

A Thesis on
**EFFECTS OF CONTRACT MANAGEMENT ON
CONTRACTOR'S PROFIT**

Submitted for partial fulfilment of award of

MASTER OF TECHNOLOGY

Degree in

CONSTRUCTION TECHNOLOGY & MANAGEMENT

BY

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2019

DECLARATION

I declare that the research thesis entitled “**Effects of Contract Management on Contractor’s Profit**” is the bonafide research work carried out by me, under the guidance of **Mr. Sarthak Singh Rajput, Assistant Professor, Department of Civil Engineering, Integral University, Lucknow**. Further I declare that this has not previously formed the basis of award of any degree, diploma, associate-ship or other similar degrees or diplomas, and has not been submitted anywhere else.

Date: / /2019

Place: Lucknow

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CERTIFICATE

Certified that the thesis entitled “Effects of Contract Management on Contractor’s Profit” is being submitted by Mr. ISHFAQ AHMAD WANI (Roll no. 1701103007) in partial fulfilment of the requirement for the award of degree of Master of Technology (Construction technology and management) of Integral University, Lucknow, is a record of candidate’s own work carried out by him/her under my supervision and guidance.

The results presented in this thesis have not been submitted to any other university or institute for the award of any other degree or diploma.

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ABSTRACT

The Aim of the study is to establish the effects of contract management on contractor's profit. Contract Management or Contract Administration is the management of contracts made with customers, vendors, partners or employees. It can be summarised as the process of systematically and efficiently managing contract creation, execution and analysis for the purpose of maximizing financial and operational performance and minimizing risk. To identify the positive effects of contract management on contractor's profit. To identify how effective contract management can increase the profit of the contractor. In the world of business, it is common for an organisation to involve contractors or suppliers in one way or another to support in providing service or product to meet its intended requirements. It is a main duty for operating company to make sure contractors perform their duties safely and timely through appropriate contract management (CM) procedures. Despite significant research progress, the effectiveness of contract management in terms of monitoring contractor's performance has not been tracked and published widely. The main objective of the study is to examine the effectiveness of contract management.

Key words: *Contract; Contractor; Contract Management.*

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Construction industries in India are the second largest industry providing employment next to agriculture. But, the performance record of successful implementation of infrastructure projects has not been encouraging in accomplishing projects or intended requirements. Management of contracts is one of the important aspects of construction management. Contractors engaged for the specific purpose usually execute construction projects. Even when large-scale turnkey contracts of large projects are awarded to big contracting agencies, sub-contractors execute the works. Construction projects in India are worth cores of rupees per year. It is the most competitive and risky business. The money involved in this sector is from public fund, so it becomes very important to see that such projects get successful to avoid any type of blockage of funds. In addition it is equally important to complete the project in time to avoid obsolescence loss of the product. In some instances, the owner of the project does not have control over these subcontractors, as they are normally accountable only to the main contractor, resulting in delays and poor quality output. Construction is one of the businesses where high level of risk is involved during contractor's fulfilment of their contractual obligations [Nguyen, 2013]. Effective contract management lies in assessing contractor's performance through safe, timely delivery of their duties. Profitability, support compliance and risk management can be improved by effective contract management. Construction companies should give higher priority to contract management to overcome risky and dangerous operating environments [Enshassi, Mohamed, Sherif and Abu Mosa, 2008]. A well established and mature contract management process can generate great deal in additional savings [Mossalam and Mohamad, 2016]. Poor operational control, low customer satisfaction, high risk and unwanted costs are the drawbacks of inefficient contract management [Ntayi, Rooks, Eyaa and Qian, 2010; Fagbenle and Adeosun, 2012]. In almost all construction projects, there is a contract between owner and contractor for desired product after successful completion of the construction project. Each construction contract is unique and need unique understanding and interpretation as per the contractual requirements. Each

contract carries a set of obligations to be performed by the parties involved in the contract, so there is a need of contract administration. In current time, the projects are becoming giant in size and more complex due to technological development, joint ventures and foreign collaboration, specified needs, time constraints, special infrastructural requirements and parallel involvement of various agencies in project. According to Issaka (2014), a review of the Public Procurement Authority's Annual report (2009) revealed that Contract Management had a very low compliance level; it was observed therein that most entities are not enthusiastic about Contract Management and took the practice for granted, signifying a major challenge and concern for the procurement sector of the Construction Industry. Odonkor (2011) also inferred from the works of Crown Agents (1998) and Westring (2014), Anvuur and Kumaraswamy (2006) that, the performance of the Construction Industry in India was poor and saddled with problems of poor Contract Management practices and challenges of finance. Agyekum (2012) also alluded to some conclusions of Vulink (2010) that, because of the poor performance of contractors most of the nation's major projects were usually awarded to foreign contractors. The above notwithstanding, some other significant challenges with the Contract Management of the local contractor were noted as, poor change management and documentation systems and poor management and administration of contracts in accordance with contract specifications and conditions of contracts. Improper documentation of variations, improper record keeping (site reports, material inventory records and accounting records) within the currency of projects causes a lot of distortion and difficulty in assessing or evaluating claims, as there were usually not enough supporting 3 documents for their claims. It was common to observe that most contractors did not have their own internal policies to record project events and changes. There were no standard procedures to receive instructions, confirm verbal instructions, registers to capture new drawings and phase out obsolete information, check and document variations. Also some project consultants fail to properly review the standard forms of contracts that are used for the procurement of construction contracts to include appropriate project specific clauses and specifications, as such the Contract Management phase is encumbered with challenges usually to the detriment of the contractors during project execution. The execution phase of the project is thus exasperated by disagreements, disputes, and misunderstandings on what was expected in terms of requirements and specifications. Today construction industry is operating under high level of competition and profitability became the prime concern for all the contracting organizations. The real strength of successful contracting parties lies in

cooperation of the owner and contractor as partners of the same team with common goal laying more stress on their mutual trust and understanding, their positions are rarely equal and contracts are left open to multiple interpretations. Problems of contract management in construction industries in India can be minimized to a great extent, if management of contracts is taken up even before drafting the contract documents. In fact, this should be done while carrying out the planning and investigations of the project and estimation of items of work at tender stage. Therefore, it should be ensured that what is likely to be asked for, is possible to be performed, well before formulation of the contract documents. A good contract document should therefore have fairness or equity to either parties to the contract, clarity or un-ambiguity of all items of work, avoidance of redundancy due to lack of knowledge or in-attention to details and general and detailed specifications (Saha, 2016).

1.2 STATEMENT OF PROBLEM

A review of the PPA Annual report (2009) revealed that “Contract Management has a very low compliance level; it was observed that most entities are not enthusiastic about Contract Management and take the practice for granted which signifies a major challenge and concern for the procurement sector of the Construction Industry in India.” The state of the Contract Management and administrative conditions of Local Contractors is poor, emanating from some challenges identified by earlier research in the procurement process such as the lack of qualified personnel, incorrect interpretation and application of some contract provisions, lack of training, poor record management, poor procurement planning, mobilization and implementation and lack of Contract Management systems in the management of contracts by local contractors in the Construction Industry in India. This is contributing to the reasons why our local contractors are not able to compete professionally as compared to their foreign counterpart companies in India. In order for local contractors in India to remain competitive, it is necessary that they build their professional capacities by pursuing professionalism and instituting proper organizational structures and systems that will enable them manage construction contracts more effectively and efficiently.

1.3 OBJECTIVES OF THE STUDY

The major purpose of this study is to examine effects of contract management on contractor's profit. Other general objectives of the study are:

1. To examine the practice of contract management in the Construction industry.
2. To examine the challenges faced by contractors in the practice of contract management in construction industries.
3. To examine the effects of contract management on contractors profit.
4. To examine the impact of contract management on time, cost and quality delivery.

1.4 SIGNIFICANCE OF THE STUDY

This study sought to provide empirical data on the level of practice of Contract Management by contractors in the Construction industry by investigating the activities of construction in line with Contract Management activities. The study will also help contractors, clients, consultants and all parties involved in construction projects about ways of improving their current method of cost management and control. The study will also be of great benefit for other student researchers who may want to venture into the same subject matter. Having gotten results-both empirically and theoretically, the study will serve as a foundation for future research studies. The research is intended for applicability by various users or stakeholders such as Government agencies, project managers, contractors, general public, construction management authority, financial institutions, students as well as professional bodies. The study was determined to identify the areas where urgent action needs to be taken to safeguard the interest of the sector. The study may help in application of theoretical training to policy makers to address practical problems in the sector, and to provide insights to today's and the future managers on the importance of construction completion. The study may encourage further researchers on the area to research as it's not exhaustive. The study may also benefit scholars who would wish to undertake further studies aimed at establishing factors influencing construction projects completion. The study provides insight to practical actions required to control cost overruns and time management, facts necessary to change for effective site productivity and possible pit-falls and how to address them amicably.

1.5 SCOPE OF THE STUDY

The study is based on effects of contract management on contractor's profit.

1.6 LIMITATION OF STUDY

Financial constraint- Insufficient fund tends to impede the efficiency of the researcher in sourcing for the relevant materials, literature or information and in the process of data collection (internet, questionnaire and interview).

Time constraint- The researcher will simultaneously engage in this study with other academic work. This consequently will cut down on the time devoted for the research work.

1.7 DEFINITION OF TERMS

Construction: In the fields of architecture and civil engineering, construction is a process that consists of the building or assembling of infrastructure. Far from being a single activity, large scale construction is a feat of human multitasking. Normally, the job is managed by a project manager, and supervised by a construction manager, design engineer, construction engineer or project architect.

Cost: A cost is the value of money that has been used up to produce something, and hence is not available for use anymore. In business, the cost may be one of acquisition, in which case the amount of money expended to acquire it is counted as cost.

Contract: An agreement enforceable by law is contract

Contract Management: Contract management is the management of either common commercial or complex contracts made with customers, vendors, partners or employees. It is a process of systematically and efficiently managing contract creation, execution and analysis for the purpose of maximizing financial and operational performance and minimizing risk. It was found that 42% of enterprises the top driver for improvements in the management of contracts is the pressure to better assess and mitigate risks and nearly 65%of enterprises report that contract life cycle management has improved exposure to financial and legal risks.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter gives an insight into various studies conducted by outstanding researchers, as well as explained terminologies, theories with regards to effect of contract management on contractor's profit.

1. According to Dean T. Kashiwagi And James Murphy (April 2004), The contractor's profitability in 2002 reflects that the majority of the contracts are being completed in Quadrant I. Obtaining more work in Quadrants II or III will increase the company's yearly return. Completed Project Profit Analysis (CPPA) is a tool that a contracting company can employ to understand where income is coming from, assess the performance and competency of key personnel, and ultimately prioritize clients to maximize profitability. Upon inspection of a contractor's cost information, there were performance trends that indicate that some clients are clearly more profitable than others.

3. According to Bhardwaj (2011), contract management is the process that enables both parties to a contract to meet their obligations in order to deliver the objectives required from the contract. It also involves building a good working relationship between company and contractor. It continues throughout the life of a contract and involves managing proactively to anticipate future needs as well as reacting to situations that rises. Contract management is the management of contracts made with customers, vendors, partners or employees. Contract management includes negotiating the terms and conditions in contracts and ensuring compliance with the terms and conditions. It includes documenting and agreeing on any changes that may arise during its implementation or execution.

4. Manju Pillai, Pramila Adavi <Jan 2013>: The Authors concluded that Contract management is an issue of strategic importance to both organisations and projects. Successful implementation of contract management may help the organisation upsurge its control over the contracts. It may increase effectiveness in managing the contracts and thereby reduce the costs and also provide strategic and competitive advantages. A smart

contract management may facilitate the exchange of information in planning, designing, and other phases of construction. Intelligent contract management aids in maintaining quicker and better decisions, and has the potential to facilitate relationship contracting.

16. PALA, et al (2013): The transient, independent and multi-organisational characteristics of construction projects require development and alignment of relationships in a much faster way. Management and control of these relationships are crucially important to ensure that supply chains operate in an agile, efficient and smooth manner. Rather than looking into how to improve dyadic relationships between contractor firms and its upstream/downstream supply chain firms, this research was concerned with the management practices of contractor firms for their extended supply chain relationships.

5. Beata Mikusova Merickova, Juraj Nemeč <2013>: According to the authors, The theory of contracting suggests that it has the potential to improve efficiency, given certain conditions. But its efficiency is limited, and internal production seems to deliver better results. We measure the impact of qualitative contract management factors, selected by the Delphi method, on determining contracting efficiency. The results indicate that there are several important factors limiting success, by far the most important being the degree of competition for the contract.

6. Salim (2013) on his study on “the role of procurement contract management in the effectiveness of project management”, a case study at MIC-Tanzania. The study addressed a need of contractors’ compliance to contract terms and conditions, technical capability and contract monitoring towards project management. The study methodology was descriptive design, purposive non-probabilistic sampling technique was used, data were collected by using interview and questionnaire. The author’s conclusion includes the following, staff inadequacy in CM function, disputes caused by late delivery by suppliers, poor quality of works/services, vague specifications, supplier’s technical incapability and little attention to make contract visible to other stakeholders. Also mentioned lack of efficient technical evaluation and monitoring of KPI.

7. Ronald Kibuuka Ssempebwa <2014>: The author concluded that, Organizations in both the public and private sectors are facing increasing pressure to reduce costs and improve financial and operational performance. New regulatory requirements, globalization, increases in contract volumes and complexity have resulted in an increasing recognition of the importance and benefits of effective contract management. The growing recognition of

the need to automate and improve contractual processes and satisfy increasing compliance and analytical needs has also led to an increase in the adoption of more formal and structured contract management procedures and an increase in the availability of software applications designed to address these needs.

2. Moses Muhwezi, Arthur Ahimbisibwe (2015): The objective of this research was to investigate the effect of contract management, inter functional coordination, trust on works contract performance in Ugandan public procuring and disposing entities. These results have implications for academicians as well as public procurement practitioners and regulators. For academicians, it is insightful to interpret the individual dimensions of contract management and note that delivery management is relatively more important than the other dimensions in contract performance. Our results also seem to suggest that under rules oriented conditions in public procurement, inter-functional coordination does not contribute a lot to performance, since inter-functional coordination in its true sense, makes sharing of information open, which is not be fully supported by the public procurement laws and regulations.

17. Stephen Kibet Ngetich, Dr. David Gichuhi (Sept. 2017): The use of information communication technology has a statistically significant influence on procurement contract administration in Public Universities in Kenya. The study also concluded that a unit increase in the use of information communication technology results in an increase in procurement contract administration.

15. Xiaoliang Li (2017): From the current situation, in our country to supervision and consulting units at the same time with the construction project investment decision-making stage, design stage, bidding stage, the construction phase of the supervision capacity is still more difficult. The reason is that we lack the compound talents, so our country should increase the training and retraining of talents, and create a fair and competitive environment for them. Although Chinese project management level is still relatively low, and the developed countries there is a big gap, but I believe that with the project management laws and regulations to establish and improve the construction industry management system deepening the deepening of reform, fair competition in the market environment the gradual formation. Chinese project management level will have a big development.

9. Meriem Harhad (October 2018); The contract management is a key tool for project management because the contract is the written baseline of the project. However, we have

not a systematic contract manager in each project, indeed most of the time the project manager has a dual role, even if contract management isn't its core competencies. The management of the contract within a project is meant to maximize outcomes of the project, through a good management and assessment of risks and a well understanding of the customer expectations. However, the role of the contract manager is not included in theoretical project management approach, and is not common in main organization of various fields.

8. S. Kanchana (March 2018): According to the Authors, Effective contract management has emerged as a crucial function to improve profitability, support compliance and manage risk. It becomes necessary that the contracting activities should be managed by a procurement team as inefficient management leads to customer un-satisfaction and unwanted cost overruns. Frequent reviews on contract management procedures and necessary improvements can bring out the benefits of contract management. The article discussed the various reasons contributions made and their relevant findings.

10. Kakwezi (2012) in a study on the procurement contract management in public procurement noted that contract management activities can be divided into three broad sections that is service delivery management, relationship management, and contract administration. In this context, the service delivery management involves the full management of all the contractual deliverables, performance levels of the contract as well as the contract quality. Silvana (2015) in a study on the contract management on private public partnership indicates that the aim of contract management is the optimization of the efficiency, effectiveness and economy of service in contractual relationship, balancing costs against risks and actively manages the relationship between procurement parties.

12. Langat (2013) in a study on the procurement performance in public institutions indicates that procurement performance involves the manner in which procurement function is able to reach the objectives and goals with minimum costs. The study examined procurement performance in terms of efficiency, competitiveness of services procured, quality of goods procured, and reduction of conflict of interests within the procurement activities. Masaba (2010) in a study on procurement performance of public entities in Uganda argues that procurement performance can be measured using two metrics; effectiveness and efficiency.

13. Aluonzi, Oluka, & Nduhura (2016) in examination of the contract management on performance of road projects in Uganda notes that contract management involves three

diverse aspects; achievement of the three goals of product quality, delivery on time and within the budget. In this context, ¹³Aluonzi, (2016) indicates that contract management is divided into the upstream/pre contract award activities and downstream/post contract award activities. Marco (2013) in a study on the contract management in Tanzania notes that contract management involves the proactive management of the relationship between the parties in a contract with a view of anticipating future needs and managing arising risks with a view of improving the performance over the lifecycle of the contract.

14. According to Shubmank Deep et al (2017); Lowest bid awards a most common practice for awarding work charge in India whether its public or private sector. The study tried to investigate the various factors affecting efficiency of contractors in case of lowest bid award projects. The noticeable factors were inadequate project management assistance) (OI = 66.17%), external (EARII =60.25%): eighth important group was the Equipment related group. The prominent factors were “low efficiency of equipment (OI = 66.07%),” (9) Material (EARII =59.31%). On basis of findings it could be concluded that though lowest bid award is not a primarily a good practice due to firstly the contractor's profit margins are low which contractor is not able to sublet much and tends to employ low efficiency equipment and poor quality materials. Secondly projects management practices should be popularized amongst contractor working in small scale projects this can help them in understanding client's need and hence increasing efficiency, which could in turn benefit the contractor.

11. Aloysius Byaruhanga, Benon C. Basheka (2017); For effective road infrastructure delivery and performance, there is need to build strong contract monitoring mechanisms. These should target the performance of contractors and contract managers/supervisors. With skilled personnel proper contract monitoring practices shall be enforced. In contract monitoring some of the components and practices include skills development, policy development, plans, communication, payments, management of records, contractor appraisal, inspections and audits and dispute resolution. This study found out that if these contract monitoring components are well managed, there is a very high possibility of having a viable road infrastructure project that will guarantee a sound business success and effective service delivery. In order to improve contractor monitoring and performance of road infrastructure projects the researcher makes the following recommendations:

2.2 INFERENCES OF LITERATURE REVIEW

The above studies reveal the following important points regarding my study:

1. Good Contract Management system ensures the negotiation of a fair price sets realistic standards and reflects client's expectations and also sets a realistic timeframe for application. All these reduce cost to an acceptable level. Renegotiating the initial contract to accommodate variations is necessary for significant changes to the original scope/cost. Contractors that manage their contracts efficiently and effectively are in a better position to negotiate volume discounts. Meanwhile, contractors that are unable to manage their contracts with clients and sub- contractors are also unable to analyse their risk exposure with those entities.

2. Quality can be accomplished by putting an effective Contract Management in place such as the Performance Management and monitoring systems. By ensuring proper Contract Management, all works/projects can be completed without having to re-do any of the work that is required. It must be understood that the cost of quality control is cheaper than the cost of non-compliance, defective work and re-works.

3. Efficient Contract Management means significant time savings or compensation of time to both the contractor and the client. The process of Contract Management could also save a lot of time for the firm if the entire process is standardized and regulated. This will ensure that less time is spent on completing an entire process than it would take if there was no Contract Management process.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The term research methodology described all activities involved in the collection of all the necessary data and information required for the research work or project. According to Asika (2006) research methodology refers to the arrangement of condition for collection and analysis of data in a manner that aims to combine relevance of the research purpose with economy of procedure.

The flowchart of methodology carried out for data collection and data analysis is shown as in fig 3.1.

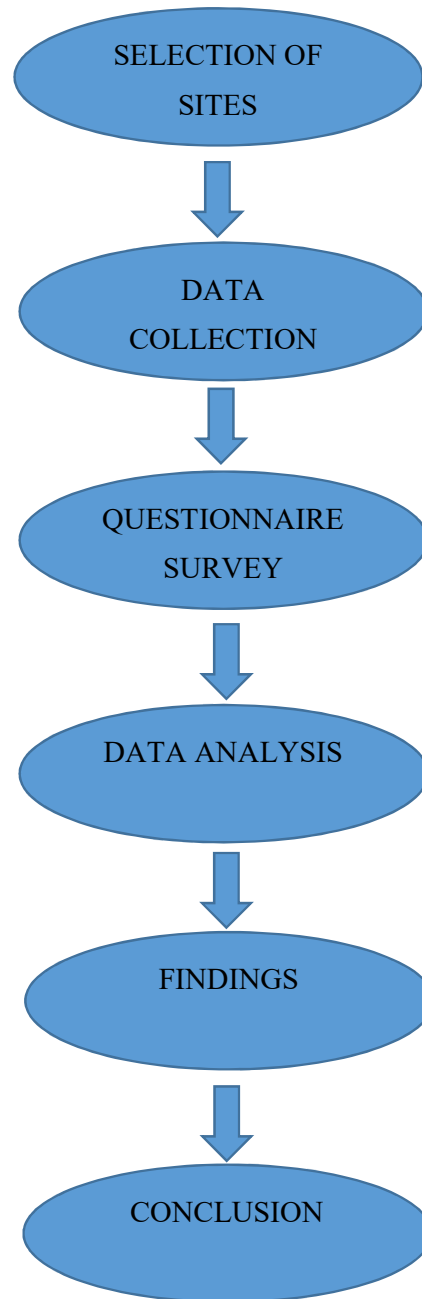


FIG 3.1: RESEARCH METHODOLOGY FLOWCHART

3.2 RESEARCH DESIGN

The research used survey design as the strategy or plan of action regarding events which upon implementation will enable the researcher to investigate the problem of this study. The study was designed in a systematic process of providing answer to the research questions and research objectives.

3.3 POPULATION AND SAMPLE SIZE

The term population refers to the entire group of individual or items whose manner or units possess the same basis and clearly defined characteristics. According to Osuala (2005), who defined population as “comprising the set of all possible observation of the types with which we are concerned. The investor’s words.com defined population as a group of individuals or items that share one or more characteristics from which data can be gathered and analyzed. The size of the targeted population of this study consists of 20 respondents of selected construction firms in Lucknow.

3.4 SAMPLING TECHNIQUE

As a result of the inability of the researcher to effectively study the whole construction firm under study, a representative number was chosen as the sample size population. 20 respondents of selected construction firms were used as the sample size.

3.5 DATA COLLECTION

In this study, questionnaire is the main research instrument used for the study to gather necessary data from the sample respondents. The questionnaire is structured in an open ended form.

3.6 RESEARCH ANALYSIS

In order to analyze the data collected effectively and efficiently for easy management and accuracy, the simple percentage method was the analytical tool used for this research project.

Having gathered the data through the administration of questionnaire, the collected data will be tabulated, and analyzed according to the research outcomes.

Data collection were analyzed by the use of simple percentage analysis and pie graphs.

CHAPTER 4

DATA PRESENTATION, ANALYSIS AND FINDINGS

4.1 INTRODUCTION

This chapter deals with the presentation and explanation of the result obtained through questionnaires. The data gathered were presented according to the order in which they were arranged in the research questions, simple percentage and pie graphs were used to analyze the demographic information of the respondents.

4.2 TABLES BASED ON RESPONSE OF RESEARCH QUESTIONS

The responses of all the questions which were asked in the questionnaire survey are tabulated below:

4.2.1 CONTRACT MANAGEMENT PRACTICES IN THE CONSTRUCTION INDUSTRY

Q1. CONSTRUCTION FIRMS NEGOTIATE CONTRACT TERMS OF A PROJECT BEFORE/DURING PROJECT EXECUTION

Options	Frequency	Percent	Valid Percent
Not used	4	20.0	20.0
Not so frequently used	10	50.0	50.0
Regularly used	4	20.0	20.0
Used	2	10.0	10.0
Total	20	100.0	100.0

Table 4.1: Response of Q1 (Source: field survey, August, 2019)

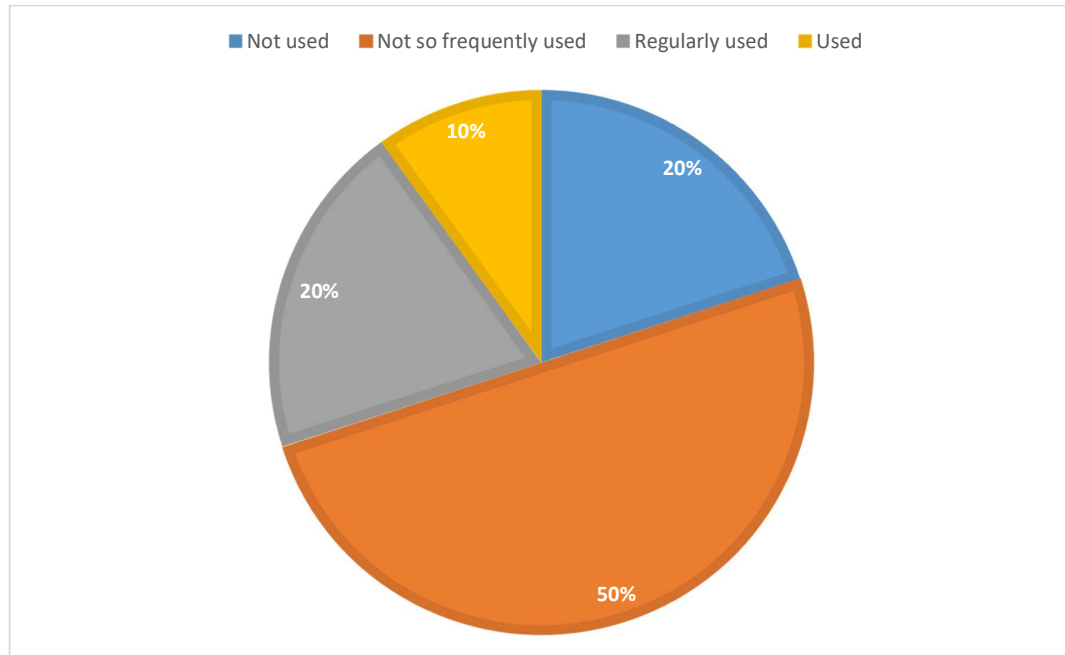


Fig 4.1: Pie Chart of Q1

Table 4.1 shows the responses of respondents that construction firms negotiate contract terms of a project before/during project execution. 4 respondents representing 20.0 percent responded that the practice of construction firms negotiating contract terms of a project before/during project execution were not used. 10 respondents representing 50.0 percent responded that the practice of construction firms negotiating contract terms of a project before/during project execution were not so frequently used. 4 respondents representing 20.0 percent responded that the practice of construction firms negotiating contract terms of a project before/during project execution were regularly used while the remaining 2 of the respondents representing 10.0 percent responded that the practice of construction firms negotiating contract terms of a project before/during project execution was used.

Q2. CONSTRUCTION INDUSTRY USE LAID-DOWN PROCEDURES FOR ENSURING/MONITORING YOUR COMPANY'S COMPLIANCE AS WELL AS THAT OF THE CLIENT'S TO CONDITIONS OF CONTRACT

Options	Frequency	Percent	Valid Percent
Not used	4	20.0	20.0
Not so frequently used	3	15.0	15.0
Regularly used	7	35.0	35.0
Used	6	30.0	30.0
Total	20	100.0	100.0

Table 4.2: Response of Q2 (Source: field survey, August, 2019)

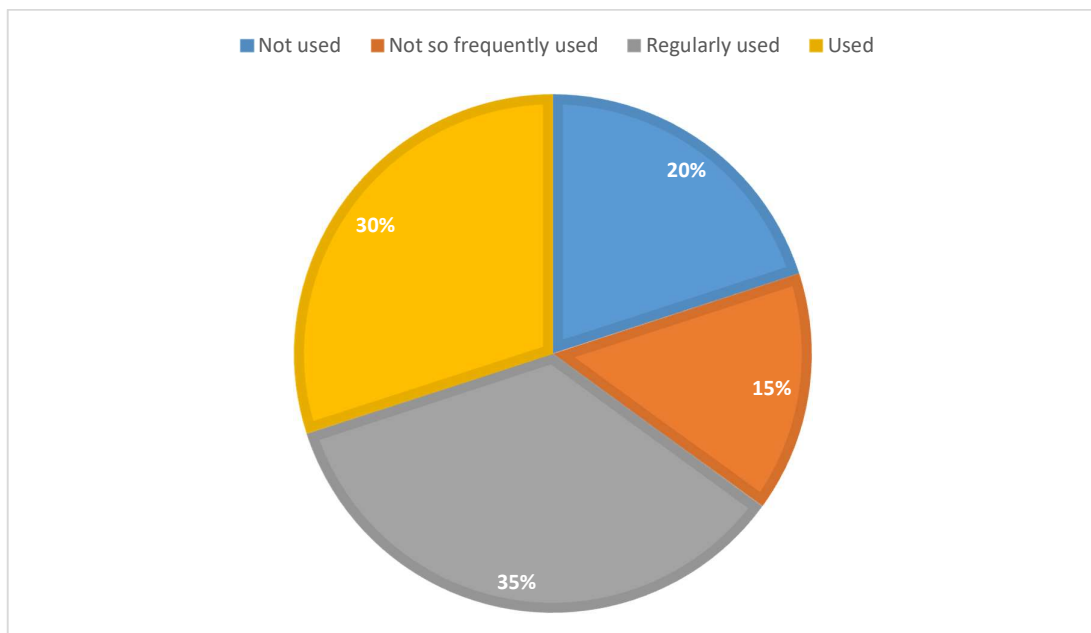


Fig 4.2: Pie Chart of Q2

Table 4.2 shows the responses of respondents that construction industry use laid-down procedures for ensuring/monitoring your company's compliance as well as that of the

client's to conditions of contract. 4 respondents representing 20.0 percent responded that construction industry does not use laid-down procedures for ensuring/monitoring your company's compliance as well as that of the client's to conditions of contract. 3 respondents representing 15.0 percent responded that construction industry not so frequently use laid-down procedures for ensuring/monitoring your company's compliance as well as that of the client's to conditions of contract. 7 respondents representing 35.0 percent responded that construction industry regularly use laid-down procedures for ensuring/monitoring your company's compliance as well as that of the client's to conditions of contract while the remaining 6 of the respondents representing 30 percent responded that construction industry used laid-down procedures for ensuring/monitoring your company's compliance as well as that of the client's to conditions of contract.

Q3. EXPECTED BUSINESS BENEFITS AND VALUE FOR MONEY ARE BEING DELIVERED AND REALIZED BY CONTRACTORS IN CONSTRUCTION INDUSTRIES

Options	Frequency	Percent	Valid Percent
Strongly agree	4	20.0	20.0
Agree	11	55.0	55.0
Disagree	5	25.0	25.0
Strongly disagree	0	0.0	0.0
Total	20	100.0	100.0

Table 4.3: Response of Q3 (Source: field survey, August, 2019)

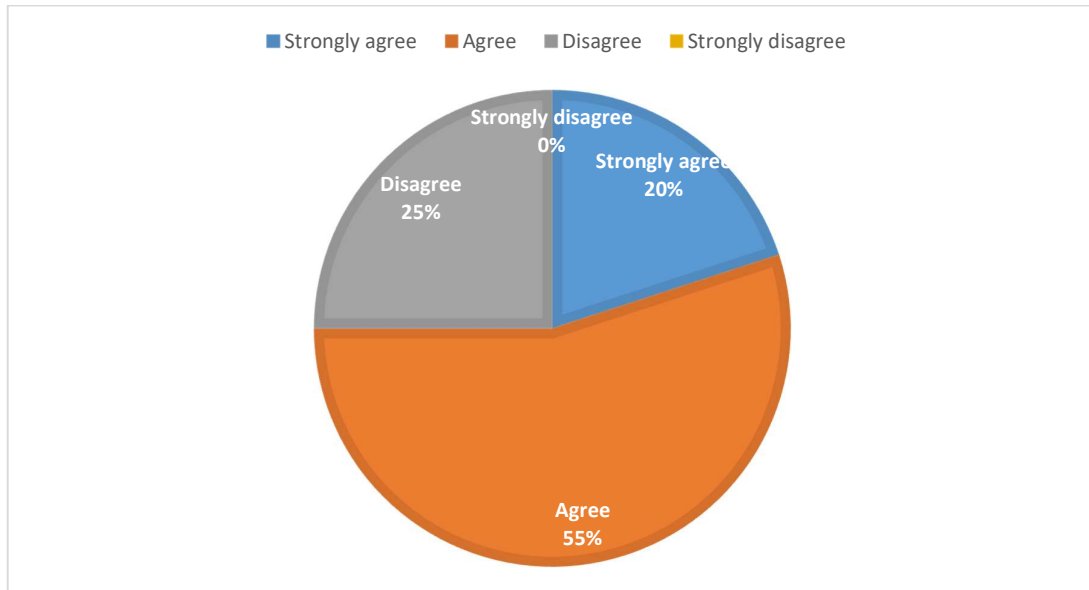


Fig 4.3: Pie Chart of Q3

Table 4.3 shows the responses of respondents that expected business benefits and value for money are being delivered and realized by contractors in construction industries. 4 respondents representing 20.0 percent strongly agree that expected business benefits and value for money are being delivered and realized by contractors in construction industries. 11 respondents representing 55.0 percent agree that expected business benefits and value for money are being delivered and realized by contractors in construction industries. 5 respondents representing 25.0 percent disagrees that expected business benefits and value for money are being delivered and realized by contractors in construction industries.

Q4. CONTRACTORS ENSURES THE NEGOTIATION, COMPLIANCE WITH DOCUMENTATION AND AGREEMENT ON CHANGES OR AMENDMENTS TO THE TERMS AND CONDITIONS OF THE CONTRACTS ON CONSTRUCTION PROJECTS

Options	Frequency	Percent	Valid Percent
Strongly agree	10	50.0	50.0
Agree	8	40.0	40.0
Disagree	1	5.0	5.0
Strongly disagree	1	5.0	5.0
Total	20	100.0	100.0

Table 4.4: Response of Q4 (Source: field survey, August, 2019)

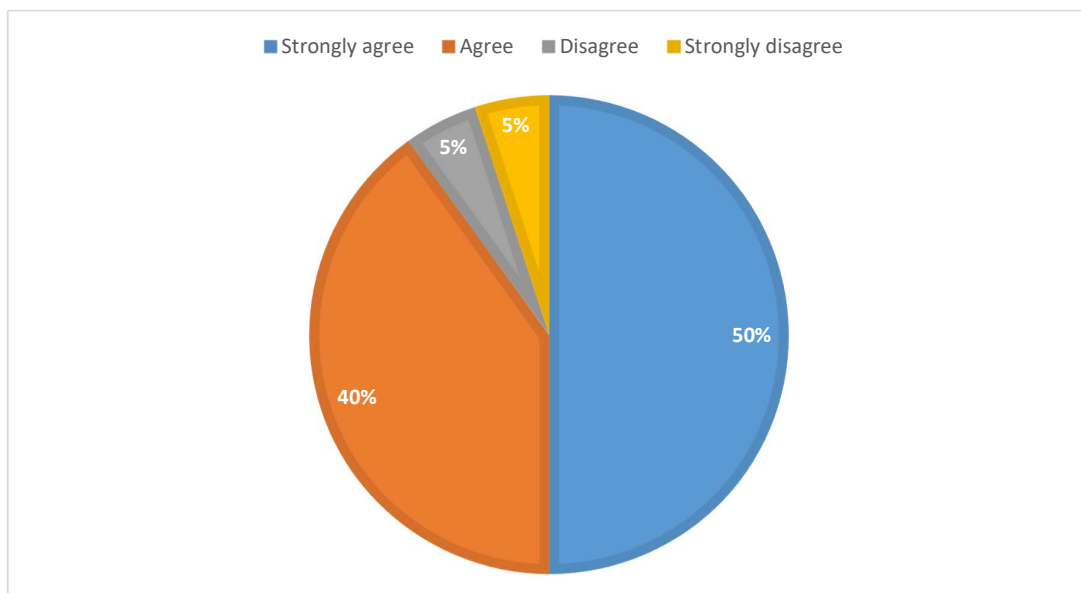


Fig 4.4: Pie chart of Q4

Table 4.4 shows the responses of respondent that contractors ensures the negotiation, compliance with documentation and agreement on changes or amendments to the terms and conditions of the contracts on construction projects. 10 respondents representing 50.0 percent strongly agree that Contractors ensures the negotiation, compliance with documentation and agreement on changes or amendments to the terms and conditions of the contracts on construction projects. 8 respondents representing 40.0 percent agree that Contractors ensures the negotiation, compliance with documentation and agreement on changes or amendments to the terms and conditions of the contracts on construction projects. 1 respondent representing 5.0 percent disagrees that Contractors ensures the negotiation, compliance with documentation and agreement on changes or amendments to the terms and conditions of the contracts on construction projects while the remaining 1 of the respondents representing 5.0 percent strongly disagrees that Contractors ensures the negotiation, compliance with documentation and agreement on changes or amendments to the terms and conditions of the contracts on construction projects.

4.2.2 CHALLENGES IN THE PRACTICE OF CONTRACT MANAGEMENT

Q5. THERE IS LACK OF STANDARD PROCESSES AND PROCEDURES IN SOME CONSTRUCTION INDUSTRIES

Options	Frequency	Percent	Valid Percent
Strongly agree	9	45.0	45.0
Agree	10	50.0	50.0
Disagree	1	5.0	5.0
Strongly disagree	0	0.0	0.0
Total	20	100.0	100.0

Table 4.5: Response of Q5 (Source: field survey, August, 2019)

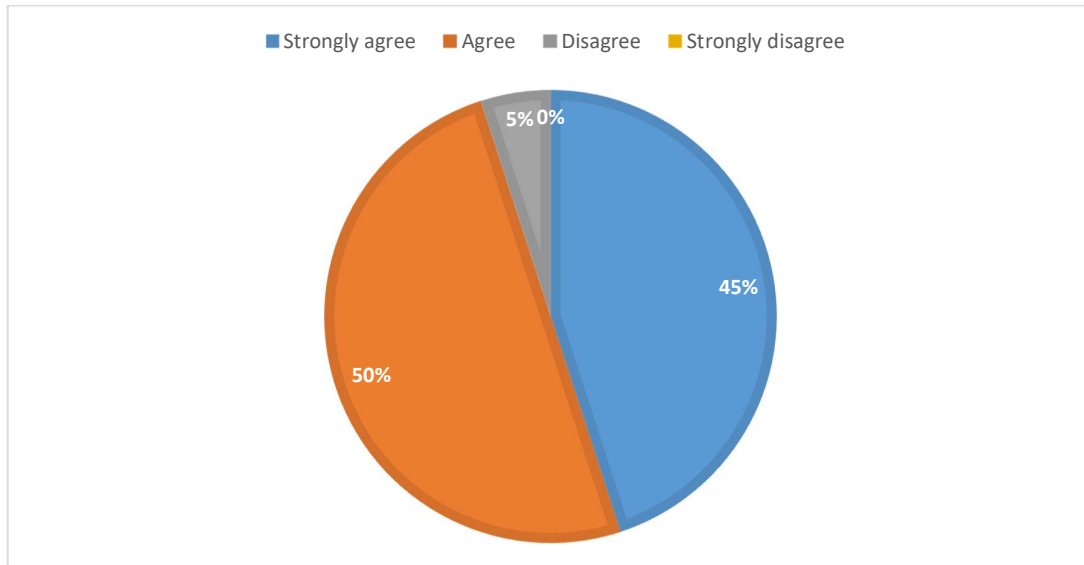


Fig 4.5: Pie chart of Q5

Table 4.5 shows the responses of respondents that there is lack of Standard Processes and Procedures in some construction industries. 9 respondents representing 45.0 percent strongly agree that there is lack of Standard Processes and Procedures in some construction industries. 10 respondents representing 50.0 percent agree that there is lack of Standard Processes and Procedures in some construction industries. 1 respondent representing 5.0 percent disagrees that there is lack of Standard Processes and Procedures in some construction industries.

Q6. THERE IS IMPROPER DOCUMENTATION OF THE EFFECTS OF DELAYS, VARIATIONS AND EVENTS/ CHANGES DURING CONTRACT/PROJECT IMPLEMENTATION

Options	Frequency	Percent	Valid Percent
Strongly agree	8	40.0	40.0
Agree	11	55.0	55.0
Disagree	1	5.0	5.0
Strongly disagree	0	0.0	0.0
Total	20	100.0	100.0

Table 4.6: Response of Q6 (Source: field survey, August, 2019)

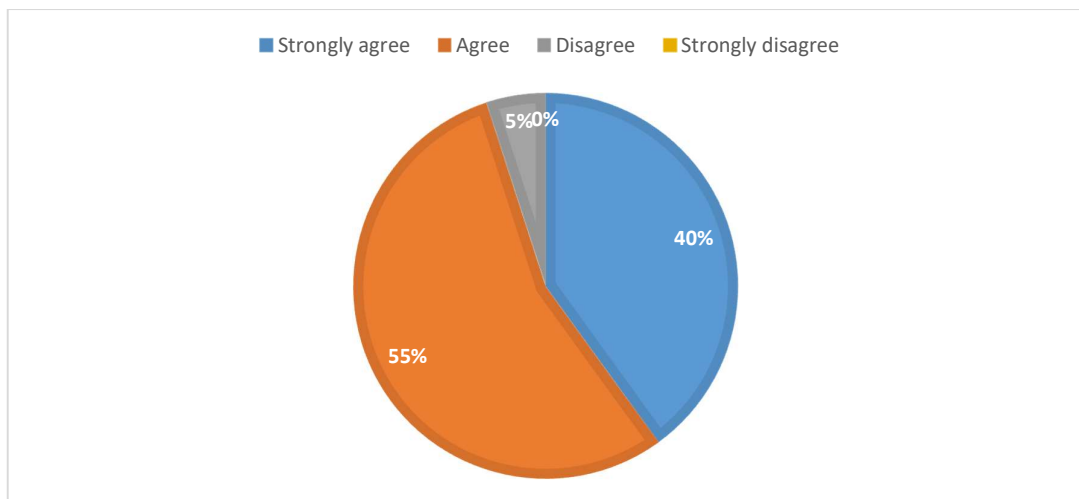


Fig 4.6: Pie chart of Q6

Table 4.6 shows the responses of respondents that there is improper documentation of the effects of delays, variations and events/ changes during contract/project implementation. 8 respondents representing 40.0 percent strongly agree that there is improper documentation of the effects of delays, variations and events/changes during contract/project implementation. 11 respondents representing 55.0 percent agree that there is improper

documentation of the effects of delays, variations and events/ changes during contract/project implementation. 1 respondent representing 5.0 percent disagrees that there is improper documentation of the effects of delays, variations and events/changes during contract/project implementation.

Q7. LACK OF DETAILED CONTRACT SPECIFIC INFORMATION (ESPECIALLY SPECIFICATIONS AND CONTRACT CONDITIONS)

Options	Frequency	Percent	Valid Percent
Not used	4	20.0	20.0
Not so frequently used	14	70.0	70.0
Regularly used	1	5.0	5.0
Used	1	5.0	5.0
Total	20	100.0	100.0

Table 4.7: Response of Q7 (Source: field survey, August, 2019)

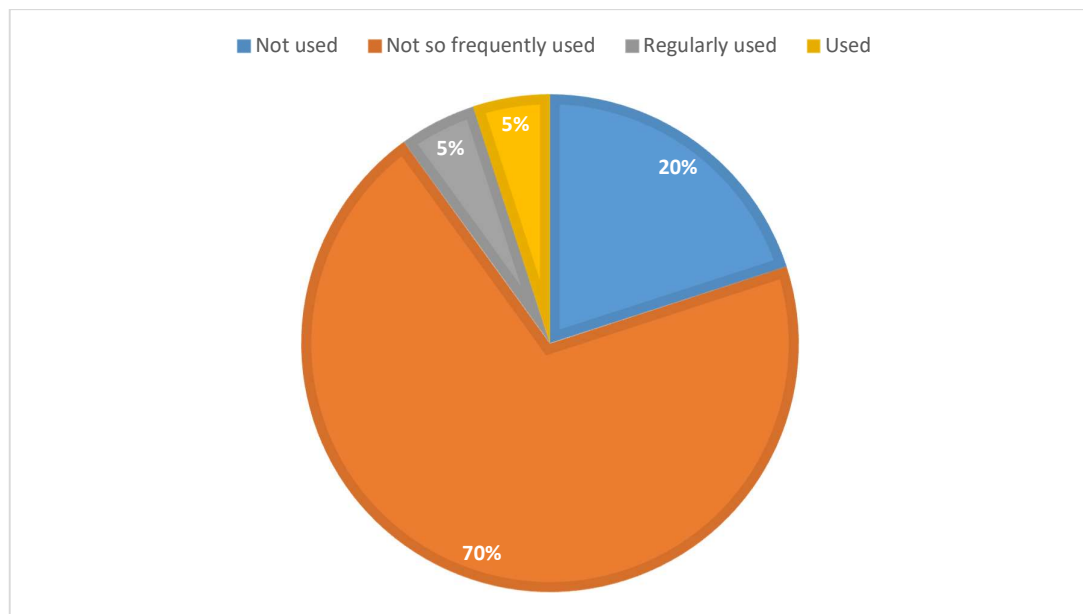


Fig 4.7: Pie chart of Q7

Table 4.7 shows the responses of respondents that lack of detailed contract specific information (especially specifications and contract conditions). 4 respondents representing 20.0 percent responded that lack of detailed contract specific information (especially specifications and contract conditions) is not used. 14 respondents representing 70.0 percent responded that lack of detailed contract specific information (especially specifications and contract conditions) were not so frequently used. 1 respondent representing 5.0 percent responded that lack of detailed contract specific information (especially specifications and contract conditions) were regularly used while the remaining 1 of the respondents representing 5 percent responded that lack of detailed contract specific information (especially specifications and contract conditions) were used.

Q8. POOR RECORDS KEEPING/OR FILING SYSTEMS CONTRIBUTES TO THE CHALLENGES IN CONTRACT MANAGEMENT

Options	Frequency	Percent	Valid Percent
Strongly agree	9	45.0	45.0
Agree	10	50.0	50.0
Disagree	1	5.0	5.0
Strongly disagree	0	0.0	0.0
Total	20	100.0	100.0

Table 4.8: Response of Q8 (Source: field survey, August, 2019)

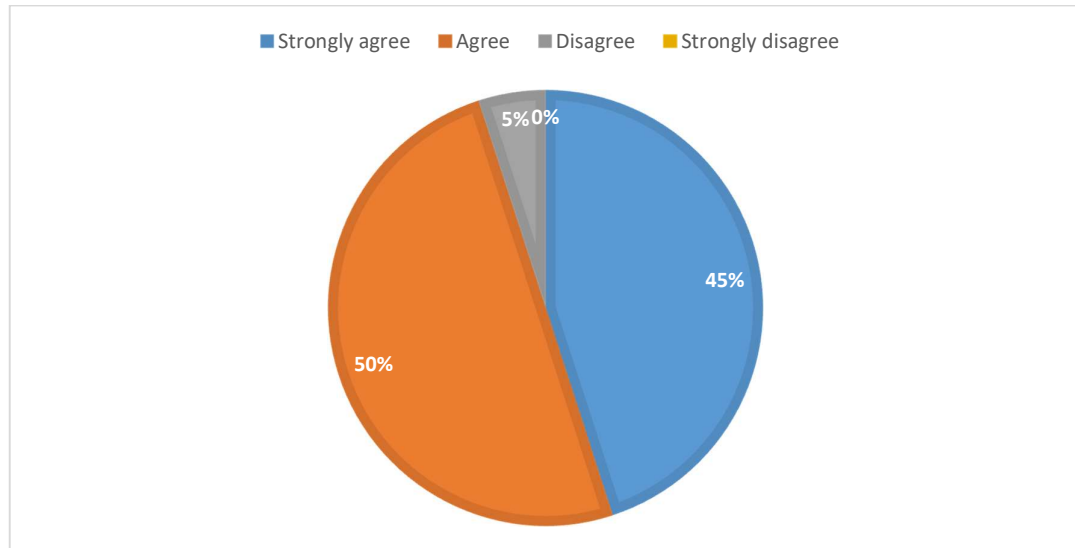


Fig 4.8: Pie chart of Q8

Table 4.8 shows the responses of respondents that poor records keeping/or filing systems contributes to the challenges in contract management. 9 respondents representing 45.0 percent strongly agree that poor records keeping/or filing systems contributes to the challenges in contract management. 10 respondents representing 50.0 percent agree that poor records keeping/or filing systems contributes to the challenges in contract management. 1 respondent representing 5.0 percent disagrees that poor records keeping/or filing systems contributes to the challenges in contract management.

4.2.3 CONTRACT MANAGEMENT IMPACT ON TIME, COST AND QUALITY DELIVERY

Q9. THE LEVEL OF IMPACT CONTRACT MANAGEMENT HAS ON THE COST OF PREVIOUSLY EXECUTED PROJECTS IS HIGH

Options	Frequency	Percent	Valid Percent
Strongly agree	7	35.0	35.0
Agree	12	60.0	60.0
Disagree	1	1.0	5.0
Strongly disagree	0	0.0	0.0
Total	20	100.0	100.0

Table 4.9: Response of Q9 (Source: field survey, August, 2019)

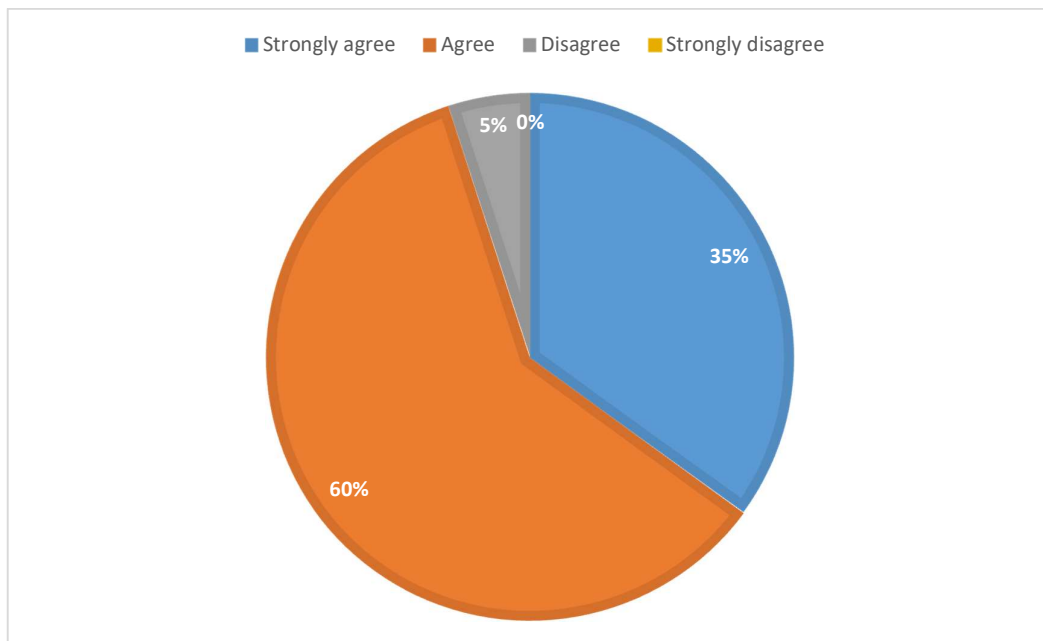


Fig 4.9: Pie chart of Q9

Table 4.9 shows the responses of respondents that the level of impact contract management has on the cost of previously executed projects is high. 7 respondents representing 35.0 percent strongly agree that the level of impact contract management has on the cost of previously executed projects is high. 12 respondents representing 60.0 percent agree that the level of impact contract management has on the cost of previously executed projects is high. 1 respondent representing 5.0 percent disagrees that the level of impact contract management has on the cost of previously executed projects is high.

Q10. CONTRACT MANAGEMENT HAS A SIGNIFICANT IMPACT ON THE TIME, COST AND QUALITY DELIVERY IN CONSTRUCTION FIRMS

Options	Frequency	Percent	Valid Percent
Strongly agree	10	50.0	50.0
Agree	9	45.0	45.0
Disagree	1	5.0	5.0
Strongly Disagree	0	0.0	0.0
Total	20	100.0	100.0

Table 4.10: Response of Q10 (Source: field survey, August, 2019)

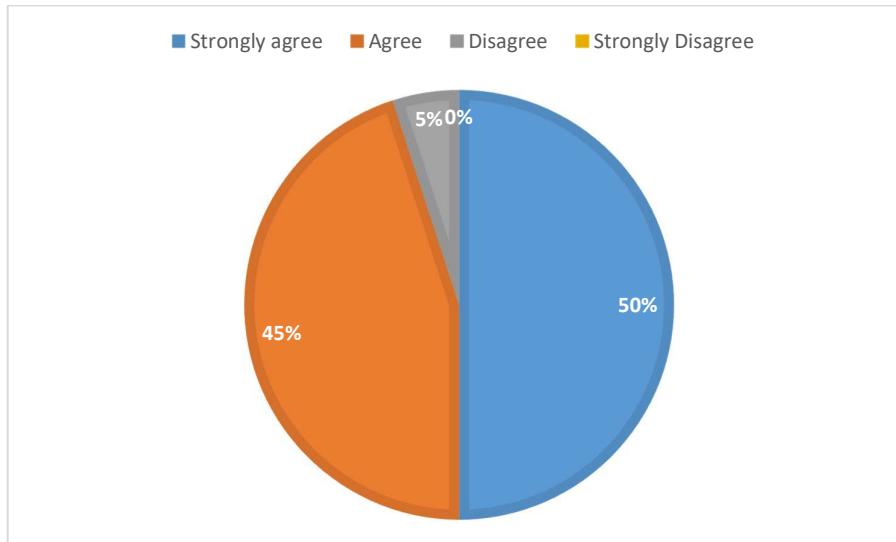


Figure 4.10: Pie chart of Q10

Table 4.10 shows the responses of respondent that contract management has a significant impact on the time, cost and quality delivery in construction firms. 10 respondents representing 50.0 percent strongly agree that Contract management has a significant impact on the time, cost and quality delivery in construction firms. 9 respondents representing 45.0 percent agree that contract management has a significant impact on the time, cost and quality delivery in construction firms. 1 respondent representing 5.0 percent disagrees that contract management has a significant impact on the time, cost and quality delivery in construction firms.

4.2.4 BEST PRACTICE IN CONTRACT MANAGEMENT

Q11. USE OF WELL-DEVELOPED AND MAINTAINED LIST OF QUALIFIED BIDDERS

Options	Frequency	Percent	Valid Percent
Not used	10	50.0	50.0
Not so frequently used	3	15.0	15.0
Regularly used	3	15.0	15.0
Used	4	20.0	20.0
Total	20	100.0	100.0

Table 4.11: Response of Q11 (Source: field survey, August, 2019)

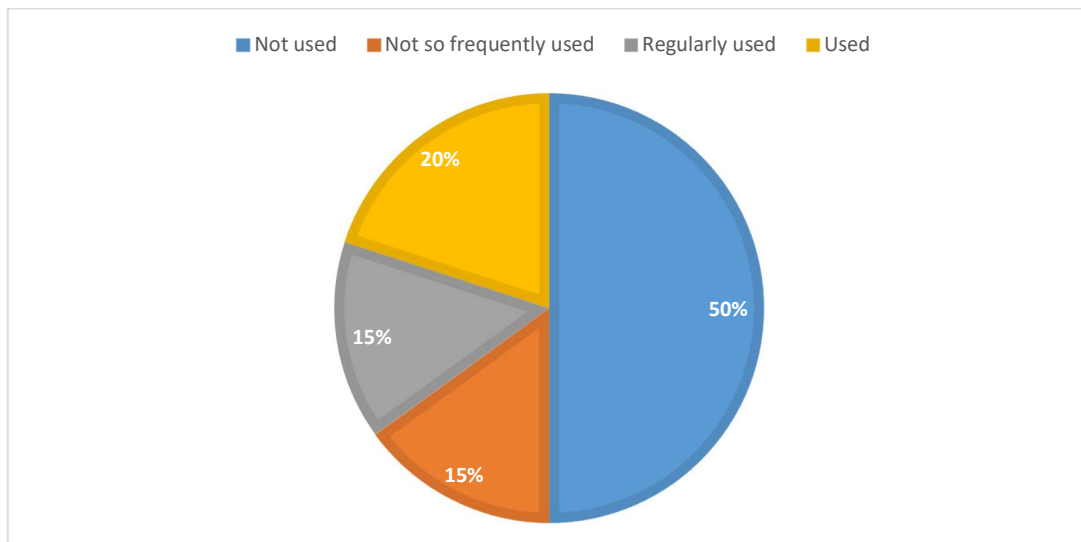


Fig 4.11: Pie chart of Q11

Table 4.11 shows the responses of respondents that use of well-developed and maintained list of qualified bidders. 10 respondents representing 50.0 percent responded that well-developed and maintained list of qualified bidders were not used. 3 respondents representing 15.0 percent responded that well-developed and maintained list of qualified bidders were not so frequently used. 3 respondents representing 15.0 percent responded that well-developed and maintained list of qualified bidders were regularly used while the remaining 4 of the respondents representing 20.0 percent responded that well-developed and maintained list of qualified bidders were used.

Q12. USE OF STANDARDIZED EVALUATION CRITERIA FOR CONTRACTOR SELECTION

Options		Percent	Valid Percent
Not used	4	20.0	20.0
Not so frequently used	4	20.0	20.0
Regularly used	8	40.0	40.0
Used	4	20.0	20.0
Total	20	100.0	100.0

Table 4.12: Response of Q12 (Source: field survey, August, 2019)

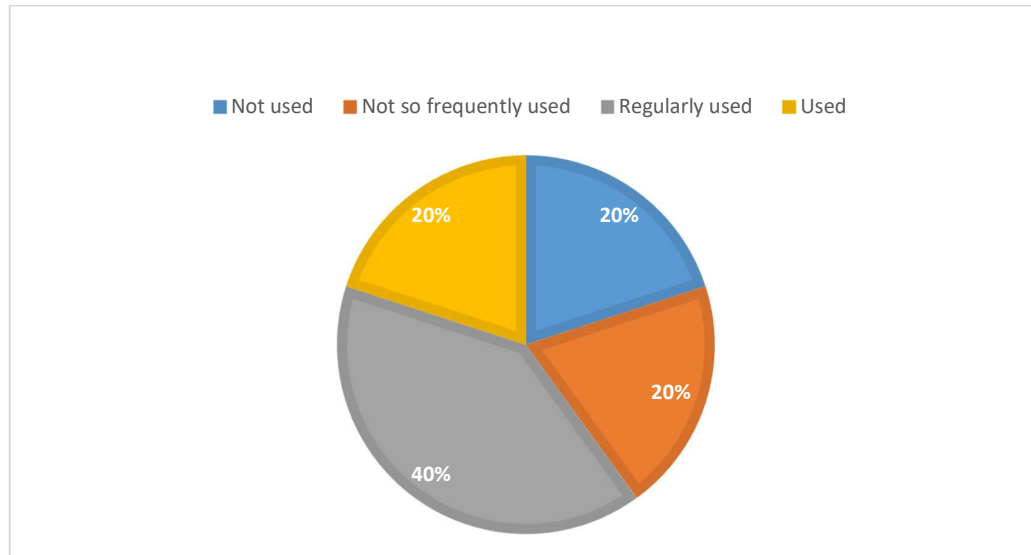


Fig 4.12: Pie chart of Q12

Table 4.12 shows the responses of respondents that use of standardized evaluation criteria for contractor selection. 4 respondents representing 20.0 percent responded that standardized evaluation criteria for contractor selection are not used. 4 respondents representing 20.0 percent responded that standardized evaluation criteria for contractor selection are not so frequently used. 8 respondents representing 40.0 percent responded that standardized evaluation criteria for contractor selection are regularly used while the remaining 4 of the respondents representing 20 percent responded that standardized evaluation criteria for contractor selection is used.

4.3 SITE VISIT

The different sites which I visited were:

1. Paath construction site near Ekana International Stadium Lucknow
2. Sargam Apartments Guramba Lucknow
3. Nyati Construction Site Near Ekana International Stadium
4. Afera Infratech Pvt Ltd Shakti Nagar Indira Nagar
5. Construction Site at Paikramau
6. G+3 Building Construction at BIBI FATIMA School Chowk
7. Renovation Site at Dargah H. Abbas Chowk

4.4 SITE PICTURES



FIG. 4.13 Site visit



FIG. 4.14 site visit



FIG. 4.15 site visit



FIG. 4.16 site visit

DATA ANALYSIS

RESPONDENTS			FACTORS		
	COST	TIME	QUALITY DELIVERY	CONTRACT MANAGEMENT PRACTICES	CHALLENGES
R1	✓	✓	✓	×	✓
R2	×	×	✓	✓	×
R3	✓	✓	✓	✓	×
R4	×	✓	✓	✓	✓
R5	✓	✓	✓	✓	✓
R6	✓	✓	✓	✓	×
R7	×	×	✓	✓	✓
R8	✓	×	×	×	×
R9	✓	✓	✓	✓	×
R10	✓	✓	✓	✓	✓
R11	×	×	×	✓	✓
R12	×	×	×	✓	✓
R13	✓	×	✓	×	×

R14	×	✓	✓	×	✓
R15	✓	✓	✓	✓	✓
R16	✓	✓	×	✓	✓
R17	✓	×	✓	×	✓
R18	×	✓	×	✓	×
R19	✓	✓	✓	✓	×
R20	✓	✓	✓	×	✓

TABLE 4.13 DATA ANALYSIS

4.5 FINDINGS

It is clear from the questionnaire that contract management has a significant impact on time, cost and quality delivery.

1. Construction firms negotiate contract terms of a project before/during project execution.
2. Customer satisfaction is very important in a service industry.
3. Expected business benefits and value for money are being delivered and realized by contractors in construction industries.
4. Contractors ensure the negotiation, compliance with documentation and agreement on changes or amendments to the terms and conditions of the contracts on construction projects.
5. There is lack of Standard Processes and Procedures in some construction industries.
6. There is improper documentation of the effects of delays, variations and events/ changes during contract/project implementation.
7. Lack of detailed contract specific information (especially specifications and contract conditions).
8. Poor records keeping/or filing systems contributes to the challenges in contract management.
9. The level of impact, contract management has on the cost of previously executed projects is high.
10. Contract management has a significant impact on the time, cost and quality delivery in construction firms.
11. Use of well-developed and maintained list of qualified bidders.
12. Use standardized evaluation criteria for contractor selection.

CHAPTER 5

CONCLUSION

5.1 Conclusion

In India, the large scale construction contracts are usually handed over to foreign contractors because of poor performance of contractors here. So, a better and effective contract management is required. Management of contracts is one of the important aspects of construction management. The main factors of contract management are time, cost and quality delivery. It was seen that contract management has a significant impact on time, cost and quality delivery which means contract management helps in completing the project within the scheduled duration by effectively managing the activities. Contract management has an impact on cost as it helps in saving the extra costs due to the risks and sudden changes in the contract. Those changes and risks are managed with the help of effective contract management. Effective Contract management helps in delivering the requirement to the client which is the quality client demands. When contractors deliver quality, it improves their reputation for future contracts. It was seen that contract management helps in avoiding the costs of reworks and non-compliance which is actually what cuts down the contractor's profit to minimum. So effective contract management has positive effects on contractor's profit.

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