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TECHNOLOGY****DOMAIN EXPERTISE IN INTERNAL AUDIT FOR ROBUST INTERNAL
CONTROL MECHANISM OF CONSTRUCTION FIRMS****Pankaj R. Jadhav*, Raju Narwade, Manisha Jamgade**

* PG Student, Department of Civil Engineering, M.E.S.'s Pillai HOC College of Engineering and Technology, Rasayani, Dist. Raigad, 410207, Maharashtra, India
Assistant Professor, Department of Civil Engineering, M.E.S.'s Pillai HOC College of Engineering and Technology, Rasayani, Dist. Raigad, 410207, Maharashtra, India
Assistant Professor, Department of Civil Engineering, M.E.S.'s Pillai HOC College of Engineering and Technology, Rasayani, Dist. Raigad, 410207, Maharashtra, India.

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ABSTRACT

There are many construction firms in India which are run by the big business houses. They are being operated on a very large scale, thereby leaving for very less scope of any disorganization in the management. With the increase in scale of operations, increases the scope of fraud or any flaw that may have an adverse effect on the company as well as the investors. Effective internal audit provides a tool to ease out all the complexities, ensures that systems and processes are adequate to support the growth and are adapted to the changes in various applicable regulations, thereby ensuring sustained growth and development. For effectiveness of internal audit, it is necessary for the auditor to understand the business and operations of the construction firms. Hence it is necessary that the audit team should comprise of qualified technical engineers to understand nitigrities of construction business. This paper discusses the detailed methodology adopted for the effective internal control of the construction firms as well as help the top level management to observe overall progress of their firm and the role of domain expertise in internal audit.

KEYWORDS: Internal audit, methodology, internal control, management.**INTRODUCTION**

The construction industry is very important factor in economic activity and wealth creation. This industry has a vast impact on the society and the products of this vital industry are of various types like buildings, roads and bridges, utility distributions systems, railways, airports, harbours, etc. Internal auditors have a key role to play in construction industry with respect to multi-dimensional challenges faced by this industry like project risk, funding strategies, cost reduction, project monitoring, etc. [6]

Many construction projects, both publicly- and privately-funded, require that a project audit be performed by an independent party. The audit not only tests the accuracy of invoices and other charges incurred against the construction project, but may include a review of processes used in project management and project cost / schedule controls, and a comparison of those processes to industry best practices. Thus, the audit function is an essential project controls tool. [1] Simulation is also an important method in audit system. Section 404 of the Sarbanes-Oxley Act of 2002 gives compliance with internal control assurance. The simulation is staged with conversations among audit staff members and the company's system development manager, databases containing application test data and program library transactions, and readiness questions. The simulation helps learners develop their capabilities for designing audit objectives and procedures for testing system development and for querying databases. [2] Qualitative and quantitative studies via several samples of the audit committee members and administrators are classified in 27 indicators of audit process quality grouped into three main stages. [3] Audit provisions are often included in private construction contracts where all or some portion of the work is performed on a cost reimbursable plus a fee basis. In those situations, the Owner wants the right to audit the books and records of the contractor to ensure that it reimburses only those costs that are properly compensable under the terms of the

contract. ^[4] To manage the various kind of construction projects requires a know-how with organizations and a thorough body of knowledge. The project management consultancy (PMC) has characteristic of knowledge, performance & inter-personal Skills. ^[5] Project management consultancy have versatile role in various construction projects and provides the various services from initiation to handing over of projects.

METHODOLOGY

The research method used to achieve the objectives is based on following steps.

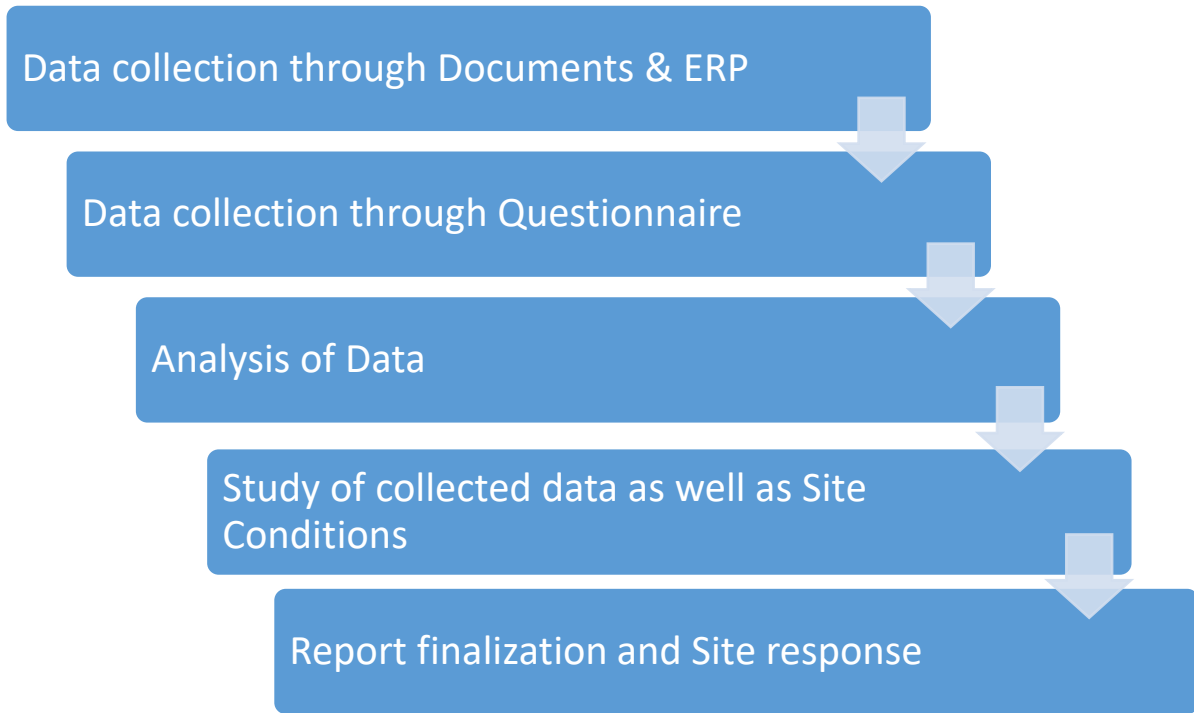


Fig. 1: Methodology

The proposed system is sketched in Fig. 1, which consists, five phases: Data collection through documents & ERP, Data collection through questionnaire, Analysis of data, Study of collected data as well as site condition, Report finalization and site response. In phase I, the data required for audit process is collected through documents present on site as well as through software of Enterprise resource planning (ERP). In phase II, with the help of questionnaire necessary data for audit is collected. In phase III, the analysis of collected data is done. In phase IV, the study of collected data as well as site condition is done of various process. In phase V, final report after study of all parameters and site response from site person is taken.

RESULTS & DISCUSSION

The methodology is used to conduct Operational audits on projects like Hospital building, Power generation plant, Business park project & Sports complex along with ancillary building. Some of audit observation which I was part of are illustrated in Table 1.

Table 1. Audit Observations

Sr No	Audit Area	Audit Observations	Possible remedial measure by Company management	Risk Matrix
1	Contract	Liquidated damages clause states that penalty shall be charged at 0.1% of contract price per week subject to a capping of max 1% of contract value.	Project completion date as per contract was 31-10-2014 which is already over. Client had granted extension of time up to 1-1-2015 and if second extension of time is not granted then client may impose liquidity damages clause.	Process-L

			Company management needs to expedite the work.	
2	Planning	We verified the average purchase of basic items and the basic rate considered in the Pre start Estimate (PSE) and observed that the site is incurring additional expenditure if compared with PSE provision.	Estimated additional expenditure for procuring material above PSE provision in Rs.2.02 Cr. Site is getting price variation on cement and reinforcement but not on river sand and aggregates. Company management to look into the matter and reduce procurement cost.	Policy- M
3	Reconciliation of Reinforcement	It was observed that the actual reinforcement consumption was less compared theoretical reinforcement which is practically not possible.	The claimed billing is more than the actual work done. It appears that as of November 2014, there is excess billing of about 113.86 MT which client may deduct at the time of final certification. Management to look into the matter and make necessary corrections.	Compliance – M
4	Reconciliation of Concrete	Differences observed in the actual concrete procured and theoretical concrete certified.	M15 grade concrete might have been used as lower grade concrete. Similarly, M30 grade concrete might have been used as M20 and M25 grade concrete based on the differences noticed. Site to go through the reconciliation in detail and make necessary corrective actions.	Compliance – L
5	Client Billing	Quantities short certified i.e. HOLD by client due to quality issues, incomplete work/rectification- Rs.1,34,84,786/-	Large quantities of work done by site but not certified by client. Compliance should be done for release of HOLD amount.	Process-M
6	Client Billing	Claims for reduction in scope & extended period compensation submitted but not approved by client- Rs.11,10,11,544/-	Reduction in margin due to reduction in scope & quantity variation & non approval of claims. Company management needs to find out the reasons for this & take necessary action.	Policy- L
7	Client Billing	Extra Items approved but not certified of Rs.1,33,04,042/-	Work done but not certified. Prior approval should be obtained before commencing extra items for smooth certification.	Process-L
8	Client Billing	Gap between Work Done Authenticated (WDA) quantity and certified for payments by client is large.	Difference was to the tune of Rs. 2.40 Cr. which is due to various holds. Company management to assist in releasing the payment.	Process-M
9	Sub-contractor Billing	Advance paid to Sub contractor as bills were not prepared in ERP was of- Rs.2,75,37,954/-	Adhoc/ Advance payment has been made was still outstanding. Adhoc/Advance payment should be recovered within 30 days.	Policy- M

Table 2. Summary of observations

Risk ranking/Control Gaps	High	Moderate	Low
Policy Gap	-	2	1
Process Gap	-	2	2
Compliance Gap	-	1	1
Total	-	5	4

Table 3. Definition of risk rating

Risk Rating	Definition
<i>High</i>	♦ Serious irregularities/ regulatory breaches, which require urgent attention from the senior management.
Moderate	♦ Irregularities which are not very serious in nature but require mid-level managements action for resolution.
Low	♦ Observations which are not irregularities in nature but which could involve organizational efficiencies.

CONCLUSION

- Audit Observation - If extension of time was not granted then client may impose liquidity damages. As per contract this is not good for overall profitability of project.
 Management action plan - Based on this audit observation company management may tackle this contractual issue at highest level & find ammeicable solution.
- Audit Observation – Site was incurring additional expenditure for cement and reinforcement when compared it to Pre start estimate.
 Management action plan - Management decided to buy the material directly from the manufacturer to reduce the cost of procurement.
- Audit Observation – Actual reinforcement was less compared to theoretical consumption and also lower grade of concrete is used for construction, this was affecting quality of project.
 Management action plan - Higher management decided to reinforce the quality department by deputing Sr. Manager from head office.
- Audit Observation – Rs. 1.34 Cr was hold because of quality issue, incomplete work or rectification and certification of extra items was pending.
 Management action plan - Because of this appropriate actions to improve overall quality of project was taken.
- Audit Observation – Rs. 21.56 lacs were hold against various issue such as quality, safety penalty, TDS deductions. This could affect revenue of project.
 Management action plan - Company management decided to do follow up with the client at the highest level.
- Audit Observation – Major entries in accounts & stores was not completed in system because of implementation of ERP.
 Management action plan - Management deputed additional manpower to streamline entries on real time basis.
- Audit Observation – Unbilled items of work were identified thus revenue is increased.
 Management action plan – Unbilled items were built to increase revenue.

REFERENCES

- [1] Alexia Nalewaik (2007), ‘Construction Audit-An Essential Project Control Function’ in Cost Engineering, Vol.49, 10 OCTOBER 2007, pp 20-25.
- [2] A. Faye Borthick and Paul L. Bowen (2007), “Auditing System Development: Constructing the Meaning of “Systematic and Rational” in the Context of Legacy Code Migration for Vendor Incentives” May 31, 2007, pp 1-21
- [3] Riadh Manita and Najoua Elommal (2010), “The Quality of Audit Process: An Emperical Study with Audit Committees” International Journal of Business, 15(1), 2010 pp 87-99.
- [4] Albert Bates, Jr. and Amy Joseph Coles (2012), “Audit Provisions in Private Construction Contracts: Which Costs Are Subject to Audit, Who Bears the Expense of the Audit, and Who Has the Burden of

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- Proof on Audit Claims?”, Thomson Reuters E Journal of the American College of Construction Lawyers Vol. 6, No. 2, Summer 2012, pp 111-141.
- [5] Atul R Nikumbh and Dr.S.S.Pimplikar (2014),“Role, Services of Project Management Consultancy in Construction Projects & the Audit Process”, IOSR journal of Mechanical & Civil engineering, volume 11, Issue 3, ver.4 , May-Jun.2014, pp 22-31.
- [6] Handbook of “Technical Guide on Internal Audit of Construction Industry”, the Institute of Chartered Accountants of India.