Spatial Data Supply Chains
Towards a National Spatial Data Supply Chain

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Presentation Outline

- National Supply Chain Framework – the user perspective
- Spatial data supply chains
- Need for a new approach
- How research is addressing gaps in capability
- Where to next…

Key Message: The value proposal afforded the consumer will characterise new generation spatial data supply chains
Supply chain strategy is linked to business strategy.

**Spatial Data Supply Chain Framework**

- **Business Strategy**: Strategic decisions that are a foundation for the entire supply chain process.
- **Customer Requirements**: The customer is central to determining the best-value activities.
- **Business Model**: The customer is central to determining the best-value activities.
- **PRODUCT**: Operations & network structure
- **Value Proposal**: Supply Chain Management

**SDSC = Valued differentiation x disciplined execution**
Spatial Data Supply Chain

Flow of Spatial Information

An organisation perspective of a spatial data supply chain
Spatial Data Supply Chain

A supply chain is characterised by nodes and links.
Need for a New Approach

• Deliver end-user needs
  – Social
  – Economic
  – Environmental
  – Cultural

• Anticipate future user expectations

Focus on activities that add best value to the consumer
Supply v’s Value Chains

Value chains = activities that deliver value to the consumer
Supply v’s Value Chains

National supply chains made up of isolated value chains
Next Generation Supply Chains

- Transact business online
- Find best data available
- National view
- Fit for Purpose
- Trust information
- Anywhere, anytime, in real time
- Answer complex queries
- Leveraged innovatively
- Participate

Focus on activities that add best value to the consumer
Addressing Gaps In Capability

- Self-Service
- W
- W
- W
- w
I want to transact business online

Human Knowledge + Policies & Guidelines

Semantic Ontology

Geographic Database

Latha Varadharajulu
“Developing automatic online spatial transactions”
Supply Chain Traceability

- Operations Oriented Analysis
- Increasing focus on innovation
- Evolving governance models – extended supply chains
- Trends towards vertical disintegration
I want to find the data I need

Tristan Reed
“Improving Search & Delivery”
I want the best combination of data

Different data sets

single source of truth

Feiyan Yu
“Automated Data conflation”
I want a national view of data

Semantic Ontology

Jeremy Siao Him Fa
“On-the-fly Federated Views”
I want to answers to my questions

Chet Bing Tan
“Intelligent Automated Orchestration of WPS”
I want to participate in data collection

Crowdsourcing: An integral part of supply chains

Integrating Authoritative & Crowdsourced data

Trust Models

Crowdsourcing Spatial Infrastructure

Canterbury University
“Embrace the Online Community”
I want to know where my data is sourced.

Muhammad Azeem Sadiq
“Spatial Data Provenance Model”
I want to know if data are for my purpose

Product: How do I know if a television program is suitable?

Television Program: A rating and recommendation of audience based on age and level of maturity; and consider level of violence, coarseness of language, nudity, horror, adult themes, medical practises etc.

Standards: Australian Commercial Television Code of Practice

Developer LGA Land Agency National Aggregator Final Customer
Is my data part of the primary supply chain?
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Traditional Approach is to interview and plot data flows.
Is my data part of the primary supply chain?

GEOPROV (province & lineage) + Powerful Metadata Search + Answer Complex Queries

Mine metadata to better understand networks of data flows

New Approach: Data mining using
Is my data part of the primary supply chain

Conflate Multiple datasets

Federate adjacent datasets

Produce user views by combining data to form a single source

New Approach: Data mining using
Conclusion

- Operations Oriented Analysis
- Increasing focus on innovation
- Evolving governance models – extended supply chains
- Trends towards vertical disintegration

Supply Chains are characterised by isolated value chains