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SCHOOL OF BUILT ENVIRONMENT

DEPARTMENT OF CONSTRUCTION ECONOMICS AND MANAGEMENT

BACHELOR OF SCIENCE IN QUANTITY SURVEYING

TOPIC

EFFECT OF CLIENT’S PROJECT PERFORMANCE ON THE CONTRACTOR’S PROJECT DELIVERY.

BY

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A RESEARCH REPORT SUBMITTED TO THE DEPARTMENT OF CONSTRUCTION ECONOMICS AND MANAGEMENT IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF A BACHELORS DEGREE IN QUANTITY SURVEYING OF MAKERERE UNIVERSITY

MAY 2018
DECLARATION

I, Tumuhaise Judita declare that the content and details contained in this report is entirely of my original work and has never been submitted by anyone for the award of Bachelor of Science in Quantity Surveying degree of Makerere University.

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SUPERVISOR'S APPROVAL

I Ssali Francis Pyrrha do approve that the above student's work is original and has never been submitted by anyone for the award of Bachelor of Science in Quantity Surveying degree of Makerere University.

Signature: [Signature]
Date: 09/07/2018
ACKNOWLEDGEMENT

I give thanks to Almighty God for his protection, unconditional love, care, grace and wisdom.

Special thanks go to my dear Mother, bro Anatoli, bro Pascal, my sister Edwin and Mugaiga Alban who greatly inspired and helped me in many ways and for the financial support given to me during my entire academic life. May God keep them on to reap the fruit of their Labour.

Profound gratitude goes to my supervisor Mr. Ssali Francis who has made me realize the essence of hard work and put me through this essay. May God continue to bless you. Deep gratitude to all my lecturers who have impacted knowledge in me in one way or the other, may God continue to enrich you. To all my classmates and friends, you’re are the best, God bless you.
DEDICATION

This work is dedicated to my father the late Kafeero Peter, my mother Kafeero Furigye, Brother Bananuka Anatoli for all the support they have been offering me throughout the four academic years at Makerere University.
ABSTRACT

This report contains information about assessing the effect of client’s project performance on the contractor’s project delivery.

It has five chapters. First is the introduction which briefly describes the background of the study, problem statement, objectives of the study, research questions, and significance of the study and scope of the study. The second chapter is the literature review which contains information about the different key terms like client project performance etc. The third chapter is the Methodology explaining the type of research, data collection method, data types, data collection instruments, target population, sampling frame, sampling method, sample size, data analysis and ethical considerations. The fourth chapter is Findings and Analysis which shows the results from the field and their implications. The fifth chapter is the Discussions and Sixth chapter is the conclusion and recommendations.
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<th>Description</th>
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<tr>
<td>BOQ</td>
<td>Bills of Quantities</td>
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<td>PC</td>
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<td>PIPS</td>
<td>Performance Improvement Potential Scale</td>
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<td>UNABCEC</td>
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CHAPTER ONE: INTRODUCTION

1.1 Background

The organization of a construction project is unique in nature because of its temporariness and, because it contains many participants with differing backgrounds and interests.

Traditionally, the main participants of the construction project coalition (PC) are the client (as owner of the project and the one who needs the constructed facility, the architect (commonly engaged as lead designer) and the contractor (who constructs the facility normally under the guidance of the architect). The interactions and interrelationships between these participants largely determine the overall performance of a construction project (Smith and Wilkins, 1996; Egan, 1998). The performance of these participants is also interdependent (Higgin and Jessop, 1965; Mohsini, 1989). Hence, in order to perform effectively, a reciprocal requirement exists, whereby each participant requires the other participants to perform their duties effectively and in harmony with the others. Notwithstanding this mutual dependency, the performance of individual participants remains important because overall project performance is a function of the performance of each participant (Liu and Walker, 1998).

Focusing on individual participant’s performance in the project coalition is worthy of investigation, since overall project performance is dependent on each participant’s contribution.

In the context of the construction PC the satisfactory performance of participants is also recognized as a pre-requisite to maintaining harmonious working relationships. Furthermore, harmonious working relationships are essential if projects are to be successful (Baker et al., 1988; Smith and Wilkins, ibid.; Egan, ibid.). There is a need therefore, for key participants to assess each other’s performance on a mutually agreeable and regular basis. That way, they can monitor and seek to continuously improve their own performance for the benefit of the overall project.

Client project performance

Client project performance is based on client’s understanding of project requirements, financial aspects of performance, decision making, management skills, support provided to contractors, client’s attitude, quality of client’s brief.

Client project performance has significant impact on successful project implementation. In a study of construction time performance, Walker [14] discovered that client related factors are more
significant than procurement route adopted. It was recommended that clients should possess a positive attitude and good team interaction skills.

**Contractor’s Project Delivery**

This depends on the overall performance of the client. In order a contractor to deliver a project on time, on budget, free from defects, efficiently, right first time, safely. Clients always expect from the contractor to have an outcome which is the product at the end of the project, therefore their project performance affects contractor’s project delivery.

1.2 Problem Statement

Amidst this research is the question, despite having knowledge about the relationship between client and contractor on a construction project, what is the effect of client’s project performance on the contractor’s project delivery.

A survey by the Construction Clients Forum found that 58 percent of clients reported that their projects were late, 32 percent said that the work was over-budget and 90 percent reported construction defects. However, it has also been suggested that clients should take responsibility of some shortcomings that arise during construction. Many problems that arise on site, are attributable to contractors (Robby *et al.*, 2002). This has left many people blaming contractors yet also clients contribute to poor project delivery. Many projects are not finished due to poor client project performance; this has affected contractor’s project delivery. In order to improve the performance of the industry, all parties should work together harmoniously, and this includes clients. In sum, the satisfactory performance of clients is essential if contractors and professionals are to exercise their duties effectively.

1.3 Objectives

1.3.1 Main Objective

To assess the effect of client’s project performance on the contractor’s project delivery.

Specific Objectives

1. To identify contractor’s expectations during building project delivery.
2. To determine the major causes that lead to poor contractor’s project delivery.
3. To establish client responsibilities on construction projects.
4. To develop an assessment tool for measuring client project performance

1.4 significance of the study.

- This research will help Clients to improve their performance leading to more successful project implementation.
- This will also promote the development of harmonious working relationships within the construction project coalition.
- This study will serve as a foundation for future research.

1.5 Scope

1.5.1 Geographical study
The study was carried out on on-going construction projects within Kampala Central Division. This division was chosen because it had very many large on-going projects that could help a researcher carry out her research.

1.5.2 Scope of study
This study was conducted in Kampala, on different construction projects based on the view of contractors with respect to the client performance.

1.5.3 Time scope
The project took seven months i.e. from November 2017 to May 2018. It commenced with proposal writing and ended with a wrap up presentation of a detailed report at the end of the seventh’s month.
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction
This chapter contains the key words, factors that contribute in the selection of the contractor, factors that lead to good client project performance in relation to contractor’s project delivery/contractor’s expectations, causes of poor contractor performance, roles played by some parties involved in the construction etc.

The primary purpose of a literature review is to help researchers become familiar with the work that has already been conducted in their selected topic areas. (Marczyk, 2005)

This section will help to identify the missing gaps from the previously done work about the same problem.

The literature that has been reviewed consists of journal articles, book chapters and websites related to the purpose of this research.

Keywords:

Client Performance Criteria

Client performance criteria are defined as those used to measure the performance of clients based on the views of contractors.

2.2 Performance and Satisfaction Attributes

The relationship between performance and satisfaction in the context of performance assessment. Performance outcomes are the input and levels of satisfaction /dissatisfaction are the output. Between the input and output, a psychological processing or ‘black box’ exists. That is, an observer can see only what goes in and what comes out, not what occurs inside (Oliver, 1997). Additionally, this psychological process is subjective and difficult to interpret. Satisfaction is regarded as an internal frame of mind, tied only to mental interpretations of performance levels (Oliver, *ibid*.).

This indicates that a performance assessor (e.g. contractor) will have their own psychological interpretation of the performance of others (e.g. clients).

Smith et al. (1969) argued that satisfaction can be specifically defined as a function of the perceived characteristics of a performer in relation to an assessor’s frame of reference. They further stated that for given situations, expectations, and experience play important roles in providing the
relevant frame of reference. Here, frame of reference is defined as the internal standard (or standards) a person uses in making an evaluation. Individuals may have different standards in their judgements of performance. Different persons enter the same objective situation with different frames of reference, which affect both their summary evaluation of the situation and the aspects of that situation which are pertinent to their judgements. Better understanding of the judgements made by individuals can be obtained through knowledge of their frame of reference. However, gaining knowledge of an individual’s frame of reference is considered a very onerous, if not impossible, task. Investigating underlying attributes forming an individual’s frame of reference is relatively easier. From this, it is argued that an assessor attributes, i.e. satisfaction attributes, may influence their judgements of performance.

2.3 Performance Assessment
Conceptually, the outcomes of performance assessment (in terms of levels of satisfaction) can be influenced by two major attributes, those of the performer (i.e. performance attributes) and those of the assessor (i.e. satisfaction attributes). Satisfaction attributes are differentiable from performance attributes mainly due to their unique nature; they being inherent within an individual (i.e. assessor). That is, performance attributes may reflect on both participants and projects, and will influence both participant and project performance. In contrast, satisfaction attributes reflect on the assessor and influence his/her performance assessment and as such are beyond the control of the performer. Performance attributes consist of participant attributes and project attributes. Participant attributes represent the characteristics or nature of a particular participant or their organization, such as company age, turnover, etc. Project attributes represent the characteristics / nature of a project, comprising attributes which may be outside the control of the participants. Controllable attributes are for example forms of contract, procurement route, extent of design finished prior to work on site. Uncontrollable attributes include type of project and building, and ground and weather conditions. Satisfaction attributes include the personal characteristics of the individual assessor (e.g. experience, vocational background) and of their employer, which may influence their assessment (e.g. company age, turnover, number of employees).

The performance attributes of a participant have a direct influence on their own performance in the construction process. Project attributes indirectly influence the participant’s performance since the attributes may enable / hamper the participant in executing their duties. Performance
assessment in this respect is considered as ‘objective’ (i.e. more tangible) in nature. For example, contractor performance may be assessed in terms of cost, time and quality performance (Holt, 1995).

However, performance assessment goes beyond objective aspects outlined above since it involves the feelings of the assessor, which in turn is dependent on their background, i.e. frame of reference. This assessment is considered ‘subjective’ and at a higher level. This research embraces both ‘objective’ and ‘subjective’ (or higher level) performance criteria, which are explained in the next section.

2.4 Construction Project Performance

Poon (2003) opines that construction project performance is best defined as the absolute realization of value for client’s money through the satisfactory technical performance of the product as predefined in preliminary outlines and whole life cycle performance as intended for use by client or prescribed end-user, without failing client’s or user’s anticipated returns all through the project life. Male and Mitrovic (2005) define of project performance as the achievement of fitness-for-purpose in construction and the absolute realization client’s satisfaction of all his requirements.

Principally, construction project performance milestones are commonly indicated in cardinal tangibles like cost, time, quality and health and safety risks (Drew and Skitmore, 1992; Olatunji and Aje, 2005c).

The relationship between the contractor and the client is governed by the contract itself, so it seems logical to start with the basic question, “What is a contract?”. A contract can be simply defined as an agreement between two or more parties which is intended to be legally binding. It apportions responsibility and apportions risk between the parties. Standard contracts Labour-based Technology — A Review of Current Practice / Papers 1996 Page 1 have obvious advantages, in that the clauses have been tried and tested over the years, so their interpretation becomes easier and there is less need to become involved in costly litigation.

The client’s project performance measures are cost, quality, time and utility (Rwelamila & Savile, 1994). Utility includes constructability.

Traditionally, cost, quality and time have constituted the parameters within which projects have been procured and managed (Smallwood, 1998).
2.5 Factors that Contribute in the Selection of the Contractor
Maloney (2002) proposed six factors contribute in the selection of the contractor:

1. Contractor/customer relationship: considers the customers’ view of a contractor in terms of trust, respect, integrity, willingness to partner, responsiveness and communication abilities.

2. Project management: considers the ability to plan, schedule, manage and execute all aspects of project from the conceptual design stage to project completion.

3. Safety: considers the commitment to the regulations, maintaining a safe work environment and employing workers with safe work habits.

4. Prepared/skilled workforce: considers the employees’ knowledge of codes and techniques with quality performance.

5. Cost: considers the ability of contractor to manage project cost activities, providing lower cost alternatives, change orders’ pricing and project building activities.

6. The general satisfaction: considers the general satisfaction of customer with the contractors’ performance.

2.6 Factors that Lead to Good Client Project Performance in Relation to Contractor’s Project Delivery/Contractor’s Expectations.

Quality of brief (clarity, adequacy, appropriateness, etc.), timely payment, knowing what he wants early, co-operativeness, trust, honesty and integrity, ability in making decision, adequate funding, commitment/involvement to project, provide adequate time, support of information, not change mind, give lead designer/consultant proper level of authority, responsiveness to problems that arise, attitude to variations (caused by client changes), understanding of the building process, help contractor work to deliver the product on time.

2.6.1 Causes of Poor Contractor Performance
However, the causes of poor contractor performance and image have their origins in the client, design and contractor teams. Unsuitable procurement systems, client and/or design changes, late information, design errors, poor contractor planning and productivity, and inadequate plant and equipment affect performance relative to both the traditional and non-traditional measures.
Various interventions such as, use of suitable procurement systems, optimum client brief, implementation of Quality Management Systems (QMSs) and prequalification of contractors enhance overall contractor performance, clients regularly change their mind, Clients don’t know what they want, clients regularly change their designs, client’s bad attitude, amendments in BOQ, additional works, failure to finance the project, failure to provide support to the contractor, late handover of the project, variation orders, poor communication skills, delay in receiving drawings, delay of payment, failure in clarity of the need, waiting the decision, non-availability of materials, lack of willingness to invest in the building, obstacles by client

2.7 Roles Played by Some Parties Involved in the Construction

2.7.1 Client

Perhaps this explains why building projects are given priority among other construction projects. Clients are the major initiator of any project and every project initiator or promoter is expected to have her goals for embarking on a construction project (Dada, 2007). The aim of this work is to identify the client’s needs and expectations at various phases during the course of building delivery and also to measure the level of achievements at each phase of building project delivery process.

Clients’ Expectations. An expectation is a belief or anticipation of what will happen as an outcome of an action in the progression of service delivery known as building delivery process.

A project delivery system has been defined as the set of “relationships, roles and responsibilities of project team members and the sequence of activities required” for the deployment of a capital project (Sanvido and Konchar, 1998).

The client makes a decision to select a particular contractor to provide construction services, in making that selection decision; the client formulates expectations of what will happen based on three criteria: words of mouth from regular patronisers, corporate needs of the organisation and past experience on previous dealings. Satisfaction causes the customer to perceive that the contractor provides superior service quality or otherwise (Nbaku and Nkado, 2006).

2.7.2 Role of Client

Latham (1994) maintains clients “have a substantial role to play in setting demanding standards and insisting upon improvements.” Ultimately, they have the most to gain from ensuring the implementation of ‘best practice’.
According to Latham (1994) certain clients in the UK, among other, Stanhope, British Airports Authority (BAA) and large retail chains have emerged as leaders of the construction process, introducing new methods and techniques of procurement and site performance.

2.7.3 Who is the Client?
CDM 2015 defines a client as anyone for whom a construction project is carried out.

The client ensures that the construction project is set up so that it is carried out from start to finish in a way that adequately controls the risks to the health and safety of those who may be affected.

The client has overall responsibility for the successful management of the project and is supported by the principal designer and principal contractor in different phases of the project. For the successful delivery of a project, good working relationships between the duty holders are essential from the start.

2.7.4 Client’s Requirements on a Project
Clients, Organizations or individuals for whom a construction project is carried out. Clients make suitable arrangements for managing a project. This includes making sure that:

- other duty holders are appointed
- sufficient time and resources are allocated.
- relevant information is prepared and provided to other duty holders
- the principal designer and principal contractor carry out their duties
- Ensure welfare facilities are in place provided.
- Ensure the construction phase plan is in place
- Ensure the management arrangements are working
- Check completion and handover arrangements
- Co-operate with the contractor

2.7.8 What is a client brief?
One way of explaining what you want, as well as helping you to carry out your duties under CDM, is to develop a client brief. As the client, you will have requirements and expectations that will assist those designing, constructing or using the structure or building. Sharing these at an early stage can help shape how each duty holder approaches, plans and accommodates your
requirements. The client brief may take the form of verbal discussions or it could be a written document drafted by you or by a designer or contractor after you have discussed your requirements with them. A clear brief is essential to the success of your project. It sets out key requirements, outlines your vision of the project and communicates your aims and aspirations.

**What should the client brief include?**

The brief should:

- Describe the main function and operational requirements of the finished building or structure
- Outline your motivation for initiating the project
- Give your expectations during the project, including how health and safety risks should be managed
- Explain the design direction you have in mind
- Establish a single point of contact for any client queries or discussions during the project
- Set a realistic timeframe and budget. Whilst the initial client brief sets out your general requirements and expectations for the project, it is also important that it outlines your health and safety expectations.

**Make suitable arrangements for managing the project.**

As the client, you must make suitable arrangements to ensure that, throughout the planning, design and construction of a project, adequate consideration is given to the health, safety and welfare of all those affected and involved in the construction work. Your arrangements should be appropriate to the nature of the work and enable other duty holders to carry out their work without risk to themselves or anyone else who may be affected.

The management arrangements should:

- Include requirements for how the project is to be run, taking into account any risks to the public.
- Explain how you will select and appoint designers and contractors to ensure they have the necessary capabilities for the work they are required to do.
• Allocate sufficient time and resources to each stage of the project, from concept through to completion.
• Ensure suitable welfare facilities are in place before works start.

For projects involving more complex work and significant risks, the management arrangements will also need to cover:

• What is expected of the design team to ensure that they consider health and safety risks for the construction phase, as well as when maintaining and using the building once it is built
• The arrangements for procuring the design and construction team, including establishing that designers and contractors are adequately trained, and have the right skills and experience of health and safety
• The arrangements for monitoring designers’ and contractors’ performance, for example by arranging progress meetings with the principal designer and principal contractor to ensure that the project runs in line with your expectations and meets legal requirements. The meetings also give you the opportunity to take action where that is not the case
• The format for the health and safety file or a building manual that incorporates the health and safety file.

Select the project team and formally appoint duty holders

If more than one contractor will be working on your project then, as the client, you must appoint a principal designer and a principal contractor in writing. If you do not do this, then you take on these roles and associated legal duties yourself. One of your main duties is to ensure that those you propose to appoint are able to demonstrate that they can deliver the project for you in a way that secures health and safety. This means that they should:

• Have the necessary capabilities and resources
• Have the right blend of skills, knowledge, training and experience
• Understand their roles and responsibilities when carrying out the work.

Provide information to help with design and construction planning
As the client, you must provide relevant information which you may already have, or that can be obtained by sensible enquiries, for example any surveys or the results of other investigations.

**Notify the project to the enforcing authorities**

where required If your project is expected to last longer than 30 working days and have more than 20 workers working on the project at any one time, or exceed 500 person days, you will need to make sure that your project is notified to the relevant enforcing authority.

**Ensure the management arrangements are working**

As the client, you are required to ensure the arrangements made for managing health and safety during the pre-construction phase are working successfully.

**2.8 Contractors**

Those who do the actual construction work. They can be either an individual or a company.

Plan, manage and monitor construction work under their control so that it is carried out without risks to health and safety. For projects involving more than one contractor, co-ordinate their activities with others in the project team – in particular, comply with directions given to them by the principal designer or principal contractor. For single-contractor projects, prepare a construction phase plan.

A construction contractor (as service provider) can be defined as an individual or an organization that is in charge of constructing the projects according to a contract agreement initiated between the contractor and the client. The contractors’ responsibility is exemplified by constructing the project assigned to them within the scheduled time, in acceptable quality and within the budgeted cost keeping in mind the safety of the project. Projects that are incomplete to these three conditions will have an impact on the contractors’ performance leading to extra cost on the client. That leads to breach of the terms and conditions of the contract. Therefore, contractors must have an excellent relationship with the clients in order to maintain a perception and understanding towards projects’ completion.

**Principal Contractor**
The principal contractor manages the construction phase of a project. This involves liaising with the client and principal designer throughout the project, including during the pre-construction phase. Depending upon the nature of the project, the principal designer and principal contractor may be supported by designers, contractors and workers.

**Ensure the construction phase plan is in place.** The principal contractor is required to produce a plan of how they will manage health and safety on site during the construction phase. Before the work starts on site you will need to satisfy yourself that a construction phase plan is prepared. You do this by checking with the principal contractor that the plan is relevant and meets the requirements of the job. The plan should be project-specific, take into account the pre-construction information provided, and its contents should be proportionate to the site risks.

**Ensure welfare facilities are in place**

You must ensure suitable welfare facilities are provided on site. You should check that they are in place from the very start of the site work by:

- Agreeing that your existing welfare facilities are made available to those carrying out the work
- Carrying out a site visit
- Asking for confirmation from the principal contractor (or contractor on a single contractor project) of what facilities are being provided.

**Importance of Good Client and Contractor Relationship on the Project.**

The importance of client/customer satisfaction has been investigated by many researchers in construction industry (Maloney 2002; Yasamis et al. 2002; Torbica and Stroh 2001).

These include:

- Improvement of communication between parties and enabling mutual agreement;
- Recognition of the demand of improvement in the process;
- Better understanding of the problems;
- Evaluation of progress towards the goal; and
- Monitoring and reporting accomplished results and changes.
2.8.1 Contractor Performance Attributes

1. Adherence to budget (cost performance)

According to Park (2009), cost performance is one of the most significant factors in performance measurement; cost refers to the budget estimate of the project from inception to completion. This dimension is very important for the client, and has a significant effect on satisfaction level. Project cost estimate need to be prepared for any project to ensure money is spent wisely. Cost performance indicates a comparison between the actual and the budgeted cost of the project. The most important thing for the client is to complete the project within a budget cost. This dimension was used frequently to measure the performance (Sami Kärnä, 2009; Ahmed and Kangari, 1995; Soentanto, 2001; Tang, 2003; Maloney, 2002; Yang and Peng, 2008; Chinyio, 1998).

2. Safety performance

Almost all of the discussed studies revealed that safety was a major aspect considered by clients. Many authors (Kärnä, 2004; Maloney, 2002; Soentanto et al., 2001; Chinyio et al., 1998) mentioned safety considerations as a dominant factor in all phases of any construction project. The policies followed, the rules and regulations adopted and the previous records of a contractor, all together influence the selection and the satisfaction of clients. Hinze (1997) mentioned that, in some project, the contractor will be asked to comply, not only with applicable local laws governing safety, health, and sanitation, but also with the owner’s requirements may simply echo provisions already contained in the company safety program.

3. Adherence to schedule (time performance)

Adhering to strict construction time has been approved as the most considerable criterion for a successful project (Chan & Chan, 2004). The construction time can be defined as the time it takes to complete the project. This investigation defines time as the project construction duration. Fixed construction duration is essential to the client for timely completion. Time performance is measured by comparing the actual and planned duration the project. It would also depend on the early commitment of the project team to the schedule. By contrast construction delay or time overrun in a project may be caused by excusable delays (Othman, Torrance & Hamid, 2006), lack of qualified and experienced personnel and/or a lack of human capital (Brown, Adams & Amjad,
2007). Time performance is important for client as mentioned (Ahmed and Kangari, 1995; Soetanto et al., 2001).

4. Site personnel skills

The people/group involved in provision of services to the client, experience, skills, goals and commitments will influence the quality services and complete service provision and finally client satisfaction. Organisations, for instance, contractors and consultants in the entire construction industry that do everything for excellence, may reward, communicate and recognize, in ways that builds commitment and motivates staff to using their experience and knowledge for the advantage of the company to achieve full potential of their group at team based, individual and company level (EFQM, 2005). The people issue hence has a crucial impact on service delivery and is seen as a key criterion of measuring client satisfaction.

5. Management capabilities

According to the rustles of interview and literature review the management attributes of contractor is one of the most important dimension for client satisfaction. This dimension involves management capabilities of contractor, material management, work force management, plant management, management and co-ordination of subcontractors, Strength of the contractor site team, proactive attitudes towards problems. The importance of management capability was mentioned by many researchers such as (Ling, 2003; Jin and Ling, 2006; Sami Kärnä, 2004; Maloney, 2002; Wong et al. 2003; Soentanto, 2001).

6. Communication skills

Good communications between service providers (contractor) and their clients play a vital role in achieving satisfaction of the client (Dainty et al., 2006; Wild, 2004)

Communication within project-based environments presents special challenges and different perspectives highlight the diversity of communication problems facing those working within the project based environments (Dainty et al, 2006)

Previous studies displayed interactions between project teams and research professionals were often inhibited and limited project success (Gorse and Emmitt, 2004)
Some communication principles include the use of advertising and media consultants can help achieve improved communication with client-increased efficiency (Namo and Fellows, 1993)
CHAPTER THREE: Methodology

3.1 Introduction
This chapter contains research design, research approach, data collection method and data types. Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically (Kothari, 2004). The research method is a strategy of enquiry, which moves from the underlying assumptions to research design, and data collection. It is also defined as the study of methods by which knowledge is gained. Therefore, this research methodology addresses an overview of the tools and techniques that were used in the analysis and collection of data during the study. It also includes the procedures for the selection of the sample designs. This research embraces qualitative means of data collection. This will involve use of structured questionnaire and interviews (Thomas, 2010).

3.2 Research design
A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevant issues for the research purpose; otherwise say “it is a conceptual structure within which research is conducted”. Research design can either be through surveys or case studies; this particular research is based on the case study of contractors.

3.3 Research Approach
The research approach was both quantitative and qualitative in nature.

Qualitative approach
This involves methods for capturing subtle entities that is people’s perceptions and feelings pertaining to the study. It is typically used to answer questions about the complex nature of phenomena, often with the purpose of describing and understanding the phenomena from the participants’ point of view.

Quantitative approach
This involves methods for capturing quantifiable data/information from which, results are statistically analysed. It is used to answer questions about relationships among measured variables with the purpose of explaining, predicting and controlling phenomena (Leedy and Ormrod, 2001).
3.4 Data collection method

Data was collected through a descriptive survey which was administered with closed-ended questions through questionnaires. Textual analysis was also carried out on different books, journals, reports and other related sources from internet searches and major research organisation of top concern.

3.5 Data Collection instrument.

Questionnaires were given out to the construction participants (respondents). In addition, two more approaches were used, these included Internet searches and other secondary data from major research organizations of top concern. In total 19 respondents were selected and received a request to fill in the questionnaire.

This method had two major advantages. First, questionnaires were easily distributed to a large number of respondents and second, they allowed anonymity which was very important for this study as far as research ethics are concerned (Lebas, 2009).

3.6 Data Types

3.6.1 Primary Data

This is raw data that is gathered direct from the field. The researcher used questionnaires as a tool for gathering information from respondents in this study (Epimark, n.d.).

3.6.2 Secondary Data

This refers to data collected for some purpose other than the researcher’s study – Examples- government records, internal documents, previous surveys (Mwesige, 2016) This study used journals, published papers and internet sources to obtain reliable information.

3.7 Target population
The target population was limited to on-going projects of construction companies in Kampala Central Division. Kampala central division was chosen because of the vast majority of construction on-going building projects. The targeted construction companies were those registered with Uganda National Association of Building and Civil Engineering Contractors (UNABCEC) and only those that were based in Kampala central division.

3.8 Sampling Frame
The sampling units were contractors in the region mentioned in the study population.

3.9 Sample size

According to KCCA construction department, there was around 21 on-going construction projects in Kampala central division. Based on Krejcie and Morgan’s (1970) table for determining sample size; for a given population of 21, confidence level of 95% and margins of error at 5%, a sample size of 19 on-going projects was used to represent all the projects. 19 questionnaires were given out to the contractors.

3.10 Data processing and Analysis

The data was analyzed and interpreted using tables, bar charts/graphs drawn in Microsoft excel. For each of the questions placed in the questionnaire the researcher gave different options in tabular format and requested the respondents to rate them on a scale of 5-1, where 5= strongly agree, 4= agree, 3= uncertain ,2= disagree, 1= strongly disagree. Data analysis was done by Relative importance index.

3.11 Ethical Considerations

The researcher received an introductory letter from the Department of Construction Economics and Management, Makerere University stipulating the purpose of the research. There was concern taken about the welfare of respondents including their mental, physical health and safety, avoiding embarrassments, guilt discomfort and risks to them, in addition the names and any other personal identification of the respondents were kept confidential and made known to them in the beginning of the exercise.
CHAPTER FOUR: FINDINGS AND ANALYSIS

4.1 Introduction
This chapter contains findings and analysis from questionnaires, the response rate from the respondents, questionnaire design, table of results, bar charts etc.

4.2 Findings and Analysis from Questionnaires

In order to fulfil the objectives of this research, questionnaires were used to answer the following research questions
1). What are the contractor’s expectations during building project delivery?
2). What are the major causes of poor contractor’s project delivery?
3). What are the client responsibilities on construction projects?
4). Why is it important to assess client project performance using an assessment tool?
Other questions were also added in order to help the researcher exhaust all the answers and information needed since the researcher also wants to increase on the knowledge base of the role of client project performance in the construction industry. The additional questions were meant to avail information about if contractors assess client project performance and if they wish to use an assessment tool to assess client project performance. In this research client’s opinions were not sought because for the purposes of this research, performance assessment was based on the opinions of contractors.

For each of the questions the researcher gave different options in tabular format and requested the respondents to rate them on a scale of 5 up to 1, where 5= strongly agree, 4= agree, 3= uncertain, 2= disagree, 1= strongly agree. Data analysis was done by Relative Importance Index (RII) method. Therefore, the Weighting Factor (WF) and Relative Importance Index (RII) for each option given were found. MS Excel was used as the decision support system for the results and bar graphs, pie charts and tables for data presentation and interpretation.

4.3 Questionnaire design
A questionnaire survey was conducted to assess the effect of client’s project performance on the contractor’s project delivery. The questionnaire was mainly based on Linkert’s scale of five ordinal measures from 1 to 5 according to the level of contribution.

4.4 How was the response rate?

The response rate was;

79% of the questionnaires were returned back to the researcher and 21% of the questionnaires were not returned back to the researcher.

The questionnaires were answered by site engineers who were on site representing the contractors. The pie chart showing the response rate is as shown below.

![Pie chart showing the response rate](image)

Figure 1: showing the response rate.

Source: Primary data

4.5 Do you assess client project performance?

89% of the respondents said they never assess client project performance.

1. The following reasons were given by respondents to why they never assess client project performance.

2. Because of fear,

3. To keep and maintain the relationship with the client
4. They don’t find it necessary to assess the client since he or she is a boss,
5. They have never minded about it
6. They don’t find the need to do it

11% of the respondents said they were assessing client project performance

The following reasons were given by respondents on how they assess client project performance

1. We give questionnaires asking if they are satisfied with the quality of our work
2. Earned value analysis and work programs in relation to the quantity surveyor’s certificate.

The pie chart showing whether respondents assess client project performance is as shown below.

![Pie Chart]

Figure 2: Showing assessing client project performance.

Source: Primary data
4.6 Do you wish to use an assessment tool to assess client project performance?

Effect of using assessment tool to assess the clients of project performance working on the site in a form that can be easily understood. The client can either do this themselves. 74% of the respondents responded that they would wish to use an assessment tool to assess client project performance. 26% of the respondents responded that they wouldn’t wish to use an assessment tool to assess client project performance.

A pie chart showing whether respondents would wish to use an assessment tool to assess client project performance is shown as below.

![Pie Chart](image)

Figure 3: Respondents about using an assessment tool

Source: primary data
4.7 Data collection and Analysis

Questionnaires were distributed to the contractors on on-going projects in the central division in Kampala district. Data obtained through these questionnaires were analyzed by computing Relative Importance Indices (RII).

4.7.1 Relative Importance Index

The five point Likert scale ranging from 1 (very low importance) to 5 (very high importance) was adopted to quantify results of survey. The level of importance of each factor is established by comparing Relative Importance Index for each of the factor as follows:

\[
RII = \frac{\sum W}{AN}
\]

Where,

\( W \) – Weighting given to each factor by the respondents (ranging from 1 to 5).

\( A \) – The highest weight (i.e. 5 in this case).

\( N \) – The total number of respondents.

The RII ranges from 0 to 1, higher the value of RII more important the factor was. These ranking make it possible to compare the relative importance of the factors.

4.8 What are the contractor’s expectations during building project delivery?

The respondent’s degree of agreement results about the various factors that lead to good contractor's project delivery in relation to client project performance were tabulated and the values of RII for each cause were found using MS Excel. This is shown in the table below.
Table 1: contractor related factors

<table>
<thead>
<tr>
<th>NO</th>
<th>WEIGHT PER RESPONSE ,W</th>
<th>DEGREE OF AGREEMENT</th>
<th>∑WF</th>
<th>∑N</th>
<th>RII</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Support of information to the contractor</td>
<td>14 5 0 0 0</td>
<td>90</td>
<td>19</td>
<td>0.95</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Quality of brief (clarity, adequacy, appropriateness)</td>
<td>17 2 0 0 0</td>
<td>93</td>
<td>19</td>
<td>0.98</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Timely payment</td>
<td>17 1 1 0 0</td>
<td>92</td>
<td>19</td>
<td>0.97</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Know what he wants early</td>
<td>10 7 1 1 0</td>
<td>83</td>
<td>19</td>
<td>0.87</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>True, honesty and integrity</td>
<td>13 4 2 0 0</td>
<td>87</td>
<td>19</td>
<td>0.92</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Adequate funding</td>
<td>15 4 0 0 0</td>
<td>91</td>
<td>19</td>
<td>0.96</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>Commitment to project</td>
<td>12 5 2 0 0</td>
<td>86</td>
<td>19</td>
<td>0.91</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>Early handover of the project</td>
<td>13 4 0 2 0</td>
<td>85</td>
<td>19</td>
<td>0.89</td>
<td>7</td>
</tr>
<tr>
<td>9</td>
<td>No regular change of mind</td>
<td>8 7 2 1 1</td>
<td>77</td>
<td>19</td>
<td>0.81</td>
<td>11</td>
</tr>
<tr>
<td>10</td>
<td>Good communication skills</td>
<td>9 8 2 0 0</td>
<td>83</td>
<td>19</td>
<td>0.87</td>
<td>8</td>
</tr>
<tr>
<td>11</td>
<td>Involvement to the project</td>
<td>9 4 4 1 1</td>
<td>76</td>
<td>19</td>
<td>0.80</td>
<td>12</td>
</tr>
<tr>
<td>12</td>
<td>Understanding of the building process</td>
<td>1 3 8 6 1</td>
<td>54</td>
<td>19</td>
<td>0.57</td>
<td>14</td>
</tr>
<tr>
<td>13</td>
<td>No regular additional of works</td>
<td>11 6 0 2 0</td>
<td>83</td>
<td>19</td>
<td>0.87</td>
<td>8</td>
</tr>
<tr>
<td>14</td>
<td>No regular change of specifications of materials</td>
<td>8 8 1 2 0</td>
<td>79</td>
<td>19</td>
<td>0.83</td>
<td>10</td>
</tr>
<tr>
<td>15</td>
<td>No regular change of conditions of contract</td>
<td>4 5 7 3 0</td>
<td>67</td>
<td>19</td>
<td>0.71</td>
<td>13</td>
</tr>
<tr>
<td>16</td>
<td>Responsiveness to problems that arise</td>
<td>15 3 1 0 0</td>
<td>90</td>
<td>19</td>
<td>0.95</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: primary data
From the summary of results in Table 1, it can be observed that the key factors that contribute most to good contractor’s project delivery in relation to client project performance were quality brief (clarity, adequacy, appropriateness) \( (RII = 0.97) \), timely payment \( (RII = 0.97) \), adequate funding \( (RII = 0.96) \), support of information to the contractor \( (RII = 0.95) \), responsiveness to problems that arise \( (RII = 0.95) \), trust, honesty and integrity \( (RII = 0.92) \), commitment to project \( (RII = 0.91) \), early handover of the project \( (RII = 0.89) \), good communication skills \( (RII = 0.87) \), no regular additional of works \( (RII = 0.87) \), know what he wants early \( (RII = 0.87) \), no regular change of specifications of materials \( (RII = 0.83) \), no regular change of mind \( (RII = 0.81) \), involvement to the project \( (RII = 0.80) \), no regular change of conditions of contract \( (RII = 0.71) \). The factors that registered \( RII < 0.599 \) were considered insignificant in contributing to the contractor related factors.

A graph of \( RII \) against contractor related factors was made in MS Excel and it is shown as below.
Figure 4: Contractor related factors.
4.9 What are the causes of poor contractor’s project delivery in relation to client project performance?

The respondent’s degree of agreement results about the various causes of poor contractor’s project delivery in relation to client project performance were tabulated and the values of RII for each cause were found using MS Excel. This is shown in the table below.

<table>
<thead>
<tr>
<th>NO</th>
<th>Causes of poor contractor’s project delivery</th>
<th>DEGREE OF AGREEMENT</th>
<th>∑WF</th>
<th>∑N</th>
<th>RII</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clients regularly change their mind</td>
<td>6 11 2 0 0</td>
<td>80</td>
<td>19</td>
<td>0.84</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Failure in clarity of the need</td>
<td>14 3 1 0 1</td>
<td>86</td>
<td>19</td>
<td>0.91</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Clients regularly change their designs</td>
<td>4 15 0 0 0</td>
<td>80</td>
<td>19</td>
<td>0.84</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Clients bad attitude</td>
<td>5 9 5 0 0</td>
<td>76</td>
<td>19</td>
<td>0.80</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>Amendments in BOQ</td>
<td>0 9 6 4 0</td>
<td>62</td>
<td>19</td>
<td>0.65</td>
<td>15</td>
</tr>
<tr>
<td>6</td>
<td>Additional works</td>
<td>7 9 2 0 1</td>
<td>78</td>
<td>19</td>
<td>0.82</td>
<td>7</td>
</tr>
<tr>
<td>7</td>
<td>Failure to provide support to the contractor</td>
<td>6 8 3 2 0</td>
<td>75</td>
<td>19</td>
<td>0.79</td>
<td>10</td>
</tr>
<tr>
<td>8</td>
<td>Late client handover of the project</td>
<td>3 10 4 2 0</td>
<td>71</td>
<td>19</td>
<td>0.75</td>
<td>14</td>
</tr>
<tr>
<td>9</td>
<td>Variation orders</td>
<td>4 12 2 1 0</td>
<td>76</td>
<td>19</td>
<td>0.80</td>
<td>8</td>
</tr>
<tr>
<td>10</td>
<td>Poor communication skills</td>
<td>3 12 4 0 0</td>
<td>75</td>
<td>19</td>
<td>0.79</td>
<td>10</td>
</tr>
<tr>
<td>11</td>
<td>Delay of receiving drawings</td>
<td>16 2 1 0 0</td>
<td>91</td>
<td>19</td>
<td>0.96</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>Delay of payment</td>
<td>16 3 0 0 0</td>
<td>92</td>
<td>19</td>
<td>0.97</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>Delayed financing of the project</td>
<td>14 4 0 1 0</td>
<td>88</td>
<td>19</td>
<td>0.93</td>
<td>3</td>
</tr>
<tr>
<td>14</td>
<td>Change in specifications of materials</td>
<td>1 16 1 1 0</td>
<td>74</td>
<td>19</td>
<td>0.78</td>
<td>12</td>
</tr>
<tr>
<td>15</td>
<td>Change in conditions of contract</td>
<td>0 5 11 3 0</td>
<td>59</td>
<td>19</td>
<td>0.62</td>
<td>16</td>
</tr>
<tr>
<td>16</td>
<td>Over supervision by client</td>
<td>5 6 7 1 0</td>
<td>72</td>
<td>19</td>
<td>0.76</td>
<td>13</td>
</tr>
</tbody>
</table>

Source: Primary data
From the summary of results in Table 2 it can be observed that the most causes of poor contractor’s project delivery in relation to client project performance were delay of payment (RII=0.97), delay of receiving drawings (RII=0.96), delayed financing of the project (RII=0.93), failure in clarity of the need (RII=0.91), clients regularly change their mind (RII=0.84), clients regularly change their designs (RII=0.84), additional works (RII=0.82), variation orders (RII=0.80), clients bad attitude (RII=0.80), poor communication skills (RII=0.79), failure to provide support to the contractor (RII=0.79), change in specifications of materials (RII=0.78), over supervision by client (RII=0.76), late client handover of the project (RII=0.75), amendments in BOQ (RII=0.65), change in conditions of contract (RII=0.62).

A graph of causes against RII was made in MS Excel and it is shown as below.

![Graph of Causes of Poor Contractor’s Project Delivery](image)

Figure 5: Causes of poor contractor’s project delivery
4.10 What are the client responsibilities on construction projects?

Based on the past records, internet sources the following client responsibilities were identified;

1. Clients are responsible for financing the project which helps the contractor to carry out the works and he or she makes sure that sufficient time and resources are allocated in order the contractor to carry out works.
2. Clients ensure that all other parties involved in the project are appointed for example the architect, the contractor, the subcontractors etc. He/ she makes sure that the roles, functions and responsibilities of the parties involved in the project are well stipulated and clear. He/She also makes sure the parties he appoints have necessary skills and knowledge to carry out the works.
3. Clients ensure that effective mechanisms are in place for members of the project team to communicate and cooperate with each other and coordinate their activities.

**Discussions about the client responsibility on construction projects.**

Where one is required, the client should appoint the designer as early as possible in the design process, if practicable at the concept stage when they will be able to help prepare pre-construction information. Pre-construction information is relevant information already in the client's possession (such as an existing health and safety file) or which it is reasonable to obtain for the designers and contractors. For projects involving more than one contractor, the client should expect the principal designer to help prepare pre-construction information and provide it to designers and contractors.

On projects involving more than one contractor the client must ensure that the principal designer prepares a health and safety file for their project. Its purpose is to ensure that, at the end of the project, the client has information about health and safety risks that anyone carrying out subsequent construction work will need to know.

Where one is required, the client should appoint the principal contractor early enough in the pre-construction phase to help the client meet their duty to ensure a construction phase plan is drawn up before the construction phase starts. The construction phase plan outlines the health and safety arrangements, site rules and specific measures concerning any work involving
particular risks. For single-contractor projects, the contractor must ensure the construction phase plan is prepared.

If a client fails to appoint either the principal designer or principal contractor where they are required, then the client must carry out their duties.

The client has a duty to notify the relevant enforcing authority (generally the Health and Safety Executive) if construction work is scheduled to last longer than 30 working days and have more than 20 workers working simultaneously at any point in the project; or exceed 500 person days.

The client must submit the notice as soon as practicable before the construction phase begins, or arrange for someone else do this on their behalf. The client must ensure that an up-to-date copy of the notice is displayed in the construction site office so that it is accessible to anyone, or ask the principal contractor or contractor to do it.

4.11 What is the relationship between client project performance and contractor’s project delivery?

The relationship was compared between the factors that lead to poor contractor’s project delivery in relation to client project performance as shown in table 2 and the contractor’s expectations during building the project as shown in table 1. The emphasis here is on how contractors consider client project performance and the vice versa. A description of the criteria categorized under several main headings is given below.

4.11.1 Understanding of project requirements

Contractors agree that this is the most important criterion. It includes criteria related to the project quality of brief, and ability to communicate requirements. The client brief should be clear, adequate/appropriate, and specific/definite in order to ensure successful project delivery and client satisfaction. However, evidence suggests that inadequacy of a client brief still continues to cause problems during construction. The poor performance of contractors is often partly attributable to a poor client brief. In informal terms, clients should know what they want from an early stage without the propensity for changing their mind in the latter stages of a project. Furthermore, clients are expected to be able to communicate (i.e. convey) what they want to contractors effectively.
4.11.2 Criteria related to finance

It is central that clients (as project owners) have adequate funds for their intended projects. This importance was supported by Kometa et al. who found that project finance was the most important responsibility of clients to project consultants. Moreover, a number of contractors suggested that a willingness to agree a fee in advance was crucial to the survival of their companies. However, delayed payment and delayed financing of the project can affect the contractor’s project delivery.

4.11.3 Criteria related to decision making

Cherns and Bryant contended that client organisations are complex and not unitary. This often causes problems in the decision making process within client organisations. However, the
decisions that clients must make, are often in the crucial period of project execution and may significantly affect contractor performance. Therefore, clients are expected to be able to make high quality and rapid, as well as single voice, decisions.

4.11.4 Criteria related to support to contractor

It is not surprising that contractors indicated the need for support and involvement from their clients. Foremost, is information support, particularly in terms of quality and timeliness. Clients should also set adequate/realistic timeframes for design and construction. A caveat to this was the need to strike a balance between an adequate level of involvement and what could be construed as interference. It has become widely accepted that successful project performance requires client involvement, however, if clients become too involved, then this soon becomes interference which hampers the performance of their professionals and contractors alike.

4.11.5 Criteria related to attitude

While such criteria are considered subjective and ‘softer’ in nature, nearly all contractors suggested that ‘attitude’ has a significant influence on the satisfaction or dissatisfaction of the PC. These criteria support and sustain the quality of working relationships between participants. Such criteria include: integrity and honesty, team work/spirit of co-operation, responsiveness to problems that arise.

4.12 Why is it important to assess client project performance using an assessment tool?

Generic Formal Assessment of Client Performance

None of the respondents were currently implementing any formal assessment of client performance, but all undertook a perceptive assessment of some kind. Some found the very idea of implementing a formal assessment to be a rather strange concept. As some contractors stated: “Some clients think they know best and we [contractors] never even consider whether they are performing properly… what right do we have to tell them that they are not performing?”

Based on the contractor’s responses using a questionnaire guide and analysis, a conceptual tool for the generic formal assessment of client project performance was developed. The assessment is designed to be undertaken by contractors. A completed assessment form is displayed in Table 2.
Here, performance is defined under the following headings; Understanding of project requirements, Finance, Decision making, Management skills, Support to contractor, and Attitude.

### 4.12.1 The performance assessment

In assessing client project performance, the contractor would first need to determine the weighting of each criterion, i.e. Importance (I). These weightings are assumed to be constant throughout the whole project life so as to allow the client to form a suitable strategy aimed at satisfying the most important criteria. This level of importance (I) indicates the value or weight of the criterion, based on the assessor’s feeling of satisfaction or dissatisfaction. The level of importance (I) ranges between 0 to 10, indicating a continuum between no importance and extremely important respectively. Hence, zero (0) Importance indicates the criterion to have no impact on the level of satisfaction attained and therefore effort expended on this criterion can be considered wasteful. Conversely, an importance value of ten (10) indicates a criterion to have a very significant impact on the level of satisfaction and so attempt should be made to satisfy it to its fullest. Adequate performance under important criteria will derive a high level of satisfaction. At any time during the project, the client may request the contractor to make an assessment. Although this process slightly adds an administrative burden, the overall benefit due to harmonious relationships outweighs this. The contractor will indicate their level of satisfaction (S) for each criterion on a scale of 0 to 10, representing a continuum between extremely poor and excellent respectively. Thus, the value of S illustrates how well the client is performing in a certain task according to the assessors’ opinion.

On completing the assessment, contractor would then return the form to the client, who would then analyze the response. For each criterion the Satisfaction Weighted Scale (SWS) and Performance Improvement Potential Scale (PIPS) is calculated by the client, representing a ‘micro’ evaluation of performance. Then under each heading, SWS and PIPS are calculated, representing a ‘macro’ evaluation of performance, e.g. for Decision Making. Finally, the overall values for SWS and PIPS represent a generic assessment, indicating overall satisfaction levels and the need for improvement. The SWS and PIPS are now explained in more detail.
4.12.2 The Satisfaction Weighted Scale (SWS)

The SWS (valued between 0-10) represents a weighted level of (client performance) satisfaction, as calculated by the following formula

\[ \sqrt{I \times S} \]

That is, the square root of the product of the level of satisfaction (S) and the corresponding level of importance (I), as indicated by the assessors, i.e. contractors. The utilization of the square root is simply to provide convenient values of SWS between 0-10 which may be readily interpreted by the user. Hence, a high score represents a high feeling of satisfaction and vice versa.

Locke reported that emotional responses (i.e. feelings of satisfaction and dissatisfaction) are also dependent on value importance; that is how an individual deems a certain aspect of the task in their value hierarchy. The implication for participants of the PC is how one participant values a certain task undertaken by another participant and how this impacts their own performance and levels of satisfaction. Table 3 showing client performance assessment tool; worked example in appendix 4.

The extent to which the performance of other coalition participants impacts upon the performance of another will determine that participant’s perceived importance of the other’s performance. This is simply because the satisfactory performance of other coalition participants enables another participant to achieve their own goals and to perform better. Locke also suggested that failing to perform a more important task will produce more dissatisfaction, and vice-versa. Liu and Walker stated that the more important the value, the wider the possible range of satisfaction or dissatisfaction feelings associated with it. In evaluating levels of satisfaction or dissatisfaction, importance represents a key determinant, hence its inclusion in the assessment tool.

In this process, two criteria may have the same SWS but different values for Importance and Satisfaction. For instance, in the hypothetical example given in Table 1, according to the contractor, Responsiveness to problems (queries) that arise has scores of 10 for Importance and 1 for Satisfaction, and Appreciation of architecture has the exact opposite. Both criteria have the same SWS, that is 3.16, but do they generate the same level of satisfaction for the assessor? The answer is yes because Responsiveness to problems (queries) that arise, which has very high Importance but very low Satisfaction, produces a low feeling of satisfaction, Appreciation of
architecture, which has very low Importance but very high Satisfaction also produces a low feeling of satisfaction. That is, in the case of Appreciation of architecture, while the level of satisfaction (S) is high, because the criterion is not considered vitally important by the assessor, the ultimate satisfaction feeling is lower.

Hence, for Understanding of project requirements the overall SWS (ranging between 0-10) is 7.13, suggesting a reasonable level of satisfaction by the assessor. Note, where the assessor does not consider certain criteria to be relevant (e.g. monitoring progress/performance and allowing contractor to enjoy project) an importance rating of 0 is allocated and the criterion subsequently removed from the calculation.

Finally, overall SWS gives an indication of the overall mean total of SWS for the assessment based on the six headings, which in the example is 6.88 representing an above average feeling of satisfaction (in this context ‘average’ is taken as the median value of 5). Where assessment is undertaken at times which exclude certain criteria (e.g. prior to work on site commencing), these are simply ignored and form no part of the calculation. Additionally, the overall SWS can be used for inter-project comparison, thereby providing a useful basis on which participants can (longitudinally) compare the performance of their clients’ overtime. Also, clients can (cross-sectional) monitor their own performance against a number of projects, allowing them to focus their attention in the strive for continuous improvement.

**4.12.3 The Performance Improvement Potential Scale (PIPS)**

The PIPS for each criterion is derived simply by subtracting the value for Importance from the value for Satisfaction (i.e. S - I). Hence, PIPS (with a range between −10 to 10) is defined as the difference between Satisfaction and Importance for a particular criterion. The PIPS indicates the need for improvement in any particular criterion, and hence lower values should receive greater attention by clients. In the example given, a contractor has allocated for Responsiveness to problems (queries) that arise, scores of 10 and 1 for Importance and Satisfaction respectively, the PIPS produced is a value of −9. In the case of Appreciation of architecture, where values of 1 and 10 have been allocated to Importance and Satisfaction respectively, the corresponding PIPS value would be 9. Here, the contractor is all but completely satisfied with the client’s performance for this criterion and it does not therefore require significant corrective action.
In summary, criteria that are allocated negative PIPS values require improvement, while positive values indicate those criteria that have been, to some extent satisfied. Ideally, the value of Importance and Satisfaction should be the same in order to produce zero PIPS values indicating an optimum level of client performance. Here, clients are satisfying their assessors, but are not wasting their efforts. Hence, in reality, optimum client performance might be extremely difficult to achieve. In the performance assessment, attention should be focused on aspects of client performance, i.e. criteria, which need most improvement. Clients should therefore focus on improving their performance under the criteria with

Adopting the same principles as described for the SWS, PIPS values for each heading (e.g. Understanding of project requirements) and overall, can be calculated. The overall PIPS values can then be used for similar purposes as described for the overall SWS value (i.e. interproject comparison and performance monitoring).

4.12.4 Priority Rank (PR)

The Priority Rank (PR) represents the ranking of PIPS values (with lower PIPS values assigned higher rankings). Criteria with the same PIPS are assigned the same rank. Criteria with zero Importance are not ranked. Although, it may be argued that two criteria with the same rank may need different approaches and certainly different solutions for addressing the problems, the same rank indicates that the criteria have the same potential for improvement in order to attain higher satisfaction levels. The PR for each heading indicates the comparative ranking of these.
4.12.5 Practical Application

Serving as a tool to develop harmonious interrelationships between coalition participants, implementation of the assessment could commence on appointment of the service providers, i.e. contractor. The coalition participants can discuss the assessment(s) at regular monthly meetings. In the first instance, the assessor contractor would need to establish values of importance, independently for each criterion. As these importance values indicated by the two assessors are unlikely to be the same, their independent assessments should be considered complementary, i.e. in unison by the client. The client would then be able to focus on criteria with relatively higher levels of importance. After an agreed period of time, the client would invite an assessment to be made. In receipt of the assessment, the client can subsequently adopt appropriate strategies to address weaknesses, i.e. causes of dissatisfaction. This can be considered both at a micro level (i.e. in respect of particular criterion) and/or at a macro level (to be compared with other projects or with a preceding assessment). In the example provided in Table 2, the overall SWS attained is 6.88, indicating a reasonable level of satisfaction. The overall PIPS is -1.7 indicating the need for some improvement, if the assessor (architect or contractor) is to be fully satisfied. The PRs provide guidance to the client as to which criteria require most attention. The most important criterion is Responsiveness to problems (queries) that arise, and hence, the client should seek to improve this aspect of performance as it is causing high levels of dissatisfaction. The criteria ranked second are Clarity of thinking (not changing mind), Information support (quality, timely, etc.) and Integrity and honesty, and should be considered next. The PR for each heading provides a cross comparison of priority for all headings. Here, understanding of project requirements, which has 4.5 PR, followed by Decision making (5.0 PR) are the most important, followed by the Support to contractor/architect (5.8 PR) and Finance (6.0 PR). Attitude and Management skills, with a PR of 6.9 and 8.8 respectively, reflect a reasonably high level of satisfaction for such aspects.

The client can then compare current results with previous assessments conducted on the project.

The assessment requires a team effort including all coalition participants to pursue continuous improvement and satisfactory performance. In this regard, the intention is to develop similar tools for assessing the performance of architects and contractors, by the appropriate coalition
participants. Hence, assessment would be a mutual process in a real sense, supporting the development of long-term relationships and high satisfaction levels. As a final word, the ‘values’ derived from the assessment are not critical, but the tool essentially serves as a guide to flagging-up problems so that they can be discussed/resolved at the said meetings.
CHAPTER FIVE: DISCUSSIONS

5.1 Introduction

This chapter contains discussions obtained from the summary of results in the table 1 and table 2.

5.2 Discussions

1. From the summary of results in Table 1, it can be observed that the key factors that contribute most to good contractor’s project delivery in relation to client project performance were quality brief (clarity, adequacy, appropriateness) (RII=0.97), timely payment (RII=0.97), adequate funding (RII=0.96), support of information to the contractor (RII=0.95), responsiveness to problems that arise (RII=0.95), trust, honesty and integrity (RII=0.92), commitment to project (RII=0.91), early handover of the project (RII=0.89), good communication skills (RII=0.87), no regular additional of works (RII=0.87), know what he wants early (RII=0.87), no regular change of specifications of materials (RII=0.83), no regular change of mind (RII=0.81), involvement to the project (RII=0.80), no regular change of conditions of contract (RII=0.71). The factors that registered RII<0.599 were considered insignificant in contributing to the contractor related factors.

2. From the summary of results in Table 2 it can be observed that the most causes of poor contractor’s project delivery in relation to client project performance were delay of payment (RII=0.97), delay of receiving drawings (RII=0.96), delayed financing of the project (RII=0.93), failure in clarity of the need (RII=0.91), clients regularly change their mind (RII=0.84), clients regularly change their designs (RII=0.84), additional works (RII=0.82), variation orders (RII=0.80), clients bad attitude (RII=0.80), poor communication skills (RII=0.79), failure to provide support to the contractor (RII=0.79), change in specifications of materials (RII=0.78), over supervision by client (RII=0.76), late client handover of the project (RII=0.75), amendments in BOQ (RII=0.65), change in conditions of contract (RII=0.62)
3. 89% of the respondents said they never assess client project performance.  
1. The following reasons were given by respondents to why they never assess client project performance.  
2. Because of fear,  
3. To keep and maintain the relationship with the client  
4. They don’t find it necessary to assess the client since he or she is a boss,  
5. They have never minded about it.
CHAPTER SIX: CONCLUSION AND RECOMMENDATION

6.1 Introduction
This chapter contains conclusions made from the research and recommendations given by the researcher.

6.2 CONCLUSION

Good Contractor’s project delivery can be improved by good client performance. The aim of this study was to assess the effect of client’s project performance on the contractor’s project delivery, using central division Kampala as the case study. Four objectives were investigated using a detailed literature review and questionnaire guides answered by contractors in the building construction industry in Uganda. Sixteen (16) causes of poor contractor’s project delivery yielded $\text{RII} > 0.62$ were considered significant factors that mostly lead to poor contractor’s project delivery. Fifteen (15) contractor related factors with $\text{RII} > 0.57$ were considered significant while factors that yielded $\text{RII}<0.57$ were considered insignificant and a total of one (1) factor fell into this range as indicated in the summary of results in Table 1 and 2.

According to the results and findings of this study, the following recommendations can be made by clients to help contractor’s deliver a project well:

6.3 Client Related Recommendations

- Clients must ensure that they give enough support to the contractor, as well as making sure that they pay the contractor on time as many respondents showed that they face the challenge of delayed payment.

- Clients should make sure they handover the project to the contractor on time as well as early receival of drawings. This makes it easy for the contractor to start works on time.

- Clients should make sure they be clear when clarifying the need at the start of the project in order to avoid over making changes in designs, in contracts which hinders the contractor.
• Clients should ensure that they create good communication relationship with their contractor in order to help the contractor in decision making as well as they should be quick in responding to problems that arise during construction.

Contractor related recommendations

• Contractors should adopt to the system of assessing clients so that clients can be able to address problems that arise during the project and hence creating harmony.
REFERENCES


Pheng Low Sui and Chuan Quek Tai, (2006), Environmental factors and work


Ridout, G., Clients frustrated at industry


APPENDIX
APPENDIX 1 BUDGET

Estimated budget.

<table>
<thead>
<tr>
<th>Item</th>
<th>Estimated amount (ug.shs)</th>
</tr>
</thead>
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<td>1 Stationary</td>
<td>100,000</td>
</tr>
<tr>
<td>2 Transport</td>
<td>250,000</td>
</tr>
<tr>
<td>3 Miscellaneous</td>
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</tr>
<tr>
<td>Total</td>
<td>450,000</td>
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</table>

APPENDIX 2: TIME FRAME

schedule of the study

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<th>No.</th>
<th>Activity</th>
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<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
</tr>
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<td>project proposal</td>
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<tr>
<td>2</td>
<td>collection of data</td>
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</tr>
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<td>3</td>
<td>literature review</td>
<td></td>
<td></td>
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<tr>
<td>4</td>
<td>data analysis</td>
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<td></td>
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<tr>
<td>5</td>
<td>report writing and consultations</td>
<td></td>
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<tr>
<td>6</td>
<td>presentation and report submission</td>
<td></td>
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</tbody>
</table>
APPENDIX 3: QUESTIONNAIRE
A QUESTIONNAIRE ON ASSESSING THE EFFECT OF CLIENT’S PROJECT PERFORMANCE ON THE CONTRACTOR’S PROJECT DELIVERY.

Dear Respondent,

I am TUMUHAISE JUDITA, a fourth year student, pursuing a bachelor’s degree in quantity surveying from Makerere University undertaking a research in the topic ‘assessing the effect of client’s project performance on the contractor’s project delivery’. Participation in answering this questionnaire is completely voluntary and the information given will be kept confidential and only used for study purposes.

Your Time and Cooperation is highly appreciated.

Thank you.

Instructions.

I. Please tick appropriately the box that best reflects your response
II. Fill in the spaces provided as openly and appropriately as possible
III. Indicate the options as given in the tables.

1. Do you assess client project performance?  ☐ Yes  ☐ No
   If yes, what criteria do you normally use?
   ………………………………………………………………………………………………………………………
   If No, why?
   ………………………………………………………………………………………………………………………

2. Do you wish to use an assessment tool to assess client project performance?  ☐ Yes  ☐ No.
3. Which of the following do you think leads to poor contractor’s project delivery in relation to client project performance? Mark where necessary, Strongly Agree=5, Agree=4, Uncertain=3, Disagree=2 and strongly Disagree=1.

<table>
<thead>
<tr>
<th>NO</th>
<th>Weight per response</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clients regularly change their mind</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Failure in clarity of the need</td>
<td></td>
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<td></td>
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<tr>
<td>3</td>
<td>Clients regularly change their designs</td>
<td></td>
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<tr>
<td>4</td>
<td>Clients bad attitude</td>
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<tr>
<td>5</td>
<td>Amendments in BOQ</td>
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<tr>
<td>6</td>
<td>Additional works</td>
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<tr>
<td>7</td>
<td>Failure to provide support to the contractor</td>
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<tr>
<td>8</td>
<td>Late client handover of the project</td>
<td></td>
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<tr>
<td>9</td>
<td>Variation orders</td>
<td></td>
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<td></td>
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<tr>
<td>10</td>
<td>Poor communication skills</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Delay of receiving drawings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Delay of payment</td>
<td></td>
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</tr>
<tr>
<td>13</td>
<td>Delayed financing of the project</td>
<td></td>
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</tr>
<tr>
<td>14</td>
<td>Change in specifications of materials</td>
<td></td>
<td></td>
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<tr>
<td>15</td>
<td>Change in conditions of contract</td>
<td></td>
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<tr>
<td>16</td>
<td>Over supervision by client</td>
<td></td>
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</tbody>
</table>

4. Other factors; Client related...........................................................................................................
................................................................................................................................................................
5. Which of the following do you think leads to good contractor’s project delivery in relation to client project performance? (contractor’s expectations). Mark where necessary, Strongly Agree=5, Agree=4, Uncertain=3, Disagree=2 and strongly Disagree=1.

<table>
<thead>
<tr>
<th>NO</th>
<th>Weight per response</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Support of information to the contractor</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Quality of brief (clarity, adequacy, appropriateness)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3</td>
<td>Timely payment</td>
<td></td>
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<tr>
<td>4</td>
<td>Know what he wants</td>
<td></td>
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<tr>
<td>5</td>
<td>Trust, honesty and integrity</td>
<td></td>
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<tr>
<td>6</td>
<td>Client’s ability in making decision</td>
<td></td>
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<tr>
<td>7</td>
<td>Adequate funding</td>
<td></td>
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<tr>
<td>8</td>
<td>Commitment to project</td>
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<tr>
<td>9</td>
<td>Early handover of the project</td>
<td></td>
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<tr>
<td>10</td>
<td>No regular change of mind</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>11</td>
<td>Good communication skills</td>
<td></td>
<td></td>
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<td>Involvement to project</td>
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<tr>
<td>13</td>
<td>Understanding of the building process</td>
<td></td>
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</tr>
<tr>
<td>14</td>
<td>No regular additional of works</td>
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</tr>
<tr>
<td>15</td>
<td>No regular change of specifications of materials.</td>
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</tr>
<tr>
<td>16</td>
<td>No regular change of conditions of contract.</td>
<td></td>
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<tr>
<td>17</td>
<td>Responsiveness to problems that arise</td>
<td></td>
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</tbody>
</table>

6. Others; Client related...........................................................................................................
Thanks for Your cooperation, May the Good Lord Bless You
## APPENDIX 4 Assessment tool

<table>
<thead>
<tr>
<th>Client performance criteria</th>
<th>I</th>
<th>S</th>
<th>SWS √(I × S)</th>
<th>PIPS (S)- (I)</th>
<th>PR priority Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Understanding of project requirements</strong></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Quality of brief, in terms of clarity</td>
<td>10</td>
<td>5</td>
<td>7.07</td>
<td>-5</td>
<td>3</td>
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<tr>
<td>Quality of brief, in terms of adequacy and appropriateness</td>
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<td>7</td>
<td>8.37</td>
<td>-3</td>
<td>5</td>
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<tr>
<td>Knowing what they want early</td>
<td>8</td>
<td>4</td>
<td>5.66</td>
<td>-4</td>
<td>4</td>
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<tr>
<td>Understanding of the building process</td>
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<td>6</td>
<td>7.35</td>
<td>-3</td>
<td>5</td>
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<tr>
<td>Clarity of thinking (not changing their mind)</td>
<td>10</td>
<td>4</td>
<td>6.32</td>
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<tr>
<td>Ability to convey what they want</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>0</td>
<td>8</td>
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<tr>
<td><strong>Average</strong></td>
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<td>Ability to make rapid and decisive decisions</td>
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<td>Delegation ( give lead designer proper level of authority)</td>
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<td>integrity and honesty</td>
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<td>Collaborative /spirit of cooperation/team work</td>
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<td>Responsiveness to problems (Queries) that arise</td>
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