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Nehal Abdel Azim Ahmed Mahgoub

Abstract

Six Sigma is a quality management approach which is looking for less cost, high quality, and continuous improvement and control. Data analysis of Six Sigma process depends on statistical methods which give visible and numerical values for defects, and high or poor control.

The aim of this thesis is to apply Six Sigma methods to determine the problems that actually encountered the performance of a Sudanese construction company that executed a project consisting of prefabricated units to discover after executing the project that it had sustained high losses that could have been avoided if the company applied from the start Six Sigma methods.

The objective of the study is to analyze the performance of the company to discover the reasons for the losses.

The analysis and finding reasons of losses was obtained by using simple control charts which identified the defect and out of control points. And the final numerical results give the sigma values and efficiency of overrun material and workers cost.

In this thesis, the writer suggests monitoring, time management, and continuous control actions for future improvements plans.

The writer encourages adopting of Six Sigma methodology in Sudanese construction companies, even if it is started by using simple tools and methods to solve construction potential problems, and the promotion of these simple methods to reach executing complete Six Sigma projects.

The thesis tries to explain some difficulties which can face its implementation, and key factors to a successful Six Sigma implementation.