



International Journal of Production Research >

Volume 51, 2013 - Issue 5

1,599 | 76 | 0  
Views | CrossRef citations to date | Altmetric

Original Articles

# Consignment and vendor managed inventory in single-vendor multiple buyers supply chains

Mohamed Ben-Daya, Elkafi Hassini , Moncer Hariga & Mohammad M. AlDurgam

Pages 1347-1365 | Received 15 Mar 2011, Accepted 29 Jan 2012, Published online: 10 Apr 2012

Cite this article <https://doi.org/10.1080/00207543.2012.662725>

Sample our  
Economics, Finance,  
Business & Industry 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

Share

## Abstract

In this paper we model a consignment (CS) and vendor-managed inventory (VMI) policy for a single vendor and multiple buyers supply chain with known demand. We study three vendor-buyers partnerships: (i) the vendor and the buyers act independently, (ii) the vendor enters in a vendor-managed inventory consignment (VMI&CS) partnership with the buyers and (iii) the vendor and the buyer belong to a vertically integrated firm where a single decision maker decides about the ordering policies. We use relationships (i) and (ii) to study the benefits of the VMI&CS agreement. We provide analytical and numerical results. We find that such an agreement is more beneficial when the vendor has a flexible capacity. It is also more attractive to buyers when they have significant order costs and the vendor's setup cost is not large. Finally we find that under VMI&CS the vendor will tend to make more frequent shipments with smaller lots.

## Acknowledgements

The authors would like to acknowledge the valuable feedback from the anonymous reviewers. The second author would also like to acknowledge the support the Natural Sciences and Engineering Research Council of Canada (NSERC Discovery Grant) and the Department of Systems Engineering Department at King Fahd University of Petroleum & Minerals for hosting him during his research leave.

### Related Research Data

[Erratum to “A one-vendor multi-buyer integrated production-inventory model: The ‘Consignment Stock’ case” \[International Journal of Production Economics, 118 \(2009\) 225–232\]](#)

Source: International Journal of Production Economics

[Another look at the single-vendor single-buyer integrated production-inventory problem](#)

Source: International Journal of Production Research

[Modelling an industrial strategy for inventory management in supply chains: The ‘Consignment Stock’ case](#)

Source: International Journal of Production Research

[Consignment stock of inventories in the presence of obsolescence](#)

Source: International Journal of Production Research

[Vendor managed inventory model for single-vendor multi-retailer supply chains](#)

Source: European Journal of Operational Research

[A one-vendor multi-buyer integrated inventory model](#)

### Related research

People also read

Recommended articles

Cited by  
76

## 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 © 2026 Informa UK Limited Privacy policy Cookies Terms & conditions

[Accessibility](#)

 Taylor and Francis Group

Registered in England & Wales No. 01072954  
5 Howick Place | London | SW1P 1WG