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Assess Effectiveness of TIA Method in Forensic Delay Analysis in Construction Projects

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Research

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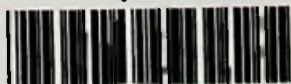
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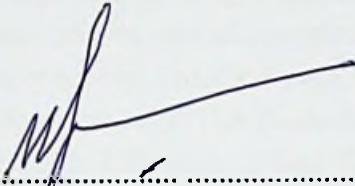


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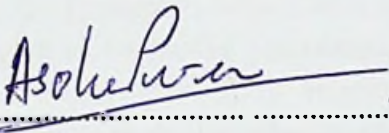
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ABSTRACT

Results of delay analysis is the basis of many claims related to time and money of the construction projects. Results of delay analysis vary depending on the person how perform the analysis, delay analysis method, nature of data available, and many other subjective parameters associate with delay analysis. There is no delay analysis method specified in any standard condition of contracts. Therefore the selection of more suitable method is a liberty of person how preform the analysis. This inspire the background of this research.

Forensics delay analysis is the process which measure the impact of a delay event to the date of completion of the project based. This process called 'Forensic' because it is based on the past data. The planned sequence of activities of the project agreed by parties at the beginning of the project will be the basis of this process. Sequence of activities of a project or project programme, has many dependencies. Most of those dependencies are subjective. Therefore it is very difficult to develop a mathematical model to assess the impact of a delay event to the programme and its date of completion. There are many delay analysis methods. TIA is a one of the most accepted method even recommended by society of construction law. Assessment of the effectiveness of TIA method to analyze delays in construction projects is the objective of the research. Effective method shall be applicable, justifiable and scientific.

Assessing criteria to assess the effectiveness of a delay analysis method has been developed referring to basic requirements in analyzing project delays, provisions in contract law and experts views. The impact of few delay events would be analyze by TIA method and it could be assessed by the assessing criteria. Delay event and application of TIA method and results are the parameters which shall be assessed. This process have many subjective parameters. Impact of subjective parameters related to the delay analysis process, should be nullify to obtain more 'generalized' results. Therefore instead of obtaining results under few cases, it is planned to study the behavior of TIA results with the variability of its subjective parameters. Then these relationships are assessed by the developed criteria. Simulation followed by a case study is the selected methodology for the research. Simulation of the TIA has been done using a model developed based on critical path method. Simulation model should be capable of assemble each simulations together to observe the impact of one delay event on other. Results of simulations would be graphically illustrated.

Effectiveness of TIA method has been assessed in view of scientific method of measurement and applicability to the accepted industrial requirements and norms.

TIA cannot fulfill the requirements of effective delay analysis method, all the times. TIA shall be perform with proper understanding of behavior of its results. Interpretation of TIA results and final decision over the time extension claim shall be still a job, highly depend on expert judgment of professionals.

Contents

List of Tables.....	7
List of Figures	6
Chapter 1 – Background.....	8
1.2 Objectives of the Research.....	11
Chapter 2 - Literature Review.....	13
2.1 Introduction.....	13
2.2 Previous researches relevant to evaluation of TIA and delay analysis methods.....	14
2.3 The Delay Analysis Methods.....	15
2.3.1 Identify Delay events and their ownership.....	17
2.3.2 Calculation of the Impact of Delay Event.....	17
2.4 Methods of Analyzing the Impact of Delay Event.....	18
2.4.1 As-Planned v As-Built.....	18
2.4.2 Impacted As-Planned.....	19
2.4.3 Collapsed As-Built (also known as 'As-Built But For' method).....	20
2.4.4 Introduction to the Time Impact Analysis.....	21
2.4.5 TIA Method.....	24
2.5 Evaluation Criteria of Effectiveness of Delay Analysis method.....	29
2.5.1 Capability of TIA to be in line with legal requirements.....	29
2.5.2 Scientific Method of Measurement.....	33
2.6 Delays and Delay Events.....	36
2.7 Concurrent Delays.....	36
2.8 Technical and Contractual Constrains.....	37
2.9 Variable parameters (Source input data) of delay analysis.....	38
2.9.1 Construction programme (Baseline programme).....	38
2.9.2 Progress Update.....	40
2.9.3 Condition of Contract.....	40
2.9.4 Source input data specifically applied in TIA Method.....	41
2.9.5 Nature of fragnet.....	41
2.9.6 Appropriate Schedule.....	41
2.9.7 Time of analysis been done.....	41
2.9.8 Level of mitigation of delays.....	42
2.9.9 Selection of best path of working.....	42
2.10 Effective Cases of TIA.....	42

2.11	Illustrate TIA	44
2.12.1	Illustrated in Gant Chart.....	44
2.12.2	Time Impact Evaluation Forms.....	47
2.12.3	Illustrated in 4D model	49
2.12	Summary of Literature Review	51
Chapter 3 - Research Methodology.....		52
3.1	Overview	52
3.2	Outline of the Research	53
3.3	Research Strategy	55
3.4	Research Methods	57
3.4.1	Case study Method.....	57
3.4.2	Simulation Method.....	58
3.4.3	Combine research Methodology	58
3.5	Development of Case study Approach.....	59
3.6	Development of simulation for the impact of delay event	60
3.6.1	Model TIA in with multiple variables.....	61
3.6.2	Model TIA in a Critical Path Programme	61
3.7	Match critical path programme to develop TIA simulation model	62
3.8	Development of Model.....	63
Chapter 4 - Analysis.....		65
4.1	Case Study.....	65
4.1.1	Project Delay events.....	65
4.1.2	Delay Analysis	67
4.1.3	Summary of case study	76
4.1.4	Subjective parameters identified in case study research	77
4.2	Simulation	78
4.2.1	Summary of Simulation 1	78
4.2.2	Simulation Results	80
4.2.3	Summary of Simulation 2	82
4.2.4	Simulation Results	83
4.2.5	Summary of Simulation 3	84
4.3	Summary of Analysis.....	85
4.4	Analysis results of simulation	86
Chapter 5 – Conclusion.....		87
References.....		89

List of Figures

Figure 1 Reseach Flow.....	11
Figure 2 Methods of Delay Analysis.....	15
Figure 3 Delay analysis Protocol Common for all Methods.....	16
Figure 4 TIA Protocol.....	23
Figure 5 Time Line of TIA Method.....	28
Figure 6 Evaluation Criteria of Effectiveness if Delay Analysis Method Refer to the Satisfactory of Condition of Contract.....	32
Figure 7 Evaluation Criteria Refer to the Scientific Method of Measurements.....	35
Figure 8 Different Parameters of Delay Analysis Process.....	42
Figure 9 TIA Method (Example).....	45
Figure 10 Illustration of TIA Calculation at Site Level.....	48
Figure 11 4D Model to Illustrate Delay Analysis.....	49
Figure 12 Illustrate Fragnet in 4D Model.....	50
Figure 13 Research Flow Diagram.....	53
Figure 14 Research Methodology.....	55
Figure 15 Analysis Method.....	56
Figure 16 Simplification of Delay Analysis Method.....	63
Figure 17 Model Simplification of TIA Method in MS Project for Simulation.....	64
Figure 18 Case Study.....	66
Figure 19 Simulation of Delay Events.....	79
Figure 20 Assemble Delay Events to Obtain Total Impact Simulation 1.....	79
Figure 21 Resultant Delay Vs Duration of Individual Delay Event.....	81
Figure 22 Simulation of Delay Event 2.....	82
Figure 23 Summary of Simulation 2.....	83
Figure 24 TIA Results Vs Progress Level.....	83
Figure 25 Simulation of Delay Event 3.....	84

List of Tables

Table 1 Summary of Previous Researches.....	14
Table 2 Further Sub Division of Delay Analysis Methods.....	18
Table 3 Summary of Case Study.....	76
Table 4 Summary of Simulation 1 Results.....	80
Table 5 Assessment of Effectiveness of TIA Results.....	86