

University of Groningen

Practice-inspired contributions to inventory theory

Prak, Derk Rutger Jordi

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version

Publisher's PDF, also known as Version of record

Publication date:

2019

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Prak, D. R. J. (2019). *Practice-inspired contributions to inventory theory*. [Thesis fully internal (DIV), University of Groningen]. University of Groningen, SOM research school.

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.



university of
 groningen

Propositions

accompanying the PhD thesis

Practice-inspired contributions to inventory theory

by

Dennis Prak

1. Inventory control models should guard against demand uncertainty, but the demand assumptions underlying those models often ignore a large part of this uncertainty.
(Chapters 2 and 3)
2. The accuracy of a demand forecast is not directly relevant. Its effect on the cost of the resulting decision is what ultimately matters.
(Chapters 2 and 3)
3. The design of demand data storage systems and selection of inventory control rules should correspond.
(Chapter 4)
4. The common requirement in literature and textbooks that inventory reviews and replenishments should coincide, is far from optimal. Replenishments should typically not arrive at or directly around review moments.
(Chapter 5)
5. When optimizing the repair kit of an engineer, one should measure service in terms of job completion rather than part availability, and furthermore consider the cost and duration of replenishments.
(Chapter 6)

6. In modern, highly dynamic supply chains, the classical assumption that inventories can be controlled in an isolated, long-run stable environment, is no longer valid. New, data-driven optimization methods are needed instead.
(Chapter 7)
7. Those Dutch freshman university students whose unhealthy lifestyle leads to the largest weight gain, are least willing to alter it.
(de Vos, P., C. Hanck, M. Neisingh, D.R.J. Prak, H. Groen, M.M. Faas. 2015. Weight gain in freshman college students and perceived health. *Preventive Medicine Reports* 2(1) 229-234)
8. If many or weak instrumental variables are used to overcome endogeneity in linear regressions on panel data, then the Limited Information Maximum Likelihood estimator is preferred over the standard Two-Stage Least Squares estimator.
(Wansbeek, T.J., D.R.J. Prak. 2017. LIML in the static linear panel data model. *Econometric Reviews* 36(1-3) 385-395)
9. Any prediction or decision model is just an approximation. So is its outcome.
10. Time efficiency is key to profit maximization in modern commercial aviation. Time pressure, however, led to some of the costliest incidents in aviation history.