


CAUSES AND EFFECTS OF DELAYS IN CONSTRUCTION OF WATER SUPPLY PROJECTS

W.D. Anuruddha Perera

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Abstract

National Water Supply and Drainage Board is the pioneer organization for supplying pipe borne drinking water to the nation. Every year it implements a large number of water supply projects throughout the country using local funds as well as foreign donor funds. Many of these projects experience extensive delays and thereby affect the socio economic development of the country. Therefore, there is a necessity to address this issue without delay and help the project management teams for understanding and better management of delay situations.


This study takes an attempt to identify the causes and effects of delays in construction of medium scale water supply projects in Sri Lanka and develop an expert system for better understanding of the identified major delays in the study. A questionnaire was developed and distributed to a randomly selected sample of professionals representing both clients and contractors who are engaged in the construction of medium scale water supply projects. A total of eighty three construction professionals were responded and the ranking of the factors were done based on severity, frequency of occurrence and importance.

Results of the analysis of the responses to the questionnaire indicate that inclement weather conditions, contractors' financial difficulties, shortage of labour, rules and regulations of road authorities, delays in sub contractors' work, material import delays and ineffective planning and scheduling of project by contractor are among the most important factors causing delay in construction of medium scale water supply projects. On the other hand, time overruns, cost overruns, funding difficulties, develop unfair relationships with other parties and disputes are among the most important effects due to delay.

Most of the projects are executed through contracts and it has been faced difficulties in managing these delays although there are enough tools and techniques available for project management. Therefore, the rule based tree expert system developed in this study will help the project management teams for understanding and better management of delays in construction of medium scale water supply projects.

Declaration


I hereby certify that this dissertation does not incorporate any material without acknowledgement and material previously submitted for a degree or diploma in any university to the best of my knowledge and I believe it does not contain any material previously published, written or orally communicated by another person except where due reference is made in the text.


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W.D. Anuruddha Perera

Date: February 2010

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This is to certify that this thesis submitted by W.D. Anuruddha Perera is a record of the candidate’s own work carried out by him under my supervision. The matter embodied in this thesis is original and has not been submitted for the award of any other degree.

UOM Verified Signature

.....

Research Supervisor

Dr. Rangika Halwatura

Date: February 2010

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