International Journal of Production Research ›
Volume 47, 2009 - Issue 18

Original Articles

A fuzzy goal programming approach for green supply chain optimisation under activity-based costing and performance evaluation with a value-chain structure

W.-H. Tsai & Shih-Jieh Hung

Pages 4991-5017 | Received 01 Jan 2007, Accepted 12 Nov 2008, Published online: 30 Jun 2009

Cite this article https://doi.org/10.1080/00207540801932498

Abstra

Supply c asingly
importa grated
costi een well
develop pose a
fuzzy go ing (ABC)
and perf plier
selectio uch a
decision asures,
quantita , multiple
objectiv GSC with
relevant costs and performances is presented for computing the composite

performance indices of the GSC suppliers. A green supply chain of a mobile phone is used as an illustrative case. Several objective structures and their results are compared. The sensitivity analyses show that pure maximisation of financial profit can achieve the highest profit level, which also has the largest Euclidean distance to the multiple aspiration goals. In order to determine the final objective structure, an analytic hierarchy process (AHP) is used. This paper provides a new approach to assess and control a complex GSC based on value-chain activities, and obtain a more precise solution. The establishment of this GSC model not only helps decision-makers to monitor GSC comprehensive performance but also can facilitate further improvement and development of GSC management.

Keywords: activity-based costing (ABC) optimisation green supply chain (GSC) performance evaluation fuzzy goal programming (FGP) value-chain structure

Greener supplier selection: state of the art and some empirical evidence
Source: Informa UK Limited
How to perform an environmental management cost assessment in one day
Source: Elsevier BV
Environmental considerations on the optimal product mix
Source: Elsevier BV
Decision theory in sustainable supply chain management: a literature review
Source: Emerald
Eco-design practices towards sustainable supply chain management : interpretive structural modelling (ISM) approach
Source: Informa UK Limited
The state of the art development of AHP (1979–2017): a literature review with a social network analysis
Source: Informa UK Limited
A fuzzy goal programming approach for selecting sustainable suppliers
Source: Emerald
Framing sustainability performance of supply chains with multidimensional indicators
Source: UK : Emerald Group Publishing Limited
Environmental costs at a Canadian paper mill: a case study of Environmental Management Accounting (EMA)
Source: Elsevier BV
Assessing the Europe 2020 strategy through a fuzzy goal programming model
Sourc
A mu lopment
plann
Sourc
A fuz olid
waste
Sourc
The C d
S
So
A mu
mana
Sourc
An in ing
using
Sourc
Susta
supplier selection, monitoring and development

Source: Taylor & Francis

Linear programming with multiple fuzzy goals

Source: Elsevier BV

A model for performance monitoring of suppliers

Source: Informa UK Limited

Fuzzy goal programming in multi-criteria decision systems: A case study in agricultural planning

Source: Elsevier BV

Current status and directions for the future

Source: Emerald

Green Supply Chain Management: uma análise da produção científica recente (2001-2012)

Source: Associação Brasileira de Engenharia de Produção

A review of decision-support tools and performance measurement and sustainable supply chain management

Source: Taylor & Francis

Sustainable supplier selection and order lot-sizing: an integrated multi-objective decision-making process

Source: Informa UK Limited

ON FUZZY GOAL PROGRAMMING

Source: Wiley

Multi-criteria decision analysis with goal programming in engineering, management and s

Sourc

New

een

suppl

Sourc

An ap

Sourc

A fuz

hain

S

Su

en

activi

Sourc

Susta

tiers

and g

Sourc

Susta

Sourc

Fuzzy goal programming (FGP) approach to a stochastic transportation problem under budgetary constraint
Source: Elsevier BV
New integrated quality function deployment approach based on interval neutrosophic set for green supplier evaluation and selection
Source: Zenodo
Measuring social compliance performance in the global sustainable supply chain: an AHP approach
Source: Informa UK Limited
An Integrated AHP-QFD-Based Compromise Ranking Model for Sustainable Supplier Selection
Source: IGI Global
Examining the effects of green supply chain management practices and their mediations on performance improvements
Source: Informa UK Limited
Design of an intelligent decision support system for global outsourcing decisions in the apparel industry
Source: Informa UK Limited
Environmentally conscious long-range planning and design of supply chain networks
Source: Elsevier BV
Evaluating Green Performance of Suppliers via Analytic Network Process and TOPSIS
Source: Hindawi Limited
Green
Sourc
A REV
HAZA
Sourc
Susta el in the
prese
Sourc
IN ATIVE
Al
Sourc
Green natical
progr
Sourc
Envir
Sourc
GOAL
Source: Wiley

Application of fuzzy goal programming technique to land use planning in agricultural system
Source: Elsevier BV
Designing the Green Supply Chain Performance Optimisation Model
Source: Springer Science and Business Media LLC
Fuzzy goal programming with nested priorities
Source: Elsevier BV
Developing the Hybrid Multi Criteria Decision Making Approach for Green Supplier Evaluation
Source: Springer Singapore
A fuzzy goal programming approach to portfolio selection
Source: Elsevier BV
Evaluation of the green supply chain management practices: a fuzzy ANP approach
Source: Informa UK Limited
Green supplier selection based on IFS and GRA
Source: Emerald
Performance Measurement
Source: Wiley
A Framework of Production Planning and Control with Carbon Tax under Industry 4.0
Source: MDPI AG
Fuzzy goal programming in forestry: an application with special solution problems
Source: Elsevier BV
A fuz
Sourc
A sup ers: the case
Sourc
An in ply chain
Sourc
T nmental co
Sourc
A lite
Sourc
A goa sing dyna
Sourc
An ap lection
Source: Taylor & Francis

Supply chain optimization of continuous process industries with sustainability considerations
Source: Elsevier BV
A gap analysis model for improving airport service quality
Source: Informa UK Limited
Fuzzy goal programming approach for water quality management in a river basin
Source: Elsevier BV
Product-driven supply chain selection using integrated multi-criteria decision-making methodology
Source: Elsevier BV
An exploration of green supply chain practices and performances in an automotive industry
Source: Springer Science and Business Media LLC
Low carbon supply chain configuration for a new product – a goal programming approach
Source: Informa UK Limited
A four-phase AHP–QFD approach for supplier assessment: a sustainability perspective
Source: Informa UK Limited

Linking provided by Scholexplorer

Relat

Supply

Benjam
Inte
Pu

Supply

Angapp
Internati
Publishe

Treatme gistics
management: an environmental supply chain perspective

W.-H. Tsai et al.
International Journal of Production Research
Published online: 23 Jul 2009

View more