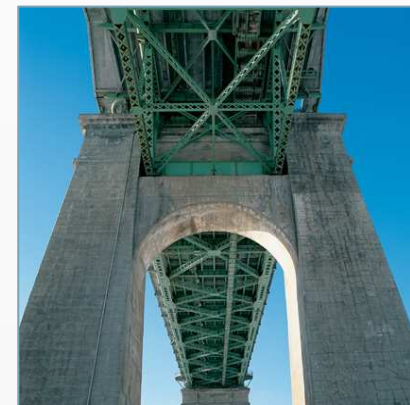




SNC • LAVALIN

Taxonomy Case Studies

SNC-Lavalin Infozone



Summary

This session discusses a project to design and implement an **enterprise-wide taxonomy framework** applicable across corporate, divisional and project organizational levels; in a global **multilingual context**; and extendable **beyond the traditional Intranet** to also be **relevant to other information systems** (project management, records management, financial management, and knowledge transfer and sharing).

It shares the challenges and lessons learned in building an **enterprise wide taxonomy framework**, and implementing business unit portals as well as company-wide content type-based collection like quality management procedures and related documents.

Overview of the presentation

1. Difficulties faced in agreeing on a taxonomy
2. Solution : focus on leveraging existing schemes
3. Example

Difficulties faced in agreeing on a taxonomy (1)

Context

- Multilingual : French, English, Spanish and more
- Enterprise culture : very decentralized, project centered
- Engineers having different expertises = different point of views depending on type of project
- Need to be relevant to other information systems

Difficulties faced in agreeing on a taxonomy (2)

First attempt

Find a consensus on a common vocabulary to share across the company

Difficulties

- People's availability
- People's understanding of the goal
- Time consuming
- Too long to come to a result

Solution : focus on leveraging existing schemes

Instead of finding a consensus

- Exploit existing schemes and link them through concepts
- Make an inventory of concepts across divisional processes

Advantages

- Existing schemes are controlled through quality management procedures
- People are already working with them
- Those who prefer can still work with their own notification system
- All concepts are identified

An opportunistic approach

- Because of the absence of a central authority in the business that can provide input from a high level, we have retained an opportunistic approach where we develop the taxonomy on a project per project basis
- The taxonomy discipline manifests itself by proper selection of metadata, its content, and search engine configuration to exploit this metadata.

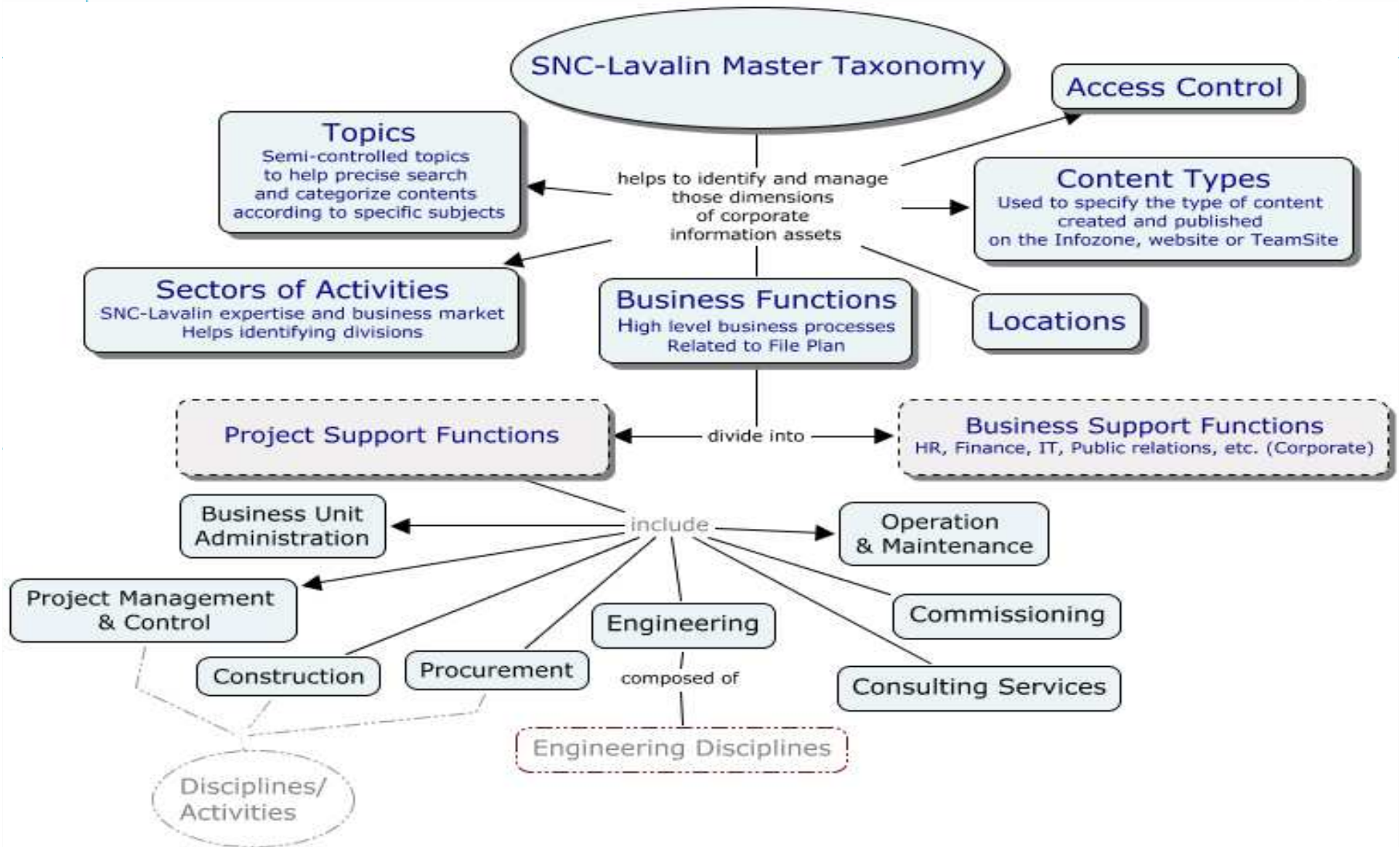
Result

- ☑ Represents the real corporate culture and complexity
- ☑ Shows emerging sectors, not yet listed in procedures
- ☑ Division are still free to adapt to their specific market and needs
- ☑ A common language is built anyway
- ☑ Language is stored and managed through an enhanced thesaurus
- ☑ Metadata related to taxonomy are documented in a metadata dictionary

Variations in Division Terminologies

Global M&M		Industrial		Chemicals & Petroleum		Construction		Power (T&D)		Hydroelectricity	
4	Engineering	4	Engineering	4000	Engineering	40	Engineering	04000	Engineering	4	Engineering
40	Engineering Management	40	Engineering Management	40	General Engineering					40	Engineering Management
41	Civil	41	Civil				All Eng disciplines used as cross-ref in Construction dept - 1			41	Civil
42	Concrete	42	Concrete	42	Civil	2	Concrete	4200	Civil	42	Concrete
43	Structural Steel	43	Structural Steel	42	Structural Steel	3	Structural	4300	Transmission Lines	43	Structural
44	Architecture	44	Architecture	42	Architecture	4	Architecture			44	Architecture
45	Mechanical	45	Mechanical	45	Mechanical	5	Mechanical			45	Mechanical
46	Piping	46	Piping	46	Plant Layout & Piping	6	Piping			46	Piping
47	Electrical	47	Electrical	47	Electrical	7	Electrical	4700	Electrical	47	Electrical
48	Automation	48	Instrumentation and Controls	48	Automation	8	Automation/Instrumentation	4800	SCADA	48	Automation
49	Process	49	Process	49	Process			4900	Telecommunications	49	Process

Master Taxonomy



Engineering Department Disciplines Taxonomy

Engineering

Department: Engineering Disciplines

Engineering Management

Agriculture-Agronomy

Geology

Pipeline

Architecture

Geotechnical

Process

Building Services-HVAC

Hydraulic-Hydrology

Port-Marine Engineering

CADD

Layout

Railroad Design

Drilling

Metallurgy

Railroad Engineering

Economics & Social Studies

Mining

Safety Processes

Environment-Biology

Municipal

Simulation

Piping

I&C

Surveying, Geodesy & Geography

Civil

Mechanical

Telecom & IT

Concrete

Electrical

Transport Engineering

Structural

Urbanism - Urban Planning

Search Engine Facets

Dept/Discipline:

- 31 Project Administration & Management (114)
- 40 Engineering - General (93)
- 68 Health, Safety & Environment (82)
- 33 Estimating (70)
- 32 Planning & Scheduling (61)

Maps to thesaurus through Business Function > Department > Disciplines

Doc Category:

- X - Procedures (527)
- F - Forms (230)
- P - Processes (98)
- J - Job Descriptions (43)
- W - Work Instructions (36)

Maps to thesaurus through *Content Types*

OWL allows to create a concept that groups Engineering Project related Content Types

Protégé screenshot of concept Forms

The screenshot displays the Protégé interface for a concept named 'Forms'. The main window, titled 'SKOS Data Property Assertions: CTypesForms', lists several property assertions:

- prefLabel "Formulaires"@fr**
- prefLabel "Forms"@en**
- SKOS notation** (expanded to show):
 - notation "F"**
- SKOS alternate label**
- SKOS hidden label**
- Other property assertions**
- definition "(1) Pre-defined template required to be used in a Process / instruction for information / data collection. [sixsigma]"@en**
- scopeNote "(1) Quality Management System"@en**
- scopeNote "(2) Common understanding outside Quality Management System"@en**
- definition "(2) Document with blank spaces for insertion of required or requested specific information."@en**

On the right side, the 'SKOS related assertion' panel shows various relationships with expandable options:

- SKOS in scheme assertion
- SKOS top concept of assertion
- SKOS broad match assertion
- SKOS narrow match assertion
- SKOS related match assertion
- relatedMatch CTypesTemplates** (selected)
- SKOS exact match assertion
- Other property assertions
- narrower CTypesRequestForms**
- broader ContentTypes**

Protégé screenshot of Engineering Projects Content Types.”

Annotations +

label
"Engineering Projects Content Types"@en

Description: EngineeringProjectContentTypes

Equivalent classes +

Superclasses +

● **ContentTypesCollection**

Inferred anonymous superclasses

Members +

- ◆ **CTypesChecklists**
- ◆ **CTypesDatasheets**
- ◆ **CTypesDesignCriteria**
- ◆ **CTypesDrawings**
- ◆ **CTypesFlowDiagrams**
- ◆ **CTypesForms**
- ◆ **CTypesMinutesMeeting**
- ◆ **CTypesProcedures**
- ◆ **CTypesProcesses**
- ◆ **CTypesProjectExecutionPlan**
- ◆ **CTypesRegistries**
- ◆ **CTypesReports**
- ◆ **CTypesStandardDrawings**
- ◆ **CTypesStandards**
- ◆ **CTypesWorkInstructions**

Doc Category: 

-  X - Procedures (527) 
-  F - Forms (230) 
-  P - Processes (98) 
-  J - Job Descriptions (43) 
-  W - Work Instructions (36) 



Project Status

IMCoP composed of trained Information Professionals across the company produces and disseminates guidelines, information management tips or point out issues

Taxonomy is now an iterative process integrated into the global enterprise architecture

- Build an operational framework to help collaboration services team to deliver solutions compliant to information management requirements
- Build a Communication Plan
- Integrate Information Architecture practice of unstructured content into any information system development process