VALUE CREATION LOGICS IN COLLABORATIVE NETWORKS:
THE CASE OF RFID IMPLEMENTATION

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Introduction

- Case study of the implementation of RFID in a jewellery supply chain of a French retailer
- A pioneer project: one of the first implementation of RFID in jewels
- Project management dynamic
**CNs and supply chains**

- **CNs:** variety of entities that are largely autonomous, geographically distributed and heterogeneous in their operating environments and goals
- **Supply chains are specific CNs:** a network of organizations interlinking suppliers, manufacturers and distributors to produce value
- **Different types of CNs:** temporary, long-term
  - Creation, operation, evolution, dissolution and metamorphosis
Value in RFiD CNs

- **Value**: the trade-off between multiple sacrifices (resources required in the project) and gains for stakeholders of a CN

- **Different values for RFiD in a supply chain**: 
  - Physical: equipment
  - Financial: gains
  - Human: skill, experience
  - Organizational: process, systems
  - Relational capital: reputation, number of contracts, customer relations
### Phase 1: Seeking opportunities

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<tr>
<th>Step</th>
<th>Description</th>
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<td>Step 1</td>
<td>Determination of the primary <em>motivation</em> to adopt RFID: WHY?</td>
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<td>Step 2</td>
<td>Analysis of the <em>Product Value Chain (PVC)</em>: WHAT?</td>
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<td>Step 3</td>
<td>Identification of the <em>critical activities</em> in the PVC: WHICH activities to select and WHY?</td>
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<td>Step 4</td>
<td>Mapping of the <em>network of firms</em> supporting the PVC/supply chain network: WHO and WITH WHOM?</td>
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<td>Step 5</td>
<td>Mapping of intra-organizational processes (&quot;As is&quot;): HOW within organization?</td>
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<td>Step 6</td>
<td>Mapping of inter-organizational processes (&quot;As is&quot;) (HOW between organizations).</td>
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### Phase 2: Pilot project and Validation

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<th>Step 7</th>
<th>Evaluation of RFID Network opportunities</th>
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<td>Step 8</td>
<td>Evaluation of potential RFID Network applications (&quot;As could be&quot;)</td>
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<td>Step 9</td>
<td>Mapping of intra- and inter-organizational processes integrating RFID technology</td>
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<td>Step 10</td>
<td>Validating business and technological processes integrating RFID technology</td>
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### Phase 3: RFID project deployment

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<th>Step 11</th>
<th>Proof of concept (POC) with the pilot project</th>
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<td>Step 12</td>
<td>Pilot replication and evaluation</td>
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Research questions

- How are CNs built in a RFiD project?
- Can we identify value creation logics in such CNs?
  - Resources required
  - Value creation
Methodology

- A qualitative case study
- 15 Interviews:
  - Both at the strategic and operational levels
  - With the different actors in the supply chain:
    - Product (jewel) supply chain
    - Information Systems: internal to the retailer and external with an IS provider
    - RFfD service providers
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<td>STRATEGY</td>
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<td>The IS department of the retailer starts a study on RFID technology</td>
<td>The IS department of the retailer launches the RFID project.</td>
<td>Agreement of the retailer’s Headquarters to deploy RFID tags in its 80 stores</td>
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<td>PROJECT</td>
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<td>Beginning of the RFID study on sustainable smart chips</td>
<td>Beginning of the pilot project: implementation in a pilot store with throw away smart chips</td>
<td>RFID tags are implemented in all 80 stores</td>
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Case study: the stores

- 80 stores dedicated to jewellery based in the retailer’s hypermarkets
- Nearly 3000 articles in one store
- Each jewel is identified with a RFID tag
Information System CN (ISCN)

Product CN (PCN)

Jewelry Suppliers

Logistic Service Provider (LSP)

Deliver

Point of sale (POS) = 80 stores

RFiD CN (RFiD CN)

Label Supplier

RFID tag Supplier

RFID Printer/Reader Supplier

RFiD CN (RFiD CN)
### Motivations of the jewellery product choice:
- A simple logistic chain (a unique supplier)
- High volumes (1,000,000 jewels/year)
- The product price allows to cover the tag’s price
- The final customer is not directly impacted
Step 9: Mapping of intra- and inter-organizational processes integrating RFID technology

Step 10: Validating business and technological processes integrating RFID technology
The RFiD CN investment

- Creation of a specific label and tag for jewells (little size)

- Appropriate readers were made for the stores and the Logistic Service Provider (LSP)
  - Possibility to read tags from 5cm (item receipts and inventories)
Step 12: Pilot replication and evaluation
• Some CNs are long term (PCN, ISCN), others are temporary (RFiD CN):
  • RFiD CN: built upon an invitation to tender and temporary CNs
  • PCN and ISCN CNs: based on past business relationships

• CNs and value creation logics:
  • RFiD CN:
    • Resources required: Phases 1 to 2 Human, Physical
    • Value creation: Phase 3 Human (experience, innovating capacities), Physical (RFiD equipment), Relational (reputation)

  • ISCN CN:
    • Resources required: Phases 1 to 3 Human, Organizational (system)
    • Value creation: Human (experience), Relational (Consolidation of business relationships with the Retailer)

  • PCN CN:
    • Resources required: Phases 1 to 3
    • Value creation:
      • LSP: Human (experience, innovating capacities), Organizational
      • Retailer: Physical, Financial, Human, Organizational, Relational
Limits and perspectives

Perspectives:

- How will the different actors be able to reuse the value created in future RFID projects (in the same or different CNs)?

- Measure the investment of resources and value creation in a RFID project.

Limits:

- Generalization of the case study.
Thank you for your attention

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