Montreal Taxonomy of eNegotiations
- From Description to Design -

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The Intuition of the Montreal Taxonomy

- Different Disciplines are concerned with electronic negotiations
  - Electronic Commerce
  - Information System
  - Experimental Economics
  - Negotiation Analysis
  - Game Theory
  - Decision Support Systems
  - Multi-Attribute Decision Theory
  - Anthropology

- Any Discipline has its own terminology and ontology that is incompatible with each other

- Electronic Negotiation strives for integration of all streams

→ Montreal Taxonomy for a joint terminology
# The Montreal Taxonomy as Description Methodology

<table>
<thead>
<tr>
<th></th>
<th>Exogenous criteria</th>
<th>Endogenous criteria</th>
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<td><strong>Explicit criteria</strong></td>
<td>• Constitution</td>
<td>• Trading Rules</td>
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<td>• Business Conduct</td>
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<td><strong>Implicit criteria</strong></td>
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<td>• Social Norms</td>
<td>• Efficiency</td>
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<td>• Strategic Goals</td>
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Ströbel and Weinhardt [2003]
The Montreal Taxonomy as Description Methodology

- Point of Origin is the Media Reference Model

   [Schmid, B. (1998)]

   
   ![Diagram](Image)

   - **Knowledge Phase**: gathering information concerning products, market participants, etc.
   - **Intention Phase**: specifying supply and demand with offers to sell and offers to buy
   - **Agreement Phase**: identifying the terms/conditions of the transaction and signing a contract
   - **Settlement Phase**: execution of the agreed-upon contract, payment, post-sales support
The Montreal Taxonomy as Description Methodology

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Values</th>
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<tbody>
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<td>Sides</td>
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<td>Directions</td>
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<td>Configuration</td>
<td>Commitment</td>
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Endogenous explicit criteria

[Ströbel and Weinhardt (2003)]
The Montreal Taxonomy as Description Methodology

Overall Rules

Roles
- bilateral
- multilateral
- intermediated

Intention Phase
- Offer Specification
- Offer Submission
- Offer Analysis

Agreement Phase
- Offer Matching
- Offer Allocation
- Offer Acceptance

Endogenous explicit criteria

Attributes
- Values

Sides
- Directions
- Activities

Value
- Threshold

Schedule
- Sorting
- Evaluation
- Resolution

Distribution
- Provision
- Configuration

Commitment

[Ströbel and Weinhardt (2003)]
Montreal Taxonomy – A Tool for Design?

• Parametrization yields “configuration space” (endogeneous criteria)

Criteria

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Possible rules

[Neumann, 2004]

More structure is needed for successful design
Montreal Taxonomy – A Tool for Design

- A generic Process imposes structure upon the criteria

**Message Exchange Phase**
- Intention Phase
  - Opening rule
    - Transition rules
  - AD = Allocation determination
  - PD = Price determination
- Agreement Phase
  - Closing rule
  - Transfer rule
    - Resolution of the agreement
  - AD = Allocation determination
  - PD = Price determination
Montreal Taxonomy – A Tool for Design

Market Modeling Language (MML) in XML

```xml
<xs:simpleType name="Mt_object">
  <xs:restriction base="xs:string">
    <xs:enumeration value="single"/>
    <xs:enumeration value="multiple"/>
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</xs:simpleType>
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<xs:complexType name="MatcherType">
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Levels of the market modelling with MML

- **GUI**
- **XML**
- **Code**
- **Market runtime environment**

Levels of abstraction:
- Platform-independent
- Platform-dependent
Electronic Financial Trading System as Application
Electronically Financial Trading System as Application
Conclusion

• E-FITS as negotiation configuration tool based on Montreal Taxonomy
• What is it good for?

**Implicit Criteria / Outcome**

- Exploration of the Design Space (Market Engineering WB26)
- Search for Testing Strategies

**Exogenous Criteria**

**Endogenous Criteria**
Thank you for your Attention!
Questions?

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