted on the contract offer and acceptance letter signature date as the Contract effective date.

Secondly, I wished I had literature on collaboration, trust and risk management carried out with the Contractor as the Participant Action Researcher. As observed in the study, the Contractor's progress was affected by late payments, competence and the need to build goodwill Trust. Insight on how these overarching themes affect Trust in the contract could have been appreciated if there was research with the Contractor as the Participant Action Researcher. The Contractor made some concessions by condoning for example, late payments. One wonders what the business sense was in this. When I sought an answer the Contractor responded that it was a marketing strategy to get future repeat jobs. A Contractor Participant Action Researcher would have tried other alternatives, for example, a proviso committing the Client to definitely consider him for future work.

My third direction for future research comes from the fact that this study focused on two overarching themes as summarized below:

- a) Financial matters which included working capital advance, client pre-purchase of materials and timely payments.
- b) Building trust between parties and mitigating project risks in cost, quality, and performance using appropriate Site skills, experience and a history of frequently working together.

These two groups of themes are what could be triangulated from the five projects studied. However, they were by no means exhaustive and hence the suggestions that the Client or Contractor's viewpoint may yield more factors that have significant influence in building Trust in a construction project.

Developing countries have a particular problem in trying to attract local Private Finance Initiatives. In spite of the mantra that “we can do it for ourselves”, most, if not all of the Private Investment in PPP projects in Zimbabwe and Malawi is Foreign Direct Investment. For this reason, my fourth suggestion for future research is a detailed contextual research focusing mainly on the role of Trust and how it can be used to attract Foreign Direct Investment and Private Finance Investment in construction projects in these two countries. The Financiers' inter-entity Trust with the tripartite in both Relational and standard Traditional contracts was looked at only superficially in this research. The emphasis was on effective collaborative practices to build Trust and share construction risk between the Client, Consultant and Contractor tripartite. However, the Financiers' influence on construction projects cannot be under-estimated. It is precisely due to lack of Trust that Financiers put stringent requirements on the procurement of the Consultant and the Contractor. The Financier carried out due diligence and wanted to have confidence and Trust not only in the Borrower, but in the Consultant and Contractor as well. The Client was acquiescent to the Financier and had to keep asking for the Financier's “no objection” on every step of the contract. Thus, a Participant Action Research by a Funding Agency is a fifth suggestion. The sixth suggestion is to research how Clients' commitments to paying the Contractor and Consultants can be more stringently incorporated in the general conditions of contract for the two countries. Evidence from interviews suggested letters of credit, but this needs to be researched further. Some Clients, particularly Public or semi-Public sector Clients start projects without adequate financial resources or arrangements, just to be seen to be fulfilling their Public mandate. This leads to Contractors and Consultants failing to get paid for work done and resorting to expensive and resource consuming litigation.

CHAPTER 8

CONCLUSIONS

In this chapter I conclude and show the road map I followed till I got some actionable practices of project management using collaboration, trust and risk sharing.

8. Concluding comments

The initial research question was: *How do inter-organisational Trust relationships affect construction project management with respect to Cost, Time and Quality?*

In the previous Chapter, I discussed the recommendations and practical contributions to construction project management. I summarized the construction risks and how they could be mitigated.

The chronological order of the research is that I first carried out a Literature Review. This literature review revealed the existing body of knowledge on the role of Trust in construction projects. Details of my Research Design and Method are contained in Chapter 3. The Data Collection and Investigation is in Chapter 4. I purposively selected five projects to carry out the research as a participant action researcher. I collected data from interviews, contract documents, site meeting minutes and other artifacts. After this, I coded, analysed and re-analysed the data to come up with actionable problem solutions. In my Chapter 5, I show how I combined 54 respondent- focused themes to just two, which centered on Project Capital and Contractor capacity. I used 3-column analysis and the Gioia methodology to cluster the themes. In Chapter 6, I explained how I developed collaborative practices to build and balance Trust with Risk sharing in construction projects. In Chapter 7, I reflected on what I had learnt and went into detail on lessons learnt in creating Trust and its use in Risk management. I came up with possible efficiency motivated changes of the current construction project management practice. In this final Chapter 8, I present my conclusions and how I can use these collaborative practices to manage construction projects better.

In summary, the research investigated the processual development of collaborative practices that build Trust and share Risk in construction projects. It defined the sources of Trust as coming from Competence, Contract documents, and Goodwill. The iterative action and reflection led to me intervening in the project management. I emphasized on Trust building and Risk-sharing between the Client, Consultant, and the

Contractor. In sub-Saharan Africa there was no previous study on building Trust to manage Risk. The research contributed to the body of knowledge by revealing how Trust can be built and used to alleviate Risks in construction projects. It examined the building of Trust through Working Capital advance payment, Timely payment, Site staff, contract Start dates, indemnity Clauses and equitable Risk sharing. These collaboration dynamics affected the key project success factors of Cost, Quality and Time.

The experimental interventions had positive results. For example the free-issue of construction materials pre-purchased by the Client obviated the need for the difficult to get Working Capital advance payment. The Materials free-issued to the Contractor enabled the project to commence. The cost of the free-issued materials was later subtracted from the Contract price when the Contractor submitted Invoices for work done. The research showed that Trust could be used to manage construction Risk in these Contracts. Further, Risk sharing required that Clients should stop using punitive and risk exonerating indemnity clauses which unfairly burden the Consultant and Contractor.

The Results from the interviews done at the end of the research came up with a proposal to establish some Engineers, Architects, and Allied Professionals Retired Volunteer Organisations. Such an organisation can be used to mentor and build capacity in ongoing Client, Consultant and Contractor organisations. The Retired Volunteer Organizations do not exist in Zimbabwe and Malawi.

The learnt lessons from the research have positive and practical implications on how projects can be managed in developing countries. These are countries which have loan finance and technical capacity limitations. Another change in practice resulting from deliberate action taken during the JPC contract was to reduce the Working Capital Advance quantum from 25% to 10%. However, substitution of a pay-on-demand bank guarantee with regular insurance cover was rejected by the Clients. Nevertheless, Clients accepted a change in practice by agreeing to trust and share start-up risk by adopting a materials pre-purchase facility and making timely payments to the Contractor. Thirdly, the analysis showed that the demand for 20 year experienced Site staff is not justified and technical capacity of local Contractors can be increased using Joint Ventures. The Action Research results were not conclusive on the demand for extension of project completion time caused by Client delays in paying Working Capital Advance. Further, fixing the start date of the Contract to the date of the payment of the Advance was also not conclusively

agreed between the Client and the Contractor. The evidence was that interest payments were the only remedy for late payment of Contractor invoices and that the contract start date is the date of the acceptance letter from the Client. Finally, it emerged that Clients were shirking from Risk by failing to fulfil their contractual obligations. The Clients and Financiers were exonerating themselves from project construction risk using indemnity and disclaimer Clauses in the standard Contracts. The research recommended a change in practice. This would be by building Trust relationships and sharing of the construction risks

The above recommendations appear neat and logical, but I admit that the research continues to affect my practice. I will carry on the enquiry in practice and refining the positive outputs from the research by managing Financial and Technical issues in construction. My action research interventions for example, to remove Bank guarantees for Advance payment and use normal project insurance failed to give positive results. I remain excited with finding other ways of reducing unfair risk allocation to the Contractor and Consultant, and dropping some of the Client risk exonerating clauses. The focus on future research should be to find more collaborative practices that improve construction contract management through equitable sharing of risk.

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APPENDIX 1

PARTICIPANT INFORMATION SHEET

1. Title of Study

Building Trust and managing Risk between the Client, Consultant and Contractor in Traditional and Relational Construction Projects

2. Invitation Paragraph

My name is Caleb Makwiranzou, a Doctoral Candidate at the University of Liverpool.

I am carrying out a research on Client- Consultant- Contractor relations and Construction project management.

This is purely an academic exercise for my Doctoral Thesis. My Thesis supervisor is Dr. Caroline Ramsey of the University of Liverpool. Her contact e-mail is

caroline.ramsey@liverpool.ac.uk

My research will focus on Client, Consultant and Contractor relationship issues in construction projects.

I am seeking participants to engage in this research, and I would like to ask you to be involved in this project.

I undertake to make all participants anonymous.

I will appreciate it if you can take 5- 10 minutes of your time to read this Participant Information Sheet.

If you would like to participate, I have also attached a Consent Form. You can sign the Consent Form with the full knowledge that any potential professional and commercial risks or discomforts associated with this Study will be minimal.

3. Are there any risks in taking part?

Potential risks in this study could be confidentiality, professional or commercial relationships. These have been addressed as follows:

- To protect participant confidentiality, I will provide anonymity to participants' responses. You will not be identified by name or company in the research thesis.
- To minimize professional risk, no assessment will be made or published on whether professional colleagues are right or wrong. This research will not be evaluative in any way.
- To reduce commercial risk, all observations and responses that I get from you will be in the strictest confidence and I will not divulge any information of commercial value.

- To minimize embarrassment or discomfort, I will protect your identity. I will personally and individually seek your comments on my analysis of what we will have discussed.
- To minimize the risk of potential souring of current Client, Consultant and Contractor relations, I will avoid discussion on personal conflicts and antagonism on any of your Projects. Our discussion should be open but respectful.

4. What is the purpose of the study?

- a) The purpose of the study is to discover the important relational issues between a Client, a Consultant and a Contractor (tripartite) in a typical infrastructure Construction Project. The research will be carried out in Zimbabwe and Malawi.
- b) Action Research will be used to determine how relational issues can enhance project success or mitigate contractual gridlock.
- c) The outcome of the research can give insight on how to align project participants' relations to ensure good project quality and its timeous completion within budget.
- d) The overall aim of the research is to contribute to the body of knowledge on the role of tripartite relations in Construction projects

5. Why have I been chosen to take part?

You have been chosen to take part in this research because of your knowledge of the relational issues in the projects that you have undertaken as a Client, a Consultant or a Contractor. The participants have been purposively sampled from over 20 Client, Consultant and Contractor companies in Zimbabwe and Malawi that the researcher knows.

To protect your confidentiality and anonymity, I will password protect and code all participant details so that they are known only to me as the researcher.

6. Do I have to take part?

Your participation in this research is voluntary and your inability or wish not to take part will be respected. Whatever you decide, it will not affect our professional relationship because this is purely an academic exercise intended to contribute to the body of knowledge on the role of tripartite relations to construction project failure or contractual gridlock.

Should you accept, you will be kept anonymous and there will be complete confidentiality?

I would request 30 minutes of your free time to have an interview with you. I will be asking questions about any relational issues you have experienced on construction projects.

Before the research is presented in the public domain, I will debrief you, and your comments will be taken into consideration, particularly to protect your confidentiality and anonymity.

7. What will happen if I take part?

If you decide to take part, you will be participant in the research. I will need 30 minutes of your free time at your convenience for an interview. From your responses to my semi-structured questions I will codify the significant statements. I will then analyze them and generalize them to come up with tripartite relationships issues that cause project failure or success. The assumption is that relationships are among the 5 most important factors that contribute to construction project failure or success.

As I indicated previously, your identity and confidentiality will be protected by immediately anonymizing your details and responses to my questions.

- **what the methods are:**

The method of research will be qualitative case study of particular projects. I will research Client, Consultant and Contractor relationships while implementing Construction projects. In addition to a formal interview, research data for case studies will include informal conversations, readings of correspondence, minutes and other documents. The outcome will be generalized practical and actionable solutions to improve the management of Construction projects.

- **who are the researchers**

My name is **Caleb Makwiranzou** I have been a Consulting Engineer for most of my career.

I am now a Doctoral Research candidate with the University of Liverpool since 2012. My research thesis is about Client- Consultant- Contractor relations in Construction projects. This is purely an academic exercise for my Doctoral Thesis.

My Thesis supervisor is Dr. Caroline Ramsey of the University of Liverpool. Her contact e-mail is **caroline.ramsey@liverpool.ac.uk**

I will use the interviews, informal conversations, meetings and empirical materials for my research. The results of my thesis will be generalized as my contribution to better Construction Project Management, on the basis of my over 25 years' experience in this profession.

8. Expenses and / or payments

My research will not involve you having to travel and incur costs; it will be carried out in the comfort of your office, home or any place of your choice. The interview will take about 30 minutes of your free time.

There is no payment or compensatory gifts for taking part in this research.

9. Are there any benefits in taking part?

Some Construction projects have failed or been delayed because of poor Client, Consultant and Contractor relationships. The research will provide insight into good or poor relations that affect Construction project management. Results of the research could improve the quality, cost, and implementation time of Construction Projects. This will benefit Clients, Consultants and Contractors.

10. What if I am unhappy or if there is a problem?

The research supervisor at the University of Liverpool is Dr. Caroline Ramsey. If you have any issue on the research that you are not happy with, you can contact her using the following email address: caroline.ramsey@liverpool.ac.uk. You may also contact the University Participant Advocate, on number 001-612-312-1210 or email address liverpoolethics@ohcampus.com

11. Will my participation be kept confidential?

You can take part in this research in the assurance that your responses will be kept confidential and anonymous.

Your personal or company details will be password protected and coded so that they are not directly attributed to you or your company. In addition you will individually be debriefed on the research analysis so that any information which you think compromises your confidentiality will be deleted or rearranged in the final thesis. Your comments and confidentiality will be strictly respected.

12. What will happen to the results of the study?

A summary of the research results will be made available to Participants. If there are any issues which the participants feel are sensitive or embarrassing, the research will be placed in an embargo for 5 years. During this period, it will not be available in the public domain. Only the research supervisors and evaluators at the University of Liverpool will have sight of it.

13. What will happen if I want to stop taking part?

You can withdraw as a participant at any time during the Research and any data from you will be deleted and removed from the research thesis.

14. Who can I contact if I have further questions?

If you have any questions, you can contact me caleb.makwiranzou@online.liverpool.ac.uk or Phone: +263 712 400 523.

You can also contact the research supervisor at the University of Liverpool, Dr. Caroline Ramsey on e-mail address caroline.ramsey@liverpool.ac.uk

APPENDIX 2

PRIMARY INTERVIEW QUESTIONS

Introduction: I am carrying out a research to try and understand what happened on your construction projects. I will appreciate your perspectives by answering a few questions.

1. In your construction project what relational aspects do you think went well and what do you think went wrong and why?
2. What events in the project do you think made a difference on how participants related? What happened?
3. How do you describe your relationship with the Client, Contractor or Consultant or Financiers? Do you think this relationship had any effect on your performance and future work prospects with them?
4. Have any of your projects delayed or failed to be completed due to how the Client, Consultant and Contractor related, what was the cause of this delay or lack of completion?
5. In some contracts Clients, Consultant, Contractors and Financiers resort to defensive positions and pass the blame if things go wrong. Has this ever happened to you and how did you resolve it?

APPENDIX 3

FULL LIST OF THEMATIC STARTER CODES

The following is a full list of the data collected and which formed the 54 Starter codes. The starter codes focused on the respondent themes. The concepts from these interviews and artefacts are in italics

| Starter Code No. | Description/ Evidence | Reflection and possible theoretical Concept | No. of respondent Statements/ artefacts |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| 1 | Contractors failed to perform after being awarded Contract | <i>Performance</i> builds Trust and lack of it loses Trust | 6 |
| 2 | Contractors approached Banks for loans. | <i>Working Capital Advance payment</i> builds Trust | 15 |
| 3 | Bank guarantee loan requirements could not be met in the low Cost Housing(LCH) Project and Contractors were denied bridging finance loan | <i>Collateral</i> required to mitigate loan repayment risk. Bigger Contractors could use Trust by Banks to get loans. | 15 |
| 4 | European Culture leans towards contractual obligation Clauses. African Culture leans towards Trust relational Contracting | Effect of <i>culture</i> on construction contract Management style and Trust | 1 |
| 5 | Contractor incapacitated by lack of knowledge of project procurement, objectives and project implementation road map. (Former World Bank Projects Advisor). Correspondence from Engineer request Contractor for site agent with 15 years' experience | <i>Skills Training</i> to build project management skill and capacity. Client then Builds Trust. | 8 |

| Starter Code No. | Description/Evidence | Reflection and possible theoretical Concept | No. of respondent Statements/ artefacts |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-----------------------------------------|
| 6. | Contractor reputation can build or destroy Trust for future work. Contractors fore go Interest claims on late payments to build goodwill as shown in all the 5 projects. | Publicity and <i>reputation for future work</i> as parameter for Building goodwill Trust | 9 |
| 7 | Client in traditional Contract is given 28 days to make payment. Consistent cash flow is required for work progress. Contractual Clauses used for control and governance. JPC Contractor and Consultant went for a long time without receiving Payment. Linia Contract had to be changed from Traditional to Traditional, so that Contractor could raise funds. Library Contract quoted non-payment as fundamental default. | <i>Late payment</i> causes delay. Working Capital advance non-Payment stalled work progress. | 11 |
| 8 | Contractor says he cannot buy materials and he cannot be blamed because there is nonpayment by Client. Blame passing was evident in all the Traditional contracts. | In traditional Contract when things go wrong , such as delays Contractor takes <i>defensive position</i> | 5 |
| 9 | Library, JPC and Linia Client, Consultant and Contractor had worked together before, | <i>History of working together</i> builds Trust | 5 |

| | | | |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|---------------|
| 10 | Engineer communicated with UNICEF and with non performing Contractor on Low Cost Housing (LCH) project, JPC project | <i>Communication</i> builds Trust | 3 |
| 11 | Contractor had been given three Contracts but was now failing to perform | <i>Work load effect</i> on performance and loss of Trust | 1 |
| 12 | Contractor putting in many spurious claims in the Library project and Linia Project | Client loses Trust if there are <i>Unjustified Claims</i> for payment | 4 |
| 13 | Client requests Contractor to maintain Site Security after Completion of works. Contractors on various projects did not claim interest on late payments as Goodwill investment. | Free LCH project Site security seen as Goodwill Trust. No <i>interest claims</i> on LCH and JPC also Goodwill Trust investment. | 7 |
| 14 | The Foreign based Contractor in JPC Contract subcontracted 100% of the Physical work to Local Contractors | <i>Subcontracting</i> leads to loss of Trust of the Contractor by the Client | 1 |
| 15 | Client and Contract arguing about who terminated the Contract first. Evidence from Library and earlier JPC contract. | All Trust is lost at termination of Contract. All parties try to <i>maximize their position</i> | 5 |
| 16 | The engineering Consultant put in work for no payment, as Sweat equity in the Moni Project | <i>Sweat equity</i> is a display of Trust in the project and Client by a Consultant | 2 |
| Starter | Description/Evidence | Reflection and possible | No. of |

| Code. | | theoretical Concept | respondent Statements |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| 17 | Client circumvented WCA payment by pre-purchasing materials directly from the suppliers for the Low Cost Housing project and partly for the JPC project. This option appeared less risky to him | Client did not Trust paying WCA without a <i>Bank Guarantee for pay-on-demand</i> . He secured project progress by issuing <i>pre-purchased materials</i> . | 5 |
| 18 | Consultant did some initial work at risk as Sweat Equity for the Moni project | Sweat equity to <i>kick start a project</i> implies that the Consultant has Trust in the Project originator | 2, |
| 19 | A lawyer was called in to draft the Memorandum of agreement in the Moni project. This however led to loss of Trust and parties being positional | In a relational contract writing down expected <i>future behaviour</i> from each partner can be an advantage | 2 |
| 20 | Investor requests identification of a Project owner. In all the projects, project sites were temporarily handed over to the Contractors. | <i>Project ownership</i> built Trust, and facilitated project Funds sourcing, governance and control. | 5 |
| 21 | Special Clauses protected the Client or Contractor in a Contract. Presumptive Trust existed between Client, Consultant and Contractor for the Contracts to be consummated. Presumptive Trust due to membership of Sector organisations such as the Institution of Engineers or national Construction Industry Confederation. | Contractual Trust in the nominal Relational Contract clauses. The <i>intangible Clauses</i> are in Trust between the Parties , while the tangible Trust is in the Contractual Clauses specifying tripartite behaviour | 5 |
| 22 | The contracting parties must have | <i>Financial competence</i> | 5 |

| | | | |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| | capacity to make required contract payments. A participant insisted that Clients must show proof that they have the project financial resources available. In the JPC and Library contracts the Contractors requested the Client to show proof of “financial arrangements” | Trust must be built. | |
| 23 | In the Library project, the Contractor suddenly said he had no funds to proceed with a relational Contract | <i>Integrity Trust</i> and prior due diligence checks. Personal integrity of the CEO is required. | 2 |
| 24 | A mixed Relational and Transactional contract is proposed i.e. a Hybrid Contract. In the Moni Contract, the Client sought to formalize the relationship. While in the Library project the Contractor wanted amendment clauses for the frequency of payments | <i>Performance Bonds</i> actualized Trust in Traditional and Relational contracts. Local Contractors have <i>difficulty to get Performance Bonds</i> . Banks require copies of the Contract and collateral | 15 |
| 25 | In the Library Contract, Trust was vitiated by trying to unilaterally change a long term relational contract to a short term transactional contract. In the JPC, Moni and Linia Contracts mutually beneficial Contract amendments were done. | Once engaged in a Trust Relationship, parties must maintain that Trust. The Trust must be sustainable. <i>Amendments</i> should be by mutual agreement. | 7 |
| Starter Code No. | Description/Evidence | Reflection and possible theoretical Concept | No. of respondent Statements/ |

| | | | artefacts |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 26 | The Library client Board lost Trust in the Contractor due to his abandoning site and request for Contract amendments. The Moni Client also made some amendments which were not accepted by JV members. | <i>Contract amendments</i> may lead to loss of Trust | 2 |
| 27 | Contractors were prepared to maintain unoccupied houses in the LCH contract. | Goodwill Trust through <i>anticipation of future work</i> | 4 |
| 28 | In the Traditional contracts, the Contractors were required to issue performance Guarantee Bonds within 28 days of signing the Contract. This made the Clients trust that the Contractors will do their work diligently. The Performance Bond remains in force until completion of the works. | <i>A performance guarantee bond</i> is an exhibition of Competence Trust given to the Contractor. During its tenure, a performance Bond can be used by the Consultant to mitigate non-performance of the Contractor. | 15 |
| 29 | Client and Contractor had a history of working together previously. They were accepting Risk on presumptive Trust. All the Contractors in LCH and JPC started work without WCA | <i>By moving to Site before receiving the Working Capital Advance payment</i> , the Contractor showed Trust in the Client | 13 |

| | | | |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----|
| 30 | The Client refused to release retention until the Contract was signed off as completed in the LCH project. | Client trusted the contractor would correct defects if 10% of the invoice was retained until the end of <i>the defects liability period</i> . | 5 |
| 31 | The Contractor attempted to rebuild Trust using a conciliatory letter in the Library project. | Once <i>Trust was lost</i> , it was very difficult or impossible to rebuild it | 3 |
| 32 | The Engineer wrote letter urging the Contractor to increase work Progress in the JPC project. Contractors in the LCH project invested in Goodwill Trust and prospects of future Work | Using inter-entity <i>respect</i> to build Trust | 13 |
| 33 | It was not clear which Government Department was the Client in the Linia PPP project. There was also lack of role clarity in the Moni project. | Lack of clarity of <i>Risk allocation</i> led to mistrust | 4 |
| 34 | Payment delays led to Govt. not being trusted to meet its financial obligations. Payments to Contractor and Consultant late | <i>Timely payments</i> by Clients build Trust | 5 |
| 35 | Contractor Trust had to be targeted to a clearly defined Client | <i>Trust was unique</i> and selective | 1 |
| 36 | There is propensity to over claim by Contractors. The Resident Engineers | <i>Over Claiming</i> by Contractor was seen as | 4 |

| | | | |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------|
| | on the LCH, Library and Linia contracts had to ask Contractors to remove spurious claims | abuse of Trust | |
| 37 | Consultants are Trusted by both the Client and Contractors because of their impartiality. In all the Traditional contracts, the Consultant was the first point of mediation of any dispute. | <i>Consultants were at the center of generating Trust between the Client and the Contractor</i> | 13 |
| 38 | Equity distribution can lead to distrust. The Terminal patent holder did not want to share project ownership equitably and preferred dominance. In the JPC Contract, Client wanted assurance that both the Foreign and local contractors were involved in the work and there was technology transfer | Trust was essential in a <i>Joint Venture Project</i> | 6 |
| 40 | When a performance guarantee is submitted, The Client can Trust that the Contractor is committed. In all the Traditional contracts, Contractors submitted performance guarantees | <i>A performance Guarantee</i> generated Competence Trust that the Contractor can do the work. | 15 |
| 41 | Liquidated delay damages is 2.5% of cost of works is a control and governance clause to encourage the Contractor to complete the project on time. All the Contracts had a Liquidated delay damage clause | Trust was built using <i>liquidated delay damages</i> | 15 |
| | | | |
| Starter Code No. | Description/Evidence | Reflection and possible theoretical Concept | No. of respondent Statements/ |

| | | | artefacts |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 42 | A Smaller local Contractor going into a Joint Venture (JV) with a larger foreign company can gain Client Trust. In the LCH Contractor two contractors were asked to subcontract some of their work. In the JPC contract, the Contractor was requested to go into a Joint Venture with an international contractor to in order to build capacity. | <i>JVs</i> between a local Company and a large foreign company improved Trust relationships between Clients and the Contractor | 4 |
| 43 | Consultant making himself vulnerable by not reporting Contractor's poor work progress to Client, but chooses limited use of Power and a friendly reminder on the JPC contract | Trust meant making oneself <i>vulnerable to the action of others</i> . The Consultant has <i>Presumptive competence Trust</i> in the Contractor | 1 |
| 44 | The JPC Contractor failing to make progress due to internal constraints on equipment, Finance and site Staff. | Trust to be sustained and supported by Action, for example <i>Client paying the Contractor on time</i> | 2 |
| 45 | Client Requesting for bank Guarantees. Banks had excessive requirements for issuing the Bank guarantees. All Contractors submitted Performance Bonds, Contractors all risk insurance, but some failed to submit WCA guarantees, and a Materials Prepurchase facility had to be instituted to enable them to commence work. | Unwritten Trust is formalized by <i>request for irrevocable Bank guarantees</i> , for Performance Bonds, Retention Bonds Insurance and Working Capital Advance payments | 15 |

| | | | |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| 46 | Client required excessive 20 years' experience of Site Staff in JPC Contract | Demand by Client for written down and <i>tangible clauses</i> which guarantee performance and Trust | 2 |
| 47 | Contractor wanted to amend the Library Relational Contract. This eroded the very basis of a Trust Relationship. The Moni project Client wanted to amend the Relational Contract with the Consultant and the JV partners and this became a problem of self-maximization | Evidence shows that Relational contracts were <i>difficult to amend</i> because they are based on unwritten Clauses in the expectation of positive future behaviour by the parties | 3 |
| 48 | An irrevocable bank Guarantee for WCA payment had strict collateral requirements. In the Traditional Contracts, Contractors had difficulty in obtaining Bank Guarantees for loans. | Trust was operationalized by the demand for an <i>irrevocable Bank Guarantee</i> before the WCA is paid. | 13 |
| 49 | Contractor and Engineer requested the Client to reduce the Minimum value from \$ 1 000 000 to \$ 300 000. This was to avoid Cash flow spikes which could result in inconsistent work progress. The Financier agreed to the reduction. | A low <i>minimum Invoice</i> value by the Contractor may be seen as good control measure or negatively as reduced Trust in the Contractor | 4 |
| 50 | Numerous constraints including economic volatility, regulatory and dispute resolution capacity constrain establishing PPP contracts in Malawi and Zimbabwe | Governments can use PPP relational Contracts to <i>fulfill their mandate</i> to provide public infrastructure | 5 |
| | | | |
| Starter | Description/Evidence | Reflection and possible | No. of |

| Code No. | | theoretical Concept | respondent Statements/ artefacts |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| 51 | The Library Contractor opted for dialogue instead of declaring a dispute because of a difference between his measurements and the Engineer's. There was also dialogue in the LCH contracts | There were <i>dispute resolutions Clauses</i> in most Contracts. Parties prefer to use dialogue to resolve the "disagreement" | 5 |
| 52 | In the JPC Contract, the Financiers wanted to issue a 'no objection' to a downstream contract between the Borrower and the Contractor. This implies that the Financier does not trust the Borrower and is getting involved in the minute operational details of the subsequent contract between the Client and Contractor | Trust in a relational contract was latently dictated and written down in the Demand for <i>high requirements in the WCA by the bank</i> , high Contractors' site staff experience, and high Interim payment Invoice | 3 |
| 53 | The Financier's "no objection" was required for downstream Contract Amendments in the JPC contract | Financiers insisted to be consulted and give ' <i>No objection</i> ' for the Client to sign the Contract amendments. This showed lack of Trust even though it was loan money and not a grant | 3 |

| | | | |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----|
| 54 | Contractors could not raise bridging finance on a short term basis. There was evidence of this inability to raise Funds in the LCH and JPC contractors | Contractors were issued works Commencement orders and were trusted to start work, but <i>they could not start</i> until they received WCA payment | 12 |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----|

APPENDIX 4

Clustering of Themes: Gioia Methodology

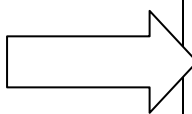
Project Name Abbreviations:

The following abbreviations are used in the analysis below.

1. Low Cost Housing -LCH.
2. University Library -UL
3. Moni Bus Terminal -MBT
4. Linia Road -LR
5. JPC Road -JPC

The data was first examined for respondent outstanding statements or artefacts in the form of minutes of meetings, contract documents or inter-party correspondence. There were 54 starter theme codes. Using the Gioia, Corley and Hamilton (2013) methodology, this data was clustered. The 1st order clustering focused on respondents themes. This brought out four themes as shown below. After reflection, a 2nd order clustering was then carried out. Two overarching themes emerged. One was on Financial issue, while the other was on Technical capacity and frequently working together of Contractors in Zimbabwe and Malawi.

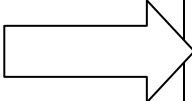
1st Order analysis- Respondent focused themes on Performance and Competence

| Interview data | Project Evidence | Starter theme code No. | Cluster Theme |
|---------------------------------------------------------------------------------------------------------|------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> Awarded Contractor fails to perform | LCH | 1 | <p>1) Respondent Theme On Performance and tripartite Competence Trust.</p>  |
| <ul style="list-style-type: none"> Awarded Contractor applies for Extension of time. | LCH,JPC | 1 | |
| | JPC | 14 | |
| | JPC | 22 | |
| <ul style="list-style-type: none"> Foreign based Contractor sub-contracts 100% to locals | UL | 25,26 | |
| | UL, JPC | 23,26,28 | |
| | JPC, UL | 24,40,45,46 | |
| <ul style="list-style-type: none"> Client's Financials doubted | LCH,UL,JPC | 24,40,41,43,45,46 | |
| | LCH,UL,JPC | 41,43 | |
| <ul style="list-style-type: none"> Contractor abandons site | JPC,LCH | 45 | |
| <ul style="list-style-type: none"> Contractor due diligence | JPC | 46 | |
| <ul style="list-style-type: none"> Contract Amendments | JPC | 49 | |
| <ul style="list-style-type: none"> Clients demand performance Bonds | JPC | 53 | |

| | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| <ul style="list-style-type: none"> • 2.5% liquidated delay damages • Consultant reports bad workmanship • Client wants Contractor staff to have 20years experience • Contractor minimum value of Invoice to be reduced • Funder approves contract | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|

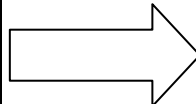
1st Order analysis- Respondent focused themes on Working Capital.

| Interview data | Project Evidence | Starter theme code No. | Cluster Theme |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Contractors approached banks for bridging Finance • Difficult collateral requirements from banks. • Late payment of WCA • Client issues pre-purchased materials in lieu of WCA • Consultant provides sweat equity to jump start project • Delay in releasing retention • Contractor not paid for 10 months and loses Trust • Contractor due diligence • Client demands irrevocable Bank guarantee for WCA • Contractor wants to change contract from Turnkey to monthly payment • Contractor unable to start construction without WCA | LCH,UL,LR,JPC | 2 | <p style="text-align: center;">2)</p> <p>Working Capital Advancement</p> <p>Payment make the Contractor Trust the Client</p> |
| | LCH,JPC | 3 | |
| | JPC | 7 | |
| | JPC,LCH | 17 | |
| | MBT | 16,18 | |
| | LCH | 30 | |
| | JPC | 34,44 | |
| | LCH,UL,JPC | 48 | |
| | JPC,LCH | 51 | |
| | UL | 52,53 | |
| | JPC,LCH | 54 | |

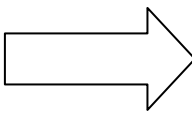


1st Order analysis- Respondent focused themes on Skills

| Interview data | Project Evidence | Starter theme code No. | Cluster Theme |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Local Contractors incapacitated by lack of skills • Contractors require communication skills to build Trust • Patent holder who was the Client in Bus Terminal project wanted full control. • Client and Consultant insist on Contractor Joint ventures to improve capacity • Economic volatility, lack of regulatory framework and absence of Trust discourage PPP projects in Zimbabwe and Malawi | <p>JPC</p> <p>LCH,JPC</p> <p>MBT</p> <p>LCH,JPC</p> <p>UL, LR</p> | <p>5</p> <p>10</p> <p>33</p> <p>42</p> <p>50,47</p> | <p>3) Joint Venture, increased skills transfer and capacity building in Contractor generates Trust by Client and Consultant</p> |



1st Order analysis- Respondent focused themes on previous work together.

| Interview data | Project Evidence | Starter theme code No. | Cluster Theme |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Strong African interpersonal Trust could influence business • Contractors did not claim interest on late payments in anticipation of future business with client • Due to previous work history, Linia Contract vacillated between Relational to Traditional and finally to Relational • In Library, Linia and JPC projects, Clients and Contractors had history of previous work. • History of work together can lead to lack of due diligence check by either party or moving to site without WCA payment. | <p>LCH</p> <p>LCH,</p> <p>LR</p> <p>UL, JPC,LR</p> <p>UL, JPC,LR</p> | <p>4</p> <p>6,13,27</p> <p>7</p> <p>6,9,13,20,27,29</p> <p>7,13,23,29,33.</p> | <p>4) History of previous and working together frequently generates Trust</p>  |

2nd Order analysis- Theory and Result based Clustering

This Section shows how the four Respondent Themes were further clustered to two overarching themes on the basis of theory and Results obtained in the Action research

| Respondent themes | Theory and Result based overarching theme |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Respondents themes were based on the following:</p> <ol style="list-style-type: none"> 1. JPC,LCH Good performance and Competence to meet tripartite obligations. The Client required capacity to pay the contractor the WCA and regular payments during project implementation 2. Irrevocable Bank guarantees were required by the Client before release of WCA. <p>Contractors failed to produce the guarantees. As action research, result, Client provided materials pre- purchased in lieu of WCA.</p> | <ol style="list-style-type: none"> 1) Financial issues were the overarching theme constraining project progress. The Contractual, Competence and Goodwill trust created through deliberate action of materials pre-purchase and timely payments created collaboration and there was construction progress. |
| Respondent themes | Theory and Result based overarching theme |
| <p>Respondents themes were also based on the following:</p> <ol style="list-style-type: none"> 3. Clients and Consultants encouraged Contractor Joint ventures, particularly with experienced multi-national companies in order to transfer skills | <ol style="list-style-type: none"> 2) Technical skills could be created |

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>and improve technical capacity or experience which was lacking locally.</p> <p>4. A history of previously and frequently working together built contractual, competence and goodwill trust which enhanced collaboration. The project objectives of Cost, Quality and Program could then be met.</p> | <p>through Joint Ventures with multi-national companies. In addition, local Contractors and Consultants should frequently work together to transfer skills and build capacity.</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

APPENDIX 5

SUPPLEMENTARY POST RECOMMENDATIONS QUESTIONS

1. Most Contractors in Zimbabwe and Malawi are not able to get Advance payments because of the strict Bank collateral requirements. What is your view regarding a proposal to remove stringent pay-on- demand Working Capital advance Payment guarantees?
2. Most Contracts go beyond the stated completion date because they have the project start date as the day of signing of the Contract. In real times actual work only starts when the Contract has received payment of the Advance payment. What would you say if the Contract start date is taken as the date of receipt of the first payment?
3. Are Clients asking for too much if they require Contractor Site Staff such as Site Agents etc. to have a minimum of 20years experience?
4. Do you have any stories on building Trust and Risk allocation between Clients, Consultants and Contractors on Civil engineering Construction projects?

Thank you

SUPPLEMENTARY POST- RECOMMENDATIONS INTERVIEW WITH A CONTRACTOR

Field Notes 43: Contractor responses on 3rd February, 2017.

- Security on both sides must be equal.
- If these requirements are removed on advance payments, I see a situation where the Client might end up losing *on bogus contractors who might get the advance payment and disappear*. What I think should be done is to enter into a contract where *the client procures all the raw materials*.
- I also propose that there be a win-win situation where the client gives an *irrevocable letter of commitment to pay the Contractor*.
- The Governments in third world countries do not have a provision to protect their Contractors. Governments forget that at the end of everything they gain from payment of P.A.Y.E, V.A.T, Corporate tax and employment creation. Banks take advantage and

implement these draconian measures. I feel WCA guarantees need to be relaxed but not removed.

- Yes I feel it's logical to take the date of receipt of the first payment as the date of starting the project.
- The Clients are right in wishing for Contractor site staff such as Site Agents to have a minimum of 20years experience. But these experience Engineers are not locally available and we cannot afford expatriates. Remember a client wants to get value for his money on any project. The value of money only comes into play when the job is properly done by people who have seen it before.
- When trust is built between the Client, Consultants and the Contractor on civil engineering construction projects it leads to;
 - I. Low construction costs for the client and at the same time higher profits to the contractor.
 - II. The environment enables innovations and technical developments.
 - III. Precise predictability of works.
 - IV. Contractor is able to deliver high quality of the product.
 - V. Lower severity of contractual disputes
 - VI. Recognizes and protects the main contractor
 - VII. Creates a good marketing tool for the Contractor and the Design team.

Regarding Construction Risk, currently most of the risk is "heaped" on the Contractor. As I said sometimes the Client delays to pay and the Contractor is blamed for lack of project progress and time overruns

Thank You