

Material Flow Cost Accounting in Supply Chains – Challenges and Approaches

Fanny Dressel

Technische Universität Chemnitz
Faculty of Economics and Business Administration
Professorship of Management Accounting and Control
09107 Chemnitz, Germany
fanny.dressel@wirtschaft.tu-chemnitz.de

Uwe Götze

Technische Universität Chemnitz
Faculty of Economics and Business Administration
Professorship of Management Accounting and Control
09107 Chemnitz, Germany
uwe.goetze@wirtschaft.tu-chemnitz.de

Ronny Sygulla

Technische Universität Chemnitz
Faculty of Economics and Business Administration
Professorship of Management Accounting and Control
09107 Chemnitz, Germany
ronny.sygulla@wirtschaft.tu-chemnitz.de

Abstract

Material Flow Cost Accounting (MFCA) enables the systematic identification of inefficiencies in material and energy use and it provides a valuation of these inefficiencies in the language of management – monetary units. In addition, the intended reduction of ‘wastes’ also decreases negative ecological impacts. MFCA’s basic methodology is described in the ISO standard 14051 and its effectiveness is demonstrated in numerous case studies. However, the analysis was restricted to single companies so far, hindering the identification and exploitation of inter-company potentials of resource efficiency. Seizing this shortcoming, the presentation firstly will discuss the challenges of an MFCA analysis on the inter-company and the supply chain level, respectively. These challenges can be classified as follows: (1) exchange of information, (2) motivation for participation, (3) consistency of data, (4) discontinuity of flows, (5) definition of system boundaries and (6) methodical issues of (inter-company) profit allocation. Thereafter, approaches for overcoming these hurdles and respecting their complex interrelations are presented in the second part. An outlook on the remaining methodical questions in this field will complete the presentation.

Keywords

Material Flow Cost Accounting, supply chain, inter-company flow models, profit allocation

Acknowledgements

We gratefully thank the Deutsche Forschungsgemeinschaft (DFG) for funding our work within the collaboration research center SFB 692.

Biography

Uwe Götze is full professor for Management Accounting and Control at Technische Universität Chemnitz, Germany. He studied business administration at Georg-August-Universität Göttingen (Germany) where he also received his PhD and post doctorate degree (habilitation). His teaching and research activities focus on 'classical' issues of business administration (strategic management, management accounting/cost management, controlling and investment appraisal) as well as on the interface of management and engineering. Uwe Götze is editor of the Journal of Management and Control, dean of study affairs for the bachelor and the master program of business administration and engineering and he is member of the university council of the Technische Universität Chemnitz.

Fanny Dressel is member of Prof. Götze's professorship. She studied business administration (B.Sc.) and Accounting and Corporate Management (M.Sc.) at Technische Universität Chemnitz (Germany). Her research interests are Material Flow Cost Accounting and inter-company cooperation.

Ronny Sygulla is member of Prof. Götze's professorship. He holds a diploma in business administration and engineering from the Brandenburgische Technische Universität Cottbus (Germany). His research interests are flow-based approaches of cost accounting and the eco-efficient design of industrial process chains.