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## **A Cost-Effective Approach to Implementing Corrective versus Preventative Maintenance**

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**Abstract:** Having high standards of maintenance for inventories on a continuous basis ensures the mission readiness of the Armed Forces of the United States. However, there is only so much that can be done to prevent these inventories from corroding and breaking down with continued usage. As a result, every branch of the Armed Forces incurs steep costs from the maintenance required to either amend or replace these deficiencies. Many attempts at finding a solution for addressing these corrosion costs are currently ongoing. The purpose of this study is to identify and develop a quantitative approach to analyze the effects of corrective and preventative maintenance actions in order to improve the cost-efficiency of maintenance processes which will reduce the overall costs of maintenance. This paper presents our methodology, findings, and insights on possible solutions that help facilitate improvements on corrosion maintenance procedures in the future in order to allow for a more cost-effective maintenance policy.

*Keywords:* Corrosion, Maintenance, Corrective, Preventative