Cooperation Information Systems (CIS) – Typology and Illustrative Examples –

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Introduction

- „Cooperation“ labels either:
  1. A generic type of an interdependent strategy
  2. A set of joint activities
  3. The organizational set-up between companies which
     - Are peers
     - Are legally independent
     - Follow a long-term perspective to implement a compatible strategy

- Focus in this work on third definition

- IS within horizontal cooperations in the following called Cooperation Information Systems (CIS)
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CIS Framework

- **functional scope**
  - information backbone vs. functional segments
  - planning and/or operational activities
  - current business vs. development of new business opportunities

- **degree of autonomy**
  independence of CIS of other IS
  - low → CIS functions distributed among operational IS of partners
  - high → wide range of functions within separate system

- **importance of the CIS for the cooperation**
  crucial for the cooperation vs. support of functions feasible without the CIS
CIS Framework

Cooperation Information Systems (CIS) - Typology and Illustrative Examples -

- Functional Scope:
  - New Business
  - Current Business

- Autonomy:
  - Low
  - High

- Types:
  - COS
  - CMS
  - CTS
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Cooperation Operation Systems (COS)

- Support current operational business functions
- Linked to other operation systems of the partner
- Several functions of the value chain (or separate systems) are linked and are only working if the information processes are also linked
- COS have to trigger and coordinate simultaneously but decentralized activities of partners and to monitor the completeness of all activities
Cooperation Operation Systems (COS)

- Low to medium CIS autonomy degree
- Two forms:
  several modules belong to proprietary operation systems vs. separate system which builds a integrating bridge between the partners operation systems
Available Cooperation Operation Systems (COS)

<table>
<thead>
<tr>
<th>Area of Cooperation Operative function</th>
<th>Available Application</th>
<th>Cooperation-specific Requirements</th>
<th>Examples</th>
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<tbody>
<tr>
<td>Research and Development</td>
<td>• Email</td>
<td>Unlimited access to project-specific information</td>
<td>Lotus Notes®</td>
</tr>
<tr>
<td></td>
<td>• Data bases</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• CAD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marketing</td>
<td>• Market analysis tools</td>
<td>• exchange of sociographic data</td>
<td>Exchange of buyers data between gardening retailer and book distributor</td>
</tr>
<tr>
<td></td>
<td>• Communication tools</td>
<td>• joint compilation of market data</td>
<td></td>
</tr>
<tr>
<td>Procurement Production Sales &amp; Distribution Service Project Management Controlling</td>
<td>...</td>
<td>...</td>
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Cooperation Management Systems (CMS)

- CMS posses a medium to high degree of autonomy
- Support planning activities during start up and along entire life-cycle of cooperation
- Existing systems for internal strategic planning can be used to manage a cooperation (tool for strength-weakness analyses, project management, budget planning, controlling)

→ For cooperational use features have to be enlarged along three dimensions
Enlargement of existing systems for CMS

1. **Contents:**
   Application have to cover cooperation relevant contents and details instead of only permitting competitive relations

2. **Multi-Client Capability:**
   - CMS has to separate cooperation data from company data. It has to treat the cooperation as a separate structure and the partner companies as “clients”
   - CMS has to verify the compatibility between cooperations planning and project management data with each partners figures and capacity restrictions for resource shifting
3. Communication:

The system should permit links between the CMS of all partners

→ Provided strategic planning applications lack any form of integration
   (→ difficulty of linkage with other applications)
## Cooperation Management Systems (CMS)

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<thead>
<tr>
<th>Area of Cooperation Management Function</th>
<th>Available Application</th>
<th>Cooperation-specific Requirements</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Strategic Analysis</td>
<td>• portfolio systems</td>
<td>• competitor analysis</td>
<td>Not documented</td>
</tr>
<tr>
<td></td>
<td>• value chain</td>
<td>• profiling potential</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• simulation</td>
<td>• cooperating partners</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• other simulation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Communication</td>
<td>• Groupware</td>
<td>• inter-organizational</td>
<td>Not documented</td>
</tr>
<tr>
<td></td>
<td>• Email</td>
<td>communication</td>
<td></td>
</tr>
<tr>
<td>• Planning and Project management</td>
<td>...</td>
<td>...</td>
<td>Not documented</td>
</tr>
<tr>
<td>• Controlling</td>
<td>...</td>
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Cooperation Triggering Systems (CTS)

- Wide range of planning and operational functions with high degree of autonomy to trigger cooperations
- Often result of innovative business ideas
- Provides new business opportunity, unrelated to sponsors/participants field of business
- The IS-based diversification relies on innovative IS
- Often outsourcing of operation of CTS
- Crucial: fast implementation of new business idea not technical integration
Cooperation Triggering Systems (CTS)

Why to join a cooperation and obey its rules?

1. **Virtual size and virtual diversity**
   Attempt to lever bargaining power due to offering high volumes or a wide range of products

2. **Scale effects of CTS**
   Developing and operating causes high fix costs but number of users only has a marginal effect

- Example: PRODEC, EUROSELECT
- MUSIK
## Cooperation Triggering Systems (CTS)

<table>
<thead>
<tr>
<th>Area of Cooperation Strategic Intent</th>
<th>Available Application</th>
<th>Cooperation-specific Requirements</th>
<th>Examples</th>
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</table>
| • Bundling                           | • value chain reservation  
                                                 • information partnerships | joint customer database with separate access | American Airlines / Hilton and Marriott Hotels / Budget Rent-A-Car |
| • Market Research                    | • Product data base | Decentralized input, central market research channeling results to partners | • AA / Citybank / MCI  
                                                 • Insurance |
| • Procurement Pooling  
• Marketing Alliance  
• Service Alliance | • • • | • • • | • • • |
Evolution of CIS

- CIS roles vary according to their scope and scale in the life-cycle of cooperations

- Four typical patterns of CIS transformation

- Transformation results from:
  - Deliberate decisions of cooperation partners
  - Unintentionally shift

- Further research to fully explain and control transformation processes
From COS to CMS

- Functions related to the COS become relevant for managing the cooperation
- Example: SAP

Deduction of controlling-oriented information from operative processes, when adding a report module
From CMS to COS

• Functions originally supporting the cooperation management are extended into the operation business of the cooperation

• Example:
  Opening of project management application to a planning tool for operative activities in the cooperation
From CTS to COS

- Change of cooperation contents implies shift of underlying CIS
- CTS trigger change of business processes and thus lead to adapted operation systems (self-enforcing mechanisms)
- Example: SWISSLINE
  Shift from peer marketing cooperation (accommodation reservation system) within single industry to cooperation bundling partners from several industries

Cooperation Information Systems (CIS)
- Typology and Illustrative Examples -
From CTS to CMS

- Originally cooperation triggering CTS is enlarged to contain more sophisticated planning functions, which provides assistance to manage organizational set-up.

- Example: PRODEC, EUROSELECT
  PRODEC evolved from core application of gathering and comparing price information into a CMS to plan management processes for the cooperating partners.
Vielen Dank für Ihre Aufmerksamkeit!