



Implementing Environmental Management Accounting in South-East Asian companies

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Introduction

SMEs in South-East Asia

- SMEs as a main contributor to rapid economic growth and increasing environmental problems
- SMEs lack awareness of their environmental impacts and of the financial importance of environmental issues
- SMEs need flexible, easy-to-handle, problem-orientated tools

Integration challenge of EMA

- Combining and improving ecological effectiveness and efficiency with economic aspects (*contextual integration*)
- Integrating the management of environmental issues with conventional management (*instrumental integration*)

(German Federal Ministry for the Environment and Federation of German Industries 2002; Schaltegger and Burritt 2004)

Research on EMA in South-East Asia

Application research

- Mainly large and multinational enterprises
- Only a few case studies (Thailand, Philippines)
- Application of one specific method such as environmental cost accounting or environmental investment appraisal
- No explicit consideration of varying decision-making situations

Research question of our comparative EMA case study

What are the links between EMA tools and different types of SME managers within particular decision-making contexts?

(Herzig et al. 2006)

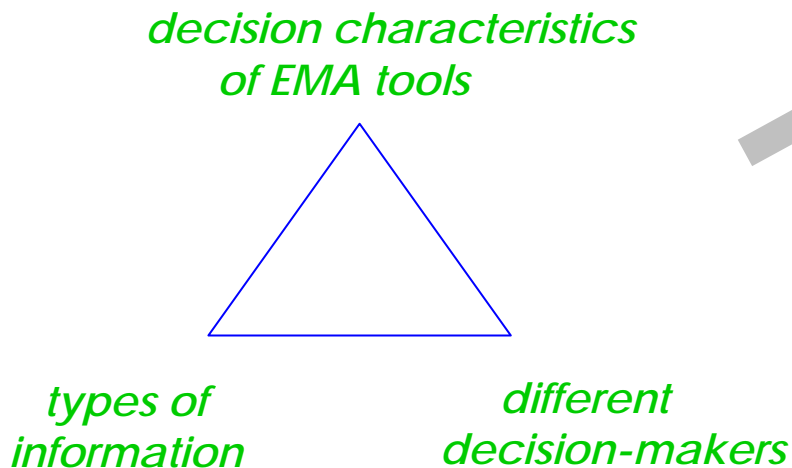
Research study framework

		Environmental Management Accounting (EMA)			
		Monetary EMA (MEMA)		Physical EMA (PEMA)	
		Short Term Focus	Long Term Focus	Short Term Focus	Long Term Focus
Past Oriented	Routinely generated information	Environmental cost accounting (e.g. variable costing, absorption costing and activity based costing)	Environmental induced capital expenditure and revenues	Material and energy flow accounting (short term impacts on the environment – product, division and company levels)	Environmental (or natural) capital impact accounting
	Ad hoc information	Ex post assessment of relevant environmental costing decisions	Environmental life cycle (and target) costing Post investment assessment of individual projects	Ex post assessment of short term environmental impacts (e.g. of a site or product)	Life cycle inventories Post investment assessment of physical environmental investment appraisal
Future Oriented	Routinely generated information	Monetary environmental operational budgeting (flows) Monetary environmental capital budgeting (stocks)	Environmental long term financial planning	Physical environmental budgeting (flows and stocks) (e.g. material and energy flows activity based budgeting)	Long term physical environmental planning
	Ad hoc information	Relevant environmental costing (e.g. special orders, product mix with capacity constraints)	Monetary environmental project investment appraisal Environmental life cycle budgeting and target pricing	Relevant environmental impacts (e.g. given short run constraints on activities)	Physical environmental investment appraisal Life cycle analysis of specific project

Source: Burritt, Hahn and Schaltegger 2002

Case study approach

- Case studies have become quite common in (environmental) management accounting research
- Case studies as research strategies: logic of design, data collection techniques, specific approaches to data analysis (Yin, 2003)
- Selected unit for analysis: relevant object of investigation for the interpretation of everyday life



Company's decision situations (units of analysis) can differ substantially

Identification of generic sets of EMA tools to provide specific information

Usefulness of case studies

Case studies are useful for research areas...

- with little prior empirical research work or theoretical literature;
- where you wish to deal intensively with data collected in order to gain more comprehensive results;
- with a lack of good quantitative data related to the generation and utilization of environment-related information.

Further advantages of case study approach

- Triangulation of data collection over time, space and people
- Investigator triangulation using multiple observers
- Opportunity to obtain a picture of the nature of practice in the field

Case study design

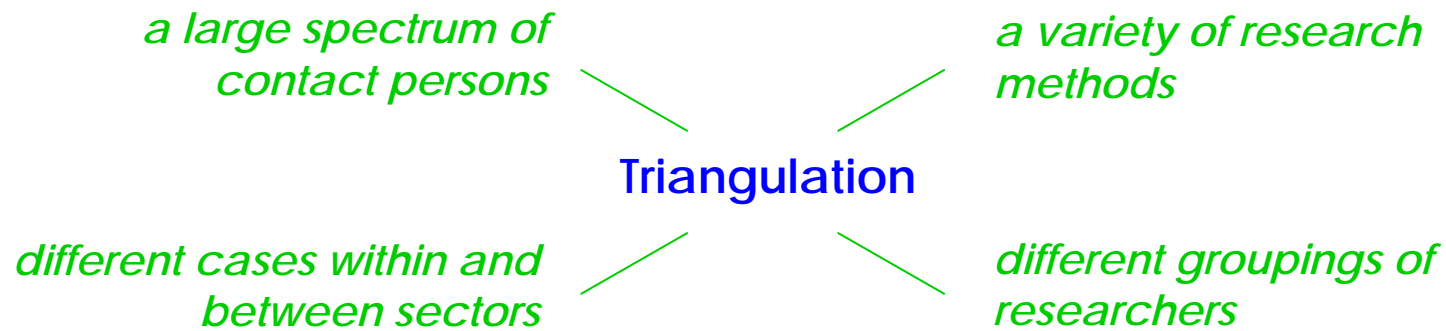
Comparative case study

Multiple case studies for the purpose of cross-unit comparison

- Identify and highlight similarities and differences between the processes by which a decision was, or a set of decisions were, made

Exploratory case study

- Discover characteristics of the phenomenon, explore reasons for particular practices, and stimulate the researcher's sensitivity for asking questions about the background of the phenomenon of interest



Research study framework

		Environmental Management Accounting (EMA)			
		Monetary EMA (MEMA)		Physical EMA (PEMA)	
		Short Term Focus	Long Term Focus	Short Term Focus	Long Term Focus
Past Oriented	Routinely generated information	Bangchak, Indah Jaya, CP feedmill, JBC Food, Classic Craft	CTTShrimpFarm	Tan Loc Food, Saigon Beer, JBC Food, Well Ever Electroplating, Indah Jaya, Cocobind	CTTShrimpFarm
	Ad hoc information		Oliver Enterprises Inc.; VN coffee exporter		VN coffee exporter
Future Oriented	Routinely generated information	Cocobind	CP feedmill	Cocobind	CP feedmill
	Ad hoc information	Thai Spinning Industries, Wellmade, Indah Jaya	Oliver Enterprises Inc., Cocobind, Classic Craft, Tan Loc, JBC, Indah Jaya	Wellmade	Oliver Enterprises Inc., Tan Loc, Indah Jaya

Source: Burritt, Hahn and Schaltegger 2002

Conclusions

- EMA approach based on the comprehensive framework provides a good basis for interdisciplinary teamwork and distinguishing various decision-making situations
- The spheres of influence context in which EMA is introduced in SMEs in SEA is critical to success
- Material and energy flows and related cost calculations are often a necessary precondition/first step
- The potential for improvements in environmental as well as financial performance is high
- The systematic analysis and integration of physical and financial information raises the awareness of eco-efficient improvement measures across disciplines
- EMA implementation supports environmental disclosure/reporting