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To Study & Analysis Construction Equipment Used in Construction Projects For Improving Productivity.

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ABSTRACT

Construction equipment is on the list of main sources in the building process for construction companies. This analysis seeks to look at the process of construction equipment management in Construction Company. The study focuses on checking out the process as well as issues as the lake of distinct guidelines and policy, accessibility of the spear thing, insufficient development and training, not enough other factors and skilled manpower that may affect construction equipment management training in construction equipment, to answer research questions the study adopted the diverse research approach. The study used a descriptive research strategy and used secondary details, as well as major sources like organized interview and questionnaire, had been performed with enterprise management numbers, project managers, case team leaders, and senior technicians. The interview and survey were done through a purposive sampling technique. For the benefit of getting the goals of this particular research, questionnaires have been analyzed in a form that is descriptive and results have been shown in a table with help of a statistical package just for the public science (SPSS) system and information from the interview and also document reviews have been interpreted qualitatively. The final results indicate that building equipment management practices from different perspectives of equipment management aspects in the building are assumed to be inadequate.

Keywords: Equipment, Construction management and equipment management.

1. INTRODUCTION:

Construction business is among the most crucial service industries that touch the lives of countless individuals in India. As an outcome, it's firmly believed that building industries require good resource management training to retain the profitability of theirs and continue the contribution of theirs to the development of the nation. The building is a business segment that depends largely on the excessive utilization of building equipment. Equipment is hence among the primary key elements for boosting contractor's ability in carrying out their job better and properly. Based on Sharma (2002, p.65) the price of equipment in a project differs from 10 to 30 % of the entire price of the task, based on the scope of mechanization. In modern-day fully mechanized projects, the price of gear goes as much as 30 %. Good preparation, operation, installation, procurement, selection, upkeep, and related equipment replacement policy plays a crucial part in equipment control for the prosperous conclusion of the venture. With the increasing usage of machinery, it's become essential for building engineers being extensively knowledgeable about the building application and upkeep of the broad range of contemporary equipment. Hence, good management of equipment is essential for the firm results, particularly for the building sector where profit margin is really small. It's crucial that you be aware that useful management of equipment would engender huge cost savings for construction companies. The primary job is reducing downtime, achieve optimum equipment utilization, and also enhance production at minimum price. The cost analysis, as well as the will of developing right techniques suitable for the circumstance, are the fundamental aspects because of the good results and consequently, there's a requirement of a rational planning, good selection, along with judicious deployment of gear in relation to the

circumstances to achieve maximum utilization. Equipment engineers must coordinate with different
wings of the group in discharging the job of theirs of equipment planning, balancing, choice of equipment plus the utilization of its, personnel selection and education, preventive maintenance, financial planning, and common supervision. Thus equipment management integrates and constantly interacts with man, technical, financial, and production processes to be able to attain high cost and efficiency effectiveness.

2. Literature Review:

2.1. AviadShapira et.al. [1] This paper provides a selection design primarily based on the analytic hierarchy process (AHP) a multi-attribute decision analysis technique, with a perspective to offering ways for these two problems.

2.2. Kunal r Ghadge1 et.al. [2] Described the financial dam site is only one that is managed with the overall economy of the equipment's thus here the aspect of the matter is having adequate management and planning of equipment on dam site.

2.3.Dushyant A. Deshmukh et.al. [3], Examined the incorrect use and selection of excavator is able to lead to extraordinary costs, injuries, and time to labors. A point in time necessary for excavation work is dependent on the functionality of the equipment. You will find many factors that can impact the excavator's productivity and performance. In this paper, we've studied literature and determined several of all those elements.

2.4. Prajeesh. V. P, Mr. N. Sakthivel et.al.[4] states this specific thesis is studying the management of devices practices in the Construction Industry and also in order to provide the most favored methods of the contractors and also to evaluate the apparatus management policies with a Case study of building business. The necessary data have been collected using a structured questionnaire.

2.5. Mr. Nilesh D. Chinchore et.al. [5] States that equipment improves quality, safety, and productivity. Construction related equipment planning aims at identifying building equipment for executing job tasks, examining equipment operating capability, forecasting date smart requirement of type and number of drugs , and lastly participating in the choice of equipment being acquired.

3. METHODOLOGY

The methodology describes the entire sum of methods of information collection, application, and also the strategies of analyzing data and theoretical orientation or perspective which govern research. This food section offers an introduction to the research approach used in the research and that lays in the diverse methods strategies. It discusses the research approach adopted and also survey style of the research. Research style will be the blueprint for fulfilling answering research and research objectives questions, In any other words, it's a master plan specifying the techniques plus methods for obtaining and analyzing the necessary info. This's to determine and assess all of the components of the phenomenon, processor process like recording and identification will be performed from a specific viewpoint and sometimes for a specified goal, However it must generally be accomplished as accurately and objectively.

3.1. Type of data Collection

The study used each secondary and primary information. Right here there are 2 standard sources of information sources specifically, mostly as well as secondary resources, in this particular research each secondary and primary energy source of information was used through questionnaires, the job interview and literature review, observation cheek list & flows group discussion guide, etc. Main energy sources of information include questionnaires and interviews, these interviews and

questionnaires had been made up of both open-ended and closed-ended things, whereas secondary sources data have been produced through an evaluation of pertinent documents.

3.2. Questionnaire

To recognize the goal, the analysis used a well-designed questionnaire as an information collection instrument. Questionnaires have been distributed middle and top management people, project managers, construction equipment administration and maintenance case group leaders of head office as well as tasks, and senior technicians. They had been selected as respondents since they're deemed to be familiar with building management training as well as may offer a perspective that is important on its adoption. The result is anticipated to simply help recognize the elements which could describe the process of construction equipment management as the case of Construction Company. The research evidence was gathered with both open-ended and close-ended questionnaires. Mixed questionnaires have so many merits; most crucial of this particular edge is its considerable flexibility. With regard to the close-ended questions, the respondents had been directed to show the level of theirs of contract on a 5 point Likert scale with the following scores. Strongly agree (SA; or maybe five), agree (A; or maybe 4), basic (N; or maybe 3), disagree (D; or maybe 2), and strongly disagree (SD; or maybe one). On this particular scale, a rating of 5 or perhaps 4 suggests the product is seen to be important while a score of 3 or perhaps 2 suggests that the product is perceived to be pretty significant, but not vital, while a score of one suggests that the product might be ignored for simply being unimportant and also have been found suitable. With regard to the wide open-ended questionnaires the respondents had been directed to supply open-ended responses to the questions that involve opinion and in case they've views they think the researcher will deem valuable.

3.3 Interview

Semi-structured interviews with middle management people, project managers, construction equipment administration, and maintenance case group leaders have been conducted. It permitted the investigator a certain amount of freedom at the time of selecting for the quest for an unexpected line of inquiry that had been arising at the analysis progresses. Thoughts in the job interview checklist were built depending on the evaluation of literature. In the procedure of preparing, assessment as well as working with the tools, the coming methods are observed.

3.4 Document Review

The evaluation of documents helped the researcher to recognize the crucial information of the businesses. The papers had been assessed by referring the most recent info from different reports and authorized documents. Annual functionality reports along with other papers associated with the gear management were being used. The document evaluations were utilized to triangulate the information collected by the questionnaires and interviews.

3.5 Method Data Processing and Analysis

As defined in the preceding part, re-search is created to follow a diverse approach. To this conclusion, each quantitative and qualitative analysis has been used. Information collected by using questionnaire was analyzed through descriptive statistics, frequency distribution by using Statistical Package for any Social Scientists (SPSS). It helps you to explain what the information is like, where their center (mean) is, exactly how broadly they're distributed in the terminology of only one factor to another element of the same data. The SPSS version 21 is being used to get out percentages, correlations, frequencies, mean values, etc. as primary ways for summarizing the data.

4. RESULT AND DISCUSSION

A total of 68 questionnaires that managed construction-related equipment management training along with other areas have been sent out on the respondents on the business. Nevertheless, just 65 questionnaires had been collected and also had functional responses (95.4 % response rate), relevant documents and interview happen to be in addition reviewed. Thinking about the trouble of gathering information in construction business projects,, a (95.4 %) response rate was moderately top notch. An effort was created in the evaluation to incorporate and arrange the info from the questionnaire, interview, along with many other related documents.

4.1 General Information about Respondent

Table 4.1 shows basic info about sex, work experience, education qualification, and work role of respondents. Most (76.92 %) of respondents are male and just 23.07 % are of female respondents.

Table.4.1. General Information about Respondent

Variable	Frequency	Percentage
Sex		
Female	15	23.07
Male	50	76.92
Total	65	100
Educational qualification		
ME\M.Tech	5	7.7
BE\B.Tech	42	64.6
Diploma	16	24.6
Below diploma	2	3.1
Total	65	100
Work experience		
Less than 5 years	7	12.8
5-10 years	13	20
11-15 years	32	49.2
Above 15 years	13	20
Total	65	100
Job position		
Top management	5	7.7
Middle management	15	23.1
Project management	13	16.9
Equipment administration case team leaders and senior technicians	20	30.8
Total	65	100

4.2. Over All Equipment Management Practices Performance

Respondents have been required to generalize the scope of total equipment management functionality of the business. From table 4.15 below it is able to simply be know that the business overall efficiency in controlling construction equipment from several perspective of

equipment management is remains to be conditions that are poor as majority (67.7 %) of the respondents indicated

Table.4.2 Overall Equipment Management Practice Performance

	MN	SD	Very poor	Poor	Good	Very good
Overall performance of equipment management practice	2.4	1.0	-	44 (67.7%)	21(32.3%)	-

4.3 Action To Improve Construction Equipment Management

Respondents have been directed to show the exactly how effective would be the scope of actions taken by business to boost building equipment management. Majority (66.2 %) respondents suggested that actions taken by the business to enhance the complete equipment management was discovered to be inadequate.

Table.4.3 Level of Action to Improve Construction Equipment Management

	MN	SD	Very poor	Poor	Good	Very good
Level of action to improve construction equipment	2.4	1.0	2(3.1%)	43 (66.2)	12(18.5%)	8(12.3%)

4.4 Construction Equipment Downtime

Four questions have been distributed respondents to analyze the scope of variables which account for equipment downtime within the business. It was discovered (in table 4.20 below) as not enough extra part availability(63.3 % with mean response & SD respondents 0.9)was the main factor contributing for equipment downtime within the venture and accompanied by absence skilled operator and good control respectively. Improper utilization of gear by end user was labeled as minimum factor contributing for downtime.

Table.4.4 Factors in Construction Equipment Downtime

	Factors	MN	SD	Very low	Low	High	Very high
1	Lack of experienced operators	3.1	1.0	9(13.8%)	8(12.3%)	21(32.3%)	27(41.5%)
2	Improper utilization	3.0	1.0	7(10.8%)	3(4.6%)	30(46.2%)	25(38%)
3	Lack of spare parts	3.5	0.9	5(7.7%)	8(12.3%)	11(16.9%)	41(63.3%)

4	Lack of proper management	3.1	1.1	-	5(7.7%)	10(15.4%)	50(76.9%)

5.CONCLUSIONS

This study examined the building equipment management methods plus challenges that come up at construction Companies. Three research questions have been designed and tried in this research. The very first issue understands the process of construction equipment management. The next issue understands the challenges encountered by the organization in the practice of doing control of construction equipment. The final question is assessing the various elements concerns that are associated with building equipment. The outcome of the research reveals the existence of the construction equipment policy manual at construction business but affirms additionally it lacks simplicity and clarity. Furthermore, the building policy hand doesn't address different areas of equipment management. It's been also observed in the research end result as Construction Company prepares long and short-range capital budgeting to get construction equipment that is largely designed to augment its competitiveness and capacity within the building sector of the country. It was discovered in the research that the construction business didn't have a well-structured and incorporated equipment maintenance system. Unscheduled and corrective maintenance type generally trains in the building business. As a consequence of the specific practice of helpful maintenance type in the building business, building projects aren't achieved as per their contractual schedule. It's been in addition recommended that the mechanical based equipment inventory process as well as the absence of integrated monitoring and evaluation mechanism within the enterprise led to ineffective and inefficient performance analysis of construction equipment.

6. REFERENCES

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