Business Value and Business Model Innovation in Decentralized Interoperability Scenarios: The NisB Case

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Adoption of business networking concepts

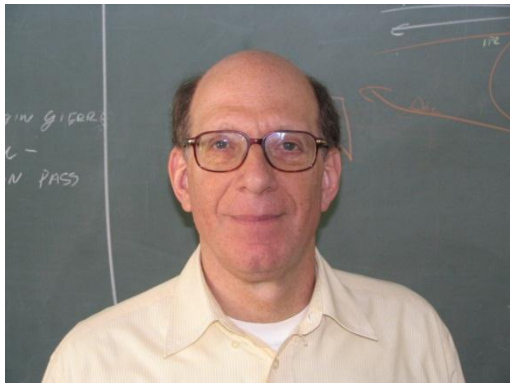
State of business networking

Societal, economic, and technological developments have led to a proliferation of business networking strategies and approaches over the last decades. However, a number of business challenges prevent business networking from fully unlocking its potential.

Business challenges

- Diversity and heterogeneity of interoperability standards
- Lack of semantic standardization
- Slow standardization processes
- Lack of business perspective in standardization
- Lack of semantic focus
- High interoperability efforts

The problem with standards today

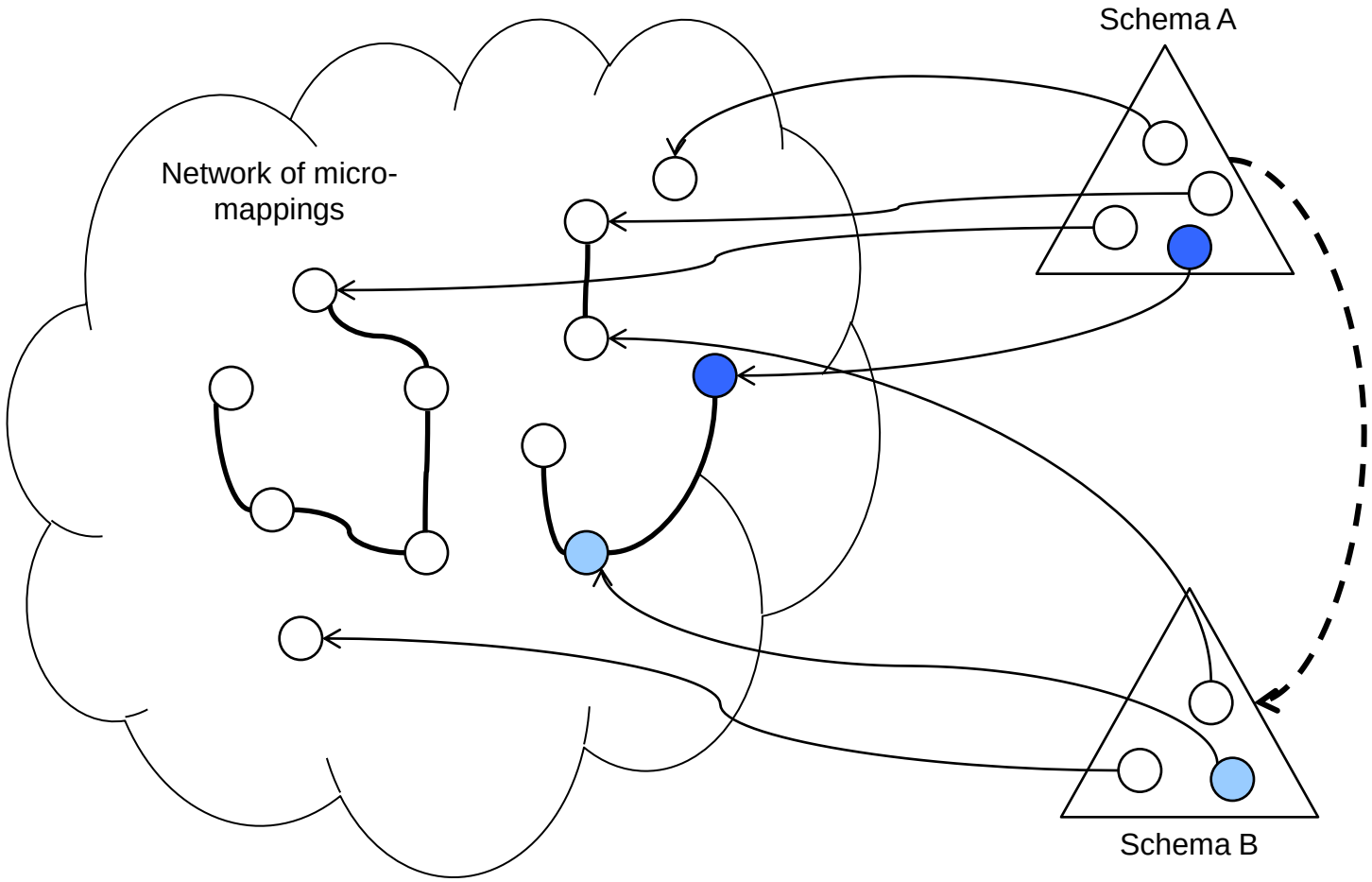


«The nice thing about standards is that you have so many to choose from» Andrew S. Tanenbaum

The NisB principles

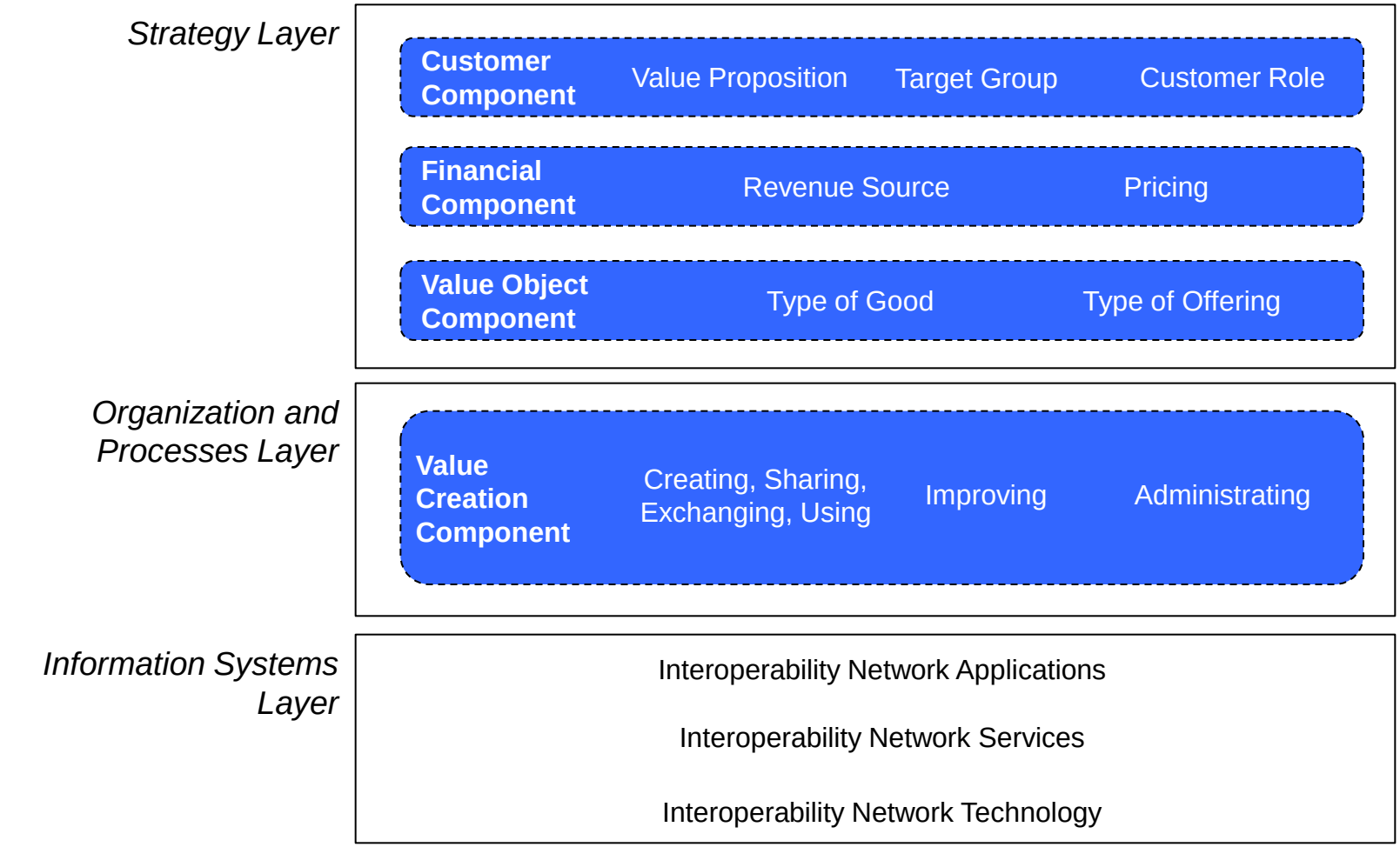
- Micro-mapping
- Wisdom of the crowd
- Emergent semantics
- Interoperability as intangible asset

A decentralized micro-mapping architecture



Legend: ← decomposition; ——— micro-mapping ○ concept; - - - → schema-mapping

A reference business model for interoperability service utilities



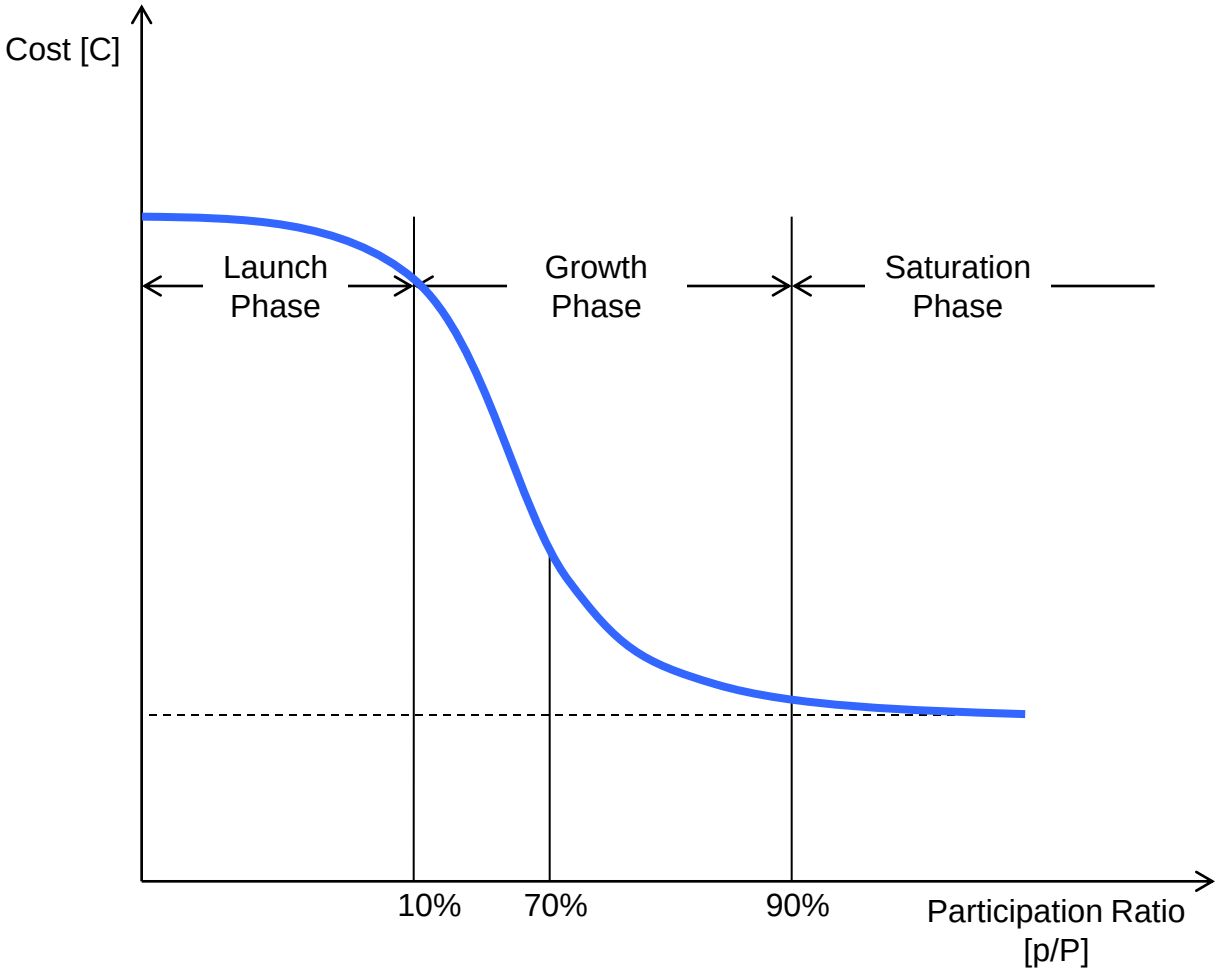
Existing business models for intangibles

Amazon Mechanical Turk	Crowd Sourcing	amazon.com
Apple iTunes	Digital Content	
Factual	Data as a Service	factual
Flattr	Social Micropayment	Flattr
Github	Crowd Sourcing	github SOCIAL CODING
Infochimps	Data as a Service	infochimps
Napster	Digital Content Exchange	napster

Potential business model instantiations

Business Model Component	Business Model Sub-Component	Potential Instantiations			
Customer	Value Proposition	Novelty *(enabling new value networks, new processes)*	Lock-In *(increasing value network competitiveness)*	Complementarity *(completing existing interoperability solutions)*	Efficiency *(reducing interoperability costs)*
	Target group	Business-to-Business			
	Customer Role	Consumer *(customer uses interoperability information)*	Producer *(customer produces/provides interoperability information)*	Co-creator *(customer participates in creation of interoperability information)*	
Financials	Revenue Source	Subscription *(recurring fee for using network of interoperability information)*	Item-based *(fee for using a certain piece of interoperability information.)*	Advertising	Virtual currencies *(generate revenue through exchange rate)*
	Price model	Free	"Freemium"	Rewards-based *(discounts for feedback, often-reused interoperability information etc.)*	
Value Object	Type of good	Public good *(interoperability information is available for everyone)*	Club good *(interoperability information is available for a domain, value network only)*	Private good *(interoperability is available for a limited number of entities only)*	Common good *(interoperability information as commodity)*
	Type of offering	Use of a good *(use of interoperability information)*	Use of service *(use of a service around interoperability information, e.g. automated mapping)*	Use of a software infrastructure	
Value Creation	Customer processes	Using	Sharing	Exchanging	Providing feedback
	Evolution processes	Improving *(includes algorithms for emergent semantics, automated micro-mapping etc. as outlined under assumptions in section)*			
	Support processes	Administrating *(includes registration of users, reporting, accounting of interoperability information use etc.)*			

The value proposition “efficiency” for NisB users



Legend: p - number of network participating in the network of interoperability information; P - overall number of network participants.

Revenue source and pricing models in the case of InfoChimps

Pricing model	"Baboon"	"Brass Monkey"	"Silverback"	"Golden Ape"
Fee	free	20 USD/month	250 USD/month	4,000 USD/month
Allowed API calls per month	100,000	500,000	2,000,000	15,000,000
Allowed calls per hour	2,000	4,000	20,000	100,000

Conclusion and outlook

- There will always be a variety of standards; “ivory tower” approaches will not be successful
- Interoperability will be achieved using the wisdom of the crowd and emergent semantics
- Interoperability knowledge will become an intangible asset based on which new business models will emerge

The NisB consortium

Speaker information

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