

DISTRIBUTED DECISION MAKING IN CROSS-BORDER NETWORKS: AN ACCOUNTING APPROACH

PAPER PRESENTED TO THE 4TH WORKSHOP ON
INTERNATIONAL STRATEGY AND CROSS CULTURAL MANAGEMENT
TOULOUSE, SEPTEMBER 29-30, 2006

BY

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DISTRIBUTED DECISION MAKING IN CROSS-BORDER NETWORKS: AN ACCOUNTING APPROACH

A set of definitions:

Business network = independent partnership of otherwise independent businesses joining resources to gain competitive advantage that they would not achieve individually

Cross-border networking = collaborating from bases that are located under different legal jurisdictions

Distributed decision making = multi-personal management process where the actors are functionally or geographically dispersed (“coordinated connectivity”)

The role of accounting = to furnish information which will guide the management in determining where economies should be sought and how to obtain them

DISTRIBUTED DECISION MAKING IN CROSS-BORDER NETWORKS: AN ACCOUNTING APPROACH

A set of propositions:

1. Understanding how decisions are arrived at requires understanding of decision support
2. Decision support requires data provided through accounting
3. Accounting data for a collaborative environment require cooperative work
4. Cooperative work in accounting means homogenizing diverse systems and sources and establishing common tools
5. Collaborative accounting must be based on cognitive models that foster dispersed decision making
6. Collaborative accounting supports cross-border decision-making in a cooperative environment by framing a common culture

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Ad proposition 1 (decision problems and decision support in a network environment):

Multi-level optimization, multi-level stochastic programming, collaborative production- and replenishment-planning, multiple-source-contracting, ...



Reporting and budgeting
Standards of performance
Cost and process standards
Costing and billing
Profit sharing rules
Instruments to guide investment incentives

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Ad proposition 2 (accounting data required for decision problems in a network environment):

A common purpose for the network; diverse objectives of the partners
No uniform management control; trust and coordination
Restricted (and flexible) membership; sharing of risks and rewards



(Strategic) targets; common performance measures;
Resource allocation; resource capacities; use of (common) capacities;
Valuating assets and capital employed;
Process cost; cost of activities;
Tracking of cost; tracking of resource utilization;
Profit/profit margins; tracking of profit

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Ad proposition 3 (a cooperative environment requires collaborative accounting):

Commonly developed and accepted denominators for measuring input, output, cost and performance
Definition of transactions and transaction cost



Four degrees of coordination:

- (1) Data integration (consistency of data and of data structures)
- (2) Integrating through negotiations with commonly accepted rules
- (3) Integration through planning activities involving anticipations and instructions leading to transactional changes;
- (4) Integrative leadership achieving transformational changes (shifts of the decision makers' preference structure)

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Ad proposition 4 (homogenizing diverse systems and sources and establishing common tools):

Uniformity in format and content of the information that is shared
(establishing a common accounting "language")
Data transfer and exchange through precise and uniform standards
Adapting infrastructure, lay-outs and (joint) processes



Three main concepts:

- (1) the core firm concept - the biggest partner in the alliance determines formats and contents
- (2) the steering committee concept - all partners decide jointly on formats and contents
- (3) the net-broker concept - a neutral individual acts through a platform of competitive and complementary web members

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Ad proposition 5 (Collaborative accounting must be based on cognitive models):

Enhancing “cooperation” between accounting tools and their users;
reaching consensus and collective resolution *or*
evolving towards equilibrium status (game theory)



A cognitive approach embraces

- the way mixed entities (human/accounting tools/software) collaborate;
- the mobility of the entities along the network;
- the communication among the entities as well as between the entities and their environment (and the fact that this communication is often only partial);
- the limitations of the access to information by each entity.

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Before concluding proposition 6 (“Collaborative accounting supports cross-border decision-making in a cooperative environment by framing a common culture”): Elaborating on

- **the specific tools of collaborative accounting, i.e.**
target costing (*genka kikaku*),
joint planning, forecasting and replenishment,
denominating ROIs of specified investments,
accounting for transactional costs;
- **the cross-border issue, i.e.**
cultural differences (but they subsist in any network);
the need to arrive at common understandings (as in any network);
the blockages to a smooth flow of data and resources (as in any ...);
building trust and trusted information and shared values (through
people who manage knowledge and who handle accounting data).

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→ The specific tools of collaborative accounting

Target costing (*genka kikaku*)

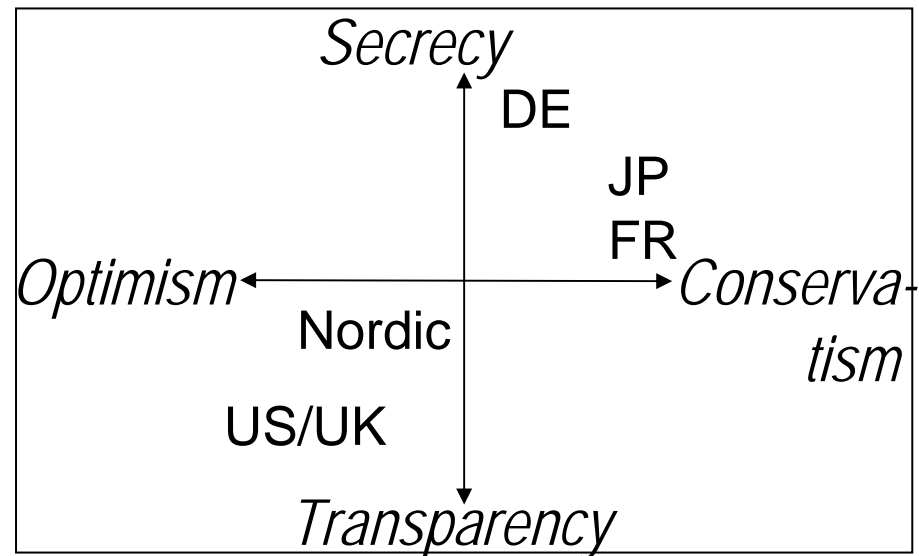
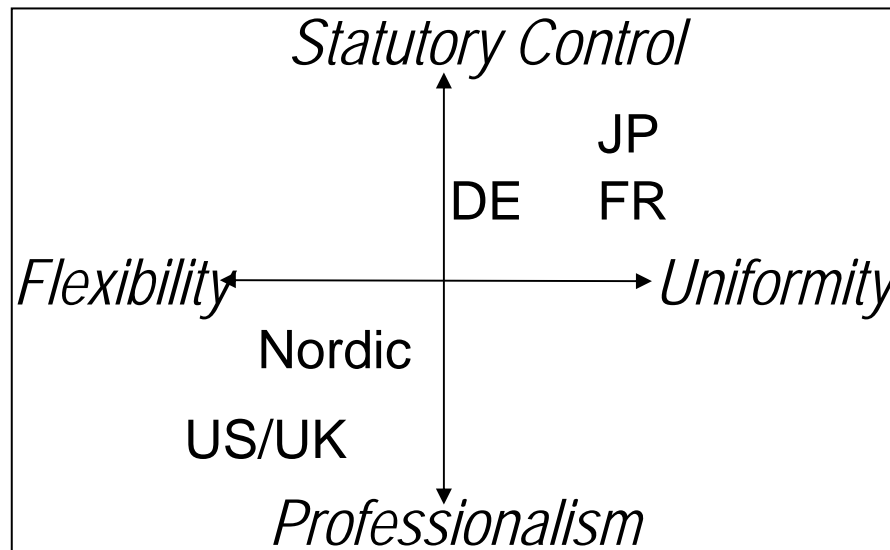
Joint planning, forecasting and replenishment

Denominating ROIs of specified investments

Accounting for transactional costs



Accounting and Culture: authority, enforcement, measurement, disclosure




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Target costing (*genka kikaku*)

Common and consensual decisions about how to reach and to control „allowable cost“ = Solving three distributed-decision-making problems:

- (1) contract level and operational level
 - (2) medium-term and short-term optimization
 - (3) buyer/supplier or R&D/design/manufacturing
-


Target Costing
and Culture:

Japanese philosophy of „pull method“ of production and of “demand flow processes” (following stage in the production process goes to the previous stage for what it needs) - „two-way-management“


VS.

Western „push method“ (previous stage sends processed goods to the following one when finished)
- a mere feed-back

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Joint planning, forecasting and replenishment

Comprehensive solutions and optimum exchange of data involving all members of a network = eliminating all inefficiency which occurs through uncoordinated sequences and idle capacities.

 Joint determination as to which parameters, indicators of performance, input and output levels must be set, how they will be measured, how often and by whom.

Joint planning
and Culture:

Multi-partner settings (equal endowment of
resources and efforts)

VS.

Settings with one dominant partner ("arm's length"-
contracting with long term objectives being set
unilaterally)

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Denominating ROIs of specified investments

Three components: (1) partners ("actors") that expense capital; (2) activities (3) resources.

Connecting capital expense and resource utilization to processes and activities ("downstream").

Connecting activities and processes to resource allocation and resources to capital expense decisions ("upstream").

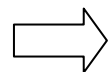


Denominating ROIs
and Culture:

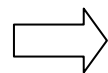
Risk aversion and uncertainty avoidance

vs.

Risk-taking



Disparate aspirations of ROIs



Disparate estimates of revenue and cost

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Accounting for transactional costs

Transactional cost (tc) is the cost of conducting business with someone else

From $a_B + tc < a_A!$, where a_A, a_B are "standalone costs", we can infer: the "value of cooperation", V_C , is higher than the sum of standalone $V_A + V_B$.

Measuring and reducing tc means that the accountants look at searching costs, information costs, decision costs, bargaining costs, handling costs, and adjustment costs and at the management activities that cause them.



Transactional
Costs and Culture:

Preference for Collectivism \Rightarrow Impeding opportunism

vs.

Preference for Individualism \Rightarrow Sanctioning opportunism

But:

Both ways, transaction costs must be accounted for.

DISTRIBUTED DECISION MAKING IN CROSS-BORDER NETWORKS: AN ACCOUNTING APPROACH

Network development, accounting instruments and intensity of trust

| | <i>Bargaining, antagonistic motivation</i> | <i>Trust, information symmetry</i> |
|---------------------------|--|---|
| <i>Start-ups</i> | Analyses of (given) target costs | Consensual accounting of target costs |
| <i>Market penetration</i> | Accounting for collaborative planning, forecasting and replenishment | Analyses of (given) data for collaborative planning, forecasting, replenishment |
| <i>Mature networks</i> | Individual maximization of profit share | Accounting for common denominators of ROI |
| <i>Re-launch</i> | Sub-optimal minimization of (some) transaction costs | Consensual accounting for transaction cost |

A Network's "Balance Sheet" (condensed)*

| Assets | Liabilities |
|--|--|
| <p>Production Facilities and Utilization</p> <p><i>Partner Owned (Exclusive Capabilities)</i> "Access" to specialist facilities, equipment and processes and inputs Buying exchange agreements Inter-organisational process management Capacity and quality management Service management networks Product/service performance delivery and maintenance</p> <p><i>Individually Owned (Exclusive Capabilities)</i> Patents and Licences, design and development Specialist Processes and services;</p> <p>Market Entry Structures (Exclusive Capabilities) Customer databases Coordinated customer based design, development and delivery Market liaison, brand and reputation</p> | <p>Production Facilities and Utilization</p> <p><i>Partner Owned (Exclusive Capabilities)</i> "Access" to specialist facilities, equipment and processes and inputs Buying exchange agreements Inter-organisational process management Capacity and quality management Service management networks Product/service performance delivery and maintenance</p> <p>Specialist Processes and Capabilities (Partner Owned: Exclusive Capabilities) Patents and brands, design and development Specialist processes and services; Service management networks Product/service performance delivery and maintenance</p> <p>Relational capital Social and cognitive ties Reciprocal trust</p> |

* Based upon N. OLVE, J. ROY and M. WETTER: Performance Drivers. Wiley, New York, 1999.

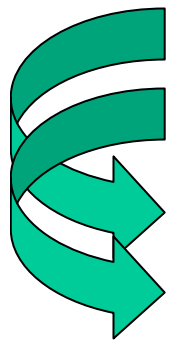
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Operational Issues

of Cross-Border Networks

Accounting Issues

| | |
|--|--|
| Ways and modes of negotiation Business procedures Technology-diffusion-management Subcontracting system-constructing Coping with labor regime regulation Market channel expansion | Input and output measurement Definition of Cost Measurement and management of performance Establishing values for investment-decisions/profit sharing/transfer prices |
|--|--|



Interaction in cognitive and emotional ways

Flows of resources and information

Shortening the time span between start-up and reaching maturity

Reaching common understandings and coupling of positive effects

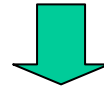
All enhanced through collaborative accounting

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Toulouse Workshop Sept. 2006

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Conclusion = Proposition 6: "Collaborative accounting supports cross-border decision-making in a cooperative environment by framing a common culture"



Cultural differences that subsist in any network are eased away;
common understandings are built through trusted information;
trust and trusted information unblock the flow of data and resources;
accounting is used for building trust and for determining values;
knowledge management is enhanced through accounting.



Management in disperse "locations" must base decisions on reliable
accounting information compiled in a collaborative way using the
adequate tools properly throughout all stages of a network.