



Sudan University of Science and Technology

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**Planning and implementing of Industrial unit
by using network analysis In
(Reinforcement Steels Preparation Unit)**

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قال تعالى

(وَأَنْزَلَ اللَّهُ عَلَيْكَ الْكِتَابَ وَالْحِكْمَةَ وَعَلَّمَكَ مَا لَمْ تَكُن تَعْلَمُ ۗ وَكَانَ فَضْلُ اللَّهِ عَلَيْكَ عَظِيمًا) (النساء: 113)

Allah said:

(And he taught you what you knew not. Great indeed has been Allah's favour upon you) (Towards Understanding the Qur'an, vol. I, Surah 2, n. 197.)

Dedication

To... our Islamic Nation we dedicate this modest effort we ask Allah to make this Research beneficial to it.

To... our Fathers, Mothers, Brothers, and Sisters.

To... our professors at the college of engineering.

To ... All who helped us to learn something new.

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Abstract

The research scope was project management and planning using critical path method , it was applied on planning and implementing a reinforcement steel preparation unit , which is a unit that used to cut ,bend , and prepare the rebar steel to make it ready to use in on building site .

This project used a project software program ‘Projectlibre’, which is an open source program, it is available free and it is very close to the market leader Microsoftproject.

The needed activities for planning and implementing was defined , and how to use the program was explained , and inputting data and getting the result as reports to implementing and mentoring

The research came out with recommendations, the important one was using project management software is effective and efficient, it save time, cost, and effort.

التجريد

في هذا المشروع تم البحث في مجال تخطيط وتنفيذ المشاريع باستخدام طريقة المسار الحرج، وتم اختيار وحدة تجهيز حديد التسليح موضوعاً للبحث وهي عبارة عن وحدة انتاجيه يتم فيها تقطيع حديد التسليح وتجهيزه في شكل اعمده جاهزة للتركيب.

تمت دراسة هذا المشروع باستخدام برنامج إدارة المشاريع (Project Liber)، وهو برنامج مفتوح المصدر يدعم برامج الجافا وله صيغ مماثله لصيغة برنامج (Microsoft project).

تم تحديد الأنشطة المطلوبة لتخطيط وتنفيذ المشروع والعلاقة بينها وتم شرح الطريقة التي يعمل بها البرنامج وكيفية ادخال البيانات واستخراجها، وتم استخراجها في شكل تقارير لتسهيل عملية التنفيذ والمتابعة.

وتم الخروج بتوصيات اهمها استخدام برامج الحاسوب في تخطيط وتنفيذ المشاريع علما توفره من زمن وجهد اضافة الى أنها تعطي نتائج دقيقة.

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Chapter One

Introduction

Chapter One

1.1 Introduction

When considering establishment of any industrial unit to produce a particular product must search for scientific method in which can set up industrial project, planning and implementation of management. Therefore, we can get the planning and implementation based on possible shortest time, lower cost and quality required.

This research applied project management by using network analysis on planning and implementing a reinforcement steel preparation unit , which is a unit that used to cut ,bend , and prepare the rebar steel to make it ready to use in on building site .

The specific technical development that has helped the evolution of computing machinery and the nature of modern project of scale and the high cost and complexity make the use of computers in project management is essential,in this research projectliber software will use to get the result of network analysis.

1.2 Project problem

Projects, which do not use a Project Management Methodology, have a less chance to success, cost overrun and delay -not meeting dateline, and there is no study in field of planning and implementing of reinforcement preparation unit.

1.3 Project importance

To plan, organize, implement and control activities to maintain cost and time.

1.4 Objectives

1.4.1 General Objective

To plan for constructing a Reinforcement steel preparation unit using network analysis critical path method.

1.4.2 Special Objectives

To study project management network analysis critical path method Planning and mentoring using software (Project Liber).

1.5 Methodology of the research

The study began with study network analysis “critical path method” ,and collecting data . Then inserting the data to the software program and getting result of time and cost and the critical activities.