

**Integrated Model For Determining The Optimal Initial Settings
Of The
Process Mean And The Optimal Production Run Assuming
Quadratic Loss
Functions**

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Summary

Chen and Chung (1996) addressed the problem of the joint determination of the optimal process mean and production run for an industrial process. Their study considered a product with an upper and a lower specification limit. The optimal process mean and optimal production run were obtained by balancing the profit of meeting and not meeting the specification limits. However, Chen and Chung did not consider the quality cost for the product within the specification limits. The present paper revisits the problem and incorporates the quality cost by introducing a Taguchi loss function for determining simultaneously the optimal process mean and production run. As per Chen and Chung, the present paper assumes a 100% inspection scheme. It also investigates the differences between Chen and Chung's approach and the Reward Theorem approach. A sample inspection scheme is also proposed. Numerical examples are provided to demonstrate the application of the model. A sensitivity analysis of the model is provided. Some new directions for further research are also outlined.

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