The Enterprise Interoperability Center - An Institutional Framework Facilitating Enterprise Interoperability

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http://new.eic-community.org/
Executive Summary

Key challenges of cross-organizational electronic business relationships

Institutional economics as research framework

The EIC – an institutional framework facilitating enterprise interoperability

Conclusion
## Summary

### B2B Interoperability Challenges
- Enterprise IT envisioned to be interconnected
- Numerous standards with **different scope and granularity** available
- Diverent interests of stakeholders as major hurdle
- Agents do not act rational and have a limited capacity for deciphering the complex environment
- To **reduce uncertainties**, institutions are needed
- Institutional economics leveraged to derive recommendations for the EIC

### Institutional Economics

### The EIC as institutional framework
- EIC integrates SDOs, user firms, governments and SW vendors to reduce mutual uncertainty
- **Hub** for consensus building, for refining existing standards and for supporting their adoption
- Shall provide proper **incentives**
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Best-of-breed solutions

- Many different vendors
- Custom made solutions
- Proprietary technologies
- Point-to-point Integration
- Many different business dialects

Risking future success

- Complex business environment
- Maintenance nightmare
- Multiple dependencies
- Many different business applications

* This graphic has been adapted from Gunther Stuhec, SAP AG
Inter-organizational supply chains face severe interoperability challenges*

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Divergent interests of key stakeholders represent a major hurdle to enterprise interoperability.

## Independent institutions are needed to mediate and facilitate the adoption of proper standards

**User firms**
- supposed to use standards for connecting applications
- may **observe, adopt, drive** or **contribute** depending on the expected benefit of participation and the alignment of interests

**SDOs**
- highly **interwoven mesh of competing players** who pursue partially overlapping activities
- may **coordinate** development, **participate** in other SDOs or **push the adoption** of a standard

**Governmental organizations**
- **impose** specifications as norms to enforce their acceptance
- **support** SDOs to lower development costs
- **coordinate** the different SDOs’ work
- try to **drive** standards which match their own requirements

**Software vendors**
- supposed to **incorporate standards** into their solutions
- have to **cope with** unmanageable **variety of SDOs**
- may observe, adopt, drive or contribute

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The Institutional Action-Information Loop*

**Institutions**

**Characteristics**
- "The rules of the game"
- Formed and changed by agents
- Sustain as normative entities
- Exist in the form of informal or formal constraints/rules that may be enforced

**Impact**
- Affect the costs of exchange
- Involve the interaction of agents
- Reduce uncertainty
- Provide an incentive structure

**Individual agents**

**Characteristics**
- Human individuals or organizations
- Agents do not act fully rational
- Limited processing capabilities for deciphering the environment
- Agents face transaction costs that arise from uncertainties involved in the interaction of individuals

**Impact**
- Agents require institutions to reduce uncertainties
- They form and also deconstruct them

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The EIC – a hub for facilitating the adoption of interorganizational standards

User Firm A
User Firm B
Software Vendors
Governmental Organization
SDO
The EIC – an institutional framework

Reference Point

- Establish, promote and provide a hub for debate on interoperability issues and to act as a provider of commonly accepted rule sets for implementing cross-organizational electronic interconnections

- The EIC reduces uncertainty in the interaction of firms as it provides implementation guidelines, experience reports and extensions for standards (sharpening of verbal specifications and thus reducing semantic ambiguities)

Integrative Entity

- Open, neutral, credible, independent and non-profit oriented entity that encourages participation by all relevant stakeholders (SDOs, Governmental organizations, User Firms and Software Vendors)

Facilitator of Adoption

- Interoperability Profiles will be developed consisting of consensus-based common processes in combination with selected and interpreted messaging standards, while using existing standards
The EIC should ensure fairness, provide incentives and maintain an equilibrium of interests

- **Fairness**: The subjective perception of fairness of all stakeholders is crucial to facilitate their willingness to actively contribute and also adhere to the constraints and rules imposed by the EIC.

- **Incentives**: Incorporation of adequate incentives: User firms, for example, must receive significant return from investing in building skills and knowledge within the EIC framework.

- **Equilibrium**: Interests of stakeholders always differ to some extent, however, none of them should find it beneficial enough to spend resources into restructuring the agreements and the underlying institutional framework.
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B2B relationships face severe interoperability challenges due to the plethora of existing standards and the partially divergent interests of stakeholders involved in the development of standards.

Institutional Economics represents an adequate research framework and may be leveraged to analyze the EIC and to derive recommendations for it to permanently prevail.

The EIC should ensure that all stakeholders perceive it as a fair platform for consensus-building that provides incentives for all of them.
Thank you for your attention!

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Selection of References


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