

البحث رقم (1)

قواعد قرارات المخزون المنعّمة في سلاسل الامداد ذات الموسمية				عنوان البحث
Smoothing inventory decision rules in seasonal supply chains				
فرانشيسكو كوستانتينو، جوليو دي جرافيو، أحمد شعبان، ماسيمو ترونشي				المؤلفون
Francesco Costantino, Giulio Di Gravio, Ahmed Shaban , and Massimo Tronci				
Expert Systems with Applications, 44, February 2016, 304-319. DOI: 10.1016/j.eswa.2015.08.052, ISSN: 0957-4174				تفاصيل النشر
فبراير 2016				تاريخ النشر
Scopus CiteScore (2016)	Web of Science (2016)	JCR IF (2016)	Google Scholar Citations (December 3, 2020)	التصنيف ISSN: 0957-4174
Q1	Q1	3.928	18	

A major cause of supply chain deficiencies is the bullwhip effect, which implies that demand variability amplifies as one moves upstream in supply chains. Smoothing inventory decision rules have been recognized as the most powerful approach to counteract the bullwhip effect. Although several studies have evaluated these smoothing rules with respect to several demand processes, focusing mainly on the smoothing order-up-to (OUT) replenishment rule, less attention has been devoted to investigate their effectiveness in seasonal supply chains. This research addresses this gap by investigating the impact of the smoothing OUT on the seasonal supply chain performances. A simulation study has been conducted to evaluate and compare the smoothing OUT with the traditional OUT (no smoothing), both integrated with the Holt-Winters (HW) forecasting method, in a four-echelon supply chain experiences seasonal demand modified by random variation. The results show that the smoothing OUT replenishment rule is superior to the traditional OUT, in terms of the bullwhip effect, inventory variance ratio and average fill rate, especially when the seasonal cycle is small. In addition, the sensitivity analysis reveals that employing the smoothing replenishment rules reduces the impact of the demand parameters and the poor selection of the forecasting parameters on the ordering and inventory stability. Therefore, seasonal supply chain managers are strongly recommended to adopt the smoothing replenishment rules. Further managerial implications have been derived from the results.