

The Application of Statistical Process Control in the Academe

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Abstract

The research looks on the applicability of statistical process control (SPC) tools, commonly used in manufacturing, to the academic processes in the case of the Faculty of Engineering of University X. Specifically, it answers the problems: What are the present controls used by the University? and How effective are the present controls used by the University? It seeks to test the hypothesis: the traditional controls used in the present academic system do not provide for an effective means of controlling the quality of input students, the instruction process and evaluation process. In addition, it also seeks to test that: Applying SPC tools in the academic system can improve the process of ensuring the quality of input students and its instruction and evaluation aspects.

The methodology used in the conduct of this study begins by describing the system pictorially, i.e., by constructing process flow diagrams of the academic processes. Control points are then identified and the performance of the system measured before a stability study is performed. Causes for an unstable process are identified and eliminated prior to the conduct of the process capability study. Monitoring and implementation of the solutions and improvement measures are carried out once the process is capable of meeting customer's specifications. Primary and secondary data used were sourced out from the different offices of the university in addition to outside sources. SPC tools applied in the three academic processes include the process flow diagram, trend chart, Ishikawa Diagram, Pareto Chart, scatter diagram, p-chart and process capability. Moreover, regression analysis and ANOVA were utilized for an in-depth analysis.

The conclusion drawn is: The traditional controls used in the present academic system do not provide for an effective means of controlling the quality of input students, the instruction process and evaluation process. And recommends that: Applying SPC tools in the academic system can improve the process of ensuring the quality of input students and its instruction and evaluation aspects.