



# A Periodic Review Inventory Model with Three Delivery Modes and Forecast Updates

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## Abstract

This presentation is concerned with a periodic review inventory system with three delivery modes (fast, medium and slow) and demand forecast updates. At the beginning of each period, the inventory level and demand information are updated, and decisions on how much to order using each of the three delivery modes are made. Both finite and infinite horizon problems are treated. Objectives considered are those of discounted and average cost minimization. It is shown that in all cases, an optimal ordering policy is a modified state-dependent base-stock policy.

## Biography

**Suresh P. Sethi** (Fellow, IEEE) is Ashbel Smith Professor of Operations Management at The University of Texas at Dallas. He has published more than 250 research papers applying quantitative methods to the fields of manufacturing and operations management, finance and economics, marketing, and optimization theory. He has written three books including *Optimal Control Theory: Applications to Management Science and Economics*, First Edition (1981), Second Edition (2000); *Hierarchical Decision-making in Stochastic Manufacturing Systems* (1994); and his most recent book, *Optimal Consumption and Investment with Bankruptcy* (1997). His optimal control book is considered to be an international classic in its field. Honors include: Fellow of the New York Academy of Sciences (1999); C.Y. O'Connor Fellow, Curtin University, Perth, Australia (1998); Award of Merit of Canadian Operational Research Society (CORS) (1996); Honorary Professor at Zhejiang University of Technology, Hangzhou, China (appointed in 1996); Fellow of The Canadian Academy of Sciences and Humanities (1994); Visiting Erskine Fellow at the University of Canterbury, Christchurch, New Zealand (1991); Connaught Senior Research Fellow at the University of Toronto (1984-85). He has been listed in Canadian Who's Who since 1997. He received a doctorate in Operations Research from Carnegie Mellon University in 1972 after completing engineering studies at IIT Bombay, India. Memberships: INFORMS, SIAM, AAAS, NYAS, CORS, POMS, ORSI.

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