DATA SCIENCE APPROACH FOR IT PROJECT MANAGEMENT

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Majority of the IT companies realized that ability to analyse and use data, could be one of the key factors for increasing of number of successful projects, portfolios, programs. Key performance indicators based on data analysis helps organizations be more prosperous in a long term perspective. Also, statistical data are very useful for monitoring and evaluation of project results which are very important for managers, delivery directors, CTO and others high level management of company. The Data Science methods could make more efficient project management in several of business problems.

Analysis of historical data from the project life-cycle based on Data Science models could provide more efficient benefits for different stakeholders. Differential of the project data vector with target as an integral evaluation of the project success which allow for the complex correlations between separate features. Therefore, the influence of features importance and override creatures could be decreased on the target.

This study propose new approach based on Data Science providing more efficient and accurately project management, taking into account best practices and project performance data.

Nowadays, the ability to analyse and use data is one of the key factors affecting the organization's ability of the IT companies to work effectively in the long perspective. The main factor affected the successful implementation of the projects could be described with so-cold project management triangle. The triangle consists of following components: time, budget and quality (or scope). The are several ways to calculate indicators related to the deadlines:

- assessment of the task in hours of the developer who will be engaged in it (previously agreed with the developer himself);
- have the data on how many hours were actually spent on this task (this requires a time tracker);
- due date due to which the task should be ready.

From the other hand, it is possible to convert part of the time metrics to the project budget. The evaluation of the project time scale could be described as - *Start date*, *Due Date*, *Actual Date*. Specifically, the time metric can be measured as the number of deadlines per task, or the ratio of differences between *Start date* / *Due Date* and *Due Date* / *Actual Date*. The budget indicator is based on a preliminary assessment of the time and the actual time spent to the task.

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