

Pholkris Koatpoothon 2013: Skip Lot Sampling Plan: A Case Study of Hard Disk Drive Manufacturer. Master of Engineering (Engineering Management), Major Field: Engineering Management, Department of Industrial Engineering. Thesis Advisor: Associate Professor Prapaisri Sudasna-na-Ayudhya, Ph.D. 201 pages.

The existing sampling plan is a single sampling plan (SSP) which inspects every lot. Good quality control and continuous improvement in the production process result in the excellent quality history for customers. Better quality level from the final inspection often leads to accept lots from normal sampling inspection. Thus, in practice, Skip-lot sampling plan may play role. Skip-lot sampling still can controlled average outgoing quality limit (AOQL) but decreased average total inspection (ATI) and average inspection number (ASN) which lead to cost reduction in the inspection cost and gave more company benefit. The study of designing the Skip Lot Sampling Plans, both types of the Skip Lot Sampling Plan (i.e. Skip Lot Sampling Plan-2 (SkSP-2) and Skip Lot Sampling Plan-V (SkSP-V), indicated that SkSP-V was not significant different with SkSP-2 in terms of probability accepting (P_a) and average outgoing quality (AOQ) at 5% significance level. SkSP-V is using lesser ASN and ATI as compared with SkSP-2 significantly. So, SkSP-V is the most cost reduction plan. Even though, SkSP-V was better than SkSP-2 in terms of inspection cost. SkSP-2 was easier in implementation, and still better than SSP for probability of acceptance. SkSP-V can reduce more inspection cost from ASN and ATI significantly. However, AOQ of SkSP-2 was higher than AOQ of SSP but still do not exceed the AOQL of SSP which is important agreement point with customers for the quality assurance.

Student's signature

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