

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

April 2021

KNOWLEDGE ORGANISATION SYSTEMS AS TOOLS FOR ENHANCED INFORMATION ACCESS AND RETRIEVAL: A NEED FOR THE USE OF CORPORATE TAXONOMIES ON LIBRARY PORTALS.

Dominic Aondohemba Ihongo
dominic.ihongo@uam.edu.ng

Helen Tor-Akwer
Federal University of Agriculture, Nigeria, famarentor@gmail.com

Ucham James Diyong
University of Jos, Nigeria, uchamjames@gmail.com

Follow this and additional works at: <https://digitalcommons.unl.edu/libphilprac>



Part of the [Library and Information Science Commons](#)

Ihongo, Dominic Aondohemba; Tor-Akwer, Helen; and Diyong, Ucham James, "KNOWLEDGE ORGANISATION SYSTEMS AS TOOLS FOR ENHANCED INFORMATION ACCESS AND RETRIEVAL: A NEED FOR THE USE OF CORPORATE TAXONOMIES ON LIBRARY PORTALS." (2021). *Library Philosophy and Practice (e-journal)*. 5287.

<https://digitalcommons.unl.edu/libphilprac/5287>

KNOWLEDGE ORGANISATION SYSTEMS AS TOOLS FOR ENHANCED INFORMATION ACCESS AND RETRIEVAL: A NEED FOR THE USE OF CORPORATE TAXONOMIES ON LIBRARY PORTALS.

By

Dominic Aondohemba. IHONGO¹
domini.ihongo@uam.edu.ng

Helen Tor-Akwer²
famarentor@gmail.com

Ucham James Diyong³
uchamjames@gmail.com

Keywords: Taxonomy, Ontology, Portal, Thesaurus, Knowledge organisation systems, Controlled vocabulary, Facet Analysis, Information Retrieval, Thesaurus.

EXECUTIVE SUMMARY

Taxonomies have developed over the years to reach the current status of corporate taxonomies. A number of issues that triggered the prominence of taxonomies include; information overload, information literacy, organisational terminology and “destructuring” of organisations.

This research contributes to the ongoing advocacy for the use of corporate taxonomies for effective knowledge organisation and information retrieval in the digital community due to the explosion of various kinds of information on the internet, changes in user information seeking behaviour and needs, and the inability of search engines to precisely recall relevant information.

Corporate taxonomy is a “child birth” of the desire of organisations to expose their users to the intellectual prime of the enterprise. Taxonomy covers all information and key concepts about the organisation, staff, activities, processes, content, guidelines and standards.

Based on the above, this research offers a guide for an all-encompassing corporate taxonomy for a Library portal. A corporate taxonomy when included on a library portal offers access to the vast resources of the Library

whilst facilitating effective retrieval of information. This could be achieved based on the following findings:

- A corporate taxonomy is the platform for a high-level map of an organisation portal that instructs a user through the content and intellectual capacity of the organisation.
- Corporate taxonomies are unbeatable information retrieval tools due to their high level of precision and recall.
- Corporate taxonomies facilitate resources discovery by navigating to link a query to preferred, non-preferred and other related terms.
- Taxonomies provide support to improve information and knowledge sharing among staff for enhanced productivity.
- Marketing companies, CEOs, and other organisations use Corporate taxonomy to support browsing, e-commerce and interoperability for the purpose of knowledge management.
- Knowledge is organised and managed effectively by the use of taxonomies.
- Corporate taxonomies provide vocabulary control and supports content extension.
- More so, taxonomies support comparative and customised searching and could sense disambiguation.
- In view of the above, managers of libraries are encouraged to invest in building and maintaining taxonomies and thesaurus to enhance proper information management.

1.1 Introduction

Taxonomies as knowledge organisation systems have developed over the years to reach the current status of corporate taxonomies. Gilchrist (2003) identified a number of issues that triggered the prominence of taxonomies to include; information overload, information literacy, organisational terminology and “destructuring” of organisations. Corporate taxonomy is a “child birth” of the desire of organisations to expose their users to the intellectual prime of the enterprise (Rowley and Hartley 2008). Taxonomy covers all information and key concepts about the organisation, staff, activities, processes, content, guidelines and standards (Gilchrist 2003).

In view of the above, the use of corporate taxonomies for effective knowledge organisation and information retrieval in the digital community has been globally advocated by scholars due to the explosion of various kinds of information on the internet, changes in user information seeking behaviour and needs, and the inability of search engines to precisely recall relevant information (Bhat and Shafi 2014). Corporate taxonomies are no longer confined to the library and information society. They are used by marketing companies, CEOs, and other organisations to support browsing, e-commerce and interoperability for the purpose of knowledge management (McGuinness 2001).

Based on the above, this research offers a guide to all-encompassing corporate taxonomy for a Library portal. A good portal offers access to the vast resources of a Library whilst facilitating effective retrieval of information. It also improves information and knowledge sharing among staff for enhanced productivity.

1.2 Background

The evolution of thesauri and classification schemes as controlled indexing languages have given rise to taxonomies and ontologies (Rowley and Hartley 2008). Information access and retrieval has equally received attention, and plays a pivotal role in knowledge organisation and the wider information society. This has made taxonomies and ontologies increasingly prominent, and they are principally concerned with analysing and linking concepts in a subject applicable to a particular organisation. Taxonomies are basically a foundation for classification as Gilchrist (2001 p. 101) believes:

A taxonomy aspires to be: a correlation of the different functional languages used by the enterprise... to support a mechanism for navigating, and gaining access to, the intellectual enterprise... by providing such tools as portal navigation aids, authority for tagging documents and other information objects, support for search engines, and knowledge maps... and possibly... a knowledge base in its own right.

Today, taxonomies are applied in the organisation and management of corporate knowledge. Taxonomies provide users access to electronic information; on the other hand, they provide knowledge sharing opportunities among organisation members. It is important for organisations, like the academic library, to apply corporate taxonomy in developing a portal to enhance information access and retrieval. As Rowley and Hartley (2008 p. 224) states:

A corporate taxonomy is the basis for a high-level map on an enterprise portal that guides the user through the intellectual capacity of the organisation.

1.3 Definition of Terms

Facets; the grouping together of terms (Hunter 2002).

Controlled Vocabulary; a compilation of acceptable, defined and manageable terms in a specialised community (Neiswender 2009).

Ontology; a “knowledge map” (Rowley and Hartley 2008).

Classification; the process of differentiating things or grouping like things together by some rules and characteristics (Hunter 2002).

Knowledge Organisation Systems; refers to all schemes or tools for organising and managing knowledge (Council on Library and Information resources 2014).

Thesaurus; a list of structured terms arranged in an alphabetical order (Broughton 2006).

Taxonomy; there are varied definitions. Chosky (2006) defined taxonomy as a hierarchical classification of documents and records to support information management.

Portal; an online page that contains information and links to other sites (Cambridge dictionary).

1.4 Statement of Problem

A library holds specialist journals and monographs, books, research reports and a collection of multi-media materials. The whole collection can be accessed via an online catalogue (OPAC). An audit of staff and user activities reveals the use specialized internet resources increasingly; as such, a portal would be the most suitable point of access to all information needed by staff and library users.

Most libraries lack easy information access and retrieval and knowledge/information sharing system.

To address the above challenges, there is a need to organize information for a library portal professionally to enhance information retrieval. As Hunter (2002 p. 4) believes:

Classificatory techniques may be applied in an information and retrieval system in order to facilitate access to, and use of, the system.

This research offers an insight to the significance of corporate taxonomy based on faceted classification from which an information retrieval thesaurus can be generated.

1.5 Purpose

The purpose of this report is to propose an all-encompassing corporate taxonomy which could be employed as a tool to develop a library portal based on the principles of a formalised knowledge organisation system. Such a portal vis-à-vis taxonomy and ontology shall be multipurpose in that it could provide easy and effective access to information and retrieval. It could also enhance and facilitate knowledge sharing and management among members of a library community.

1.5.2 Scope

The research is content to corporate taxonomies with emphasis on libraries. It includes controlled indexing languages such as thesauri and classification. The report covers the value of a formalised knowledge organisation system in information retrieval, controlled vocabulary, faceted analysis and classification, hierarchical relationships and thesaurus construction. A discussion on the methodology is also presented.

2.1 The Knowledge Organisation System

The use of corporate taxonomies for effective knowledge organisation and information retrieval in the digital economy has been globally advocated by scholars due to the explosion of various kinds of information on the internet, changes in user information seeking behaviour and needs, and the inability of search engines to precisely recall relevant information (Bhat and Shafi 2014).

The development of ontologies has gone beyond the fields of library science, philosophy and knowledge representation. They are employed today by marketing companies, CEOs, and other organisations to support browsing, e-commerce and interoperability for the purpose of knowledge management (McGuinness 2001). Ontologies may be simple or structured; a simple taxonomy, according to McGuinness, could be used for organising a website and navigation support as might be seen on the top left corner of most websites in a hierarchical structure. Taxonomies provide vocabulary control and could serve as “platform” structures from which content could be extended. More so, taxonomies could support user expectation; having a practical expectation of a website (McGuinness 2001). Simple taxonomies may also be used to support browsing and search. They could also sense disambiguation. For instance, a user searching for “Gates” may be queried if she is concerned about Gates as doorways or businessman. Structured ontologies on the other hand supports consistency checking, completion, interoperability, validation and verification testing of data (McGuinness 2001). Other uses of structured ontologies include: exploit generalisation/ specialisation information and configuration support. Ontologies consisting markup information might encode entire test suites, they may also enhance structured; comparative and customised search.

Similarly, classification is the bedrock of knowledge and information retrieval, and may be employed in an information and retrieval system to enhance access and use of the system (Hunter 2002). Classification and

knowledge organisation have become synonymous in that they both adopt a hierarchical and/or faceted approach, or a mixture of both. An academic Libraries are information service providers that uses classification to organise its vast resources, as such should not be left out.

2.1.1 Value of the KOS

Taxonomies are popularly considered as universal tools for organising electronic resources (Broughton 2006). A taxonomy goes beyond the purpose of creating a portal; it covers almost all types and forms of activities of a library and its domain (Geisler 2006). Its user friendliness provides electronic access to the resources of the library as well as staff activities. It presents an opportunity for effective communication, information and knowledge sharing among staff and users. The taxonomy offers linkability to resources and documents to enhance effective searching and information retrieval. The hierarchical arrangement of the taxonomy is another value which cannot be overemphasised.

2.2 Methodology

The content of this research paper was developed based on a review of related literature around the concept of corporate taxonomy. The review was necessary to support the practical experience acquired while constructing a taxonomy. A keyword search was done using key words like: taxonomy, Classification, facet analysis, controlled vocabulary, knowledge organisation, knowledge organisation systems, ontology. Limiters were applied to reduce retrieval of irrelevant materials, selection of the references used here was based on their perceived high importance.

Databases such as Emerald and EBSCOHOST, were useful in the search. Practical steps to be taken to develop a taxonomy included: domain analysis, vocabulary control, facets analysis, building hierarchies and thesaurus construction which is explained in the next subsections.

2.2.1 Domain Analysis

The domain should be analysed to identify: the best ways to access the library information, subject expertise within and outside of the library, content and data, users, other taxonomies that might relate to the information professional's need, activities of the library, locations, times, associates, temporary issues and published vocabularies that might be useful. The analysis will be cumulated to a collection of an all-inclusive concepts of the domain scope (Bennett and Lehman 2009). The resulting concepts should be collected, analysed and validated.

2.2.2 Controlled Vocabulary

Controlled vocabularies are multipurpose, for instance, they might help users to discover data or support them to analyse data. A controlled vocabulary could equally enhance human-readable meaning or provide machine readable format information. Controlled vocabularies perform these tasks through: building acceptable terms to be used, preserving the appropriate spelling of concepts, interpreting concepts for users who are not familiar with the community, eliminating the use of inconsistent concepts that might be confusing (Neiswender 2009). Lin and Chan (1999 p. 156) states:

Controlled vocabularies have traditionally relied on control synonyms and homonyms to improve recall and precision. It is predicted on human indexing, assigned pre-determined preferred terms from a thesaurus to documents.

Controlled vocabularies relieve the difficulty from the user by offering free search mechanisms which enhances information retrieval whilst providing links to unknown resources.

To develop a library porta, a corporate taxonomy is created with a broad vocabulary around the domain (Library). This could be done by consulting

published literature, vocabulary tools, experts (for opinion), specialist dictionary, reference sources and encyclopaedias (Broughton 2006). Broughton believes this is advantageous for documents description and thesaurus construction. As the process progresses the number of collected terms could increase or decrease depending on what is considered to be most relevant. At the end of the process of vocabulary collection, a variation in the style and form of the concepts may be observed, hence a need to achieve a controlled vocabulary. To do this, attention should be paid to currency of terminology in order to identify in other to: qualify homonyms (context), identify synonyms and quasi synonyms for the purpose of information retrieval as well as spelling variants (Rowley and Hartley 2008). This would produce a controlled vocabulary that consists of preferred terms, non- preferred terms and homonyms from which a thesaurus is generated. A controlled vocabulary enhances uniformity of practices, easy information sharing and retrieval.

2.2.3 Facet Analysis

Faceted analysis which is a derivation from the theories and principles of Ranganathan and Classification Research Group (CRG) has received wider applications and attention today. Fagan (2010) believes facet analysis is useful in browsing as it avails users the opportunity to interact with the interface as they go beyond just one click. Many scholars like Spiteri (1998) have made contributions to the works of Ranganathan and CRG, by presenting a condensed model; the Idea Plane, the Verbal Plane and the Notational Plane so as to provide a better understanding of the PMEST and the CRG's theories. It involves a thorough grammatical analysis of all concepts of a subject or topic. A faceted analysis creates a logically structured controlled vocabulary that could be transformed to a thesaurus (Broughton 2006). Facet analysis entails an intrinsic basic organisation of the vocabulary of an indexing tool from a "bottom-up" approach. It is a tool

universally used to enhance the systematic display of descriptors. According to Rowley and Hartley (2008), facet analysis involves:

a set of terms representing simple concepts; that is, the descriptors created by applying the rules of thesaurus construction. The grouping of terms into a number of mutually exclusive categories, called facets, using one principle of division at a time.

2.2.3.1 Facet Analysis and Faceted Classification

Facet analysis plays an important role in all classification schemes as it serves as a foundation for building modern classifications. Such a classification is referred as faceted classification (Broughton 2006).

Broughton (2006 p. 51) states that faceted classification offers the following benefits:

the capacity to express through synthesis the complexity of subject content that is typical of digital documents; a logical structure that is compatible with machine manipulation at any level; a structure that is compatible with a graphical interface for end-user navigation and query formulation; cross domain searching; and features of these integrated tools that allow modifiable keyword searching through mapping vocabularies and vocabulary control via the thesaurus, and provide tools for browsing and display via the subject heading list.

To ensure that a proposed taxonomy utilizes the benefits of faceted classification vis-à-vis facet analysis, preferred terms could be used to create facets within entities. The facets should be examined to ensure

mutual exclusivity and joint exhaustivity (Denton 2011). This can be achieved by repeating facets analysis until most aspects of the domain are fairly represented. Attention should be paid to ensure that each term is allocated to only one facet as required by the principles of division. Terms in the concept map were deconstructed and as such this produced sub facets during the facet analysis which were arranged in a chronological order.

2.2.3.2 Hierarchies within Facets

It is important to build hierarchical relationships among concepts in a facet especially if the principles of divisions were exhausted. This would be helpful to identify Broad Terms (BT) and Narrow Terms (NT) which could be used to generate a thesaurus.

Fig. 1. Hierarchical Relationships

	Referencing and RefWorks RefWorks guide	Collection management Collection development	Events
Social media	Accessing	LMS	Induction
Facebook	RefWorks guide	Selection	Training
Twitter	RefWorks	Budget	Exhibition
You tube	Classes and	Tender	
Library blog	drop-ins	Procurements	
Email	Referencing style	Acquisition	
Fax	Harvard	Circulation	
Intercom	referencing	Downloading	
Contact (phone number)	Vancouver		
Feedback	Referencing		
services	library policies	library guide	reprography services
readers services	defaulters	database	Printing
Borrowing	Charges and	Subject guide	Bind

Self-issuing	fines	Researcher
Self-return	Debt recovery	guide
Loan check	Repository	
Loan renewal	Copyright	
Placing hold	Complaints	
Reserve		

Gender	nature studies	occupations	employment type
Males	<i>postgraduate</i>	<i>library-</i>	<i>employment</i>
Female	<i>students</i>	<i>professionals</i>	<i>status</i>
Others	Post-doctoral students	Liaison librarians.	Full time.
	Doctoral students	System librarians.	Contract
	Masters-students	E-service librarians.	Part-time
	Graduate-Diploma-students	Curators.	Casual
	Full timers	<i>paraprofessionals</i>	Temporal
	Part-timers	Library assistants	
		Library attendants.	
		<i>users</i>	
		Internal- users	
		Lecturers.	
		Non- academics.	
		Thin users.	
		Externals.	
		Personal researchers	
		Cooperate-researchers	
		Contractors.	
		Volunteers.	
	Under graduate students		

structures	electronic facilities	Resources	databases	furniture's
Building	Computer	Monographs	SirSydinix	Shelves
Project-room	Keyboard	Textbooks	Digital-library	Tables
Carrels	Mouse	Journals	Subject databases	Seats
Doors	Self-issuing machine	Pamphlets	E-books	Book trolley
Elevator	Self-return machine	Art heritage collections	E-journal	
Toilet	Photocopier			
	Scanner			
	CCTV			
	Television			
	Videos			
	DVD			

location**Country**

State

City

Campus**Name of Library
building**

Help desk

Study area

Entrance

Stairways

Learning facilities

storage facilities

Reserved room

Shelves

Stacks

Term in the session

spring

winter

Summer

Exams

opening and closing hours

Mondays- Thursdays 09:00-22:30

Fridays-Sundays 09:00-20:00

time in holiday

Holidays

Weekends

Vacations

2.2.3.3 Facets Formalization

Facets' formalization is another technique that should be used to ensure a systematic display of facets, sub facets and their respective hierarchies as shown above. At this point, the text expressing the principles of division were converted to headings whilst the headings are expressive and intuitive to possible users. The aim of this process was to have a neat and orderly template to enhance an appraisal of the domain.

2.2.4 The Information Retrieval Thesaurus

The prominence of information retrieval thesaurus could be dated back to the 1950s when the concept of thesaurus was first applied (Broughton 2006). Broughton considers an information retrieval thesaurus as a tool for indexing subjects and when applied to a document, it avails searchers the opportunity to retrieve relevant and related information about their search. It contains a list of structured terms that are alphabetically arranged. Available literature suggests an information retrieval thesaurus is useful to both the indexer and user as it provides a user a word-based and alphabetical approach to information retrieval, rather than a coded approach as in the case of classification. To the indexer, it provides the opportunity to choose from synonyms, homonyms and near synonyms necessary. The usefulness of thesaurus could be traced to its connectivity to ontologies and taxonomies as Gilchrist (2003) identified natural language as a connection between thesaurus, ontologies and taxonomies. This motivated Gilchrist to recommend thesauri to organizations like the academic libraries; who deal with bulk bibliographic materials and requires a system that could label and describe content.

2.2.4.1 Application of Thesaurus

Over time the thesaurus has become a fancied indexing tool among information professionals and librarians. It adds descriptors to bibliographic databases as well as provides subject keywords to documents that are

published on the internet (Broughton 2006).

To demonstrate the usefulness and application of thesaurus to a portal (based on taxonomy), relationships within faceted hierarchies should be identified. The hierarchical structure would help to identify Broad Terms (BT), Related Terms (RT) and Narrow Terms (NT). Such decisions are taken based on perceived importance and usefulness.

2.2.5 The Portal

The purpose of every portal is to provide access to, and retrieval of content. Fig. 2 presents a mock interface of a library. It is a result of the process of controlled vocabulary, facet analysis and thesaurus construction. The chosen KOS supports users by navigating through the page to discover concepts that are not displayed, the displayed terms are drawn from preferred terms which are known to both users and staff.

Fig. 2: A mock interface for a library portal

Search for	
<u>OPENING TIMES AND CLOSING TIMES</u> Includes term time, holidays, Mon-Fri., Exam time	<u>USERS</u> Includes staff, students and guests
<u>ACTIVITIES</u> Includes classes and drop-ins, referencing and RefWorks	<u>COLLECTIONS</u> Includes print and electronic
<u>HEALTH/SAFETY</u> Includes fire alarms, fire extinguishers, fire exits and evacuation procedures	<u>REPROGRAPHICS</u> Includes printing, binding and photocopying
<u>FACILITIES</u> Includes elevators, toilets, computers, printers, photocopiers, self-issue machine, book return machine	<u>LOCATIONS</u> Includes library building
<u>COMMUNICATION</u> Includes contact number, Facebook, Email Fax, YouTube, Twitter,	<u>READER SERVICES</u> Includes borrowing, return and help desk
<u>LIBRARIANS</u> Includes professionals, and paraprofessionals	<u>CAREERS</u> Includes professional and other positions
<u>SUBJECT RESOURCES</u> Includes, library catalogue, reading lists Journal search, databases by subject, Library guides	<u>EVENTS</u> Includes induction, Training and orientation

2.3 Challenges

There is no one way of creating a corporate taxonomy and as such the interpretations of the meaning of terms and their relationships with each other may vary from one person to the other (Broughton 2006). The biggest challenge of a corporate taxonomy could be the difference in practices and incorporating all the activities of a given organization including libraries. Controlling the vocabulary could be a huge challenge for libraries. Issues with words cannot be forgotten, for example it was easy to refer to users whose program is by research as; researchers. But those on taught programs can never be referred to as "taughters".

3.1 Conclusion

The main purpose of corporate taxonomy is to properly organize and manage information for effective access and retrieval. A corporate taxonomy is the platform for a high-level map of an organization portal that instructs a user through the content and intellectual capacity of the organization. A review of related literature shows corporate taxonomy should not be a choice, but a "must" for a serious organization desiring to improve information management and services. Such an organization (a library for example) should invest in building and maintaining taxonomies and thesauri as a solution to information overload. A portal that incorporates taxonomy will be multipurpose in that it will provide access to information and enhance retrieval. In addition, decision making, knowledge and information sharing, and information modelling could also be achieved (Bhat and Shafi 2014). Corporate taxonomies facilitate resources discovery by navigating to link a query to preferred, non-preferred and other related terms.

This report recommends corporate taxonomy as necessary tool for proper information management due to its unbeatable precision and recall.

REFERENCES

- BENNETT, M. and LEHMAN, J., 2009. Building a taxonomy. NIE Enterprise Search. [online]. Available from <http://www.ideang.com/building-a-taxonomy-0102> [Accessed 6th January 2016].
- BHAT, M. H. and Shafi, S. M., 2014. Taxonomies in knowledge organisation-need, description and benefits. *Annals of Library and Information Studies*, 16, pp. 102-111.
- BROUGHTON, V., 2006. *Essential thesaurus construction*. London: Facet Publishing.
- BROUGHTON, V., 2006. The need for faceted classification as the basis of all methods of information retrieval. *Aslib Proceedings*, 58(1/2), pp. 49-72.
- CHOSKY C. E. B., 2006. 8 steps to a taxonomy. *Information Management Journal*, 40(6), pp. 30-41.
- COUNCIL on LIBRARY and INFORMATION RESOURCES, 20014. Knowledge organisation systems: an overview. [online]. Available from <http://www.clir.org/pubs/reports/pub91/1knowledge.html> [Accessed 8th January 2016].
- DENTON, W., 2011. *How to make a faceted classification and put it on the web*. USA: Miskotonic University Press.
- FAGAN, J. C., 2010. *Usability studies of faceted browsing: a literature review*. Virginia: Information technology and Libraries.
- GEILSLER, E., 2006. A taxonomy and proposed codification of knowledge and knowledge management systems in organisations. *Knowledge and Process Management*, 13(4), pp. 285-296.
- GILCHRIST, A., 2001. Corporate taxonomies: report on a survey of current practice. *Online Information Review*, 25(2) pp. 94-103.
- GILCHRIST, A., 2003. Thesauri, taxonomies and ontologies- an etymological note. *Journal of Documentation*, 59(1) pp. 7-18.
- HUNTER, E. J., 2002. *Classification made simple*. 2nd ed. USA: Ashgate.
- LIN, X. and CHAN, L. M., 1999. Personalised knowledge organisation and access for the web. *Library & Information Science Research*, 21(2), pp. 153-172.
- McGUINNESS, D. L., 2001. *Ontologies come of age*. USA: MIT Press.
- NEISWENDER, C., 2009. What is a controlled vocabulary? In the MMI guides: navigating the world of marine metadata. [online]. Available form

<http://marinemetadata.org/guides/vocabs/vocdef>. [Accessed 6 January 2015].

SHARMA, R. S., FOO, S. and MORALES-ARROYO, M., 2008. Developing corporate taxonomies for knowledge auditability: a framework for good practices. *Knowledge Organisation*, 35(1), pp. 30-46.

SPITERI, L., 1998. A simplified model for facet analysis. *Journal of Information and Library Science*. 23, pp. 1-30.

VICKERY, B., 2008. Faceted classification for the web. *Axiomathes* 18, pp. 145-160.