

## Extended warranty pricing considering the time of money

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### Abstract

Warranty usually plays an important role in providing customers with product assurance. Although the customers have to pay extra money to buy an extended warranty, they can obtain more protections from the company. Our study focuses on the extended warranty; the successive failure times of the repairable product are assumed to be drawn from a non-stationary Poisson process, taking into the consideration of time value of money, to figure out a more precise model of warranty cost. A numerical example is given to illustrate the model.

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### 1. Introduction

Warranty is a guarantee in the form of a contract. Generally, it is provided by the manufacturer (seller) to customers for its products or services. The warranty should clearly define the responsibility and obligation for both sides.

Two issues must be documented on this contract:

- (1) Detailed description of the functions for the product.
  - (2) Any failure due to the faulty design, manufacturing, or poor quality needs to be addressed by the manufacturer or the retailer [1].
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