

QURAN

أَنْزَلْنَا مِنَ الْإِلَهِ مَوْجِدٌ رِيبِهِ وَالْمُؤْمِنُونَ كُلُّ آمَنَ بِاللَّهِ وَمَلَائِكَتِهِ وَكُتُبِهِ وَلَا رُفْقٌ بَيْنَ أَحَدٍ مِنْ
سُلْبِهِ وَقَالُوا سَمِعْنَا وَأَطَعْنَا غُفْرَانَكَ رَبَّنَا وَإِلَيْكَ الْمَصِيرُ (285) اللَّهُ ذَفْسًا إِلَّا وُسْعَهَا لَهَا مَا كَسَبَتْ
بَتْ وَبَعَثْنَا فِيهَا نُفُوسًا نَحْنُ نَدْرُسُهَا أَوْ أَخْطَأْنَا نَارَ بَدَا وَلَا تَحْمِلْ عَلَيْنَا الْإِثْمَ حَمَلَتْهُ عَلَى الَّذِينَ مِنْ
قَبْلِنَا رَبَّنَا وَلَكُمِ الْإِثْمُ مَا غَلَبَ طَعَلْنَا وَغُفِرَ لَنَا وَارْحَمْنَا أَنْتَ مَوْلَانَا فَانصُرْنَا عَلَى الْقَوْمِ

(الْكَافِرِينَ (286))

الآيات (285 – 286)

سورة البقرة

DEDICATION

To my mother

To my father

To my brothers and sisters

To all who supported me.

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FIRSTLY, I WANT TO THANKS [ALLAH](#) FOR COMPLETION OF THIS RESEARCH.

***MY THANKS ALSO EXTEND TO [UNIVERSITY OF SUDAN SCIENCES AND TECHNOLOGY](#)
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Abstract

The research contain the main factor for execution construction projects is the equipment, labors and materials. It should shed light on one of these factors and impact on productivity.

Through this research has been reviewing the types of construction equipment and importance of the different uses in construction, and how to manage this equipment through training, planning equipment costs, maintenance and preservation through the store and their impact in increasing the productivity of the equipment.

Through this research and analytical methodology to follow was highlight the heavy construction equipment and hand tools, and an overview of the construction companies (contracting and consulting) in Sudan, specifically in the state of Khartoum has been linked to the relationship between the administrative side and the side of engineering in the use of equipment and their impact on costs the project on productivity of projects and the time of execution of projects. The questionnaire was designed and distributed to administrators and engineers has distributed a questionnaire was 70 retrieving 54 questionnaire.

Then results were analyzed by statistical program (**SPSS**) and concluded the results showed that the equipment has significant impact in construction industry by 56.5%. The results showed that worker training is usually in the state of Khartoum by 31.2%. The concluded that use of heavy equipment in the construction projects are more efficient than hand tools because it increase productivity and reduce the time spent on time program of projects by 68.5%.

The research found the recommendations process of preparations for the first crisis of equipment for project engineering and the process of regular maintenance and attention to the process of training for workers on the operation of equipment and the establishment of specialized centers for training.

المستخلص

تناول البحث العوامل الأساسية لتنفيذ المشاريع الهندسية التي تتمثل في المعدات والعمالة والمواد. وسلط الضوء على أهم العوامل ودراسة أثرها على الإنتاجية .

كما تتطرق البحث على أنواع معدات التشييد وأهميتها وإستخداماتها المختلفة في التشييد، وكيفية إدارة هذه المعدات وأثرها في زيادة إنتاجية المعدات .

من خلال هذا البحث و بإتباع المنهجية التحليلية تم تسليط الضوء على معدات التشييد الثقيلة والادوات اليدوية ،و بإلقاء نظرة عامة على شركات التشييد (المقاولات والاستشارية) في السودان وبالتحديد في ولاية الخرطوم تم ربط علاقة بين الجانب الإداري والجانب الهندسي في إستخدام المعدات وأثرهم على تكاليف المشروع وعلى إنتاجية المشروع و زمن تنفيذ المشروع .تم تصميم إستبيان وتوزيعه على الإداريين والمهندسين وقد وزعت 70 إستبيان وتم استرجاع 54 إستبيان .

من ثم تحليل النتائج بواسطة برنامج التحليل الاحصائي **SPSS** وظهرت النتائج ان معدات التشييد لها اثر كبير في صناعة التشييد بنسبة 56.5%. أظهرت النتائج ان تدريب العمال عادة يتم في ولاية الخرطوم بنسبة 31.2%. وخلصت الدراسة الى أن إستخدام المعدات الثقيلة في مشاريع التشييد اكثر كفاءة من الأدوات اليدوية لأنها تعمل على زيادة الإنتاجية وتقليل الزمن المستغرق في الاعمال بنسبة 68.5%.

وصى البحث للإهتمام بعملية التحضير الاولي للمعدات اللازمة للمشروع الهندسي وعملية الصيانة الدورية والإهتمام بعملية التدريب للعمال على تشغيل المعدات الحديثه وإنشاء مراكز تدريب المتخصصة.

LIST OF CONTENTS

Title	Page NO.
Quran	I
Dedication	II
Acknowledgment	III
Abstract	IV
List of contents	VI
List of tables	IX
List of figures	XI
List of abbreviations	XIII
Chapter One	
1. Introduction	
1.1General	1
1.2Problem of Research	2
1.3Important of Research	2
1.4Hypothes of Research	2
1.5Objective of Research	2
1.6Methodology of research	3

1.7 Research layout	3
Chapter Two	
2.Literature review	4
2.1 The construction equipment	4
2.2 Importance of tools and equipment	5
2.3. Hand Tools	6
2.4.Earth moving equipment	12
2.5 Construction vehicles	19
2.6. Material handling equipment	21
2.7 Other equipment	23
2.8.Production rate for modern equipment	27
2.4 Factors that help to increase equipment	28
Chapter Three	
3.Methodology	38
3.1 Introduction	38
3.2 Design of Questionnaire	38
3.3 Society and the research sample	40
3.4 Data Collection Technique	40

3.5 Data Management and analysis	40
3.6 Statistical Package for the Social Sciences Program	40
Chapter Four	
4.Results and Discussion	44
4.1 Introduction	44
4.2. Section (1) : Personal information	44
4.3. Section (2) : The heavy equipment have a significant impact in the construction industry	48
4.4 Section (3): Using equipment needs training worker consistent with his work	52
4.5 Section (4) : Required the use of hand tools in some work	55
Chapter Five	
5.Conclusion and Recommendations	58
5.1 Conclusion	58
5.2 Recommendations	59
References	60
6.Appendix	62

LIST OF TABLES

No	Table title	Page
1	Table(3-a): The first hypotheses (The heavy equipment have a significant impact in the construction industry)	38
2	Table(3-b): Table(3-b):The second hypotheses (Using equipment needs training worker consistent with his work)	39
3	Table(3-c): Table(3-c): The third hypotheses (Required the use of hand tools in some work)	39
2	Table (4-1): Frequency & Percentage for Job title	44
3	Table (4-2): Frequency & Percentage for Specialization	45
4	Table (4-3): Frequency & Percentage for Experience	46
5	Table(4-4): Frequency & Percentage for The heavy equipment have a significant impact in the construction Hypotheses statement	48
6	Table (4-5): Chi square for The heavy equipment have a significant impact in the construction Hypotheses statement	50
7	Table(4-6): Frequency & Percentage for The heavy equipment have a significant impact in the construction Hypotheses statement	51
8	Table (4-7): Frequency & Percentage for Using equipment needs training worker consistent with his work Hypotheses statement	52
9	Table (4-8): Chi square for Using equipment needs training worker consist with his work Hypotheses statement	53
10	Table(4-9): Frequency & Percentage for Using equipment needs training worker consistent with his work Hypotheses statement	54
10	Table (4-10): Frequency & Percentage for Required the use of hand tools	55

	in some work Hypotheses	
11	Table (4-11): Chi square for Required the use of hand tools in some work Hypotheses statement	56
12	Table(4-12): Frequency & Percentage Required the use of hand tools in some work Hypotheses statement	56

LIST OF FIGURES

No	Figure title	Page
1	Fig(2-1) Typical type of Hoes	9
2	Fig(2-2) Typical type of Pickaxes and Mattocks	9
3	Fig (2-3) Typical type of Shovels	10
4	Fig (2-4) Typical type of Wheelbarrows	13
1	Fig (2-5) Typical type of Loader	13
2	Fig(2-6) Typical type of Skid loader or Skid steer loader	14
3	Fig(2-7) Typical type of Grader	15
4	Fig(2-8) Typical type of Crawler loader	16
5	Fig(2-9) Typical type of Backhoe	16
6	Fig(2-10) Typical type of Bulldozer	17
7	Fig(2-11) Typical type of Trenchers	18
8	Fig(2-12) Typical type of Scraper	18
9	Fig(2-13) Typical type of Wheeled loading shovels	19
10	Fig(2-14) Typical type of Dumper	20
11	Fig(2-15) Typical type of Tippers	21
12	Fig(2-16) Typical type of Crane	23
13	Fig(2-17) Typical type of Hoists	23
14	Fig(2-18) Typical type of Concrete mixer	24
15	Fig(2-19) Typical type of Compactor	24
	Fig(2-20) Typical type of Paver	25
16	Fig(2-21) Typical type of Worm-drive pump	26
	Fig(2-22) Typical type of Piston pump	26
17	Fig(2-17) Typical type of Road roller	27

18	Fig(4-1) Percentage for job title	45
19	Fig(4-2) Percentage for specialization	45
20	Fig(4-3) Percentage for Experience	46
21	Fig (4-4) Percentage for the heavy equipment has significant impact in the construction hypotheses statement.	51
22	Fig(4-5) Percentage for using equipment needs training worker consist with his work hypotheses	54
23	Fig (4-6): Percentage for Required the use of hand tools in some work Hypotheses statement.	57

LIST OF ABBREVIATIONS

SPSS	Statistical package for social sciences
F	Frequency
P	Percentage