

## **TITLE OF DIPLOMA THESIS**

Risk analysis of construction projects using Risky Project Software – Case study on an existing building

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## **ABSTRACT**

It is fact that in all construction projects there are deviations in time and financial planning. There are many programs that has been developed to help predict the risks of a project and thus to deal with it in a timely manner. The citation research identified all the steps of the risk management process and is presented in detail in the introductory chapter. Also in citation research it has been attempted to identify risk analysis programs in a project, which are the most widespread and are mostly used by construction companies. However, despite the variety of programs and software, it was found that a small number of construction companies use these programs, at least as far as it concerns Greek companies. The aim of this thesis is to propose a comprehensive methodology for risk management in a construction project. For this purpose, a questionnaire was produced, the results of which were combined with a project management program and constituted input data into a probabilistic risk analysis program. After completing the process of entering the data into the program, results are generated on possible delays and cost overruns if the potensial risks in the project arise. For this aim a renovation project for a house in Palaio Psychiko, Attici, was used as an example. The results exported from the program are used to calculate how much the initial schedule and initial budget of the project will ultimately be affected. The thesis is completed with the presentation of the conclusions of the methodology. Finally, the delays and cost overruns, calculated by the program, are compared with the actual cost and finish time of the project.

## **KEYWORDS**

Risk management, construction projects, Risky Project.