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## Alerta de artículos de revistas de Bibliotecas y Documentación

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Adigwe, I. "**Lotka's Law and productivity patterns of authors in biomedical science in Nigeria on HIV/AIDS: A bibliometric approach.**" *The Electronic Library* vol. 34, n. 5 (2016). pp. 789-807.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-02-2014-0024>

**Purpose** This study aims to analyze the productivity patterns of authors in Nigeria using publications indexed in Medline from 2008 to 2012 based on Lotka's Law. Lotka's Law of scientific productivity provides a platform for studying inequality in authors' productivity patterns in a given field and over a specified period.  
**Design/methodology/approach** This study covers all the journal articles on

HIV/AIDS pandemic in Nigeria over a period of five years (2008-2012) in Medline, of which 512 articles were reported to have been published during this period. In this paper, 306 articles that had HIV/AIDS in the title, published in 20 journals, and articles that had HIV/AIDS as author keywords were analyzed. Because no local database that indexed biomedical literature from Nigeria was available, Medline was used, which is not only a robust and flexible database that includes articles from Nigeria but is also the largest medical database that indexes over six-and-a-half million articles from 3,400 biomedical journals. Findings While HIV/AIDS can be considered a global pandemic, Nigeria has the second highest number of new infections reported each year, and an estimated 3.7 per cent of the population is living with the dreaded disease. This study presents a general picture of the distribution of papers as single-author papers, multiple-author papers and the measures of co-authorship. The findings of the study reveal that in the productivity distribution for authors on the subject of HIV/AIDS, only co-authors and non-collaborative authors' categories fit in the Lotka's Law, whereas all-authors and first-author categories differ from the distribution of Lotka's inverse square law. Research limitations/implications The empirical evidence used in this paper was based on only articles of HIV/AIDS pandemic in Nigeria that had HIV/AIDS the title. Therefore, the findings of this study might not be the generalized to other biomedical research studies. Originality/value The originality of this paper lies in the fact that the productivity pattern of each of the different author categories on the subject of HIV/AIDS is a first of its kind in the Nigerian context.

Al-Baridi, S. A. "**Survey of selected US academic library consortia: a descriptive study.**" *The Electronic Library* vol. 34, n. 1 (2016). pp. 24-41.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-09-2014-0153>

Purpose The purpose of this paper is to develop and present a working model for consortia of academic libraries in Saudi Arabia. It is based on the American model of consortia operating at all levels, including local, state and region. The American consortia are highly developed, functional and have a large membership of small-, medium- and large-size libraries and are good models to be followed by other countries. Design/methodology/approach An email survey questionnaire (with seven closed-ended and four open-ended questions) was distributed to ten selected US academic library consortia to obtain relevant information on various operational facets and policies they have adopted. Findings The survey results will

provide useful information to help develop a workable consortia model for Saudi Arabia. If implemented successfully, the Saudi model is expected to motivate other library groups at provincial and national levels in Saudi Arabia and regional level in the Arabian Gulf Region. Research limitations/implications The survey is aimed at gathering relevant information about the experiences of ten selected US academic libraries as members of various consortia. Originality/value While the project will start with academic libraries only, it may open membership for other libraries not only in Saudi Arabia but also for libraries of the Gulf Cooperation Council countries. The other scenario could be that instead of joining Saudi consortia, the libraries may decide to develop their own consortia.

Albertson, D. and M. P. Johnston "**Individual differences of science teachers and interactive video retrieval.**" *The Electronic Library* vol. 34, n. 1 (2016). pp. 42-57. <http://www.emeraldinsight.com/doi/abs/10.1108/EL-11-2014-0198>

Purpose This article aims to examine how the interactions and perceptions of users from a defined domain, i.e. science education, vary across different groups of teachers while retrieving video. Given the prevalence of digital resources in use in education today, it is critical to assess users' perspectives and experiences for retrieving information across different contexts and individual user groups. Design/methodology/approach Interactive search experiments with 28 users were performed. A pre-experiment questionnaire collected the demographic information used to form groups for comparison in the present study. Users attempted six experimenter-developed topics using a prototype video retrieval system; experimental measures were recorded, including all actions, completion rates, errors and durations. Users rated their experiences and levels of satisfaction with different aspect of the system after each search topic. Data analyses included mean comparisons across the different groups. Findings A variety of influences emerged from the results, including significant variations among teachers' interactions, levels of satisfaction and expectations across different groups of users. Research limitations/implications Understanding the interactions and perceptions when retrieving digital video provides insights for information professionals on how to better support the needs of different users. If systems are not taking into account users and context, there can be a mismatch between the needs of users and interactive systems, which can lead to low perceptions and further underuse of digital resources. Originality/value Although similar influences on digital libraries have been analysed in other contexts, they have not

been directly assessed, as they specifically pertain to experiences with and perceptions of video.

Alharbi, A. "**User perceptions of ICT at the American University of Kuwait Library.**" *Library Hi Tech* vol. 34, n. 1 (2016). pp. 143-150.  
<http://www.emeraldinsight.com/doi/abs/10.1108/LHT-09-2015-0087>

Purpose – The purpose of this paper is to describe the student perceptions of Information and Communication Technology (ICT) in the American University of Kuwait Library (AUK). Design/methodology/approach – The study uses a quantitative research method in order to investigate the perceptions of a wide range of students who use the academic library. The sample consists of 95 student volunteers, who provided data that were then analyzed and compared with literature from other authors in this subject field. Findings – The study found that the quality of the ICT equipment provided by the AUK library is very good, however training in how to use the library's ICT is lacking. Practical implications – The findings suggest that the academic library looks into the possibility of changing the layout of the library to incorporate more computer terminals, as clearly many students feel there are currently not enough. The academic library must offer a greater amount of ICT training for students, preferably relating to the use of electronic resources and journals for new students. Originality/value – This study adds to the current literature on academic libraries in Kuwait, and is one of the first studies to look at students' perceptions of ICT in a private university institution.

Al-Kharousi, R., N. H. Jabur, et al. "**Factors affecting the implementation of Web 2.0 applications in Omani academic libraries.**" *The Electronic Library* vol. 34, n. 2 (2016). pp. 332-351.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-06-2014-0101>

Purpose – The purpose of this paper is to investigate the different factors that affect using Web 2.0 applications in Omani academic libraries (OALs). Design/methodology/approach – In all, 29 interviews with directors and library staff of five OALs were conducted for the purpose of collecting data for the

current research. Findings – The results indicated that there are nine internal factors and four external factors that affect using Web 2.0 applications in OALs. Internal factors include the low motivation of directors and library staff regarding using of Web 2.0 applications, lack of training and constant changes in the management structure. Meanwhile, the external factors are related to lack of policy and regulations and weakness and low speed of the internet. Practical implications – Most academic libraries in Oman have not yet adopted Web 2.0 applications to enhance their services. Therefore, this study intends to open insight into the state of Web 2.0 adoption in academic libraries and will help library managers to understand factors facing the use of Web 2.0 applications in their libraries, and this could signal a basis for policy shift in the internet infrastructure especially in the institutions of the higher education. Originality/value – This research is the first study in the field of Web 2.0 applications in OALs that investigates the factors affecting the use of Web 2.0 applications in academic libraries in general and in OALs specifically.

Al-Qallaf, C. L. and A. S. R. Al-Mutairi "**Digital literacy and digital content supports learning: The impact of blogs on teaching English as a foreign language.**" *The Electronic Library* vol. 34, n. 3 (2016). pp. 522-547.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-05-2015-0076>

Purpose This paper aims to investigate the impact of blogs on teaching English as a foreign language (EFL) to primary students. The study also explores educators' perceptions of social media tools and digital literacy in school environments. Design/methodology/approach A three-step approach was used to collect both qualitative and quantitative data. First, the blogs of 23 fifth-grade students in an EFL class in Kuwait was analysed for one semester along with student perceptions and teacher observations. Second, a survey was distributed to the students at the end of the semester, and finally, four focus groups were conducted regarding educators' perceptions on the use of social media, their skills and needs and problems encountered. Findings The findings showed that by the end of the semester, students were writing lengthy sentences, had fewer spelling and grammatical mistakes, were more motivated and independent and displayed a more positive attitude towards learning EFL. In addition, educators are enthusiastic about using Web technologies in their teaching practices but have several concerns such as digital literacy competencies, technology-use behaviour and lack of accessibility to digital content. Research limitations/implications The

number of questions on the student survey could be reduced. Also, it would be preferable in future studies to require all students to blog at least twice a week which could provide a broader representation of their writing abilities.

Originality/value Little research has been reported in the literature on the use of blogs in teaching EFL to primary school students. Most literature focuses on teaching EFL to university students. By using a mixed-methodology approach, this study also highlights the needs of educators and students in technology learning environments and makes a good contribution towards offering pragmatic solutions.

Arazy, O., I. Gellatly, et al. "**Motivation to share knowledge using wiki technology and the moderating effect of role perceptions.**" *Journal of the Association for Information Science and Technology* vol. 67, n. 10 (2016). pp. 2362-2378.  
<http://dx.doi.org/10.1002/asi.23579>

One of the key challenges for innovation and technology-mediated knowledge collaboration within organizational settings is motivating contributors to share their knowledge. Drawing upon self-determination theory, we investigate 2 forms of motivation: internally driven (autonomous motivation) and externally driven (controlled motivation). Knowledge sharing could be viewed as a required in-role activity or as discretionary extra-role behavior. In this study, we examine the moderating effect of role perceptions on the relations between each of the two motivational constructs and knowledge sharing, paying particular attention to the affordances of the enabling information technology. An analysis of survey data from a wiki-based organizational encyclopedia in a large, multinational firm reveals that when contributors' motivation is externally driven, they are more likely to share knowledge if this activity is viewed as in-role behavior. However, when contributors' motivation is internally driven, they are more likely to participate in knowledge sharing when this activity is viewed as extra-role behavior. Theoretical and practical implications are discussed.

Asogwa, B. E., C. I. Ugwu, et al. "**Internet services in academic libraries: Impact on the use of printed resources and implications for libraries in Nigeria.**" *The Electronic Library* vol. 34, n. 5 (2016). pp. 757-771.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-04-2015-0066>

**Purpose** The use of the internet and World Wide Web to source information is now an emerging practice in developing countries and seems to be obscuring the use of printed resources in libraries. This paper aims to investigate the impacts of internet services on the use of prints in academic libraries in Nigeria.

**Design/methodology/approach** The design of the study was ex post facto. The population of the study was the 131,670 students registered in the library from 2005 to 2014 academic sessions. The instruments for data collection were documentary records, oral interviews and observations. Statistics of past physical transactions at the Nnamdi Azikiwe Libraries University of Nigeria, Nsukka, were consulted and adapted for the study. Tables, graphs and a benchmark for assessment guided the analysis and discussion of the data. **Findings** Readers' registrations, average daily readership and consultation of theses/dissertations were among the physical services that are multiplying and exerting pressures on existing facilities in the library. Books and periodicals consulted were constantly declining since the advent of internet services. Academic libraries in Nigeria should be adequately funded to sustain information and communication technology (ICT) backbone for internet usage and better marketing and stabilization of library services to retain users in academic libraries. **Practical implications** Increased availability of full-text online could force academic libraries in developing countries to cancel much of their online subscriptions. Serious efforts must be embarked by academic libraries to bring back the users to the library. **Originality/value** This article is the first to investigate the impacts of internet usage on printed resources in academic libraries in Nigeria. The originality lies in its contribution to internet use on information resources in academic libraries in developing regions.

Beer, K. d. and T. Bothma "**Alternate reality games (ARG) as innovative digital information sources.**" *Library Hi Tech* vol. 34, n. 3 (2016). pp. 433-453.  
<http://www.emeraldinsight.com/doi/abs/10.1108/LHT-02-2016-0018>

**Purpose** The purpose of this paper is to present the gathering, integration and analysis of digital information sources for the creation of a conceptual framework for alternate reality games (ARGs). ARGs hold potential for libraries, education, healthcare and many other sectors. **Design/methodology/approach** Case studies were performed on three previously played ARGs to create case reports. The

various digital information sources for each game, sourced from multiple media, are compiled into a chronologically ordered game narrative which formed the case reports. The focus of the paper is on the analysis of the case reports using constant comparative analysis to identify categories and subcategories. Relationships are established, based on each game, between the categories and subcategories to inform the creation of game diagrams. The game diagrams are then combined to create a conceptual framework that describes the functioning and components of an ARG. Findings The conceptual framework effectively described the types of information found within an ARG as well as how these different categories of information interact and link to one another. The framework also provides an abstract description of the components of ARGs, namely narrative, game actions and community. Originality/value The conceptual framework produced by the analysis enables an understanding of ARGs and how they are played and designed. Insight into how to analyse ARGs based on the information generated for the play of the game by both the players and the game designers is gained. Where other studies have provided insight into the phenomena of ARGs, this study focuses on constructing a conceptual framework of ARGs using the information generated by the game.

Beer, M. D., M. V. d. Merwe, et al. "**Legal deposit of electronic books – a review of challenges faced by national libraries.**" *Library Hi Tech* vol. 34, n. 1 (2016). pp. 87-103. <http://www.emeraldinsight.com/doi/abs/10.1108/LHT-06-2015-0060>

Purpose – The purpose of this paper is to explore the challenges faced by national libraries regarding the legal deposit of electronic books, and to make recommendations for issues to consider – especially with regard to developing, planning and implementing. Design/methodology/approach – Literature published from 2000 to 2014 on legal deposit of electronic publications was examined. Key databases covering library and information science were searched, and case studies, general reviews, research papers/reports and view point articles were considered. Findings – National libraries embarking on projects on legal deposit of electronic books need to consider the collection, preservation and accessibility of the legal deposit collection. They face challenges regarding legal deposit legislation and institutional policy, legal considerations such as copyright, environmental factors, established mechanisms for deposit, information retrieval and access, preservation, human resources, financial implications and trust. Further research and continued monitoring of issues of concern and changes are

required due to technological developments and the obsolescence of technology. Practical implications – The review raises awareness of issues that need to be considered by national libraries and other repositories to manage the legal deposit of electronic books in their institutions. Originality/value – The review can serve as a guide for nations (particularly in developing countries) to embark on the legal deposit of electronic publications, specifically electronic books.

Berget, G. and F. E. Sandnes "**Do autocomplete functions reduce the impact of dyslexia on information-searching behavior? The case of Google.**" *Journal of the Association for Information Science and Technology* vol. 67, n. 10 (2016). pp. 2320-2328. <http://dx.doi.org/10.1002/asi.23572>

Dyslexic users often do not exhibit spelling and reading skills at a level required to perform effective search. To explore whether autocomplete functions reduce the impact of dyslexia on information searching, 20 participants with dyslexia and 20 controls solved 10 predefined tasks in the search engine Google. Eye-tracking and screen-capture documented the searches. There were no significant differences between the dyslexic students and the controls in time usage, number of queries, query lengths, or the use of the autocomplete function. However, participants with dyslexia made more misspellings and looked less at the screen and the autocomplete suggestions lists while entering the queries. The results indicate that although the autocomplete function supported the participants in the search process, a more extensive use of the autocomplete function would have reduced misspellings. Further, the high tolerance for spelling errors considerably reduced the effect of dyslexia, and may be as important as the autocomplete function.

Boh Podgornik, B., D. Dolničar, et al. "**Development, testing, and validation of an information literacy test (ILT) for higher education.**" *Journal of the Association for Information Science and Technology* vol. 67, n. 10 (2016). pp. 2420-2436. <http://dx.doi.org/10.1002/asi.23586>

A new information literacy test (ILT) for higher education was developed, tested,

and validated. The ILT contains 40 multiple-choice questions (available in Appendix) with four possible answers and follows the recommendations of information literacy (IL) standards for higher education. It assesses different levels of thinking skills and is intended to be freely available to educators, librarians, and higher education managers, as well as being applicable internationally for study programs in all scientific disciplines. Testing of the ILT was performed on a group of 536 university students. The overall test analysis confirmed the ILT reliability and discrimination power as appropriate (Cronbach's alpha 0.74; Ferguson's delta 0.97). The students' average overall achievement was 66%, and IL increased with the year of study. The students were less successful in advanced database search strategies, which require a combination of knowledge, comprehension, and logic, and in topics related to intellectual property and ethics. A group of 163 students who took a second ILT assessment after participating in an IL-specific study course achieved an average posttest score of 78.6%, implying an average IL increase of 13.1%, with most significant improvements in advanced search strategies (23.7%), and in intellectual property and ethics (12.8%).

Bohlin, L., A. Viamontes Esquivel, et al. "**Robustness of journal rankings by network flows with different amounts of memory.**" *Journal of the Association for Information Science and Technology* vol. 67, n. 10 (2016). pp. 2527-2535. <http://dx.doi.org/10.1002/asi.23582>

As the number of scientific journals has multiplied, journal rankings have become increasingly important for scientific decisions. From submissions and subscriptions to grants and hirings, researchers, policy makers, and funding agencies make important decisions influenced by journal rankings such as the ISI journal impact factor. Typically, the rankings are derived from the citation network between a selection of journals and unavoidably depend on this selection. However, little is known about how robust rankings are to the selection of included journals. We compare the robustness of three journal rankings based on network flows induced on citation networks. They model pathways of researchers navigating the scholarly literature, stepping between journals and remembering their previous steps to different degrees: zero-step memory as impact factor, one-step memory as Eigenfactor, and two-step memory, corresponding to zero-, first-, and second-order Markov models of citation flow between journals. We conclude that higher-order Markov models perform better

and are more robust to the selection of journals. Whereas our analysis indicates that higher-order models perform better, the performance gain for higher-order Markov models comes at the cost of requiring more citation data over a longer time period.

Carter, D. and D. Sholler "**Data science on the ground: Hype, criticism, and everyday work.**" *Journal of the Association for Information Science and Technology* vol. 67, n. 10 (2016). pp. 2309-2319. <http://dx.doi.org/10.1002/asi.23563>

Modern organizations often employ data scientists to improve business processes using diverse sets of data. Researchers and practitioners have both touted the benefits and warned of the drawbacks associated with data science and big data approaches, but few studies investigate how data science is carried out "on the ground." In this paper, we first review the hype and criticisms surrounding data science and big data approaches. We then present the findings of semistructured interviews with 18 data analysts from various industries and organizational roles. Using qualitative coding techniques, we evaluated these interviews in light of the hype and criticisms surrounding data science in the popular discourse. We found that although the data analysts we interviewed were sensitive to both the allure and the potential pitfalls of data science, their motivations and evaluations of their work were more nuanced. We conclude by reflecting on the relationship between data analysts' work and the discourses around data science and big data, suggesting how future research can better account for the everyday practices of this profession.

Chang, H.-W. and M.-H. Huang "**The effects of research resources on international collaboration in the astronomy community.**" *Journal of the Association for Information Science and Technology* vol. 67, n. 10 (2016). pp. 2489-2510. <http://dx.doi.org/10.1002/asi.23592>

This study examines whether an institution's research resources affect its centrality and relationships in international collaboration among 606 astronomical institutions worldwide. The findings support our theoretical hypotheses that an institution's research resources are positively related to its

central position in the network. Astronomical institutions with superior resources, such as being equipped with international observational facilities and having substantial research manpower, tend to have more foreign partners (high degree centrality) and play an influential role (high betweenness centrality) in the international collaboration network. An institution becomes more and more active in international collaborations as its research population expands. In terms of the relationship, which is captured by an actor institution's co-authorship preference for each partner in the network, the effect of research resources is not as significant as expected. We found that astronomical institutions are not necessarily preferentially co-authoring with partners that have better research resources. In addition, this study indicates that geographic closeness (or "geographic proximity") largely affects the occurrence of international collaboration. The investigated institutions apparently prefer partners from neighboring countries. This finding gives an indication of the phenomenon of "regional homophily" in the international collaboration network.

Chao, L., Z. Chengzhi, et al. "**Comparative analysis of book tags: a cross-lingual perspective.**" *The Electronic Library* vol. 34, n. 4 (2016). pp. 666-682.  
<http://dx.doi.org/10.1108/EL-03-2015-0042>

**Purpose** In the era of social media, users all over the world annotate books with social tags to express their preferences and interests. The purpose of this paper is to explore different tagging behaviours by analysing the book tags in different languages. **Design/methodology/approach** This investigation collected nearly 56,000 tags of 1,200 books from one Chinese and two English online bookmarking systems; it combined content analysis and machine-processing methods to evaluate the similarities and differences between different tagging systems from a cross-lingual perspective. Jaccard's coefficient was adopted to evaluate the similarity level. **Findings** The results show that the similarity between mono-lingual tags of the same books is higher than that of cross-lingual tags in different systems and the similarity between tags of books written for specialties is higher than that of books written for the general public. **Research limitations/implications** Those who have more in common annotate books with more similar tags. The similarity between users in tagging systems determines the similarity of the tag sets. **Practical implications** The results and conclusion of this study will benefit users' cross-lingual information retrieval and cross-lingual book recommendation for online bookmarking systems. **Originality/value** This study

may be one of the first to compare cross-lingual tags. Its methodology can be applied to tag comparison between any two languages. The insights of this study will help develop cross-lingual tagging systems and improve information retrieval.

Chao, Z. "**From query analysis to user information needs: a study of campus map searches.**" *Library Hi Tech* vol. 34, n. 1 (2016). pp. 104-129.  
<http://www.emeraldinsight.com/doi/abs/10.1108/LHT-12-2014-0110>

Purpose – Search engines and web applications have evolved to be more tailored toward individual user's needs, including the individual's personal preferences and geographic location. By integrating the free Google Maps Application Program Interface with locally stored metadata, the author created an interactive map search for users to locate, and navigate to, destinations on the University of New Mexico (UNM) campus. The purpose of this paper is to identify the characteristics of UNM map search queries, the options and prioritization of the metadata augmentation, and the usefulness and possible improvement of the interface. Design/methodology/approach – Queries, search date/time, and the number of results found were logged and examined. Queries' search frequency and characteristics were analyzed and categorized. Findings – From November 1, 2012 to September 15, 2013, the author had a total 14,097 visits to the SearchUNM Maps page (<http://search.unm.edu/maps/>). There were total 5,868 searches (41 percent of all the page visits), and out of all the search instances, 2,297 of them (39 percent) did not retrieve any results. By analyzing the failed queries, the author was able to develop a strategy to increase successful searches. Originality/value – Many academic institutions have implemented interactive map searches for users to find locations and navigate on campus. However, to date there is no related research on how users conduct their searches in such a scope. Based on the query analysis, this paper identifies user's search behavior and discusses the strategies of improving searches results of campus interactive maps.

Chen, J., T. T. Wang, et al. "**THC-DAT: a document analysis tool based on topic hierarchy and context information.**" *Library Hi Tech* vol. 34, n. 1 (2016). pp. 64-86. <http://www.emeraldinsight.com/doi/abs/10.1108/LHT-07-2015-0074>

Purpose – The purpose of this paper is to propose a novel within-document analysis tool (DAT) topic hierarchy and context-based document analysis tool (THC-DAT) which enables users to interactively analyze any multi-topic document based on fine-grained and hierarchical topics automatically extracted from it. THC-DAT used hierarchical latent Dirichlet allocation method and took the context information into account so that it can reveal the relationships between latent topics and related texts in a document. Design/methodology/approach – The methodology is a case study. The authors reviewed the related literature first, then utilized a general “build and test” research model. After explaining the model, interface and functions of THC-DAT, a case study was presented using a scholarly paper that was analyzed with the tool. Findings – THC-DAT can organize and serve document topics and texts hierarchically and context based, which overcomes the drawbacks of traditional DATs. The navigation, browse, search and comparison functions of THC-DAT enable users to read, search and analyze multi-topic document efficiently and effectively. Practical implications – It can improve the document organization and services in digital libraries or e-readers, by helping users to interactively read, search and analyze documents efficiently and effectively, exploringly learn about unfamiliar topics with little cognitive burden, or deepen their understanding of a document. Originality/value – This paper designs a tool THC-DAT to analyze document in a THC way. It contributes to overcoming the coarse-analysis drawbacks of existing within-DATs.

Chen, J.-F., J.-F. Chang, et al. **"Integrating ISSM into TAM to enhance digital library services: A case study of the Taiwan Digital Meta-Library."** *The Electronic Library* vol. 34, n. 1 (2016). pp. 58-73.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-01-2014-0016>

Purpose This study aims to propose a new model by incorporating information system success model (ISSM) into technology acceptance model (TAM) with an “attitude toward using” as the connection variable. The new model is then adopted to analyse and investigate empirical data and develop relevant factors, which affect the personal usage behaviour and net benefits for National Central Library in Taiwan to enhance digital library services. The research results can benefit future establishment and design of library information system or improvement of website service procedures. Design/methodology/approach This

study selected National Central Library Taiwan Digital Meta-Library as the research theme, and used stratified convenience sampling to perform interviews in various colleges and universities in the southern Taiwan. A total of 264 valid questionnaires were returned, and this study used structural equation modelling (SEM) to perform analyses. Findings The results reveal that attitude toward using is significantly and positively affected by perceived usefulness, perceived ease of use and user satisfaction. However, service quality of information system and personal net benefits do not have a significant and positive effect on attitude toward using, while they have an indirect and significant effect on attitude toward using through user satisfaction. Based on the results above, "user satisfaction" is the critical factor affecting the attitude toward using. Therefore, to strengthen users' positive attitude toward using, the factor of user satisfaction is a key for enhancing digital library service. Originality/value This study constructed the "New Technology Information Assessment Model" as the reference for improving practical assessment. Moreover, this study also proposed the suggestions concerning digital library information services.

Chen, M. and Y. Du "**The status of open access library and information science journals in SSCI.**" *The Electronic Library* vol. 34, n. 5 (2016). pp. 722-739. <http://www.emeraldinsight.com/doi/abs/10.1108/EL-05-2015-0070>

Purpose The main purpose of this paper is to measure the status and quality of library and information science (LIS) open-access (OA) journals in the Social Science Citation Index (SSCI). Design/methodology/approach The study selected 86 source journals of LIS in the SSCI as a sample and measured their status of open access. Analytic hierarchy process (AHP) was used to analyze 36 OA journals of 86 source journals, especially their production capability, academic influence and network communication ability. Findings The results indicate that OA journals have become an increasingly important part of LIS journals. Production capability, academic influence and network communication ability are important factors affecting the quality of OA journals. These three evaluation indicators of LIS OA journals are high, but many still have room for improvement. Research limitations/implications As the paper is limited by collecting data, the indicators of OA journals' quality are not all-around. So, they cannot reflect the quality of LIS OA journals. In the selection of the evaluation method, the evaluation results are limited because only one AHP method is used. Practical implications The research on evaluation of OA journals can help library and scientific research

personnel use OA journals effectively. Identifying key factors on evaluation can help researchers to construct OA journals better. Social implications The research on OA journals' quality can also promote the study on OA process in academic circles and promote the communication, development and utilization of academic information. Such research can also enrich the theory of OA, and provide some new perspectives for the study of journals' evaluation.

Originality/value This paper measures the quality of LIS OA journals by analyzing production capability, academic influence and network communication ability. Rather than the traditional research methods, the focus of this study is on the value of the Web as a source of impact indices. It contributes to the scholarly impact measurements of OA journals.

Chen, R. H. G. and C.-M. Chen **"Visualizing the world's scientific publications."** *Journal of the Association for Information Science and Technology* vol. 67, n. 10 (2016). pp. 2477-2488. <http://dx.doi.org/10.1002/asi.23591>

Automated methods for the analysis, modeling, and visualization of large-scale scientometric data provide measures that enable the depiction of the state of world scientific development. We aimed to integrate minimum span clustering (MSC) and minimum spanning tree methods to cluster and visualize the global pattern of scientific publications (PSP) by analyzing aggregated Science Citation Index (SCI) data from 1994 to 2011. We hypothesized that PSP clustering is mainly affected by countries' geographic location, ethnicity, and level of economic development, as indicated in previous studies. Our results showed that the 100 countries with the highest rates of publications were decomposed into 12 PSP groups and that countries within a group tended to be geographically proximal, ethnically similar, or comparable in terms of economic status. Hubs and bridging nodes in each knowledge production group were identified. The performance of each group was evaluated across 16 knowledge domains based on their specialization, volume of publications, and relative impact. Awareness of the strengths and weaknesses of each group in various knowledge domains may have useful applications for examining scientific policies, adjusting the allocation of resources, and promoting international collaboration for future developments.

Chen, Y.-T. **"Applying the DEMATEL approach to identify the focus of library service quality: A case study of a Taiwanese academic library."** *The Electronic Library*

vol. 34, n. 2 (2016). pp. 315-331.

<http://www.emeraldinsight.com/doi/abs/10.1108/EL-08-2014-0134>

**Purpose** – This paper aims to apply the decision-making trial and evaluation laboratory (DEMATEL) to validate the service factors of an academic library.

**Design/methodology/approach** – First, the service criteria were extracted from the SERVQUAL model and then their values were examined in the user's mind.

Second, the DEMATEL was applied to estimate the importance of the criteria and identify the causal factors. Next, an empirical study was conducted to

demonstrate and validate the proposed approach. Finally, this paper offers some practical suggestions for academic libraries based on the analysis. **Findings** –

According to the analysis' results, "Empathy" is the causal factor in the cause-effect diagram; i.e. the library should pay more attentions to "Empathy" rather than "Reliability", "Responsiveness" and "Assurance" factors.

**Originality/value** – DEMATEL is a useful tool to identify the prominence and relationship of service factors; the evaluation is easy to apply and has not been used before in the discussion of library service. This paper provides an alternative for libraries to sort out the priorities of service improvement. The correspondence improvement can be addressed based on the causal analysis to make notable enhancement in service quality.

Chiu, P.-S., I.-C. Chao, et al. "**Implementation and evaluation of mobile e-books in a cloud bookcase using the information system success model.**" *Library Hi Tech* vol. 34, n. 2 (2016). pp. 207-223.

<http://www.emeraldinsight.com/doi/abs/10.1108/LHT-12-2015-0113>

**Purpose** – To continue to develop and improve cloud e-bookcases, the purpose of this paper is to implement a cloud e-bookcase and modifies the information systems (ISs) success model to make it capable of assessing this system. It also provides suggestions for future systems development.

**Design/methodology/approach** – This study implements a cloud bookcase and uses the IS success model to evaluate user intention and satisfaction with the

system. It also develops a success model for the cloud bookcase. **Findings** – The results of study indicate that user satisfaction and intention with regard to using the system are positively related to net benefits. In other words, increasing user

satisfaction and intention with regard to using the system will have a positive effect on the benefits users receive from doing so. Practical implications – Users think the functions and services of the cloud bookcase can indeed help them search for and organize information about electronic books. However, they are not satisfied with the information quality. Therefore, further work is needed to identify any important factors that this study did not investigate. This study suggests that the quality of a system's functions and guide service have to be upgraded in order to increase user satisfaction with and intention to use the system. Originality/value – This study implements a cloud bookcase and uses the IS success model for verification. An overall explanatory power of 77.9 percent is achieved with this approach. User satisfaction with and intention to use the system are independent from each other, and the results caused by various factors can be separately identified. The findings of this study have considerable practical value.

Chowdhury, G. G. "**How to improve the sustainability of digital libraries and information Services?**" *Journal of the Association for Information Science and Technology* vol. 67, n. 10 (2016). pp. 2379-2391.  
<http://dx.doi.org/10.1002/asi.23599>

Arguing that environmental sustainability is a growing concern for digital information systems and services, this article proposes a simple method for estimation of the energy and environmental costs of digital libraries and information services. It is shown that several factors contribute to the overall energy and environmental costs of information and communication technology (ICT) in general and digital information systems and services in particular. It is also shown that end-user energy costs play a key role in the overall environmental costs of a digital library or information service. It is argued that appropriate user research, transaction log analysis, user modeling, and better design and delivery of services can significantly reduce the user interaction time, and thus the environmental costs, of digital information systems and services, making them more sustainable.

Clements, L. and C. L. Liew "**Talking about tags: An exploratory study of librarians' perception and use of social tagging in a public library.**" *The Electronic Library* vol. 34, n. 2 (2016). pp. 289-301.

<http://www.emeraldinsight.com/doi/abs/10.1108/EL-12-2014-0216>

**Purpose** – While examining subject headings and tags is a popular research topic, most studies focus on comparing user-assigned tags and professional subject heading. Studies that compare Library of Congress Subject Headings to user-assigned tags, for instance, dominate the literature. However, little research has involved an examination on how and to what extent these features are actually used by library staff. This study adds to the body of knowledge. This study aims to focus on how librarians perceive and use tags. By focusing on people's perceptions rather than simply comparing social tags and formal subject headings, new insights can be collected. **Design/methodology/approach** – This research collects data through semi-structured interviews conducted with 12 library staff from various roles and locations throughout Auckland Libraries. **Findings** – The research findings show that while social tags have been adopted and used in their work by the majority of library staff interviewed, there remains resistance to using them. Some library staff preferred the traditional hierarchical subject headings found in the traditional catalogue. A general lack of awareness about tag functions and features is also evident among the staff interviewed. **Originality/value** – The research focus is unique because it examines this phenomenon in a public library setting rather than in academic libraries, an area that is rarely examined in the literature.

Colvin, E. and D. H. Kraft "**Fuzzy retrieval for software reuse.**" *Journal of the Association for Information Science and Technology* vol. 67, n. 10 (2016). pp. 2454-2463. <http://dx.doi.org/10.1002/asi.23584>

Finding software for reuse is a problem that programmers face. To reuse code that has been proven to work can increase any programmer's productivity, benefit corporate productivity, and also increase the stability of software programs. This paper shows that fuzzy retrieval has an improved retrieval performance over typical Boolean retrieval. Various methods of fuzzy information retrieval implementation and their use for software reuse will be examined. A deeper explanation of the fundamentals of designing a fuzzy information retrieval system for software reuse is presented. Future research options and necessary data storage systems are explored.

Cuichang, M., C. Shujin, et al. "**Usability evaluation with tasks characterized by the information search process: The China National Knowledge Infrastructure.**" *The Electronic Library* vol. 34, n. 4 (2016). pp. 572-587.  
<http://dx.doi.org/10.1108/EL-05-2015-0074>

**Purpose** The purpose of this study is to present an approach to evaluating the usability of digital libraries in terms of knowledge states within the information search process (ISP) by investigating the connections among components with which users interact, perceived usability and task stages. The China National Knowledge Infrastructure (CNKI), the most popular digital library in China, was chosen to be studied. **Design/methodology/approach** With the research framework, measurements were generated for perceived usability in task stages for efficiency, effectiveness and satisfaction. Two usability experiments and usability tests were administered to 22 subjects in two groups. Three information retrieval tasks were designed according to the characteristics of knowledge states within the ISP for each experiment. The transaction logs were captured and the experimental results were recorded. The users completed a pre-search questionnaire and post-search questionnaire, and interviews were conducted. **Findings** The study showed that both interactions on components of the digital library and usability scores differed with sequential tasks characterized by knowledge states within the ISP; new usability problems relating to the CNKI were found based on the empirical results. **Originality/value** Many studies on the usability evaluation of digital libraries focused on the outcome rather than on the ISP. This study proposed an effective approach to usability evaluation based on users' knowledge states within the ISP.

Eichelberger, M. and B. Imler "**Academic technology confidence levels vs ability in first-year traditional and non-traditional undergraduates.**" *Library Hi Tech* vol. 34, n. 3 (2016). pp. 468-479.  
<http://www.emeraldinsight.com/doi/abs/10.1108/LHT-03-2016-0032>

**Purpose** The purpose of this paper is to examine the technology confidence, skills, and post-skills-test emotions in traditional (younger than 24 years old) and

non-traditional (24 and older) first-year college students at three undergraduate campuses in the Northeastern USA. Design/methodology/approach Totally, 39 college freshmen from three college campuses were recruited for the study. An online test environment and screen recording software were used to measure student proficiency in using PDFs, Microsoft Word, Microsoft PowerPoint, Microsoft Excel, Gmail, and Windows. Data were collected in September 2013. Findings The majority of the students struggled with at least one facet of academic software. Traditional students were more confident than non-traditional students in their technology skills, but they did not score any higher on the skills test. Students who placed at the high end and low end of the test results curve most accurately assessed their technology skills, and their post-test feelings were the most appropriate in light of their test results. A large percentage of the traditional aged students were overconfident about their skills and self-identified as "happy" or "wonderful" even after performing poorly on the test. Originality/value Having concrete data about student technology skills, rather than anecdotal data from Reference Desk interactions, can help librarians design improved instruction and tutorials that target areas of student technology weakness. In addition, there have been no studies that examine student immediate emotional response to test performance in this type of testing environment.

Fasae, J. K. and I. Adegbilero-Iwari "**Use of social media by science students in public universities in Southwest Nigeria.**" *The Electronic Library* vol. 34, n. 2 (2016). pp. 213-222. <http://www.emeraldinsight.com/doi/abs/10.1108/EL-11-2014-0205>

Purpose – The purpose of this paper is to investigate the use of social media for academic practices by science students of public universities in Southwest Nigeria. Design/methodology/approach – Descriptive design was used for the study. Research instrument used was questionnaire where 140 copies were administered to science students, using purposive sampling technique. Three institutions in southwest of Nigeria were selected for the study. Copies of the questionnaire were distributed to students in their lecture rooms and laboratories during practical classes with the permission and assistance of their lecturers. The data collected were analysed using frequency and simple percentage. Findings – The results reveal that among the various social media networks available, Facebook (93.48 per cent) is the most recognized and most famous, followed by Google+ (63.77 per cent) and Twitter (47.83 per cent). Two-third of the students

make use of social media daily to remain up-to-date with trending events/news and to occupy free time when they are bored, among other reasons. The findings show that Google+ (52.17 per cent) is the most beneficial social media network followed by Facebook (29.7 per cent) and Wikia (23.91 per cent). Most of the science students are knowledgeable in the usage and application of social media, while majority of them considered poor Internet connectivity, receiving of unwanted messages/pictures and electricity failure as the leading problems encountered while using social media. Originality/value – The study was necessary to identify the use and application of social media by science students in public universities in Southwest Nigeria.

Fattahi, R., M. Parirokh, et al. "**Effectiveness of Google keyword suggestion on users' relevance judgment: A mixed method approach to query expansion.**" *The Electronic Library* vol. 34, n. 2 (2016). pp. 302-314.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-03-2015-0035>

Purpose – One of the most effective ways information retrieval (IR) systems including Web search engines can improve relevance performance is to provide their users with tools for facilitating query expansion. Search engines such as Google provide users with keyword suggest tools. This paper aims to investigate users' criteria in relevance judgment regarding Google's keywords suggest tool and to see how such keywords would lead to more relevant results from the viewpoint of users. Design/methodology/approach – Through a mixed method approach, quantitative and qualitative data were collected from 60 postgraduate students at Ferdowsi University of Mashhad, Iran, using four different instruments (questionnaire, thinking aloud technique, query logs and interviews). Findings – Among other criteria, the "relation between suggested keywords and the information need" (with the mean rate of 3.53 of four) was considered the most important by searchers in selecting suggested keywords for query expansion. Also, the "relation between suggested Keywords and the retrieved items" (with the mean rate of 3.62) was considered the second most important criterion in judging the relevance of the retrieved results. The participants agreed that the suggested keywords by Google improved the retrieval relevance. The content analysis of the participants' aloud-thinking sessions and the interviews approved such findings. Originality/value – This research makes a contribution to the need of designers of IR systems regarding the use of add words for query expansion. It also helps librarians how to instruct searchers with expanding their queries to

retrieve more relevant results. Another contribution of the study is the identification of a number of new relevance judgment criteria for Web-based environments.

Finegan-Dollak, C. and D. R. Radev "**Sentence simplification, compression, and disaggregation for summarization of sophisticated documents.**" *Journal of the Association for Information Science and Technology* vol. 67, n. 10 (2016). pp. 2437-2453. <http://dx.doi.org/10.1002/asi.23576>

Sophisticated documents like legal cases and biomedical articles can contain unusually long sentences. Extractive summarizers can select such sentences—potentially adding hundreds of unnecessary words to the summary—or exclude them and lose important content. Sentence simplification or compression seems on the surface to be a promising solution. However, compression removes words before the selection algorithm can use them, and simplification generates sentences that may be ambiguous in an extractive summary. We therefore compare the performance of an extractive summarizer selecting from the sentences of the original document with that of the summarizer selecting from sentences shortened in three ways: simplification, compression, and disaggregation, which splits one sentence into several according to rules designed to keep all meaning. We find that on legal cases and biomedical articles, these shortening methods generate ungrammatical output. Human evaluators performed an extrinsic evaluation consisting of comprehension questions about the summaries. Evaluators given compressed, simplified, or disaggregated versions of the summaries answered fewer questions correctly than did those given summaries with unaltered sentences. Error analysis suggests 2 causes: Altered sentences sometimes interact with the sentence selection algorithm, and alterations to sentences sometimes obscure information in the summary. We discuss future work to alleviate these problems.

Foster, J. "**Towards an understanding of data work in context: Emerging issues of economy, governance, and ethics.**" *Library Hi Tech* vol. 34, n. 2 (2016). pp. 182-196. <http://www.emeraldinsight.com/doi/abs/10.1108/LHT-12-2015-0121>

Purpose – It is a commonplace that innovation in the digital economy is now driven by data. Business organizations, media companies, and government, for example all create economic and societal value from the digital traces left by the user population. At the same time the data captured also contains information that personally identifies consumers, citizens and patients as individuals. The purpose of this paper is to place this new form of data work in the context of previous approaches to information work; to identify the differences between information and data work and the resulting challenges for data professionals.

Design/methodology/approach – Informed by a review of previous approaches to information work, the paper argues that the shift in value from information to data as an economic asset and a societal good entails a new form of human-oriented data work. One that is more sensitive to the contextual conditions and consequences of the capture, processing and use of data than has been the case hitherto. The implications of this for a shift in emphasis from the data scientist to the data professional is addressed, as are emerging issues of governance and ethics.

Findings – The main consequence for data professionals is to ensure that processes are in place not only to enable the creation of valued products and services from data, but also to mitigate the risks related to their development. The paper argues that ensuring this involves taking a contextual view that locates data processing within the user, governance, legal, and ethical conditions related to data work. The consequences for the governance of data, and the education of data professionals are addressed.

Originality/value – The value of the paper rests in its development of an analytical and methodologically driven framework, that places new forms of data work in the context of their conditions and consequences. The framework builds on prior approaches to information work, current approaches to data work, and addresses the governance, and educational challenges arising from organizations' emphasis on data-driven innovation in a digital economy.

Fourie, I. and A. Meyer "**Role of libraries in developing an informed and educated nation.**" *Library Hi Tech* vol. 34, n. 3 (2016). pp. 422-432.  
<http://www.emeraldinsight.com/doi/abs/10.1108/LHT-01-2016-0009>

Purpose Libraries of all types have often been called on to take on challenges ranging from information literacy and developing a reading culture to promoting social justice. In recent literature they have been challenged to contribute to the development of informed and educated nations – a big issue in developing

countries. Sometimes even to empower people. The purpose of this paper is to raise awareness for this call as important for developing as well as developed nations and the numerous issues, role players and lenses they need to bear in mind. As an opinion piece it can merely scratch the surface of raising awareness.

**Design/methodology/approach** This contribution builds on the literature of library and information science, education and politics to present an exploratory viewpoint and a nascent model to support further work. It intentionally touches on a diversity of issues that may seem at odds with each other, but that in the opinion reflect the enormous scope to address and diversity of individual, institutional and global input and lenses that can make a difference.

**Findings** Many obvious approaches to achieve the object of an informed and educated nation with empowered individuals can be noted such as focusing on information literacy, digital literacy and information fluency. However more awareness is required of the need to take a holistic view of issues to focus on such as tolerance and ethics, and the information behaviour and information practices of people in various contexts, and how changes in the awareness of needs to address and the need to seek information and support from diverse sources, can contribute. A first step would be to note the diversity that might contribute towards a holistic view of a global problem to which libraries can contribute.

**Originality/value** There are limited publications on the topic in the library and information science literature although "developing an informed and educated nation" features in the mission and vision plans of some countries, and empowerment is sometimes specifically noted in publications on user education and information literacy. This paper offers an exploratory viewpoint to raise awareness to consider various approaches and threads to the topic and to not think only in terms of education and information literacy, but to recognise the full role libraries and librarians can play – also in reaching out to other role players such as users, governments and grant providers.

Gazni, A. and Z. Ghaseminik "**Author practices in citing other authors, institutions, and journals.**" *Journal of the Association for Information Science and Technology* vol. 67, n. 10 (2016). pp. 2536-2549. <http://dx.doi.org/10.1002/asi.23580>

This study explores the extent to which authors with different impact and productivity levels cite journals, institutions, and other authors through an analysis of the scientific papers of 37,717 authors during 1990–2013. The results demonstrate that the core-scatter distribution of cited authors, institutions, and

journals varies for authors in each impact and productivity class. All authors in the science network receive the majority of their credit from high-impact authors; however, this effect decreases as authors' impact levels decrease. Similarly, the proportion of citations that lower-impact authors make to each other increases as authors' impact levels decrease. High-impact authors, who have the highest degree of membership in the science network, publish fewer papers in comparison to highly productive authors. However, authors with the highest impact make both more references per paper and also more citations to papers in the science network. This suggests that high-impact authors produce the most relevant work in the science network. Comparing practices by productivity level, authors receive the majority of their credit from highly productive authors and authors cite highly productive authors more frequently than less productive authors.

Ghane, M. r. and M. R. Niazmand "**Current status of open access journals published in D8 countries and registered in the Directory of Open Access Journals (pre-2000 to 2014).**" *The Electronic Library* vol. 34, n. 5 (2016). pp. 740-756. <http://www.emeraldinsight.com/doi/abs/10.1108/EL-06-2015-0107>

**Purpose** The study aims to monitor the status of open access (OA) journals published in Developing 8 (D-8) countries, i.e. Bangladesh, Egypt, Indonesia, Iran, Malaysia, Nigeria, Pakistan and Turkey. **Design/methodology/approach** The authors' web-based data sources for journal-based metrics were the Directory of Open Access Journals (DOAJ), Thomson Reuters (Journal Citation Reports [JCR], which provided journal impact factors [JIF]) and Scopus (source normalized impact per paper [SNIP] and SCImago journal rank [SJR]). The authors obtained information about journals published before 2000 to 2014. From the JCR, JIF, Rank in Category, Total Journals in Category, Journal Rank in Category, and Quartile in Category were used. **Findings** The authors' identified 1,407 OAJ published in D-8 countries. Egypt published the most journals (490) and Bangladesh the fewest (29). Egypt, Iran and Turkey accounted for approximately 73.5 per cent of all journals. At the time of study, 10,162 journals were registered in DOAJ, and 13.8 per cent of them were published in D-8 countries. The mean JIF for all journals from individual countries was highest for Pakistan (0.84), followed by Iran (0.74) and Turkey (0.57). The mean SNIP for all journals from each country was highest for Nigeria (0.57), followed by Egypt (0.57) and Pakistan (0.51). **Practical implications** The widespread use of OA publishing models in D-8

countries will boost accessibility of their journals' content and ultimately impact research in D-8 states. Originality/value Journals published in Egypt, Iran and Turkey account for approximately three-fourths of all OA journals published in D-8 countries. More than one-third (38 per cent) of the journals the authors studied used a Creative Commons (CC) BY license, a hallmark of OA research findings. Most of the journals with a JIF were in the JCR Medical Sciences category (60 per cent). As the number of journals in D-8 countries increases, publishers should attempt to make their journals eligible for indexing in-citation databases. The authors recommend efforts to improve the quality of journals in other subject categories, so that as many as possible become eligible for indexing in JCR.

Greene, J. W. "**Web robot detection in scholarly Open Access institutional repositories.**" *Library Hi Tech* vol. 34, n. 3 (2016). pp. 500-520.  
<http://www.emeraldinsight.com/doi/abs/10.1108/LHT-04-2016-0048>

**Purpose** The purpose of this paper is to investigate the impact and techniques for mitigating the effects of web robots on usage statistics collected by Open Access (OA) institutional repositories (IRs). **Design/methodology/approach** A close review of the literature provides a comprehensive list of web robot detection techniques. Reviews of system documentation and open source code are carried out along with personal interviews to provide a comparison of the robot detection techniques used in the major IR platforms. An empirical test based on a simple random sample of downloads with 96.20 per cent certainty is undertaken to measure the accuracy of an IR's web robot detection at a large Irish University. **Findings** While web robot detection is not ignored in IRs, there are areas where the two main systems could be improved. The technique tested here is found to have successfully detected 94.18 per cent of web robots visiting the site over a two-year period (recall), with a precision of 98.92 per cent. Due to the high level of robot activity in repositories, correctly labelling more robots has an exponential effect on the accuracy of usage statistics. **Research limitations/implications** This study is performed on one repository using a single system. Future studies across multiple sites and platforms are needed to determine the accuracy of web robot detection in OA repositories generally. **Originality/value** This is the only study to date to have investigated web robot detection in IRs. It puts forward the first empirical benchmarking of accuracy in IR usage statistics.

Groenendyk, M. "**Cataloging the 3D web: the availability of educational 3D models on the internet.**" *Library Hi Tech* vol. 34, n. 2 (2016). pp. 239-258.  
<http://www.emeraldinsight.com/doi/abs/10.1108/LHT-09-2015-0088>

Purpose – The number of 3D models available on the internet to both students and educators is rapidly expanding. Not only are the 3D model collections of popular websites like Thingiverse.com growing, organizations such as the Smithsonian Institution and NASA have also recently begun to build collections of 3D models and make these openly accessible online. Yet, even with increased interest in 3D printing and 3D scanning technologies, little is known about the overall structure of the 3D models available on the internet. The paper aims to discuss this issue. Design/methodology/approach – To initiate this project, a list was built of 33 of the most widely used 3D model websites on the internet. Freely downloadable models, as well as models available for purchase or as 3D printed objects were included in the list. Once the list of 33 websites was created, the data for each individual 3D model in the collections was manually assembled and recorded. The titles of the 3D models, keywords, subject headings, license information, and number of views and downloads were recorded, as this information was available. The data were gathered between January and May 2015, and compiled into a CSV database. To determine how online 3D model content relates to a variety of educational disciplines, relevant subject terms for a variety of educational disciplines were extracted from the EBSCO database system. With this list of subject terms in hand, the keywords in the CSV database of model information were searched for each of the subject terms, with an automated process using a Perl script. Findings – There have been many teachers, professors, librarians and students who have purchased 3D printers with little or no 3D modelling skills. Without these skills the owners of these 3D printers are entirely reliant on the content created and freely shared by others to make use of their 3D printers. As the data collected for this research paper shows, the vast majority of open 3D model content available online pertains to the professions already well versed in 3D modelling and Computer Aided Design design, such as engineering and architecture. Originality/value – Despite that fact that librarians, teachers and other educators are increasingly using technologies that rely on open 3D model content as educational tools, no research has yet been done to assess the number of 3D models available online and what educational disciplines this content relates to. This paper attempts to fill this gap, providing

an overview of the size of this content, the educational disciplines this content relates to and who has so far been responsible for developing this content. This information will be valuable to librarians and teachers currently working with technology such as 3D printers and virtual reality, as well as those considering investing in this technology.

Gul, S., T. A. Shah, et al. "**Effects of gender in library and information science research: A case study of The Electronic Library.**" *The Electronic Library* vol. 34, n. 3 (2016). pp. 488-503.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-08-2014-0126>

**Purpose** This study aims to showcase the effect of gender in the field of library and information science. **Design/methodology/approach** Research and review articles published from 2005 through 2014 in *The Electronic Library*, a prominent journal in the field of Library and Information Science, were examined from the perspective of authors' gender. Influence of gender was assessed with respect to at individual and collaborative levels, quality in terms of citedness and citation count, and receipt of research grants. **Findings** There has been an increase in the proportion of male authors over the years with a resulting decline in female authors. Male authors are more productive as teachers, while females contribute more as working professionals or while they peruse their academic/research programmes. Though the productivity in collaborative works has increased in all gender combinations, it is more prominent when authors of opposite gender team up. No significant difference is observed in the number of national or international works produced in different collaborative authorship patterns. There is no difference in the number of male and female authors in male–female collaborative works. Works sponsored by grants are produced more frequently in groups comprising male–female or male–male members. No significant difference is observed in the number of cited or uncited works produced in different authorship patterns. The number of citations to works is independent of the nature of gender-wise authorship patterns. **Research limitations/implications** The study examines the status of women in research, specifically in the field of library and information science. The findings of the study are based on the contribution of the authors involved with the journal, "The Electronic Library". Readers are encouraged to expand the study by including authors that contribute to other library and information science journals. **Originality/value** The study is first of its kind to highlight the involvement and observe the influence of female

authors in the field of library and information science research.

Han, Z., S. Huang, et al. "**Risk assessment of digital library information security: a case study.**" *The Electronic Library* vol. 34, n. 3 (2016). pp. 471-487.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-09-2014-0158>

**Purpose** This paper uses the GB/T20984-2007 multiplicative method to assess the information security risk of a typical digital library in compliance with the principle and thought of ISO 27000. The purpose of this paper is to testify the feasibility of this method and provide suggestions for improving information security of the digital library. **Design/methodology/approach** This paper adopts convenience sampling to select respondents. The assessment of assets is through analyzing digital library-related business and function through a questionnaire which collects data to determine asset types and the importance of asset attributes. The five-point Likert scale questionnaire method is used to identify the threat possibility and its influence on the assets. The 12 respondents include directors and senior network technicians from the editorial department, comic library, children's library, counseling department and the learning promotion centre. Three different Guttman scale questionnaires, tool testing and on-site inspection are combined to identify and assess vulnerabilities. There were different Guttman scale questionnaires for management personnel, technical personnel and general librarian. In all, 15 management librarians, 7 technical librarians and 72 ordinary librarians answered the vulnerability questionnaire. On-site inspection was conducted on the basis of 11 control domains of ISO 27002. Vulnerabilities were scanned using remote security evaluation system NSFOCUS. The scanning covered ten IP sections and a total of 81 hosts. **Findings** Overall, 2,792 risk scores were obtained. Among them, 282 items (accounting for 10.1 per cent of the total) reached the high risk level; 2 (0.1 per cent) reached the very high risk level. High-risk items involved 26 threat types (accounting for 44.1 per cent of all threat types) and 13 vulnerability types (accounting for 22.1 per cent of all vulnerability types). The evaluation revealed that this digital library faces seven major hidden dangers in information security. The assessment results were well accepted by staff members of this digital library, which testified to the applicability of this method to a Chinese digital library. **Research limitations/implications** This paper is only a case study of a typical Chinese digital library using a digital library information security assessment method. More case-based explorations are necessary to prove the feasibility of the assessing

strategy proposed in this study. Originality/value Based on the findings of recent literature, the authors found that very few researchers have made efforts to develop methods for calculating the indicators for digital library information security risk assessment. On the basis of ISO 27000 and other related information security standards, this case study proposed an operable method of digital library information security risk assessment and used it to assess a the information security of a typical Chinese digital library. This study can offer insights for formulating a digital library information security risk assessment scale.

Hatop, G. "**Extraction, analysis and publication of bibliographical references within an institutional repository.**" *Library Hi Tech* vol. 34, n. 2 (2016). pp. 259-267. <http://www.emeraldinsight.com/doi/abs/10.1108/LHT-01-2016-0003>

Purpose – The academic tradition of adding a reference section with references to cited and otherwise related academic material to an article provides a natural starting point for finding links to other publications. These links can then be published as linked data. Natural language processing technologies are available today that can perform the task of bibliographical reference extraction from text. Publishing references by the means of semantic web technologies is a prerequisite for a broader study and analysis of citations and thus can help to improve academic communication in a general sense. The paper aims to discuss these issues. Design/methodology/approach – This paper examines the overall workflow required to extract, analyze and semantically publish bibliographical references within an Institutional Repository with the help of open source software components. Findings – A publication infrastructure where references are available for software agents would enable additional benefits like citation analysis, e.g. the collection of citations of a known paper and the investigation of citation sentiment. The publication of reference information as demonstrated in this article is possible with existing semantic web technologies based on established ontologies and open source software components. Research limitations/implications – Only a limited number of metadata extraction programs have been considered for performance evaluation and reference extraction was tested for journal articles only, whereas Institutional Repositories usually do contain a large number of other material like monographs. Also, citation analysis is in an experimental state and citation sentiment is currently not published at all. For future work, the problem of distributing reference information between repositories is an important problem that needs to be tackled. Originality/value –

Publishing reference information as linked data are new within the academic publishing domain.

Huang, R., B. Li, et al. "**Information literacy instruction in Chinese universities: MOOCs versus the traditional approach.**" *Library Hi Tech* vol. 34, n. 2 (2016). pp. 286-300. <http://www.emeraldinsight.com/doi/abs/10.1108/LHT-02-2016-0013>

Purpose – The purpose of this paper is to discuss a teaching project and a series of systematic efforts to promote an information literacy instruction (ILI) module and transform it into a successful and well-established massive open online courses (MOOCs). Specifically, this paper provides not only a detailed description and discussion on these transformation processes, but also a comparative analysis of two very different teaching approaches.

Design/methodology/approach – This paper focuses on the ILI module in Wuhan University with a top-ranked Library and Information School in China. As a result, this module has been treated as a case study to investigate the transformation processes from a traditional module to MOOCs. Specifically, two research processes are scrutinized in this study, namely, analytic hierarchy process analysis and data analysis on the ILI MOOCs. Findings – It has become evident that ILI is widely considered to be extremely important, not only for university students, but also for a large number of post-college professionals in various industries. Moreover, by using innovation and interactive online techniques, MOOCs have significantly improved the quality of ILI. Practical implications – If a module is delivered to a large number of students, MOOCs are effective and convenient. To ensure a successful ILI course, this study describes a detailed procedure for transforming a traditional course to a ubiquitous, high-quality and interactive one. Originality/value – This paper represents early attempts to develop MOOCs on ILI in China. In addition, experience and insight from this study are of interest to university educators and policy makers with implications beyond the Chinese educational system.

Huang, T.-C., Y. Shu, et al. "**Get lost in the library?: An innovative application of augmented reality and indoor positioning technologies.**" *The Electronic Library* vol. 34, n. 1 (2016). pp. 99-115. <http://www.emeraldinsight.com/doi/abs/10.1108/EL-08-2014-0148>

**Purpose** This paper aims to identify ways to establish an information system to aid users to enhance the effectiveness of self-regulated learning and solve the problem of learning domain unawareness. Many libraries are spacious and with a rich collection of books, the problem a newcomer may encounter in the wide library is spatial unawareness. In addition, people new to a particular field of study often encounter the problem of learning domain unawareness.

**Design/methodology/approach** This paper presents an overview of self-regulated learning theory first. We realize the essential principles of self-regulated learning model in the library and developed a learning system that utilizes the concept of combining mobile augmented reality (AR), indoor navigation and data mining algorithms.

**Findings** The proposed NO Donkey E-learning (NODE) system utilizes AR and innovative indoor positioning technology to fulfil the goal of navigation inside a library and solve the problems of spatial and learning domain unawareness. On the one hand, the system allows peers to communicate asynchronously to create a cloud-based information sharing community; the dual-track terminal (the website and the app interfaces) in the system could provide both educational functionalities and mobility for readers. On the other hand, AR navigation function integrates the information of reading paths, the real-space locations, real-time dynamic information, book introductions and readers' comments to help readers have access to the topic-related books efficiently.

**Practical implications** We found that although the library provides the floor plan and signs, such passive and fixed indication may cause spatial unawareness. People need system to show the bookshelf location and dynamic direction indicators when they walk in the wide library. However, most existing library information systems only provide readers with the function of book search, including which floor the book is on, call number and check-out status. In this sense, we propose that self-regulated learning theory integrated the new innovation technology is the solution for the above issues.

**Originality/value** The system developed in this study, while viewing the real scenes inside the library through camera lens, provides related virtual educational information services and learning paths on screen and guides the public to do systematic self-regulated learning. With the functions of the "learning topic" and "knowledge sharing", the learning system promotes the general public to self-monitor their learning progress and to use the sharing mechanism as the system structure to solve the two main problems of spatial unawareness and domain unawareness in learning in libraries, creating a truly innovative people-centred library information system.

Karlovec, M., D. Mladenic, et al. "**Conceptualization of science using collaboration and competences.**" *The Electronic Library* vol. 34, n. 1 (2016). pp. 2-23.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-01-2014-0015>

**Purpose** The purpose of this paper is to propose an approach for conceptualizing science based on collaboration and competences of researchers.

**Design/methodology/approach** The research is conducted by exploratory analysis of collaboration and competences using case studies from humanistic,

engineering, natural sciences and a general topic. **Findings** The findings show that by applying the proposed approach on bibliographic data that readily exist for many national sciences as well as for international scientific communities, one can obtain useful new insights into the research. The approach is demonstrated with the following exploratory findings: identification of important connections and individual researchers that connect the community of anthropologists;

collaboration of technical scientists in the community of anthropologists caused by an interdisciplinary research project; connectivity, interdisciplinary and structure of artificial intelligence, nanotechnology and a community based on a general topic; and identifying research interest shift described with concretization and topic-shift.

**Practical implications** As demonstrated with the practical implementation (<http://scienceatlas.ijs.si/>), users can obtain information of the most relevant competences of a researcher and his most important collaborators.

It is possible to obtain researchers, community structure and competences of an arbitrary research topic.

**Social implications** The map for collaboration and competences of a complete science can be a crucial tool for policy-making. Social scientists can use the results of the proposed approach to better understand and direct the development of science.

**Originality/value** Originality and value of the paper is in combining text (competences) and network (research collaboration and co-authoring) approaches for exploring science. Additional values give the results of analysis that demonstrate the approach.

Katuu, S. "**Managing digital records in a global environment: A review of the landscape of international standards and good practice guidelines.**" *The Electronic Library* vol. 34, n. 5 (2016). pp. 869-894.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-04-2015-0064>

**Purpose** This paper aims to widen as well as deepen the discussion on standards and good practice guidelines beyond just local or regional efforts and include international developments. **Design/methodology/approach** An extensive review of literature was used to develop an outline of existing standards and good practice guidelines that are used by records management professionals to manage digital records. **Findings** The analysis reveals that there has been a long tradition in standards and good practice guidelines development dating back to the 1980s. The study also reveals that there are two broad categories of standards and good practice guidelines, those with assessment mechanisms and those without such mechanisms. The choice of whether to have an assessment mechanism depends on the purpose for which a standard or good practice guideline is developed. **Originality/value** The paper explores an extensive array of standards and good practice guidelines, their utility and their geographical coverage. It demonstrates how different terms such as Electronic Records Management Systems, Electronic Document Management Systems, Electronic Document and Records Management Systems and Enterprise Content Management have been used without much clarity on how these terms relate to each other, and proposes a clarification framework.

Krsticev, D. B., D. Tešendic, et al. **"Inventory of a library collection using Android application."** *The Electronic Library* vol. 34, n. 5 (2016). pp. 856-868.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-08-2015-0150>

**Purpose** This paper aims to discuss the possibilities of using a mobile application in the process of conducting an inventory of library collection and present an application for the same. The application scans barcode labels on books and retrieves data about those books. Data regarding the status and call number of each book can be changed using this application. **Design/methodology/approach** This paper is based on a case study of developing an application for the Android platform, and this application is part of the BISIS library management system. **Findings** By analysing the procedure of conducting an inventory in the library of the Faculty of Science, University of Novi Sad, it is concluded that this procedure is tedious and can be simplified. To make this procedure more efficient, a mobile application enabling search and update of bibliographic records has been developed. That application communicates with the BISIS library management system using a specially designed service. **Practical implications** By introducing

this application at the libraries, the process of inventory of a library collection can be simplified, the time needed for the inventory will be shorter and the inventory will require less physical effort. Originality/value The application is designed to help librarians during the process of inventory of library collections. During this process, librarians have to check status of every item on the shelves and to update catalogue with new information. This application enables mobility of librarians and updates information about items during checking the shelves.

Kumar, S. "**Effect of gender on collaborative associations of researchers in Malaysia.**" *The Electronic Library* vol. 34, n. 1 (2016). pp. 74-82.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-09-2014-0162>

Purpose This study aims to find the level of gender-based assortativity in the association of researchers and investigate if gender has influence over social capital of researchers and their research performance in the context of a multi-ethnic nation, such as Malaysia. Design/methodology/approach Social network analysis is used as a primary research method to analyse the associations between the authors. Mann-Whitney test is used for testing the significant differences in research performance and social capital based on gender. Findings The assortative mixing patterns of 187 researchers revealed positive assortativity, meaning that more authors preferred to co-author with authors of their gender. No influence of gender was seen on the social capital of authors. However, gender did significantly influence the research productivity of authors. Originality/value This is one of the first studies that attempts to find the influence of gender on collaborative associations of researchers in Malaysia.

Lange, J., A. Miller-Nesbitt, et al. "**Reducing noise in the academic library: the effectiveness of installing noise meters.**" *Library Hi Tech* vol. 34, n. 1 (2016). pp. 45-63. <http://www.emeraldinsight.com/doi/abs/10.1108/LHT-04-2015-0034>

Purpose – The purpose of this paper is to explore the effect of an electronic noise-monitoring device (NoiseSign) at reducing noise levels in quiet study areas in an academic library. Design/methodology/approach – Surveys and decibel-level measurements were used to measure the perceived and objective

noise levels, respectively, in both an intervention and a control area of two major branch libraries. Patrons' perception of noise was measured with a passive paper and online survey, which asked patrons to rate the current noise level and their desired noise level. The actual noise measurements were collected twice a day with a hand-held decibel reader for 60 seconds and then corroborated after the intervention with automatically logged decibel readings from the noise monitor device in the two intervention areas. The authors conducted one-way ANOVA's to determine if the results were significant. Findings – The NoiseSign had no statistically significant effect on either actual noise levels or user perceptions of noise in the library. The surveys comments and anecdotal observation of the spaces while doing measurements did reveal that noise in the quiet study areas was not the primary source of complaints. Originality/value – In spite of many proposed solutions to reducing noise in libraries, there has been very little research in this area. This is the first study to examine the effectiveness of using a noise-monitoring device in reducing noise levels at an academic library.

Lee, S., W. Jang, et al. "**Search engine optimization: A case study using the bibliographies of LG Science Land in Korea.**" *Library Hi Tech* vol. 34, n. 2 (2016). pp. 197-206.  
<http://www.emeraldinsight.com/doi/abs/10.1108/LHT-02-2016-0014>

Purpose – The purpose of this paper is to examine the effect of, and identify core techniques of, search engine optimization (SEO) techniques applied to the web (<http://lg-sl.net>) and mobile (<http://m.lg-sl.net>) Science Land content and services at LG Sangnam Library in Korea. Design/methodology/approach – In accordance with three major SEO guidelines, ten SEO techniques were identified and applied, and their implications were extracted on three areas: improved search engine accessibility, increased relevance between site content and search engine keywords, and improved site credibility. The effects were quantitatively analyzed in terms of registered search engine keywords and influx of visits via search engines. Findings – This study shows that SEO techniques help increase the exposure of the library services and the number of visitors through search engines. Practical implications – SEO techniques have been applied to a few non-Korean information service organizations, but it is not a well-accepted practice in Korean libraries. And the dominant search engines in Korea have published their own SEO guidelines. Prior to this study, no significant endeavors have been undertaken in the context of Korean library services that have adopted

SEO techniques to boost exposure of library services and increase user traffics. Originality/value – This is the first published study that has applied optimized SEO techniques to Korean web and mobile library services, in order to demonstrate the usefulness of the techniques for maximized exposure of library content.

Li, C., W.-D. Zhang, et al. "**Early warning of risks of copyright infringement in digital library based on extension theory.**" *The Electronic Library* vol. 34, n. 2 (2016). pp. 250-264. <http://www.emeraldinsight.com/doi/abs/10.1108/EL-04-2014-0064>

Purpose – The purpose of this study is to evaluate the potential risks of copyright infringement in digital library based on the extension theory.

Design/methodology/approach – At first, the analytic hierarchy process (AHP) is used to determine the weights of the existing indicator system for early warning.

Second, a model is built to evaluate the potential risks of copyright infringement based on the extension theory in digital library. Finally, a real-world application is presented to show the effectiveness and usefulness of this approach. Findings –

The main findings of this paper are as follows: the early warning extension theory model is effective in distinguishing the degree of the potential risks of copyright infringement in digital library; the ranges of the value and the values of the indicators can directly affect the results while using this approach, so the accuracy of these two aspects is a crucial question. Social implications – The social impact is that copyright infringement risks of digital library is reduced; the lawsuit rate and economic loss due to copyright infringement are thereby decreased as well. Originality/value – This paper introduces the evaluation of the potential risks of copyright infringement based on the extension theory in digital library. The results provide support for the decision-makers in handling the potential risks of copyright infringement in digital library.

Lih-Juan, C. and H. Wei-Hsiang "**Usability and evaluation of a library mobile web site.**" *The Electronic Library* vol. 34, n. 4 (2016). pp. 636-650. <http://dx.doi.org/10.1108/EL-07-2015-0119>

Purpose The purpose of this study is to develop and evaluate the use of a library

mobile website at a university library. This paper aims to present the approach adopted to investigate users' reactions to the new mobile platform. A usability test was also conducted to examine its effectiveness.

**Design/methodology/approach** Mobile websites for academic libraries were first reviewed prior to identifying the functions and elements to be included. To assess the intended design purpose, the usability of the design was examined through a comparison of the mobile website and the full PC website used by 50 students to accomplish a set of search tasks. A questionnaire survey was used to assess 336 students' responses regarding various criteria including learnability, control, presentation and efficiency. **Findings** The usability test that was conducted before the mobile Web was formally released indicated that the students using it finished more search tasks ( $p < 0.001$ ), and were more efficient in completing search tasks than they were using the PC website ( $p < 0.001$ ). Data from 336 questionnaire responses also indicated the students' positive reactions to the developed mobile system in four defined facets (mean  $\geq 4.0$ ). **Research limitations/implications** The difficulty of recruiting volunteers and the small number of subjects who participated was also a major limitation experienced in this study. Replications or use of different measurements might be needed in future research to confirm the result. **Practical implications** In this study, a library mobile website was developed, tested and evaluated by users. Currently, the library mobile website is being implemented in the university. On-going revisions will continue to improve its effectiveness and efficiency for information retrieval. **Social implications** It is expected that through the library mobile services, a ubiquitous learning environment can be provided to students to fulfil their academic and leisure needs. **Originality/value** Summative evaluation of the mobile system revealed the students' positive reactions to a set of predetermined criteria in various dimensions, including: learnability, control, presentation and efficiency.

Lin, W.-C., S.-W. Ke, et al. "**SAFQuery: a simple and flexible advanced Web search interface.**" *The Electronic Library* vol. 34, n. 1 (2016). pp. 155-168.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-12-2014-0207>

**Purpose** This paper aims to introduce a prototype system called SAFQuery (Simple And Flexible Query interface). In many existing Web search interfaces, simple and advanced query processes are treated separately that cannot be issued interchangeably. In addition, after several rounds of queries for specific

information need(s), it is possible that users might wish to re-examine the retrieval results corresponding to some previous queries or to slightly modify some of the specific queries issued before. However, it is often hard to remember what queries have been issued. These factors make the current Web search process not very simple or flexible. Design/methodology/approach In SAFQuery, the simple and advanced query strategies are integrated into a single interface, which can easily formulate query specifications when needed in the same interface. Moreover, query history information is provided that displays the past query specifications, which can help with the memory load. Findings The authors' experiments by user evaluation show that most users had a positive experience when using SAFQuery. Specifically, it is easy to use and can simplify the Web search task. Originality/value The proposed prototype system provides simple and flexible Web search strategies. Particularly, it allows users to easily issue simple and advanced queries based on one single query interface, interchangeably. In addition, users can easily input previously issued queries without spending time to recall what the queries are and/or to re-type previous queries.

Liu, X. and N. Ding "Research data management in universities of central China: Practices at Wuhan University Library." *The Electronic Library* vol. 34, n. 5 (2016). pp. 808-822.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-04-2015-0063>

Purpose Revealing research data's production and use, the status of research data management (RDM) and researchers' service requirements in universities of Central China; this study aims to investigate the feasibility of university libraries in providing RDM services without any supporting policies from governments or funding agencies. Design/methodology/approach Using a stratified sampling method, faculties and graduate students from 11 universities were investigated. Four pilot subjects at Wuhan University (WHU) were chosen for whom a pilot RDM platform was to be constructed. Findings Research data at Chinese universities are small, sporadic and discontinuous. Such data are intensively or dispersedly under researcher's management, with some unresolved problems regarding data security, data sharing and utilisation efficiency. Researchers' needs for data services are strong. University libraries in China can develop RDM systems and provide related services. To realise this, more work should be done on service mechanism, service promotion, software development and staff

training. Research limitations/implications The user survey covered 11 universities in central China, which may not reveal the real RDM status of researcher in different areas of China. Practical implications The practice at WHU could provide reference to other university libraries in China or other developing countries. Social implications The practice at WHU could provide reference to other university libraries in China or other developing countries. Originality/value The user survey is designed to be as comprehensive as possible and cover 902 researchers from 11 different types of Chinese universities. The practice at WHU is one of the first RDM initiatives led by university library in China.

Lo, P., A. Cho, et al. "**Use of smartphones by art and design students for accessing library services and learning.**" *Library Hi Tech* vol. 34, n. 2 (2016). pp. 224-238. <http://www.emeraldinsight.com/doi/abs/10.1108/LHT-02-2016-0015>

Purpose – The purpose of this paper is to explore art and design students' use of smartphones for accessing library services and learning at the Hong Kong Design Institute (HKDI). Design/methodology/approach – A questionnaire survey involving 51 HKDI students was conducted to examine the students' utilization of apps and the internet on mobile devices to find information for the purpose of academic learning, social networking, and collaborative learning. Findings – Survey results showed that while the HKDI students were all smartphone owners and active users of such mobile communication devices, only a minority of them "frequently" use these mobile devices for formal learning purposes. They demonstrated a keen preference to use search engines, social communications, and other diverse use of smartphones. Except for research and image/audio-visual needs, the rest of their needs and usage behaviour is similar to mainstream university students. Practical implications – The results suggest opportunities for the libraries to develop services and facilities that could better fulfil students' information needs, and to improve the network coverage outside the library. Originality/value – This is probably the first study of its kind to explore art and design students' use of smartphones for learning needs. In particular, the recent capability of smartphones and mobile internet speed are comparable with desktops, it is vital to re-examine the much changed environment and user needs.

Loan, F. A. and S. Sheikh "**Analytical study of open access health and medical**

**repositories." *The Electronic Library* vol. 34, n. 3 (2016). pp. 419-434.**  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-01-2015-0012>

**Purpose** This study aims to assess open access (OA) repositories in the field of the health and medicine (H&M) available in the Directory of the Open Access Repositories (OpenDOAR) by analysing their various facets like geographical distribution, language diversity, collection size, content types, operational status, interoperability, updating policy and software used for content management.

**Design/methodology/approach** To achieve the objectives of the study, the OpenDOAR was selected as a source for identifying the H&M repositories. The required data were manually collected from 1 to 30 April 2014 and analysed using various quantitative techniques to reveal the findings.

**Findings** The results reveal that the OpenDOAR lists 254 repositories in the field of the H&M contributed by the 62 countries of the world, topped by the USA (15.4 per cent), followed by Japan (7.9 per cent) and the UK (7.5 per cent). The majority of the repositories are institutional (187, 73.6 per cent) in nature, having less than 5,000 items (161, 63.4 per cent) in the collection and mostly consisting of articles (76.0 per cent), theses (49.6 per cent), unpublished documents (33.1 per cent) and books (31.9 per cent). The linguistic assessment shows that the majority of the H&M repositories accept content written in English language (71.3 per cent), followed by Spanish (16.1 per cent) and Japanese (7.5 per cent). The updating policy of these repositories is not up to the mark, as only 67.0 per cent of the H&M repositories have been updated from 2008-2012, but the majority are still operational (91.7 per cent) and are compatible (67.3 per cent) with the Open Archive Initiative Protocol for Metadata Harvesting (OAI-PMH). About 30 software brands, both commercial and open source, have been used by administrators for creating these repositories and managing their content. DSpace is the most popular software used by 88 (34.7 per cent) repositories, followed by EPrints (43, 16.9 per cent) and Digital Commons (18, 7.1 per cent).

**Research limitations/implications** The scope of this study is limited to the health and medical repositories listed in OpenDOAR, and hence the generalisation is to be cautioned.

**Practical implications** This study is useful for library and information professionals and health and medical professionals across the globe.

**Originality/value** This study is the first attempt to analyse the health and medical repositories in OA sites.

Lu, W., X. Yue, et al. **"Inverse local context analysis: A method for exhaustively**

**gathering documents from limited accessible data sources." *The Electronic Library*** vol. 34, n. 3 (2016). pp. 405-418.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-12-2014-0211>

**Purpose** The purpose of this paper is to explore the use of inverse local context analysis (ILCA) to obtain data from limited accessible data sources.  
**Design/methodology/approach** The experimental results show that the method the authors proposed can obtain all retrieved documents from the limited accessible data source using the least number of queries.  
**Findings** The experimental results show that the method we proposed can obtain all retrieved documents from the limited accessible data source using the least number of queries.  
**Originality/value** To the best of the authors' knowledge, this paper provides the first attempt to gather all the retrieved documents from limited accessible data source, and the efficiency and ease of implementation of the proposed solution make it feasible for practical applications. The method the authors proposed can also benefit the construction of web corpus.

Madhusudhan, M. and V. Singh "**Integrated library management systems: Comparative analysis of Koha, Libsys, NewGenLib, and Virtua.**" *The Electronic Library* vol. 34, n. 2 (2016). pp. 223-249.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-08-2014-0127>

**Purpose** – The purpose of this paper is to analyze the various features and functions of Koha, Libsys, NewGenLib and Virtua with the help of specially designed evaluation checklist and rank them based on features/functions of integrated library management system (ILMS).  
**Design/methodology/approach** – The evaluation approach taken in this paper is similar to that of Singh and Sanaman (2012) and Madhusudhan and Shalini (2014) with minor modifications, comprising 306 features/functions and categorized as ten broad categories.  
**Findings** – The paper explores different features of open source (OS) and commercial ILMS, which reveals that Virtua got the highest total score of 218 (77.86 per cent), followed by Koha ILMS with 204 score (72.86 per cent). Interestingly, NewGenLib got the lowest total score, that is, 163 (58.21 per cent). ILMS under study are lagging behind in exploiting the full potential of the Web 2.0 features, including cloud computing features, and needs to be addressed in

their future development. Practical implications – It is hoped that both the OS and commercial software will attend to the lacunae and soon develop fully functional Web 2.0/3.0 and cloud-based technologies. Originality/value – The findings of this paper will not only guide the librarians in the selection of a good ILMS, which can cater to the needs of their libraries, but also abreast the knowledge of evaluation of ILMS for the students of Library and Information Science. And the findings will help the ILMS vendors to know the limitations of their ILMS, so that they can overcome the limitations faced by users and improve their products.

Mansour, E. "**Use of smartphone apps among library and information science students at South Valley University, Egypt.**" *The Electronic Library* vol. 34, n. 3 (2016). pp. 371-404.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-03-2015-0044>

**Purpose** The purpose of this study is to investigate the use patterns and ownership of smartphone apps among students at the Department of Library and Information Science (DLIS) at the South Valley University (SVU), Egypt. This study may help faculty members and students, as well as DLISs in general and SVU's DLIS, in particular, to understand the nature and purpose of such use.

**Design/methodology/approach** This study used quantitative research methodology in the form of a survey, which was undertaken from February to March 2015. The survey instrument was a self-administrated questionnaire, with a response rate 82.7 per cent (441/533). Findings The findings of this study showed that smartphone users (82.7 per cent) at SVU's DLIS tended to be junior females. Smartphone non-users (17.3 per cent) tended to be also young females but primarily sophomores. The highest percentage of smartphone users had been using smartphones for four to five years, and the largest number of students was described to be advanced users who heard first about these mobile devices through friends and the Web. Most users had 21 to 25 apps. Social apps were the most popular and included Facebook, e-mail and Twitter. For professional purposes, students used smartphones more for communication purposes than learning purposes. Apps related to educational purposes included Google Mobile, Facebook, e-mail, Twitter, YouTube and Wikipedia Mobile. Students perceived most apps to be easy to use and useful to them. There were a number of uses for socializing including messaging, following the news and playing games. Students had mainly positive attitudes towards apps with a few negative

concerns. Almost all students confirmed that they trust most apps. Barriers related to the use of apps included training and lack of awareness. Further research may be needed to specify the relationship between the students' use of these apps and their academic performance. The main tasks done on smartphone devices were mainly for socializing. Students indicated that popular tasks and activities, such as sending and receiving messages, following the news, making communications, making chat, making friends, finding specific information, finding general information, making discussion groups, playing games, completing class assignments, checking materials related to courses, doing business, seeking jobs, watching movies, listening to music and accessing library services are important tasks accomplished by them through the use of these devices. The current study indicated very positive attitudes towards the use of these apps. Student at least agree with the statement that smartphone apps allow for easy dissemination of information, provide too much information, increase the speed of finding information, help communication, convenient, secure, build confident and reduce paper use. However, a large number of students also at least agree with the statement that these apps are time consuming, intimidating, addictive, violate privacy, require high language and technical skills, harmful and frustrating. Almost all students confirmed that they are at least trustful in some apps, such as WhatsApp, e-mail, YouTube, Facebook, Flickr, Twitter and Viber. A large number of smartphone users surveyed in this study have been described to make excessive usage of social apps, such as communication apps, messaging/texting apps and social networking sites, which were at the forefront of use. Additionally, a large number of them adopted these devices, especially for communication purposes. The most used apps were Facebook, e-mail, Twitter, WhatsApp, YouTube and Viber. For professional purposes, students used smartphones more for communication purposes than learning purposes. However, some of the students were using some of apps related to educational purposes, such as Google mobile, Facebook, e-mail, Twitter, YouTube and Wikipedia mobile but not on a regular basis. Students perceived the use of e-mail app, Google mobile, Facebook app WhatsApp, Kik, Twitter, YouTube, Google maps, Viber, Line, Skyp , Tango, Instagram, Flickr and Wikipedia mobile as at least fairly easy to them. Additionally, they perceived the use of e-mail app Google mobile, WhatsApp, Facebook, YouTube, Twitter, Viber, Instagram, Wikipedia mobile, Google maps, Kik, Skype, Line, Tango and Flickr as at least fairly useful to them, especially for the purpose socialization more than learning. Research limitations/implications This study focuses only on undergraduate library and information science students belonging to SVU's DLIS, Egypt. Any findings and conclusions resulting from this study are limited in scope to only SVU's DLIS's undergraduate students. The study does not contain a

significantly large sample of a population from across Egypt to draw meaningful widespread conclusions indicative of such a larger population. Practical implications This study provides valuable insight into the use pattern of smartphones among a very important client group. It may serve as useful input to researchers who are interested in the study of mobile internet technologies (MITs), particularly in the education society. Originality/value Being the first study of its kind about university students in Egypt, it is considered a pioneering and a unique study among studies conducted in the field of ICTs and MITs, especially with this category of information users.

Md. Emran, H. and S. M. Z. Ahmed "**Academic use of smartphones by university students: a developing country perspective.**" *The Electronic Library* vol. 34, n. 4 (2016). pp. 651-665. <http://dx.doi.org/10.1108/EL-07-2015-0112>

**Purpose** This paper aims to investigate the use of smartphones for academic purposes by students at Dhaka University, the top-ranked university in Bangladesh. **Design/methodology/approach** Students currently using smartphones answered a questionnaire survey, which focused on whether or not students used smartphones for academic works and, if so, for what purposes they used them and their opinion on the advantages of using smartphones for academic purposes. Descriptive statistics were used to analyze demographic and academic characteristics of the students in relation to their smartphone usage. Non-parametric analyses were performed using Mann-Whitney and Kruskal-Wallis tests to compare between students' demographic and academic variables and their opinion on the advantages of academic use of smartphones. **Findings** The findings indicate that a vast majority of university students used smartphones for academic purposes. They, on average and across the board, had a positive perception toward academic use of smartphones. Although there were some differences in terms of gender, age, place of origin and duration of smartphone use, these differences were largely due to fact that a smartphone is a relatively new addition to the life of most students who participated in this study. **Originality/value** Research investigating the academic use of smartphones in the perspective of developing countries is virtually non-existent. This is the first time an effort has been made to examine the use of smartphones by a large sample of university students in Bangladesh.

Miles, M. **"Using web2py Python framework for creating data-driven web applications in the academic library."** *Library Hi Tech* vol. 34, n. 1 (2016). pp. 164-171. <http://www.emeraldinsight.com/doi/abs/10.1108/LHT-08-2015-0082>

Purpose – Many libraries have a need to develop their own data-driven web applications, but their technical staff often lacks the required specialized training – which includes knowledge of SQL, a web application language like PHP, JavaScript, CSS, and jQuery. The web2py framework greatly reduces the learning curve for creating data-driven websites by focussing on three main goals: ease of use; rapid development; and security. web2py follows a strict MVC framework where the controls and web templates are all written in pure Python. No additional templating language is required. The paper aims to discuss these issues. Design/methodology/approach – There are many frameworks available for creating database-driven web applications. The author had used ColdFusion for many years but wanted to move to a more complete web framework which was also open source. Findings – After evaluating a number of Python frameworks, web2py was found to provide the best combination of functionality and ease of use. This paper focusses on the strengths of web2py and not the specifics of evaluating the different frameworks. Practical implications – Librarians who feel that they do not have the skills to create data-driven websites in other frameworks might find that they can develop them in web2py. It is a good web application framework to start with, which might also provide a gateway to other frameworks. Originality/value – web2py is an open source framework that could have great benefit for those who may have struggled to create database-driven websites in other frameworks or languages.

Najafqolinejad, A. and M. Hassanzadeh **"National libraries and regional cooperations: a framework for ECO national libraries."** *The Electronic Library* vol. 34, n. 2 (2016). pp. 196-212. <http://www.emeraldinsight.com/doi/abs/10.1108/EL-07-2014-0118>

Purpose – The purpose of this paper is to study the cultural integration, the role of national libraries in regional and international cooperation, Economic Cooperation Organization (ECO) national libraries' barriers of cooperation and drivers of their cooperation and to propose a framework (conceptual and

operational) for their cooperation. Design/methodology/approach – Data collection tool of this survey was a researcher-made questionnaire, sent to 30 individuals and experts involved in cooperation of ECO National Libraries from eight institutions. The reliability of the questionnaire was calculated using Cronbach's alpha. It was 0.91. In this study, for awareness of activities between ECO national libraries and extraction of drivers, some documents were studied, and preliminary data were collected by informal interviews with meeting stakeholders and participants. Findings – The lack of stability in management positions was one of the major barriers in cooperation of the ECO national libraries. Other major obstacles in this context were lack of continuous communication, lack of common protocols and standards, lack of planning, lack of a central coordinating organization, bureaucracy, etc. Geographical proximity, common history and heritage, common resources, Islamic and cultural factors, importance of information and knowledge, requirements of the international system and political and security requirements were considered as drivers. An information centre was proposed for their active cooperation. Iran is better to host the information centre. Originality/value – National libraries as the scientific and cultural memory of nations and heirs of written heritage should cooperate and share their valuable scientific and cultural heritage to the future generations.

Noh, Y. "**A study to evaluate the digitization level of Korean libraries (part I).**"

*Library Hi Tech* vol. 34, n. 2 (2016). pp. 314-358.

<http://www.emeraldinsight.com/doi/abs/10.1108/LHT-10-2015-0102>

Purpose – The purpose of this paper is to discover and enumerate the elements of the digital library and measure how much an individual library was equipped with the characteristics of the digital library accordingly.

Design/methodology/approach – For this purpose several steps were taken. First, research on the characteristics and the representative services of the digital library were comprehensively reviewed. Second, examples of the library services that were being considered for the next generation digital library were investigated to compare with the conventional library services. Third, the elements of the conventional and the digital libraries initially extracted were examined by ten experts. These experts were composed of researchers and professors specializing in digital libraries, and career librarians who had worked in the digital library field for at least ten years. The elements were verified through discussions with them. Fourth, 19 university libraries, 16 public libraries, and 17

special libraries were selected in accordance with the verified elements of the conventional and the digital libraries to measure the digitization level of the libraries. Findings – The following is a summary of the evaluation of the first eight evaluation items, which are covered in Part 1 of this study. The remaining five items will be covered in Part 2. First, the digitization level of the acquisition element and classification and cataloguing was significantly high. Second, book collections excluding “digital video,” reference service, library program service, and space service showed significantly conventional characteristics. Third, in the element of circulation services, the item of lending books offline and returning the books scored 92.64 and the item of lending-returning with use of smart devices and social media obtained significantly low scores. Also, the average in using the book return desk for the circulation service was 81.39, much higher than using the automatic book return machine, which scored 18.61, by a wide margin. Fourth, in the element of user services, the digital item of providing support for mobile services related to the library resources demonstrated higher scores than the conventional item, but other items showed more conventional characteristics. In particular, the item of duplication services for material scored 94.99, but other items such as support for publication/bookbinding services using digital publication tools and devices obtained significantly low scores. Originality/value – This study is first study in the world to measure the level of digitization of the library. Therefore, hereafter, each library will be able to measure and determine its digital position based on these elements. Up to now, some research was performed in pursuit of extracting the elements of a library but it has relied solely on literature review. Comprehensive research had never been performed as in this study.

Noh, Y. "**A study to evaluate the digitization level of Korean libraries (part II).**" *Library Hi Tech* vol. 34, n. 2 (2016). pp. 359-403.  
<http://www.emeraldinsight.com/doi/abs/10.1108/LHT-01-2016-0010>

Purpose – The purpose of this paper is to evaluate the current digitization levels of Korean libraries by identifying key elements of library services and measuring them for conventional vs digital approaches and use.

Design/methodology/approach – The study utilized previous research related to digital libraries and consultations with experts to arrive at 13 evaluation elements and components within them to analyze. For the purpose of this study specialized libraries, college and university libraries, and public libraries were surveyed, and

their responses analyzed to rate their current digitization levels vs more conventional approaches. Findings – First, after determining the elements that characterized the conventional and digital libraries by analyzing different pieces of literature and consulting with experts, 92 factors were identified for each of the conventional and digital elements based on the axis which was composed of 13 items. Second, this study indicated that the libraries obtained one of the conventional or digital characteristics independent of the situation, rather than that the digital library was more effective than the conventional library. Third, in evaluating the chosen libraries used as the examples, it was observed that the libraries had more conventional characteristics among the elements of the digital and conventional libraries. Also, based on the axis used for comparison of 13 items, elements such as the next generation service, the SNS service, and the library program service were more conventional, but elements such as classification and cataloging, acquisition, and the organization were more digitized. Originality/value – This study is the first study in the world to measure the level of digitization of the library. Therefore, hereafter, each library will be able to measure and determine its digital position based on these elements. Up to now, some research was performed in pursuit of extracting the elements of a library but it had relied solely on literature review. Comprehensive research had never been performed as in this study.

Nwagwu, W. E. and B. Famiyesin "**Acceptance of mobile advertising by consumers in public service institutions in Lagos, Nigeria.**" *The Electronic Library* vol. 34, n. 2 (2016). pp. 265-288.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-09-2014-0169>

Purpose – The purpose of this paper is to investigate the acceptance of mobile advertising by consumers in public service institutions in Lagos Nigeria from the perspective of non-permission-based nature of advertising practice in Nigeria. Design/methodology/approach – Guided by the theory of reasoned action, data were collected from 389 respondents in a sample survey using a structured questionnaire, and the variables were measured on ordinal scale. Findings – The respondents reported that the mobile advertising is informative; they also strongly agreed that the media is ubiquitous but irritating. Attitude of consumers towards mobile advertising, behavioural control and subjective norm have correlations with acceptance. Irritation and informativeness significantly and positively predicted acceptance of mobile advertising, while credibility and

ubiquity predicted acceptance of the technology negatively. Age has a negative relationship with acceptance; both gender (male = 1) and tertiary education have a significant relationship with acceptance of mobile advertising just as marital status. Research limitations/implications – The study focused only on public service mobile consumers in Lagos, Nigeria. Practical implications – Mobile adverts are ubiquitous in Nigeria, but consumers do not trust or use the adverts, although they consider them informative. The telecom regulatory body needs to control deployment of mobile technologies for produce and service ads, so that ads will be subject to individual choices and discretion, and thereby reducing the ubiquity and increase the trust consumers have on the strategy. Social implications – There is hype that mobile advert has penetrated Nigerian market, but the strategy is not credulous to the people. Originality/value – There is no study focusing on the acceptance of this ad strategy in the public service sector in Nigeria.

Olensky, M., M. Schmidt, et al. "**Evaluation of the citation matching algorithms of CWTS and iFQ in comparison to the Web of science.**" *Journal of the Association for Information Science and Technology* vol. 67, n. 10 (2016). pp. 2550-2564. <http://dx.doi.org/10.1002/asi.23590>

The results of bibliometric studies provided by bibliometric research groups, for example, the Centre for Science and Technology Studies (CWTS) and the Institute for Research Information and Quality Assurance (iFQ), are often used in the process of research assessment. Their databases use Web of Science (WoS) citation data, which they match according to their own matching algorithms—in the case of CWTS for standard usage in their studies and in the case of iFQ on an experimental basis. Because the problem of nonmatched citations in the WoS persists due to inaccuracies in the references or inaccuracies introduced in the data extraction process, it is important to ascertain how well these inaccuracies are rectified in these citation matching algorithms. This article evaluates the algorithms of CWTS and iFQ in comparison to the WoS in a quantitative and a qualitative analysis. The analysis builds upon the method and the manually verified corpus of a previous study. The algorithm of CWTS performs best, closely followed by that of iFQ. The WoS algorithm still performs quite well (F1 score: 96.41%), but shows deficits in matching references containing inaccuracies. An additional problem is posed by incorrectly provided cited reference information in source articles by the WoS.

Park, M. and T.-S. Lee **"A longitudinal study of information needs and search behaviors in science and technology: A query analysis."** *The Electronic Library* vol. 34, n. 1 (2016). pp. 83-98.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-04-2014-0058>

**Purpose** This study aims at a longitudinal understanding of the user–system interactions from the context of science and technology at a query level.  
**Design/methodology/approach** The authors quantitatively analyzed log data sets culled from more than 24,820,416 queries submitted by users of a national scientific and technical information system, collected in 2008-2011. Findings In the fields of science and technology, the user search behaviors and patterns have remained stable. User queries are short and simple. In all, 80 per cent of the queries are made up of one-three terms. The length of query on a scholarly information system in the fields of science and technology is different from that of Web search. The former is longer than the latter. Search topics have shifted fast. "FUEL BATTERY", "NANO", "OLED", "CAR", "ROBOT" and "SMARTPHONE" were high-ranked queries from 2008 to 2011. It was found that the time to determine whether the users will stay on the site took about 10 seconds on average from the time of visit. If the users viewed the results of a list generated by the search query and took any action, such as detailed view, export or full-text download, most of them stayed more than 10 minutes on average.  
**Originality/value** Longitudinal user research using a query analysis helps to understand the information needs and behavioral patterns of users on information systems related to a specific field and those based on the Web. It also brings insights into the past, present and future events of a field. In other words, it plays a role as a mirror that reflects the flow of time. In the long run, it will be an historic asset. In the future, user studies using a query analysis need to be carried out from various (e.g. social, cultural or other academic disciplines) long-term perspectives on a continuous basis.

Pertile, S. d. L., V. P. Moreira, et al. **"Comparing and combining Content- and Citation-based approaches for plagiarism detection."** *Journal of the Association for Information Science and Technology* vol. 67, n. 10 (2016). pp. 2511-2526. <http://dx.doi.org/10.1002/asi.23593>

The vast amount of scientific publications available online makes it easier for students and researchers to reuse text from other authors and makes it harder for checking the originality of a given text. Reusing text without crediting the original authors is considered plagiarism. A number of studies have reported the prevalence of plagiarism in academia. As a consequence, numerous institutions and researchers are dedicated to devising systems to automate the process of checking for plagiarism. This work focuses on the problem of detecting text reuse in scientific papers. The contributions of this paper are twofold: (a) we survey the existing approaches for plagiarism detection based on content, based on content and structure, and based on citations and references; and (b) we compare content and citation-based approaches with the goal of evaluating whether they are complementary and if their combination can improve the quality of the detection. We carry out experiments with real data sets of scientific papers and concluded that a combination of the methods can be beneficial.

Purpur, E., T. Radniecki, et al. "**Refocusing mobile makerspace outreach efforts internally as professional development.**" *Library Hi Tech* vol. 34, n. 1 (2016). pp. 130-142. <http://www.emeraldinsight.com/doi/abs/10.1108/LHT-07-2015-0077>

Purpose – The purpose of this paper is to uninitiate new and non-traditional library resources, such as those commonly found in a makerspace, can often seem abstract, intimidating, or even unrelated to the library mission. The University of Nevada's DeLaMare Science and Engineering Library set out to engage its on-campus library colleagues to increase awareness and understanding of the new technologies being offered in support of active learning and discovery. Design/methodology/approach – The science and engineering library is experimenting with an ongoing series of inreach/outreach workshops that enable other library faculty and staff from across the greater library organization to experience their non-traditional services and resources. A first pop-up maker technology workshop took place in June 2015 and was composed of three sessions including an introduction to 3D printing and modeling, digital design literacies, and lendable technologies. A survey was distributed to attendees for feedback. Findings – Anecdotal evidence suggest the event was successful, offering a potentially powerful mechanism for engaging and informing library staff about non-traditional resources and technology.

Originality/value – This outreach approach may prove valuable for other academic libraries to similarly create awareness of non-traditional resources and technologies among its colleagues.

Rath, L. L. "**Low-barrier-to-entry data tools: creating and sharing humanities data.**" *Library Hi Tech* vol. 34, n. 2 (2016). pp. 268-285.  
<http://www.emeraldinsight.com/doi/abs/10.1108/LHT-07-2015-0073>

Purpose – The purpose of this paper is to determine whether TAMS Analyzer and Viewshare are viable free and open source software data sharing and creation tools for those with limited funding and technological skills.

Design/methodology/approach – The participant observer method was used to collect experiential evidence while applying the tools to a collection of text-, image-, and video-based digital cultural records. Findings – TAMS Analyzer was found to be a low barrier to entry tool for those with coding and qualitative data analysis experience. Those with general experience will be able to create datasets with the support of manuals and tutorials, while those with limited experience may find it difficult to use. Viewshare was found to be a low barrier to entry tool for sharing data online, and accessible for all skill levels. Research

limitations/implications – TAMS Analyzer supports Mac and Linux platforms only, so a low-cost software recommendation was made for those in Windows environments. Practical implications – Librarians can use these tools to address data access gaps while promoting library digital collections. Social implications – With a greater understanding of data tools, librarians can be advisors, collaborators, agents for data culture, and relevant participants in digital humanities scholarship. Originality/value – The research evaluates both the capabilities of the tools and the barriers to using or accessing them, which are often neglected. The paper addresses a need in the literature for greater scrutiny of tools that are a critical component of the data ecology, and will further assist librarians when connecting scholars to tools of inquiry in an environment with limited funding and technical support.

Rodríguez, R. A. M. and M. O. M. Rivero "**Information skills training through mobile devices: Practical applications of QR codes in academic libraries.**" *The Electronic Library* vol. 34, n. 1 (2016). pp. 116-131.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-04-2014-0061>

**Purpose** This paper aims to examine the use of different mobile devices by libraries to develop programs for information skills training, focusing on the application of quick response (QR) codes for such a purpose.

**Design/methodology/approach** The study was developed in two stages; primarily an analysis of the literature was conducted to determine the theoretical framework underlying the use of this tool for information literacy. The second part examined the practical application of this tool, with examples of several university libraries. In all, 13 academic libraries were included as the sample, which were chosen randomly from a global search on the Internet under the thematic basis for the theme of the study and thus evaluate the different employment opportunities of mobile telephony in developing skills information on users. The study is complemented with an assessment from the practice of the applicability of the principles described, arriving at conclusions and recommendations. **Findings** The purpose of the study is to recognize the use given to mobile technologies from libraries, particularly the use of QR codes, to help meet the demands of users in relation to skills training information, just as you may have the need. **Originality/value** The benefits of the use of mobile devices for the development of information literacy actions are identified and the set of actions that can be implemented for training information skills through the use of QR codes are set based on all outlined by the Association of College and Research Libraries goals.

Ronda-Pupo, G. A. and J. S. Katz **"The power-law relationship between citation-based performance and collaboration in articles in management journals: A scale-independent approach."** *Journal of the Association for Information Science and Technology* vol. 67, n. 10 (2016). pp. 2565-2572.  
<http://dx.doi.org/10.1002/asi.23575>

The objective of this article is to determine if academic collaboration is associated with the citation-based performance of articles that are published in management journals. We analyzed 127,812 articles published between 1988 and 2013 in 173 journals on the ISI Web of Science in the "management" category. Collaboration occurred in approximately 60% of all articles. A power-law relationship was found between citation-based performance and journal size and

collaboration patterns. The number of citations expected by collaborative articles increases 21.89 or 3.7 times when the number of collaborative articles published in a journal doubles. The number of citations expected by noncollaborative articles only increases 21.35 or 2.55 times if a journal publishes double the number of noncollaborative articles. The Matthew effect is stronger for collaborative than for noncollaborative articles. Scale-independent indicators increase the confidence in the evaluation of the impact of the articles published in management journals.

Roth, A., D. Turnbow, et al. "**Building a scalable mobile library orientation activity with Edventure Builder.**" *Library Hi Tech* vol. 34, n. 1 (2016). pp. 36-44.  
<http://www.emeraldinsight.com/doi/abs/10.1108/LHT-09-2015-0085>

Purpose – The purpose of this paper is to discuss the technical aspects of using the Edventure Builder platform to create UC San Diego's scalable, interactive, online library orientation activity, which was designed for the university's new First Year Experience program. Design/methodology/approach – This paper examines a case study using a successive approximation model for the build process of a mobile library scavenger hunt. Findings – The Edventure Builder software is intuitive, scalable and provides a variety of options to users, including flexibility in question format, a WYSIWYG interface, and branching logic. The main limitation is that analytics is still in beta testing and users must request that data be sent in an Excel spreadsheet via e-mail. Originality/value – This paper is of interest to information professionals who would like to create a mobile library orientation activity using the Edventure Builder platform.

Rudman, R. and R. Bruwer "**Defining Web 3.0: opportunities and challenges.**" *The Electronic Library* vol. 34, n. 1 (2016). pp. 132-154.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-08-2014-0140>

Purpose The purpose of this study is to define Web 3.0 and discuss the underlying technologies, identify new opportunities and highlight potential challenges that are associated with the evolution to Web 3.0 technologies. Design/methodology/approach A non-empirical study reviewing papers

published in accredited research journals, articles and whitepapers and websites was conducted. To add scientific rigour to a literature review, a four-stage approach, as suggested by Sylvester et al. (2011), was used. Findings The World Wide Web (henceforth referred to as the Web) is recognised as the fastest growing publication medium of all time. To stay competitive, it is crucial to stay up to date with technological trends. The Web matures in its own unique way. From the static informative characteristics of Web 1.0, it progressed into the interactive experience Web 2.0 provides. The next phase of Web evolution, Web 3.0, is already in progress. Web 3.0 entails an integrated Web experience where the machine will be able to understand and catalogue data in a manner similar to humans. This will facilitate a world wide data warehouse where any format of data can be shared and understood by any device over any network. The evolution of the Web will bring forth new opportunities and challenges. Opportunities identified can mainly be characterised as the autonomous integration of data and services which increase the pre-existing capabilities of Web services, as well as the creation of new functionalities. The challenges mainly concern unauthorised access and manipulation of data, autonomous initiation of actions and the development of harmful scripts and languages. Practical implications The findings will assist data managers to identify future opportunities while considering negative impacts and understanding the underlying technologies associated with the structure and storage of electronic information. The research will assist anyone in the data and information management industry to identify opportunities and mitigate risk. Originality/value Many organisations were caught off guard by the evolution of the Web to Web 2.0. Organisations, and in particular anyone in the data and information management industry, need to be ready and acquire knowledge about the opportunities and challenges arising from Web 3.0 technologies.

Salmerón, L., M. Macedo-Rouet, et al. "**Multiple viewpoints increase students' attention to source features in social question and answer forum messages.**" *Journal of the Association for Information Science and Technology* vol. 67, n. 10 (2016). pp. 2404-2419. <http://dx.doi.org/10.1002/asi.23585>

Social question & answer forums offer great learning opportunities, but students need to evaluate the credibility of answers to avoid being misled by untrustworthy sources. This critical evaluation may be beyond the capabilities of students from primary and secondary school. We conducted 2 studies to assess

how students from primary, secondary, and undergraduate education perceive and use 2 relevant credibility cues in forums: author's identity and evidence used to support his answer. Students didn't use these cues when they evaluated forums with a single answer (Experiment 1), but they recommended more often answers from self-reported experts than from users with a pseudonym when multiple sources were discussed in the forum (Experiment 2). This pattern of results suggested that multiple viewpoints increase students' attention to source features in forum messages. Experiment 2 also revealed that primary school students preferred personal experience as evidence in the messages, whereas undergraduate students preferred the inclusion of documentary sources. Thus, while children mimic the adult preference for expert sources in web forums, they treat source information in a rather superficial manner. To conclude, we outline possible mechanisms to understand how credibility assessment evolves across educational levels, and discuss potential implications for the educational curriculum in information literacy.

Seadle, M. S. "**Managing and mining historical research data.**" *Library Hi Tech* vol. 34, n. 1 (2016). pp. 172-179.  
<http://www.emeraldinsight.com/doi/abs/10.1108/LHT-09-2015-0086>

Purpose – The purpose of this paper is to review how historical research data are managed and mined today. Design/methodology/approach – The methodology builds on observations over the last decade. Findings – Reading speed is a factor in managing the quantity of text in historical research. Twenty years ago historical research involved visits to physical libraries and archives, but today much of the information is online. The granularity of reading has changed over recent decades and recognizing this change is an important factor in improving access. Practical implications – Computer-based humanities text mining could be simpler if publishers and libraries would manage the data in ways that facilitate the process. Some aspects still need development, including better context awareness, either by writing context awareness into programs or by encoding it in the text. Social implications – Future researchers who want to make use of text mining and distant reading techniques will need more thorough technical training than they get today. Originality/value – There is relatively little discussion of text mining and distant reading in the LIS literature.

Shamima, Y. and S. M. Z. Ahmed **"Preference of Bangladesh university students for searching the library catalogue: OPAC or discovery tool?"** *The Electronic Library* vol. 34, n. 4 (2016). pp. 683-695.  
<http://dx.doi.org/10.1108/EL-07-2015-0139>

**Purpose** The aim of this paper was to compare university students' preferences for searching the library catalogue via the library's Koha online public access catalogue (OPAC) or its discovery tool VuFind. **Design/methodology/approach** A total of 175 students responded to a questionnaire-based survey through which their demographic data, duration (years) of computer use and their self-reported levels of computer skills were obtained. Students were asked what interfaces they use for catalogue searching and to rate their opinion on the relevant interfaces on a seven-point Likert scale. Mann-Whitney and Kruskal-Wallis tests were conducted to statistically compare the differences between students' demographic/individual characteristics and their ratings on the respective interfaces. For those students who used both systems, differences between their Likert ratings were assessed using a one-tailed Wilcoxon signed rank test. **Findings** The results showed that there were no significant differences among students in terms of their ratings on either the OPAC or VuFind interfaces. Wilcoxon signed ranks test indicated that significantly more students thought that VuFind was more usable than the Koha OPAC. **Originality/value** This is a pioneering study of the current use of the OPAC and discovery tools by university students and their preferences for searching catalogue information through these systems. It is hoped that the findings of this study will encourage researchers to conduct task-based usability studies with various cataloguing tools and this could yield new and improved interaction designs for library catalogue searching.

Soohyung, J. and C. Namjoo **"Understanding users' continuance intention to use online library resources based on an extended expectation-confirmation model."** *The Electronic Library* vol. 34, n. 4 (2016). pp. 554-571.  
<http://dx.doi.org/10.1108/EL-02-2015-0033>

**Purpose** This study aims to investigate the factors affecting students' continuance intention to use online library resources (OLRs) in the context of academic libraries. Based on an extended expectation confirmation theory (ECT),

the effects of usefulness, confirmation and resource quality on continuance intention to use OLRs were examined. Design/methodology/approach To empirically test the model, a survey study was conducted. Data were collected from 606 student library users at a large state university in the USA. The collected data were analysed quantitatively to answer seven hypotheses using partial least squares method. Findings The findings revealed that both usefulness and confirmation had a positive direct and indirect influence on continuance intention. Also, the effect of resource quality on continuance intention was found to be significant. Satisfaction had a mediating effect on the relationship between usefulness, confirmation and resource quality, and continuance intention. Originality/value This study is one of the first attempts that adopted the ECT to understand students' continuance intention to use OLRs. In addition, the effect of the multiple dimensions of resource quality ? accessibility, credibility, coverage, and format ? on users' continuance intention to use OLRs was investigated.

Suki, N. M. "**Willingness of patrons to use library public computing facilities: insights from Malaysia.**" *The Electronic Library* vol. 34, n. 5 (2016). pp. 823-845. <http://www.emeraldinsight.com/doi/abs/10.1108/EL-01-2015-0008>

Purpose This paper aims to examine relationships between attitude, self-efficacy and subjective norm with library patrons' behavioural intention to use public computing facilities at a library. Design/methodology/approach Data were collected from 200 undergraduate students enrolled at a higher learning institution in the Federal Territory of Labuan, Malaysia, via a structured questionnaire comprising closed-ended questions. A structural equation modelling technique using Analysis of Moment Structures (AMOS) computer software version 21 was used to examine the stability of the model with the data and to estimate impacts among factors instantaneously. Findings The results show that library patrons' behavioral intention to use public computing facilities at the library is widely affected by subjective norm factor, i.e. influence of the support of family members, friends and neighbours. Using public computers in a library helps them to be more independent in completing their assignments and conducting research collaboration, checking email messages, social networking and performing other online tasks. Practical implications The findings of this study provide a better understanding of factors likely to influence library patrons' behavioral intention to use public computing facilities at a library. It also offers valuable insights into factors which university librarians need to focus on to

improve library patrons' behavioral intention to actively use public computing facilities at a library for quality information retrieval. Originality/value This study replaces perceived behavioral control with self-efficacy in the framework, as it overlaps with the concept of self-efficacy to provide more variance in behavioral intention to use public computing facilities at a library, which has been marginally researched in the Malaysian context.

Suominen, A. and H. Toivanen **"Map of science with topic modeling: Comparison of unsupervised learning and human-assigned subject classification."** *Journal of the Association for Information Science and Technology* vol. 67, n. 10 (2016). pp. 2464-2476. <http://dx.doi.org/10.1002/asi.23596>

The delineation of coordinates is fundamental for the cartography of science, and accurate and credible classification of scientific knowledge presents a persistent challenge in this regard. We present a map of Finnish science based on unsupervised-learning classification, and discuss the advantages and disadvantages of this approach vis-à-vis those generated by human reasoning. We conclude that from theoretical and practical perspectives there exist several challenges for human reasoning-based classification frameworks of scientific knowledge, as they typically try to fit new-to-the-world knowledge into historical models of scientific knowledge, and cannot easily be deployed for new large-scale data sets. Automated classification schemes, in contrast, generate classification models only from the available text corpus, thereby identifying credibly novel bodies of knowledge. They also lend themselves to versatile large-scale data analysis, and enable a range of Big Data possibilities. However, we also argue that it is neither possible nor fruitful to declare one or another method a superior approach in terms of realism to classify scientific knowledge, and we believe that the merits of each approach are dependent on the practical objectives of analysis.

Tanacković, S. F., I. F. Horvatić, et al. **"Provision of the European Union information in an acceding country: A survey of the role of public libraries in Croatia."** *Library Hi Tech* vol. 34, n. 3 (2016). pp. 454-467. <http://www.emeraldinsight.com/doi/abs/10.1108/LHT-02-2016-0020>

**Purpose** The purpose of this paper is to present an exploratory study whose aim was to investigate the role of public libraries in the provision of European Union (EU) information in an EU acceding country (Croatia).

**Design/methodology/approach** Study was conducted via online questionnaire in public libraries across country.

**Findings** The findings revealed that majority of respondents (83.7 percent) think it is an important task of public libraries to provide citizens with materials about the EU, and that almost all responding libraries (98 percent) have EU materials. In general, respondents think that provision of EU materials in their library does not compromise its role of politically neutral institution. The results also indicate that libraries quite rarely (10 percent) maintain links to relevant EU online sources on their websites. EU collections in responding libraries are promoted actively most frequently in the library itself and on its website, and very rarely in the local media. **Practical implications** Findings are expected to be of interest to European administration in charge of the development of effective communication policies, national authorities in EU candidate and acceding countries, and information professionals in general. **Originality/value** This is the first study to investigate the role of public libraries in EU information provision in an EU acceding country.

Tella, A. and O. J. Oladapo **"A comparative analysis of available features and Web 2.0 tools on selected Nigerian and South African university library websites."** *The Electronic Library* vol. 34, n. 3 (2016). pp. 504-521.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-10-2014-0182>

**Purpose** The study aims to present a comparative analysis of available Web 2.0 tools in library websites of selected Nigerian and South African universities.

**Design/methodology/approach** Content analysis was adopted as the design for the study. Twenty university library websites comprising ten top-ranking Nigerian universities and ten top-ranking South African universities were sampled for data collection. Five research questions developed and answered. **Findings** The findings show that the use of Web 2.0 tools in the selected universities is encouraging. There are more Web 2.0 tools available on the South African university library websites. The South African university libraries are ahead of their Nigerian counterparts in terms of the integration of Web 2.0 tools, e-resources and e-databases and provide platforms for easy retrieval of information by their users. There are more e-resources available on the South African university library

websites compared with their Nigerian counterparts. e-Journals are the most available e-resources in the selected university library websites of both countries. Similarly, more academic e-databases are available on the South African university library websites, whereas only few are listed on the web pages of the selected Nigerian university library websites. Research limitations/implications Because available studies seem to ignore the possibility of comparing one university library's website with another, conducting a study such as this will provide an insight and idea on the types of features, tools and applications to be included on university library websites. This will be useful for university whose library is planning to develop a website. Originality/value Because of the wide variation reported in this study concerning available tools and resources on the university library websites in South Africa and Nigeria, it is recommended that African universities should come up with a standard that will mandate universities to have a certain number of tools identified in this study on their various university websites.

Tenopir, C., K. Levine, et al. "**Trustworthiness and authority of scholarly information in a digital age: Results of an international questionnaire.**" *Journal of the Association for Information Science and Technology* vol. 67, n. 10 (2016). pp. 2344-2361. <http://dx.doi.org/10.1002/asi.23598>

An international survey of over 3,600 researchers examined how trustworthiness and quality are determined for making decisions on scholarly reading, citing, and publishing and how scholars perceive changes in trust with new forms of scholarly communication. Although differences in determining trustworthiness and authority of scholarly resources exist among age groups and fields of study, traditional methods and criteria remain important across the board. Peer review is considered the most important factor for determining the quality and trustworthiness of research. Researchers continue to read abstracts, check content for sound arguments and credible data, and rely on journal rankings when deciding whether to trust scholarly resources in reading, citing, or publishing. Social media outlets and open access publications are still often not trusted, although many researchers believe that open access has positive implications for research, especially if the open access journals are peer reviewed.

Tinto, F. and I. Ruthven "**Sharing "happy" information.**" *Journal of the Association for*

*Information Science and Technology* vol. 67, n. 10 (2016). pp. 2329-2343.  
<http://dx.doi.org/10.1002/asi.23581>

This study focuses on the sharing of “happy” information: information that creates a sense of happiness within the individual sharing the information. We explore the range of factors motivating and impacting individuals' happy information-sharing behavior within a casual leisure context through 30 semistructured interviews. The findings reveal that the factors influencing individuals' happy information-sharing behavior are numerous, and impact each other. Most individuals considered sharing happy information important to their friendships and relationships. In various contexts the act of sharing happy information was shown to enhance the sharer's happiness.

Virginia, A. D. "**Investigating and implementing an extensible, adaptable game plan for digital initiatives at a large state university.**" *The Electronic Library* vol. 34, n. 4 (2016). pp. 588-596. <http://dx.doi.org/10.1108/EL-02-2015-0034>

**Purpose** The purpose of this paper is to explore the process of assessing the needs of a digital repository. The study's institution ? Kent State University, a large state university ? is currently re-envisioning their digital library services to accommodate emerging technologies with an agile framework and platform. This paper includes discussion on the process of creating a sustainable digital initiatives program, a plan of action for migration, platform decision rationale and an overview of planning for future projects that is both flexible and extensible in nature. **Design/methodology/approach** The article's approach is to examine the process of review and selection of the digital repository at Kent State University through the needs and requirements checklist the team devised according to the institution's specifications. Literature published in the past five years is reviewed and applied to the selection process. The author maps out a plan that can be adaptable for growth and sustainability for a content management system. **Findings** Using models identified in the article, the team mapped a solution that can enhance the use and interaction by patrons to digital collections as well as provide a method to ensure the longevity of digital assets. **Originality/value** The article addresses issues that are inherent to digital content management systems of all shapes and sizes, and strives to provide a solution that would be relevant

and applicable to many types of institutions in regard to digital repositories.

Wani, Z. A. and A. A. Sofi "**Retrieval efficiency of select search engines vis-à-vis diverse open courseware formats.**" *The Electronic Library* vol. 34, n. 3 (2016). pp. 457-470. <http://www.emeraldinsight.com/doi/abs/10.1108/EL-08-2014-0132>

**Purpose** This paper aims to gauge the visibility of open content available in different formats of select open courseware (OCW) repositories through prominent search engines. **Design/methodology/approach** Open content in three formats (pdf, audio and video) from four OCW repositories listed in the OCW consortium under the science and technology subject heading were searched through seven select search engines. **Findings** None of the selected OCW repositories are fully visible on the selected search engines. Visibility of OCW content varied from one search engine to the other and was affected by the format in which it is available. Google is the best search engine for retrieving OCW content, whereas OCWfinder – a specialized search engine for retrieving OCW – has performed dismally. **Research limitations/implications** The study demonstrates the need for enhancing the visibility of open content through using search engine optimization techniques. **Originality/value** The study intends to supply findings that could be used by stakeholders to improve the visibility of OCW repositories. It is an attempt to draw a comparison between search engines for their ability to index different formats of OCW in the selected repositories. Findings can be used by information professionals to brush their information hunting skills.

Weiwei, Y., D. Shengli, et al. "**Factors influencing the intention to use information service mashups: An empirical study of digital libraries in China.**" *The Electronic Library* vol. 34, n. 4 (2016). pp. 696-716. <http://dx.doi.org/10.1108/EL-05-2015-0082>

**Purpose** This study aims to examine the factors influencing the adoption intention of information service mashup in digital library (DL). The study is an empirical study on DLs in China. **Design/methodology/approach** This paper employs the theory of information service mashup as its theoretical background

and applies it to the field of DL to develop the measurement model which is based on technology acceptance model (TAM). A structured questionnaire was developed including the demographic information, the advantages of information service mashup in DL and the Likert evaluation of each construct. As a result, of 303 questionnaires distributed among DL users, 281 were remained as acceptable answers. The data were processed and analyzed with the aid of the SPSS 20.0 and SmartPLS 2.0. Findings The results show that beyond perceived usefulness and perceived ease of use, both perceived integration and perceived risk have direct impacts on user's intention to adopt information service mashup in DL. Perceived integration has the dramatic positive effects, while perceived risk negatively correlates to adoption intention. Moreover, perceived integration and individualization have positive impacts on perceived ease of use, while network externality positively influences perceived usefulness. Originality/value Information service mashup is still a relatively new technology in DL. There were few theoretical and empirical studies that examine the user adoption behaviour of the service. This study contributes to existing information service mashup application studies by modifying and extending TAM. The results would help the DL gain a deeper understanding of the factors affecting DL user adoption of information service mashup.

Weng, C.-H. "**Knowledge discovery of digital library subscription by RFC itemsets.**" *The Electronic Library* vol. 34, n. 5 (2016). pp. 772-788.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-06-2015-0086>

Purpose The paper aims to understand the book subscription characteristics of the students at each college and help the library administrators to conduct efficient library management plans for books in the library. Unlike the traditional association rule mining (ARM) techniques which mine patterns from a single data set, this paper proposes a model, recency-frequency-college (RFC) model, to analyse book subscription characteristics of library users and then discovers interesting association rules from equivalence-class RFC segments.

Design/methodology/approach A framework which integrates the RFC model and ARM technique is proposed to analyse book subscription characteristics of library users. First, the author applies the RFC model to determine library users' RFC values. After that, the author clusters library users' transactions into several RFC segments by their RFC values. Finally, the author discovers RFC association rules and analyses book subscription characteristics of RFC segments (library

users). Findings The paper provides experimental results from the survey data. It shows that the precision of the frequent itemsets discovered by the proposed RFC model outperforms the traditional approach in predicting library user subscription itemsets in the following time periods. Besides, the proposed approach can discover interesting and valuable patterns from library book circulation transactions. Research limitations/implications Because RFC thresholds were assigned based on expert opinion in this paper, it is an acquisition bottleneck. Therefore, researchers are encouraged to automatically infer the RFC thresholds from the library book circulation transactions. Practical implications The paper includes implications for the library administrators in conducting library book management plans for different library users. Originality/value This paper proposes a model, the RFC model, to analyse book subscription characteristics of library users.

Williamson, K., M. A. Kennan, et al. "**Data sharing for the advancement of science: Overcoming barriers for citizen scientists.**" *Journal of the Association for Information Science and Technology* vol. 67, n. 10 (2016). pp. 2392-2403. <http://dx.doi.org/10.1002/asi.23564>

Systematic study of data sharing by citizen scientists will make a significant contribution to science because of the growing importance of aggregated data in data-intensive science. This article expands on the data sharing component of a paper presented at the 2013 ASIST conference. A three-phase project is reported. Conducted between 2011 and 2013 within an environmental voluntary group, the Australian Plants Society Victoria (APSV), the interviews of the first phase are the major data source. Because the project revealed the importance of data sharing with professional scientists, their views are included in the literature review where four themes are explored: lack of shared disciplinary culture, trust, responsibility and controlled access to data, and describing data to enable reuse. The findings, presented under these themes, revealed that, within APSV, sharing among members is mostly generous and uninhibited. Beyond APSV, when online repositories were involved, barriers came very strongly into play. Trust was weaker and barriers also included issues of data quality, data description, and ownership and control. The conclusion is that further investigation of these barriers, including the attitudes of professional scientists to using data contributed by citizen scientists, would indicate how more extensive and useful data sharing could be achieved.

Wójcik, M. "**Internet of Things – potential for libraries.**" *Library Hi Tech* vol. 34, n. 2 (2016). pp. 404-420.  
<http://www.emeraldinsight.com/doi/abs/10.1108/LHT-10-2015-0100>

Purpose – The purpose of this paper is to subject the potential of Internet of Things (IoT) technology for libraries in terms of the possible scope and usage forms of this technology in public and academic library services.

Design/methodology/approach – Based on analysis of the subject literature, the main areas of IoT applications in commercial institutions were identified, then an analysis of Library and Information Science English-language literature from the years 2010 to 2015 was conducted in order to create a profile of modern library services. The range of activities of commercial and non-commercial institutions were compared to ascertain if areas in which commercial entities using or planning to use IoT could also be an inspiration for libraries. In this way, a theoretical model of IoT use in library activities was developed. Findings – The research showed that IoT technology might have the potential to be used in library services and other activities, similar to how it is implemented in the commercial sector. Research limitations/implications – The aim of the paper is to determine the possible, not the actual, scope and forms of using this technology in public and academic libraries' services. Practical implications – The results can be widely used in libraries as an inspiration for the use of IoT technology in modern library services. Social implications – The use of new technologies in libraries can help to improve the image of these institutions in the eyes of users, especially the younger generation. Originality/value – The use of IoT in libraries is a new issue that has not been studied much yet. The issue of using the potential of this technology for the needs of libraries has, in recent years, been raised at international conferences, become a subject of interest to librarian associations, and been widely discussed in the blogosphere, thus proving that this topic is important to practitioners. It is difficult, however, to find any scientific, comprehensive studies of this topic.

Wu, D., X. Xu, et al. "**Comparing collaborative annotations on books between libraries and social community sites: A case study.**" *The Electronic Library* vol. 34, n. 2 (2016). pp. 178-195.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-09-2014-0171>

Purpose – Based on the study of overall situation of the tagging function in the provincial public libraries and library of major colleges and universities, this paper aims to examine the difference of tagging behaviour of its users in library and social community sites. The authors also want to understand the causes of a variety of annotation behavior in social community sites and libraries.

Design/methodology/approach – The authors collected all system log data of tags, comments and ratings users added in Wuhan University library, and then found the tags, comments and rating of corresponding books in Douban. Then, the authors did questionnaire survey to the Wuhan University students.

Findings – The authors found that the annotation service in the library is not perfect as that in social community site. Enthusiasm of users annotating books in the library is far less high than that on the social community sites. Lack of understanding of the annotation service is the main reason why users are not concerned or do not use the tagging service. But users have the needs of the organization of personal information in the library using tags. Originality/value – This paper investigated the library users' behavior in the using library OPAC course and compared the difference of annotation behavior between library and social community site.

Wu, K. and H.-C. Chen "**Children use second-and third-dimensional digital library interfaces.**" *Library Hi Tech* vol. 34, n. 1 (2016). pp. 21-35.  
<http://www.emeraldinsight.com/doi/abs/10.1108/LHT-07-2015-0078>

Purpose – The purpose of this paper is to explore children's spatial cognitive abilities as they engaged in information-seeking behaviors on two-dimensional (2D) and three-dimensional (3D) digital interfaces.

Design/methodology/approach – Children between the ages of seven and 11 were observed as they browsed either a 2D or 3D navigation interface for a children's digital library. Data regarding their use of the overview function and depth cues were analyzed to reveal the relationships between search performance efficiency, precision, and effectiveness and the associative memory, visualization memory, and spatial visualization abilities of the user. Findings – Children spent less time using the 2D interface when compared to time spent using the 3D interface. Children exhibited better performance precision when using the 3D interface. Children applied exhaustive strategies and more varied

cognitive skills across different tasks when using the 2D interface, and applied a more focussed approach when using the 3D interface. Originality/value – The cognitive abilities of children are not yet fully developed, so they require a unique user interface when browsing digital libraries. This study served the practical purpose of developing a game-like user interface for ease of use. Providing an effective overview function allows young users with less developed cognitive abilities to navigate informational cues. They can then build an effective mind map and implement efficient way-finding strategies.

Wu, K.-C. and H.-C. Chen "**How curiosity and uncertainty shape children's information seeking behaviors.**" *Library Hi Tech* vol. 34, n. 3 (2016). pp. 549-564. <http://www.emeraldinsight.com/doi/abs/10.1108/LHT-11-2015-0110>

**Purpose** The purpose of this paper is to explore whether children adopt a survey or a route approach when seeking information in a virtual world (VW), and whether their approach differs depending on whether they are experiencing positive or negative motivation. Different models were used based on disparate spatial recognition and conceptual abilities. **Design/methodology/approach** In total, 127 children operated a three-dimensional VW interface then they filled out a questionnaire. Structural equation modeling was employed to analyze weighted relationships among latent variables. Motivation (positive vs negative), information-seeking model (heuristic survey or detailed route) and the spatial markers, and complexity of patterns of the VW were examined. **Findings** The authors discovered that a highly motivated child tends to take a central route in the process of information seeking, whereas a child experiencing negative emotions and uncertainty prefers a survey approach using spatial markers to obtain information. In short, the type of motivation influences whether children adopt a heuristic or detailed perspective when searching for information on virtual interfaces. **Originality/value** It is believed that users combine perceptual activities (low-level cognition) with conceptual activities (high-level cognition) in order to save energy. Yet this study is the first to investigate the conditions under which children are prone to utilize spatial markers (based on visual working memory) or the sequencing of patterns (based on verbal working memory) to find information in a heuristic or detailed fashion. This study provides a fresh perspective regarding perceptual and conceptual integration for information visualization technology.

Xia, L., Z. Wang, et al. "**Research on feature-based opinion mining using topic maps.**" *The Electronic Library* vol. 34, n. 3 (2016). pp. 435-456.  
<http://www.emeraldinsight.com/doi/abs/10.1108/EL-11-2014-0197>

Purpose Opinion mining (OM), also known as "sentiment classification", which aims to discover common patterns of user opinions from their textual statements automatically or semi-automatically, is not only useful for customers, but also for manufacturers. However, because of the complexity of natural language, there are still some problems, such as domain dependence of sentiment words, extraction of implicit features and others. The purpose of this paper is to propose an OM method based on topic maps to solve these problems.

Design/methodology/approach Domain-specific knowledge is key to solve problems in feature-based OM. On the one hand, topic maps, as an ontology framework, are composed of topics, associations, occurrences and scopes, and can represent a class of knowledge representation schemes. On the other hand, compared with ontology, topic maps have many advantages. Thus, it is better to integrate domain-specific knowledge into OM based on topic maps. This method can make full use of the semantic relationships among feature words and sentiment words. Findings In feature-level OM, most of the existing research associate product features and opinions by their explicit co-occurrence, or use syntax parsing to judge the modification relationship between opinion words and product features within a review unit. They are mostly based on the structure of language units without considering domain knowledge. Only few methods based on ontology incorporate domain knowledge into feature-based OM, but they only use the "is-a" relation between concepts. Therefore, this paper proposes feature-based OM using topic maps. The experimental results revealed that this method can improve the accuracy of the OM. The findings of this study not only advance the state of OM research but also shed light on future research directions. Research limitations/implications To demonstrate the "feature-based OM using topic maps" applications, this work implements a prototype that helps users to find their new washing machines. Originality/value This paper presents a new method of feature-based OM using topic maps, which can integrate domain-specific knowledge into feature-based OM effectively. This method can improve the accuracy of the OM greatly. The proposed method can be applied across various application domains, such as e-commerce and e-government.

Xiaojuan, Z. and W. Jingjing "**Improving relations between users and libraries: a survey of Chinese academic libraries.**" *The Electronic Library* vol. 34, n. 4 (2016). pp. 597-616. <http://dx.doi.org/10.1108/EL-03-2015-0041>

**Purpose** This study aims to investigate the effectiveness of library services according to user experiences (UXs). The study discusses underlying internal problems existing in libraries that affect user satisfaction. Furthermore, it seeks to identify ways to improve the UX. **Design/methodology/approach** The methodology comprised a questionnaire administered at Nanjing University Library, China. The survey examined users' satisfaction with the online public access catalogue, locating books on the shelves, and users' participation in the organization of library resources. This study used the annual reading quantity of users system, a new system of measurement that distinguishes between informal and avid library users. **Findings** The data analysis indicated poor user satisfaction. The problems were mainly associated with the libraries' resource organization, such as descriptive cataloguing, subject headings and classification, which is controlled by library administration. Moreover, users' feedback is not integrated within the library system. Because of the process-oriented architecture of the current integrated library system, librarians and users do not communicate effectively. These barriers between users and the library staff members are difficult to overcome. **Originality/value** The study describes that the results relate to user satisfaction with searching and locating books based on the patron's reading level. Differences were observed between light and avid readers in terms of satisfaction with the ease of searching and finding books. This demonstrates the internal connections of these results with library procedures. Furthermore, this study identifies improvement measures to resolve these problems.

Yang, K.-C. "**Intellectual structure of trust in business and management: a co-citation analysis.**" *The Electronic Library* vol. 34, n. 3 (2016). pp. 358-370. <http://www.emeraldinsight.com/doi/abs/10.1108/EL-07-2014-0121>

**Purpose** In the past few decades, there has been a lot of literature about trust research for business and management. However, few authors have applied co-citation analysis. **Design/methodology/approach** Trust is one of the most discussed issues in management, as it has proved to have an essential role in

business operations. In this study, all citation documents are included in Thomson Reuters ISI Web of Knowledge database from 1992 to 2010. Findings By using statistics analysis including factor analysis, cluster analysis and multidimensional scaling, researchers identified four domains, including organizational behaviour, strategic alliance, marketing and social capital. Directions for future research are discussed. Originality/value This study is the first to apply co-citation techniques in the fields of trust. Therefore, the major contribution of this study is to provide an intellectual structure and trends within the field of trust from an objective and quantitative perspective.

Yang, L., K. Ketner, et al. "**A complete system for publishing music-related ETDs: Technology development and publishing model.**" *Library Hi Tech* vol. 34, n. 1 (2016). pp. 151-163.  
<http://www.emeraldinsight.com/doi/abs/10.1108/LHT-10-2015-0096>

Purpose – There is no proposed solution to address the unresolved issues of publishing music-related electronic theses and dissertations (ETDs) pertaining to technology availability, copyright, and preservation. The purpose of this paper is to propose a complete system, including technology development and publishing model, which addresses the existing issues of publishing music-related ETDs. The paper shares the practice of utilizing the system developed by Texas Tech University Libraries known as Streaming Audio and Video Experience (SAVE), and proposes it as a solution for other multimedia collections.

Design/methodology/approach – The proposed system includes a technology solution and a publishing model. The technology solution, SAVE, contains an authenticated streaming multimedia player, a responsive-design user interface, and a web-based submission and management system. The publishing model combines a DSpace-based institutional repository (IR) with SAVE and preservation strategies. Findings – The integrated system of SAVE and DSpace-based IR expands the access of music-related ETDs and other multimedia collections to patrons, benefits the distance education students as well as the local students, facilitates professors' classroom teaching, and helps to preserve physical multimedia items by avoiding check-outs. Originality/value – The SAVE solution resolves issues of publishing music-related ETDs, fulfills the local needs of publishing hundreds of music-related ETDs from the College of Visual and Performing Arts, and supports the publishing of other multimedia collections. The software will be released open source to the public for other universities' use. The

publishing model is also useful for those universities that intend to integrate an IR with the streaming player platform.

Yang, Z., D. Shengli, et al. "**Research on user needs for mobile information services in Chinese university libraries: Comparison between existing user and potential users.**" *The Electronic Library* vol. 34, n. 4 (2016). pp. 617-635.  
<http://dx.doi.org/10.1108/EL-12-2014-0222>

**Purpose** This paper aims to investigate the service demand of existing users and potential users for mobile information services provided by university libraries in China. The primary objective is to explore the impact of user experience on user needs, which is conducted by a comparison between two user groups over their needs from three aspects ? service function, service mode and information content. **Design/methodology/approach** Data were collected from 353 library users from ten Chinese universities via questionnaires. Based on the user needs model, three dimensions of user needs were established for mobile information services and 26 measurement items were generated through a review of the literature. Furthermore, based on frequency analysis, independent samples t-test and the calculation of need rate, the demand differences in mobile information services between existing and potential users were explored. **Findings** Significant differences existed in the needs for service functions and service modes of mobile information services between existing users and potential users. Existing users cared more about such characteristics as intelligence, personalization and the variety of mobile services. Potential users, in contrast, concerned themselves more with the usability of mobile services and similarity to traditional information services. These two user groups showed little difference in the needs for information content, as they both have strict requirements for specialty, richness in and quality of information resources in mobile network environments. **Originality/value** Previous research on user needs for mobile libraries services has been primarily conducted from the perspectives of existing users. This study, however, compared the needs of existing and potential users based on their previous experiences, which can help libraries to know better what their users need and improve the quality of mobile information services to meet those needs. This can also make existing users more willing to use the services and cultivate the usage habits of potential users at the same time.

Yi, Y. J., S. You, et al. "**The influence of smartphones on academic performance: The development of the technology-to-performance chain model.**" *Library Hi Tech* vol. 34, n. 3 (2016). pp. 480-499.  
<http://www.emeraldinsight.com/doi/abs/10.1108/LHT-04-2016-0038>

**Purpose** The purpose of this paper is to investigate the factors that influence college students' smartphone use for academic purposes by identifying the task-technology fit (TTF) of smartphones. A research model is proposed to explain how TTF of smartphones affects college students' perceived academic performance and smartphone use. **Design/methodology/approach** Online surveys were administered to college students at a South Korean university that has offered online academic services for more than five years, and 1,923 valid responses were analyzed. The study used partial least squares path modeling to evaluate the measurement model, and the bootstrapping technique to test the significance of the hypotheses. **Findings** The findings highlight that the TTF of smartphones has a direct influence on students' perceptions of performance impact and an indirect influence on smartphone use through a precursor of utilization, such as attitude toward smartphone use, social norms and facilitating conditions. **Research limitations/implications** Despite a reasonably large sample, a single cross-sectional survey has a likelihood of selection bias in the sample. **Practical implications** This study applies the TTF model to smartphone use among college students and suggests an effective way to motivate them to use mobile technologies for their academic activities. **Originality/value** The present study develops an empirical model to assess the adoption of smartphones and its effect on college students' academic performance. Above all, the study identifies a causal relationship among TTF, precursor of utilization, smartphone use and a perceived impact on academic performance based on the development and validation of the TTF constructs of smartphones.

Yu, W. and J. Chen "**Constructing linkage between libraries and up-to-date news.**" *Library Hi Tech* vol. 34, n. 2 (2016). pp. 301-313.  
<http://www.emeraldinsight.com/doi/abs/10.1108/LHT-11-2015-0109>

**Purpose** – The purpose of this paper is to construct the linkage between libraries and up-to-date news. This study developed a system to recommend libraries'

resources to those daily news readers who are interested in the topics of the target news. The analysis of experiments results served as the reference for the development and improvement of linking libraries' resources with other web resources. Design/methodology/approach – Up-to-date news were gathered through the news feeds to make the integration with the libraries' records. In task 1, the libraries' records were linked and recommended to the target libraries' records which are of the same topics. In task 2, the system aimed to find the relevant libraries' records for target news. Three recommendation methods were compared in both tasks to find the most effective approach to the system. Findings – Experiment results showed that: at first, in task 1, the system can assign the libraries' records of the related topics effectively; second, in task 2, the recommending system can obtain a satisfied recall hit rate through human evaluation. Therefore, regarding the popularity of the daily news online, the linkage and recommendation with the libraries' resources can increase the visibility of the libraries' resources and eventually promote the information consuming in libraries. Practical implications – The authors have confirmed, using three matrix factorization methods, that weighted matrix factorization used in the libraries' records recommendation system, could achieve better performance than the other two. Based on the research, the libraries could incorporate the online news and libraries' resources in practice. Originality/value – To increase the visibility and promote information consuming of libraries, this study proposed a novel method to construct the linkage between library and up-to-date news. The results of data analysis indicate that recommendation of libraries resources through the daily news can achieve effective performance. Thus, it can be inferred that the research results of this study are representative and have practical values in real world practice.

Zhang, M., X. Shen, et al. "**Which platform should I choose? Factors influencing consumers' channel transfer intention from web-based to mobile library service.**" *Library Hi Tech* vol. 34, n. 1 (2016). pp. 2-20.  
<http://www.emeraldinsight.com/doi/abs/10.1108/LHT-06-2015-0065>

Purpose – With more and more individuals relying on mobile devices to obtain information, many libraries launch mobile application to satisfy mobile users' information need. The purpose of this paper is to figure out factors influencing consumers' channel transfer intention of library service from web-based platform to mobile app. Design/methodology/approach – A structural equation model is

proposed based on categorization theory. In addition, situational contexts are taken into account to make research model more suitable for the real condition. Data collected from 319 samples are used for hypotheses examining. Findings – The relationships between source and target (perceived differentiation including function differentiation and resource differentiation) positively affect perceived situation efficiency, which in turn shapes intention to use mobile library application. Perceived mobile library quality positively influences perceived differentiation, perceived situation efficiency and mobile library adoption intention. In summary, perceived situation efficiency is the main factor. Practical implications – Both quality and situational factors should be taken seriously, and mobile device producers and mobile app developers should cooperate on improving the quality of mobile app. Meanwhile, it is critical to examine the relationship between web based and mobile library service in the initial or early stage of mobile library development. Originality/value – By focussing on the impacts of the relationship between web and mobile library service and evaluation of mobile library on the adoption intention, this paper not only provides a theoretical understanding of mobile library adoption behavior but also offers practical insights to library managers and app developers for promoting such a process.

Zhao, R., F. Guo, et al. "**Investigation and analysis of Informetrics curriculum education in China.**" *Library Hi Tech* vol. 34, n. 3 (2016). pp. 539-548. <http://www.emeraldinsight.com/doi/abs/10.1108/LHT-08-2015-0080>

**Purpose** The purpose of this paper is to generalize the teaching characteristics of some typical colleges in China which offer Informetrics courses, and to propose useful suggestions for the course construction of Informetrics through empirical investigation. **Design/methodology/approach** The statuses of Informetrics curriculum education of the top ten universities in Library and Information Science and Archives Management in Chinese mainland as well as Fu Jen Catholic University in Taiwan have been investigated and analyzed through a network survey and a telephone survey. Wuhan University and Fu Jen Catholic University are considered as the typical examples. **Findings** The educational development of Informetrics in China has gone through three stages: the initial stage, the developing stage and the improving stage. Based on the empirical investigation and analysis, some meaningful conclusions are drawn concerning the education system, teaching objectives, teaching contents and teaching methods of

Informetrics courses. Originality/value This paper provides curricular information about Informetrics courses in China.

Zhou, L., Y. Song, et al. **"Underutilisation of self-service libraries in Chinese cities: The absence of a patron-centric perspective."** *Library Hi Tech* vol. 34, n. 3 (2016). pp. 521-538.  
<http://www.emeraldinsight.com/doi/abs/10.1108/LHT-05-2016-0054>

**Purpose** Self-service libraries (SSLs) have been regarded as an effective approach to provide convenient book services to the enormously large populations of China's cities. These SSLs are in fact automatic book service machines, which provide a combination of services, including reading card issuing, book lending and returning, and book reservations and collection. However, despite acclaimed success, SSL services are not well received by patrons and are underutilised. The purpose of this paper is to identify and understand the causes of the underutilisation of SSL services in Chinese cities. **Design/methodology/approach** This study adopted an inductive approach and a case study research design. The SSL services in Wuhan, the capital city of Hubei Province, were adopted as the case study, in which 20 public librarians, SSL workers and managers, and library patrons were approached and interviewed using semi-structured question scripts. The interview data were analysed using a thematic analysis approach. **Findings** The analysis pointed to 13 causes in three main themes: management problems, service limitations, and the implicit role of government. Further conceptualisation of the findings revealed that the underutilisation of SSL services has resulted from the absence of a patron-centric perspective and the negligence of patrons' needs and requirements. Therefore, to increase the popularity and usage of SSLs, it is necessary to develop patron-centric management mechanisms through which patrons' needs and requirements can be effectively understood and responded to. **Originality/value** This study aims to develop specific suggestions to improve the usage of SSLs. Furthermore, although this study focuses on SSL development in China, this research can provide useful suggestions and implications that can be shared across international borders.

Zhu, Q. and H. Xiang **"Differences of Pareto principle performance in e-resource download distribution: An empirical study."** *The Electronic Library* vol. 34, n. 5 (2016). pp. 846-855.

<http://www.emeraldinsight.com/doi/abs/10.1108/EL-05-2015-0068>

**Purpose** The purpose of this paper is to explore whether the databases from a certain library are Pareto-compliant or not? If so, to what extent is the Pareto principle performance evident among these databases? The other purpose is to determine the differences in Pareto principle performance according to time change and database type. **Design/methodology/approach** Data on full-text downloads from six e-resources – Elsevier ScienceDirect (SD), Wiley Blackwell, Springer Journal, EBSCO Business Source Premier (BSP), American Chemical Society and American Institute of Physics (AIP) – for the period 2007-2013 were analysed; 42 samples were collected from these databases. The proportion of frequently downloaded journals from databases was selected as an indicator to determine differences in Pareto principle performance according to time change. The difference between the proportion of frequently downloaded journals and the classic proportion of 20 per cent was used as indicator to determine difference in Pareto principle performance related to database type. **Findings** There are 33 samples (78.57 per cent) which exhibited the Pareto principle. Four databases – Elsevier SD, Wiley Blackwell, EBSCO BSP and AIP – constantly exhibited the Pareto principle. The differences were not significant according to time change. The two multi-discipline databases – Elsevier SD and Wiley Blackwell – fluctuated more moderately than the two single-discipline databases – EBSCO BSP and AIP. Multi-discipline and single-discipline databases showed some differences in Pareto principle performance; however, these differences were not remarkable. **Originality/value** The Pareto principle confirmed that there were frequent and infrequent downloads of e-journals from e-journal databases. It was of great importance to analyse these to improve digital resources acquisition and user service.