

TITLE OF DIPLOMA THESIS

Probabilistic pre-estimation of construction cost of road bridges

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ABSTRACT

The construction industry had always aimed to create structures in the most optimal way possible, while keeping waste to a minimum. In today's society, where competitiveness and free market principles are becoming increasingly central to its functioning, these two objectives are even more important. The investigation and standardization of the methods used in the execution of any construction project, are essential prerequisites for achieving these objectives and are also key factors in the development of the construction industry. It should be noted here that the cost of carrying out a construction project is, by definition, not limited to the construction phase but also extends to the operational phase. With this in mind, researchers around the world are placing great emphasis on optimizing the methods used to construct and maintain a project, while at the same time there is an effort to create new cost prediction models that can produce results more precisely. This thesis analyses the above elements by taking the construction project of a bridge as a reference and concludes to introduce a probabilistic model for predicting its construction cost based on a sample of bridges constructed in Greece by Egnatia Odos SA.

KEYWORDS

Probabilistic pre-estimation, construction cost, @RISK, road bridges