

International Journal of Systems Science >
Volume 37, 2006 - Issue 15

416 Views | 81 CrossRef citations to date | 0 Altmetric

Original Articles

An EOQ model for deteriorating items with price- and stock-dependent selling rates under inflation and time value of money

K.-L. Hou  & L.-C. Lin

Pages 1131-1139 | Received 17 Jun 2004, Accepted 16 Aug 2006, Published online: 23 Feb 2007

 Cite this article  <https://doi.org/10.1080/00207720601014206>

Sample our
Mathematics & Statistics
Journals
>> [Sign in here](#) to start your access
to the latest two volumes for 14 days

 Full Article  Figures & data  References  Citations  Metrics

 Reprints & Permissions

[Read this article](#)

Abstract

This study applies the discounted cash flow (DCF) approach for the analysis of a replenishment problem over a finite planning horizon. Thus, a deterministic economic order quantity (EOQ) inventory model taking into account inflation and time value of money is developed for deteriorating items with price- and stock-dependent selling rates. An efficient solution procedure is presented to determine the optimal number of replenishment, the cycle time and selling price. Then the optimal order quantity and the total present value of profits are obtained. Numerical examples are presented to illustrate the proposed model and particular cases of the model are also discussed.

 Keywords: [Inventory](#) [Pricing](#) [Stock-dependent selling rate](#) [Inflation](#) [Deteriorating](#)

Acknowledgements

The authors thank the editor, associate editor and anonymous referees for their constructive suggestions in the improvement of the paper. The study was partially supported by the National Science Research Council of the ROC under Grant NSC94-2213-E-123-004.



Related research

People also read

Recommended articles

Cited by
81

Information for

[Authors](#)

[R&D professionals](#)

[Editors](#)

[Librarians](#)

[Societies](#)

Opportunities

[Reprints and e-prints](#)

[Advertising solutions](#)

[Accelerated publication](#)

[Corporate access solutions](#)

Open access

[Overview](#)

[Open journals](#)

[Open Select](#)

[Dove Medical Press](#)

[F1000Research](#)

Help and information

[Help and contact](#)

[Newsroom](#)

[All journals](#)

[Books](#)

Keep up to date

Register to receive personalised research and resources by email



Sign me up



[Copyright © 2023 Informa UK Limited](#) [Privacy policy](#) [Cookies](#) [Terms & conditions](#)

[Accessibility](#)



Taylor & Francis Group
an **informa** business

Registered in England & Wales No. 3099067
5 Howick Place | London | SW1P 1WG