



1,584 Views | 74 CrossRef citations to date | 0 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
Engineering & Technology
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.

Keywords:

- inventory management
- consignment
- vendor managed inventory
- supply chain

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” \[Interntational 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](#)

Source: European Journal of Operational Research

[“A JOINT ECONOMIC-LOT-SIZE MODEL FOR PURCHASER AND VENDOR”: A COMMENT*](#)

Source: Decision Sciences

[The consignment stock of inventories: industrial case and performance analysis](#)

Source: International Journal of Production Economics

[A JOINT ECONOMIC-LOT-SIZE MODEL FOR PURCHASER AND VENDOR](#)

Source: Decision Sciences

A consignment system where suppliers cannot verify retailer's sales reports

Source: International Journal of Production Economics

Optimizing inventory decisions in a multi-stage multi-customer supply chain: A note

Source: Transportation Research Part E Logistics and Transportation Review

Generalized single-vendor multi-buyer integrated inventory supply chain models with a better synchronization

Source: International Journal of Production Economics

Supply chain coordination and decision making under consignment contract with revenue sharing

Source: International Journal of Production Economics

The optimal production and shipment policy for the single-vendor single-buyer integrated production-inventory problem

Source: International Journal of Production Research

Consignment Stock Policy with Defective Items

Source: Unknown Repository

An integrated inventory model for a single supplier-single customer problem

Source: International Journal of Production Research

Coordinated vs. independent inventory replenishment policies for a vendor and multiple buyers

Source: International Journal of Production Economics

An optimal solution technique to the single-vendor multi-buyer integrated inventory supply chain by incorporating some realistic factors

Source: European Journal of Operational Research

The joint economic lot sizing problem: Review and extensions

Source: European Journal of Operational Research

Synchronization in the single-manufacturer multi-buyer integrated inventory supply chain

Source: European Journal of Operational Research

A model for evaluating supplier-owned inventory strategy

Source: International Journal of Production Economics

The single-vendor single-buyer integrated production-inventory model with a generalised policy

Source: European Journal of Operational Research

Note on 'A One-Vendor Multi-Buyer Integrated Production-Inventory Model: The 'Consignment Stock' Case'

Source: SSRN Electronic Journal

Impact of consignment inventory and vendor-managed inventory for a two-party supply chain

Source: International Journal of Production Economics

A one-vendor multi-buyer integrated production-inventory model: The 'Consignment Stock' case

Source: International Journal of Production Economics

A note on "Modelling an industrial strategy for inventory management in supply chains: the 'Consignment Stock' case"

Source: International Journal of Production Research

A single-vendor and multiple-buyers production-inventory policy for a deteriorating item

Source: European Journal of Operational Research

A one-vendor multi-buyer integrated inventory model: A comment

Source: European Journal of Operational Research

Supply chain integration in vendor-managed inventory

Source: Decision Support Systems

An integrated vendor-managed inventory model for a two-echelon system with order cost reduction

Source: International Journal of Production Economics

A note on an industrial strategy for stock management in supply chains: modelling and performance evaluation

Source: International Journal of Production Research

Coordination in a single-vendor multi-buyer supply chain by synchronizing delivery and production cycles

Source: Transportation Research Part E Logistics and Transportation Review

Linking provided by 

Related research

People also read

Recommended articles

Cited by
74

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 © 2025 Informa UK Limited [Privacy policy](#) [Cookies](#) [Terms & conditions](#)

[Accessibility](#)



Taylor & Francis Group
an informa business

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