

Taxonomy Design Types

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So you've decided you need a taxonomy to categorize and organize your documents and records. But how do you decide what type of taxonomy to design? The type of taxonomy you choose is as important as the taxonomy itself. If the design doesn't meet the needs of the users...it will not be used.

Taxonomy Types

Taxonomies are usually hierarchical where categories (nodes) in the hierarchy progress from general to specific. Each subsequent node is a subset of the higher level node. There are three basic types of hierarchical taxonomies: Subject, Business-Unit and Functional.

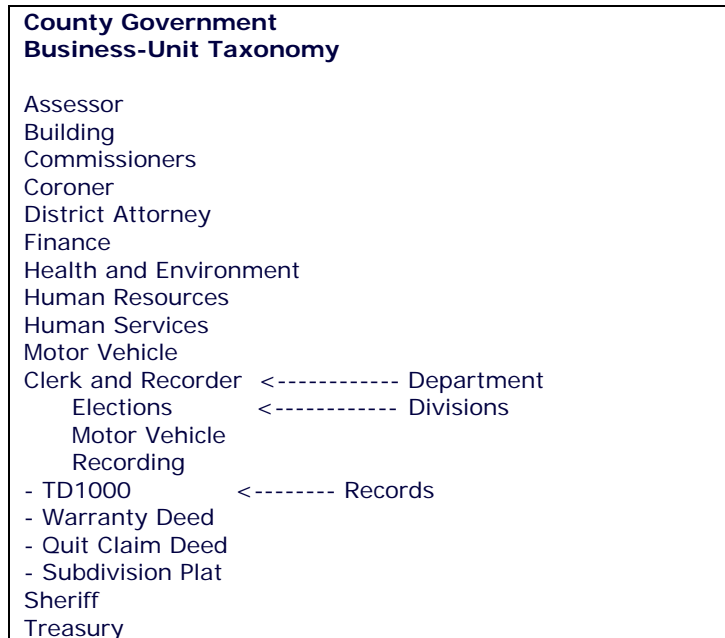
A **Subject** taxonomy uses controlled terms for subjects. The subject headings are arranged in alphabetical order by the broadest subjects, with more precise subjects listed under them. An example is the Library of Congress Subject Headings (LCSH) used to categorize holdings in a library collection (see example below). Even the Yellow Pages could be considered a subject taxonomy.

LIBRARY OF CONGRESS SUBJECT HEADINGS	
H --	SOCIAL SCIENCES
J --	POLITICAL SCIENCE
K --	LAW
L --	EDUCATION
M --	MUSIC AND BOOKS ON MUSIC
N --	FINE ARTS
P --	LANGUAGE AND LITERATURE
Q --	SCIENCE
R --	MEDICINE
	Subclass RA Public aspects of medicine
	Subclass RB Pathology
	Subclass RC Internal medicine
	RC31-1245 Internal medicine
	RC49-52 Psychosomatic medicine
	RC251 Constitutional diseases (General)
	RC254-282 Neoplasm. Tumors. Oncology

It is difficult to establish universally recognized set of terms in a subject taxonomy. If users are unfamiliar with the topic, they may not know the appropriate term heading in which to begin their search. For example, say a person is searching through the Yellow Pages for a place to purchase eyeglasses. They begin their search alphabetically by turning to the E's and scanning for the term eyeglasses. Since there are no topics titled "eyeglasses", the person consults the Yellow Pages Index, finds the term eyeglasses which provides a list of preferred terms or "see also" which directs the person to "Optical – Retail" for a listing of eyeglass businesses.

In both examples (LCSH and Yellow Pages), the subject taxonomy is supported by a thesaurus. A thesaurus is a controlled vocabulary which includes synonyms, related terms and preferred terms. In the case of the Yellow Pages, the index functions as a basic thesaurus.

In a **Business-Unit** based taxonomy the hierarchy reflects the organizational charts (e.g. Department/Division/Unit). Records are categorized based on the business unit that manages them. The example below shows the partial detail of one node of a business-unit based taxonomy that was developed for a County Government.



One advantage of a business-unit based taxonomy is that it mimics most existing paper filing system schemas. Therefore, users are not required to learn a "new" system. However, conflicts arise when documents are managed or shared amongst multiple business units. As an example, for the County Government referenced above, a property transfer document called the "TD1000" is submitted to the Recording Office for recording and then forwarded to the Assessor for property tax evaluation processing. This poses a dilemma as to where to categorize the TD1000 in the taxonomy.

Another issue arises with organizational changes. When the organizational structure changes...so must the business-unit based taxonomy.

In a **Functional** taxonomy records are categorized based on the functions and activities that produce them (Function/Activity/Transaction). The organization's business processes are used to establish the taxonomy. The highest or broadest level represents the business functions. The next level down the hierarchy constitutes the activities performed for the function. The lowest level in the hierarchy consists of the records that are created as a result of the activity (a.k.a., the Transactions).

The example below shows partial detail of one node of a functional taxonomy developed for a State Government Regulatory Agency. The Agency organizational structure is based on regulatory programs. Within the program areas are similar (repeated) functions and activities (e.g., Permitting, Compliance and Enforcement, etc.). When the repeated Functions and Activities are universalized, the results are a "flatter" taxonomy. This type of taxonomy is better suited to endure organizational shifts and changes. In addition, the process of universalizing the Functions and Activities inherently results in broader and more generic naming conventions. This provides flexibility when adding new record types (transactions) because there will be fewer changes to the hierarchy structure.



Procurement	
Contracts and Agreements	
Licensing and Certification	
Technical Assistance	
Permitting	
Compliance and Enforcement	←-- Function
Inspections	←-- Activities
Complaints	
Emergency Response	
Enforcement	
Notice of Violation	←--- Transactions
Consent Decree	
Request for Response Actions	
Stipulation Agreement	

One disadvantage of a functional taxonomy is its inability to address case files (or project files). A case file is a collection of records that relate to a particular entity, person or project. The records in the case file can be generated by multiple activities. For example, at the Regulatory Agency, enforcement files are maintained that contain records generated by enforcement activities (Notice of Violation, Consent Decree, etc.), and other ancillary, but related activities such as Contracting, Inspections and Permitting.

To address the case file issue at the Regulatory Agency, metadata cross-referencing was used to provide a virtual case-file view of the records collection.

Which Taxonomy Type Should You Use?

Each taxonomy type has its pros and cons. In most cases, a **Hybrid** approach combining the taxonomy types is the most appropriate.

Taxonomy Types		
Subject	-Common approach recognizable by most users (library, Yellow pages, internet sites) -Many sources of existing and reusable schemes	-Requires understanding of terminology or supporting Thesaurus
-unit based	-Familiar to users (mimics most existing paper filing systems)	-Organizational changes require maintenance of the taxonomy -Shared documents are difficult to classify
Functional	-Endures organizational changes	-Difficult to address case files

In choosing a taxonomy type, consider the following:

- Gain an understanding of your organization and how the business units function and interact.
- What are the needs of the users (both internal and external users)? Will you need multiple “views” or methods for records searching and categorization?
- Where will the taxonomy be applied and what are the operating parameters or limitations of those systems? (electronic content or records management system (ECM/RMS), paper files, shared network drive, website, etc.)

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