

Decision-making strategies in supply chain management with a waste-averse and stockout-averse manufacturer

Jian, M.^a, Wang, Y.L.^{a,*}

^aSchool of Transportation and Logistics, Southwest Jiaotong University, Chengdu, P.R. China

ABSTRACT

Behavioral preferences is an important factor that affects the decision-making strategies of enterprises. Usually, the behavioral preferences will lead to decision-making that deviates from profit maximization. In this study, we investigate the influence of a dominant manufacturer's behavioral preferences on decision-making and subsequent impact on profits. This study looks at the profits of the manufacturer, retailer and the system as a whole. We construct a two-stage supply chain involving a retailer and a manufacturer who may have risk-neutral (*RN*), stockout-aversion (*SA*), waste-aversion (*WA*), and stockout- and waste-aversion (*SW*) preferences. Through a comparison and analysis of the four cases, we find that the manufacturer's wholesale price increases (decreases) with the *SA* (*WA*) coefficient, while the retailer's order quantity is completely the opposite. The manufacturer's wholesale price is the highest in the *WA* model, followed by the *RN*, *SA* and *SW* models, in that order. The retailer's order quantity is the largest and smallest in the *SA* and *WA* models, respectively, while the size of the order quantity between the *RN* and *SW* models depends on the ratio *m* (the ratio of the *SA* to the *WA*). Moreover, we also explore the changing trends of the decision-making and profits of the participants and the system profit with the degree of *SA* and *WA*, comparing the profits of the four cases.

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*Corresponding author:

wangyonglong@my.swjtu.edu.cn
(Wang, Y.L.)

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Strategije sprejemanja odločitev pri upravljanju dobavne verige s proizvajalcem, ki je nenaklonjen odpadkom in pomanjkanju zalog

Jian, M.^a, Wang, Y.L.^{a,*}

^aSchool of Transportation and Logistics, Southwest Jiaotong University, Chengdu, P.R. China

POVZETEK

Vedenjski vzorci so pomemben dejavnik, ki vpliva na strategije odločanja podjetij. Običajno vedenjski vzorci vodijo v odločitve, ki ne zagotavljajo največjega dobička. V študiji je proučen vpliv dominantnih proizvajalčevih vedenjskih vzorcev na odločanje in posledični vpliv na dobiček. Študija obravnava dobiček proizvajalca, trgovca na drobno in sistema kot celote. Zasnovana je dvostopenjska oskrbovalna veriga, ki vključuje trgovca na drobno in proizvajalca, ki lahko ima nevtralno tveganje (*RN*), nenaklonjenost pomanjkanju zalog (*SA*), nenaklonjenost odpadkom (*WA*) ali nenaklonjenost pomanjkanju zalog in odpadkom (*SW*). S primerjavo in analizo vseh štirih primerov je ugotovljeno, da se proizvajalčeva veleprodajna cena poveča (zmanjša) s koeficientom *SA* (*WA*), količina naročila prodajalca na drobno pa se giblje v nasprotni smeri. Proizvajalčeva veleprodajna cena je najvišja v modelu *WA*, sledijo modeli *RN*, *SA* in *SW*. Količina naročila trgovca na drobno je največja in najmanjša v modelih *SA* in *WA*, medtem ko je velikost naročila med modeli *RN* in *SW* odvisna od razmerja *m* (razmerja med *SA* in *WA*). Poleg tega so raziskani tudi spreminjajoči se trendi odločanja ter dobička udeležencev in dobička sistema s stopnjo *SA* in *WA*, pri čemer je primerjan dobiček štirih primerov.

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PODATKI O ČLANKU

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**Kontaktna oseba:*

wangyonglong@my.swjtu.edu.cn
(Wang, Y.L.)

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