

## PUBLICATIONS RESULTING FROM THE STUDY

**Mohd Razilan, A.K.**, Fatimah A.S. and Diljit, S. (2008). A Review on Digital Libraries Evolution: Information Systems and Information Retrieval Perspectives. In *Proceedings of the CAMP'08*, March 18, Kuala Lumpur: 204-209.

Abstract: *In library science perspective, the rapid development in Information Systems (IS) technology empowers users to build and publish information collections online through Digital Library (DL) systems. This paper presents a brief discussion on the evolution of DLs – history, research and development pertaining to IS' contributions to the development and implementation of information retrieval in DL systems. With a blending of approaches and contributions from IS and library science intellectuals, technologically speaking, DL systems are now moving forward in fulfilling users demand in larger and wider applications of library context. DLs are powerful vehicles for revitalizing universal knowledge repositories and enhancing information of all forms.*

**Razilan, A.K.**, Wan Ab. Kadir, W.D., Fatimah, A.S. and Diljit, S. (2009). Academic Digital Library's Evaluation Criteria: User-Centered Approach. In *Proceedings of the World Academy of Science, Engineering and Technology (WASET)*, June 24-26, Paris: 172-177.

Abstract: *Academic digital libraries emerged as a result of advances in computing and information systems technologies, and had been introduced in universities and to public. As results, moving in parallel with current technology in learning and researching environment indeed offers myriad of advantages especially to students and academicians, as well as researchers. This is due to dramatic changes in learning environment through the use of digital library system which giving spectacular impact on these societies' way of performing their study/research. This paper presents a survey of current criteria for evaluating academic digital libraries' performance. The goal is to discuss criteria being applied so far for academic digital libraries evaluation in the context of user-centered design. Although this paper does not comprehensively take into account all previous researches in evaluating academic digital libraries but at least it can be a guide in understanding the evaluation criteria being widely applied.*

**Razilan, A.K.**, Wan Ab. Kadir, W.D., Fatimah, A.S. and Diljit, S. (2009). Academic Digital Library's Evaluation Criteria: User-Centered Approach. *International Journal of Social and Human Sciences*, 3: 744-749.

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**Razilan, A.K.**, Wan Ab. Kadir, W.D., Fatimah, A.S., and Diljit, S. (2009). A user-based measure in evaluating academic digital library. *International Conference on Academic Libraries (ICAL-2009)*, October 5-8, University of Delhi (North Campus), Delhi.

Abstract: *High demand in acquiring online academic materials, digitization of education and research materials is just not enough. Beyond that, the needs of accessing and retrieving information through the network environments has made digital library to be the right answer and choice for many. Academic digital library appears to find its niche in the world of academic society resulting dramatic changes in learning and researching environment. Like any other digital libraries, academic digital library should be evaluated so that institutions can understand how useful their academic digital libraries to their domain of users. Literature shows that usability evaluation is in fact one of the most applied user-based approaches in evaluating digital library. It may lead and can result in improvements to system's interface. This paper reviews the literature on evaluating digital library via usability evaluation, its models and dimensions. Despite of different methods in usability evaluation study, the selection of method depends largely on the aim of the evaluation, also on aspects like the nature of the system, the targeted users and also the contents. The literature revealed that evaluating based on the aspect between user and system's interface, and between users and system's performance may not embrace the entire objective of usability evaluation. Another user-based measure is by taking into consideration on the aspect on how the digital library can suit with users' work or academic environments.*

Wan Ab. Kadir, W.D. and **Razilan, A.K.** (2010). Academic digital library in Malaysia: A case study on the status of digital reference services. *National Seminar on Information Technology in the Library*, August 3-5, Penang, Malaysia.

Abstract: *This paper highlights the current status of digital library services provided by selected public academic libraries in Malaysia. The drift from traditional library to digital library architecture has set drastic changes in favour of adopting knowledge-gain mechanisms via the use of networked and digital environments. With diversity of functions, academic digital library is seen the most awaiting proxy in changing the information culture among academic users. This paper in general attempts to highlight the phenomena of using digital library system in public universities in Malaysia. The focal of the discussion is on digital reference services of*

*academic digital library.*

**Razilan, A.K.,** Wan Kadir, W.D., Mohd Sazili, S., and Diljit, S. (2011). Faktor-faktor Kesedaran Terhadap Perpustakaan Digital di Institusi-institusi Pengajian Tinggi di Malaysia, *Informika: Jurnal Peradaban Informasi dan Ilmu*, 1(1): 103-120.

Abstract: *Kemunculan teknologi terkini dalam bidang maklumat dan system maklumat telah membawa kepada satu fenomena baru dalam teknik-teknik pembelajaran, pengajaran dan penyelidikan. Kehadiran fenomena ini juga telah mengubah dan memperlebarkan evolusi sistem perpustakaan tradisional ke sistem perpustakaan digital. Keperluan terhadap perpustakaan digital tidak boleh disangkal apatah lagi pencarian dan kedapatan maklumat akademik berasaskan kepada atas-talian dan tanpa sempadan. Di sebalik tersebarnya penggunaan perpustakaan digital, namun kajian ke atas kesedaran terhadap sistem sedemikian masih lagi jarang didapati. Kebanyakan kajian menumpu kepada kesedaran terhadap interaksi-manusia-komputer, begitu juga terhadap penggunaan Internet namun terlalu jarang terhadap perpustakaan digital. Sorotan kajian ini adalah untuk menyelidik faktor-faktor kesedaran terhadap perpustakaan digital akademik, di kalangan pengguna di institusi pengajian tinggi di Malaysia. Kaji selidik terhadap 944 responden di empat buah universiti penyelidikan mendapati bahawa lebih tiga perempat daripada mereka mempunyai kesedaran yang tinggi terhadap perpustakaan digital akademik di universiti masing-masing. Hasil penemuan kajian juga mencadangkan, di sebalik penggunaan Internet yang tinggi di kalangan pelajar dan ahli akademik, kemahiran dan pengalaman mengguna Internet membantu mereka untuk menyesuaikan diri dengan perpustakaan digital. Keperluan terhadap sumber-sumber perpustakaan digital juga ditemui lebih tinggi daripada perpustakaan fizikal. Implikasi praktikal kajian ini adalah terutamanya terhadap penyelidik sains perpustakaan, juga pustakawan dan pihak berkuasa perpustakaan akademik; bagi memahami sejauh mana kesedaran pengguna terhadap perpustakaan digital akademik serta impaknya terhadap persepsi dan kepenggunaan ke atas sistem tersebut.*

**Razilan, A.K.,** Wan Kadir, W.D., and Adnan, J. (2011). Usability Evaluation Dimensions and Measures for Academic Digital Library: A Review. *Journal of Information and Knowledge Management*, 1(1): 55-69.

Abstract: *Explosion in information and information system (IS) technology has brought dramatic changes in learning and library system environments. Through the passage from physical library to digital library era, the use of academic digital library systems do witness spectacular impact on academic societies' way of performing their study/research. Thus, evaluating the system is of paramount importance in understanding it is useful and can be beneficial for its targeted community. Usability design approach is widely used in the literature for evaluating digital libraries. In this paper, we review and examine the usability dimensions in usability evaluation for the context of academic digital libraries which focusing on usability engineering model that applied in the context of human-computer-interaction basis. Interface usability dimension and organizational (institutional) usability dimension are both potentials in*

*evaluating academic digital library, from the perspective of the users' academic needs, as well as from the academic institutions' requirements.*

**Razilan, A.K.** and Diljit, S. (2012). Examining the Relationships of Electronic Library Individual Usage and Impact using Partial Least Squares: A Formative Measurement Model. *Malaysia Journal of Library and Information Sciences*, 17(2): 1-15.

**Abstract:** *The conceptualisation of individual usage in Information Systems (IS) research is still undergoing debate and development. Despite several conceptualisations and substantial discussions in the literature, the use of formative indicators for constructs' (latent variables) measurement in empirical studies is still scant. In practice, many of the usage measures were conceptualised as reflective but tested as formative. The partial least squares (PLS) path modelling has in fact rarely been applied in modelling relationships between the posited success constructs in IS research. Only in the early 2000s has the approach gained attention in IS management. In attempting to bridge this gap, this paper examines the relationships between electronic library usage and individual impact where the usage measures were hypothesised as formative measures. It examines the relationships between the individual usage of electronic library for information provisioning and individual impact dimension in an IS Impact model. All of the three hypothesised causal paths among electronic library usage constructs and individual impact tested were supported by PLS.*

**Razilan, A.K.**, Fatimah, A.S., and Diljit, S. (2012). PLS Path Model for Testing the Moderating Effects in the Relationships among Formative IS Usage Variables of Academic Digital Libraries. *Australian Journal of Basic and Applied Sciences*, 6(7): 365-374.

**Abstract:** *Digital library research has developed rapidly over the past decade, and millions of dollars have been spent on building digital libraries. However, studies on the awareness of digital libraries are still scarce. Previous research indicates that many potential users may still not use or benefit from using digital libraries. Moreover, the studies on the awareness concept of digital libraries and for their longer term, is only beginning. In academia, transition from physical to digital libraries has been largely taken place in most of higher institutions in Malaysia. Owing to the Internet, Web and digital technologies, the academic library are now inevitably digital. Past researches majorly reported the usage of digital libraries and on recent studies focussing on the awareness. As far as academic digital library is concerned, studies on interacting the awareness factors in the relationships among the digital library usage constructs using formative model has not been located so far. In formative model, the measures are treated as the cause, as opposed to reflective model (where the measures are treated as the effect). Many social science researchers tend to have a priori assumption on the measures as reflective which may lead to misspecification of model. In bridging this gap, this paper attempts to examine the relationships between digital library usage and individual impact where the usage measures were hypothesized as formative measures. The relationships are tested with the incorporation of*

*interaction effects of digital library awareness factors. The tests are performed in academic digital libraries of higher institutions in Malaysia. All of the hypothesized causal paths among digital library usage constructs and individual impact tested using partial least squares (PLS) model were supported in both of the main effects and interaction effects models. Moreover the incorporation of digital library awareness factors has shown a moderate effect size, addressing the need of such factors in moderating the relationships between the digital library usage and individual impact for academic purposes.*

**Razilan, A.K.,** Fatimah, A.S., and Diljit, S. (2013). Demographic Factors and Awareness of Academic Digital Libraries at Higher Institutions. *Journal of Information Science* (Submitted for publication).

**Abstract:** *Explosion in information and information system (IS) technology has brought dramatic changes in learning and library system environments. Through the passage from physical library to digital library era, the use of academic digital library systems does witness the spectacular impact on academic societies' way of performing their study/research. Despite the wide spread of the use digital library in academia, research of the awareness of such system is still scarce. Much of research has documented in the awareness of human-computer-interaction, as well as on Internet usage but little was concentrated on digital library. This paper highlights an exploratory research on examining the demographic differences in the awareness of academic digital library among higher institutions in Malaysia. Using a structured questionnaire, a total of 944 students and academic staffs volunteered in the survey method opted. Findings indicated that more than three quarters of the participants aware and use their university digital library. Besides of this higher awareness, significant relationships were observed between digital library awareness and demographic profiles (gender, age, race and university). The findings provide practical implication of guiding library science researchers as well as librarians in tackling issues on awareness divide that might lead to different impact of the usage, attitudes and appreciation towards digital library.*