

Software Tutorial

Abstract

The theoretical part of the study supposed to discuss the risks may be arisen due BIM implementation. Then, an analysis will be performed to these risks to predict its impact to the upcoming projects using a well-known software, getting benefit from expert's judgement to these risks collected from a questionnaire.

The proposed software shall present a practical presentation to the study resulted by the risk analysis, which is thoroughly discussed below.

Used software programs

- Primavera Risk Analysis by ORACLE.
- Primavera Time Schedule by ORACLE.
- Revit by AUTODESK.

Steps by user to reach results

- Firstly, a customized information will be collected from the used using an interface window will be developed in the REVIT.
- Then, to extract data using Excel transition file from Primavera planning to Primavera Risk Analysis.
- Provide a link between the Primavera Risk Analysis and Revit using Excel transition file.
- Develop the targeted contour coloring tool into Revit software, according to the degree of risk for each element in the model, that will be calculated from the study.

Summary of the software output

• Academic Added-Value

- Provide an automation to the originated formula will be presented at the study which is not available in Primavera Risk Analysis software program, shown below;

$$\text{Cost Index (CF)} = 1 \frac{\text{Planned Value}}{\text{Imp ct}} \quad \& \quad \text{Time Index (TF)} = 1 \frac{\text{Planned Value}}{\text{Imp ct}}$$

Cost/ Time Index = A factor indicates the change in the activity's cost/ duration due to risks analysis

Planned Value = Project Planned cost/ duration

Impacted Value = Project Impacted cost/ duration due to risk analysis

- Provide a contour color theme to recognize the activities at the Revit 3D model, each per a given index classification, which will guide the user graphically to identify the impacted activities. This benefit is not available in the Primavera Risk Analysis software program.
- A more intention will be paid for implementation of such activities, then, help mitigating the claims may be arisen from execution of these activities. This benefit is not similarly reached using the Primavera Risk Analysis software program.

• Practical Added-Value

- Provide the user with one interface window, that will support him/ her to link two different (Primavera time schedule & Primavera Risk Analysis) software programs at one familiar software program (Revit).
- Provide an autorun to the Risk analysis via Primavera Risk Analysis through a Revit's interface window. There will be no necessity from the ordinary user to learn Primavera Risk Analysis, while the user will only deal with Revit tool.
- The software is easy to be run by the non-expert user.
- Support mitigating the Risks by getting benefit from some of the BIM tools. It will link the Primavera Risk Analysis software program with the other BIM tools.