

ECONOMICS

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For a manufacturing organization to compete effectively in the global marketplace, cutting costs and improving overall efficiency is essential. In this paper, we present a single-stage production system with two independent quality characteristics, and each having a different associated costs associated with each quality characteristic. That this associated cost falls below a lower specification limit (scrap) or above an upper specification limit (rework) is presented in this paper. The amount number of reworks and the number of scraps are assumed to be depending on the process parameters such as process mean and SD. Thus, the expected total profit is significantly dependent on the process parameters. In this paper, we develop a Markovian decision-making model for to determine the process means. We perform a sensitivity analysis is performed to validate the proposed model, and present a numerical example is given as an illustration. The results showed that the optimal process means has a major effects on the parameters of the quality characteristics.

Comment [A1]: I have separated this sentence into two to improve readability and clarity.

Comment [A2]: Is my insertion apt?