TRUST AND AUTHORITY IN SCHOLARLY COMMUNICATION IN THE LIGHT OF DIGITAL TRANSITION: EMBEDDING PRACTICES AND THE REQUIRED COMPETENCIES FOR UNIVERSITY LIBRARIANS

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Abstract

Librarians in higher education is not viewed as an academic; but primarily working in a supportive role. This assumption leads to the belief that the role concentrates on information service delivery rather than knowledge creation. A restricted view confining to "support research" denies librarians themselves the chance to realise their capacity to build new knowledge in research. It could instead be asserted that the role of a librarian in higher education is academic and that as information professionals, they have much to offer in scholarly communication. Librarians in academic libraries are increasingly required to "understand" research in order to meet institutional service needs and to further their own careers. To provide evidence to support the idea that university librarians play an important role in research undertaken by their organisations, this paper provides an overview of the author's investigation into the research project Trust and Authority in Scholarly Communications: The Periphery of World Scholarship in the Digital Era conducted in Malaysia (Abrizah et al. 2015a; Abrizah et al. 2015b; Abrizah 2015c). This paper uses findings from Abrizah et al. (2015a, 2015b, 2015c) to provide evidence to support the idea that university librarians play an important role in scholarly communication undertaken by their organizations. The study has shown views, perception and behaviours of Malaysian authors (academic researchers) in respect to scholarly channels and resource they trust to publish in. Peer-reviewed journals are still central to the authors. However, authors seem to have more freedom in relation to the journals they read and cite compared to the ones they publish in.

Peer review was highlighted as the most important factor for trust and authority to Malaysian researchers only when it comes to the evaluation of open access journals. Where researchers publish was strongly influenced by institutional research policy directives or mandates and the pressure applied is to publish in high impact factor international journals. Impact factors very much come into their own when it comes to the dissemination of research results.The study indicates that the main drivers affecting the market for scholarly journals relate primarily to the attitudes and actions of the main players, i.e. the authors. Looking at the authors' trust-related views, needs and issues in scholarly communication, it is emphasized that academic librarians apply their understanding of scholarly communication towards delivering the right services to meet the needs of the academic community. Librarians need to demonstrate competency in critically evaluating journals and published research. The paper presents the notion of the embedded librarian in relation to scholarly communication and implication for a set of competencies supported from the findings of the research. It is the view of the author that a key way of supporting research as a librarian is to engage in the practice, to partake in knowledge creation rather than simply providing information. Librarians need to perform self-assessment of current competencies and competencies they need to develop. This calls for academic librarians whose jobs involve supporting or conducting research or who have an interest in conducting research, to develop research competencies, and for the academic libraries to source research training for their librarians.

INTRODUCTION

Librarians in higher education support researchers every day – an undergraduate researching for a final year project, a doctoral student writing a proposal for his thesis, or a professor writing an article for a high impact journal – they are regularly involved in the research process in various ways. However, their role is often seen only as an information-provider role and concentrates on information service delivery, rather than knowledge creation, therefore less academic and primarily working in a supportive role. Auckland (2012) asserts that librarians "have supported the needs of researchers through relatively traditional services revolving around information discovery, collection development and some elements of information management". Auckland (2012) goes on providing evidence the view of a librarian in a research group undertaking his/her own research and who is also in a supporting role even in the examples given where he/she is considered part of a research team through the following statement:

> "A shift can be seen which takes subject librarians into a world beyond information discovery and management, collection development and information literacy training, to one in which they play a much greater part in the research process and in particular the management, curation and preservation of research data, and in scholarly communication and the effective dissemination of research output".

This restricted view confining to "support research" denies librarians themselves the chance to realise their capacity to build new knowledge in research. It could instead be asserted that the role of a librarian in higher education is academic and that as information professionals, and as opined by McCluskey (2013), librarians have much to offer in the research field, especially in contributing to new pedagogic knowledge. McNicol (2004) takes the view that "within the library and information profession, research is largely an untapped resource" and advocates that librarians disseminate practitioner research in order to narrow the practice-research gap. It is the view of the author that a key way of supporting research as a librarian is to engage in the practice, to partake in knowledge creation rather than simply providing information.

To provide evidence to support the idea that university librarians play an important role in research undertaken by their organisations, this paper provides an overview of an investigation into the research project *Trust and Authority in Scholarly Communications: The Periphery of World Scholarship in the Digital Era* conducted in Malaysia. It flags the key findings on the behaviours and attitudes of academic researchers as producers and consumers of scholarly information resources in today's scholarly digital environment; with respect to how they determine authority and trustworthiness in the sources they use, cite, and publish in. The extent to which Malaysian-based authors are prepared to believe that the scholarly information source and channel are trustworthy for publication rely on it in view of its impact, indexation status, reputation, peers' recommendation, accessibility and visibility, and authority's approval. New forms of communication channels such as social media or new journal models are not used much in formal scholarly communication or perhaps on the verge of being used more. This paper investigates the notion of the embedded librarian in relation to scholarly communication and research support via a literature review, as well as discusses the implication of the *Trust and Authority* findings in the context of the concept "embedded" librarianship particularly with regards to university librarians being directly involved in scholarly communication activities and delivering the right services to meet the needs of the research community. This calls for academic librarians whose jobs involve supporting or

conducting research, or who have an interest in conducting research, to develop research competencies, and the academic libraries to source research training for their librarians.

LIBRARIANS AND EMBEDDED PRACTICES IN SCHOLARLY COMMUNICATION

Scholarly communication is "both a formal and informal process by which the research and scholarship of academics, independent scholars, researchers are created, evaluated, edited, formatted, distributed, organized, made accessible, achieved, used and transformed"(SPARC Europe, 2003 cited by Jubb, 2008).It may simply be defined as a process through which scholars and researchers communicate research findings to others. While researchers defined the scholarly communication process as participation in an academic community, sharing of ideas, obtaining feedbacks from peers, receiving intellectual recognition and publishing process, the result to the scholarship and the scholarly communication process is supported by the library and the librarians, publishers, scholars, learned societies, the legal framework and universities.

Librarians in academic libraries are increasingly required to demonstrate their understanding of scholarly communication and conduct research in order to meet institutional service needs, as well as to further their own careers. Several factors within the field of academic librarianship have contributed to this development, particularly the evidence-based librarianship movement, the scholarly communication practices in the light of digital environment as well as the emphasis on service assessment and meaningful measures of library impact. In traditional librarianship, librarians in university and special libraries play an important role in research undertaken by their organisations but how should their role be reviewed in the light of the changes taking place in scholarly communication vis-à-vis the cyber world? Would the new environment provide librarians with greater opportunities to enhance their role in research and if so how?

Increasingly, librarians at research-based institutions are applying the embedded librarian model in working directly with the faculty they serve as collaborators on research projects or as an integral part of the research team. A great deal of the current literature makes mention of the fact that embedded librarianship is not a new phenomenon, and that library/faculty collaborations have always been in existence; in doing so, the authors of these publications almost always offer some formal definition of the term. A number of studies and professionals opinions venture into figuring out librarians' conception of embedded librarianship. Issac-Menard and Cairns (2014) for example demonstrate the embedded librarians as a partner for the academics who helps in the running of academic journals and research output. Embedded librarianship in relation to research is investigated more thoroughly by Carlson and Kneal (2011). As an embedded librarian in the research context, a librarian works with researchers more "upstream" in the research process rather than "just with the products produced at the end of the research lifecycle: books and journal articles". Carlson and Kneal (2011) wrote that the nature of these partnerships will be different according to the type of research being done and the needs of the researchers, but librarians will generally involve the application of the practices and principles of library science directly to the research being done. Schumaker, Talley and Miervaldis' (2009) model of embedded librarianship identifies six service sectors provided by embedded librarians: education, financial services, information services, technology, biomedical and media, and that academic librarians are significantly more likely to say they provide embedded services in these sectors (Schumaker, Talley and Miervaldis 2009).

Nevertheless, it has frequently been noted that the majority of the literature by librarians is not research-based (Koufogiannakis and Crumley, 2006). Librarians face obstacles to conduct research, such as lack of skills in conducting, disseminating, and interpreting research, as well as limited time, access to

funding, access to previously-published research, and employer support (Brice and Brooth, 2006; Koufogiannakis and Crumley, 2006). A further barrier to librarians becoming researchers is evident in the view taken of the gap between practitioners and researchers in the library and information science (LIS) area by Joint (2005); "LIS research is an empirical form of investigation – but of an applied, practical and ...useful variety". Joint recommends that library practitioners collaborate with LIS empirical researchers, rather than viewing practitioner research and collaboration with practitioner/action researchers from other arenas as a valuable endeavour. This collaborative endeavour is important as it views the librarian as a key partner and that such initiativeis beneficial to all involved and putting forward the notion that a network of trusted colleagues is of great value, as clearly indicated by Joint (2005), "Embedding yourself in a team outside of the traditional boundaries of the library is not taking you away from your day job so much as redefining it and expanding the influence of libraries". Nevertheless, the example given of this collaborative model still sees the librarian in an information support role, describing the librarian as one who serves and advising that he or she should "develop relationships with faculty through identifying their particular research needs pertaining to information resources ... librarians then respond to these needs" (Joint, 2005).

A more inclusive approach to the librarian as part of a higher education research group is highlighted by Gannon-Leary and Bent (2010), particularly in regard to writing for publication, with recommendations for a community of writer groups being set up in the library. They assert that library and information professionals "need an in-depth understanding of the writing for publication process" and that "by participating in conferences and similar events, LIS staff may build up networks, meet editors and gain publicity". However, Gannon-Leary and Bent (2010) still refer to librarians as predominantly supporting, rather than carrying out, research, even when attending such events. Hall (2010) recognises this tension, even noting that "the title research librarian (is) understood as a role that centres on assisting others in conducting research, rather than one where the core work is research in the domain of librarianship" and that "one way by which less-confident practitioner researchers might start to engage in research is to seek partners or mentors". This view is the closest found in the current literature that supports the idea of a research group whereby values and expertise can be shared in a 'safe' community of practice environment.

TRUST AND AUTHORITY IN SCHOLARLY COMMUNICATION: DEVELOPMENT OF RESEARCH COMPETENCIES FOR EMBEDDED LIBRARIANS

To provide evidence to support the idea that university librarians play an important role in research undertaken by their organisations, this paper provides an overview of an investigation into the research project *Trust and Authority in Scholarly Communications: The Periphery of World Scholarship in the Digital Era* conducted in Malaysia. Abrizah et al. (2015a, 2015b, 2015c) flags the preliminary key findings on the behaviours and attitudes of academic researchers as producers and consumers of scholarly information resources in today's scholarly digital environment; with respect to how they determine authority and trustworthiness in the sources they use, cite, and publish in. The extent to which Malaysian-based authors are prepared to believe that the scholarly information source and channel are trustworthy for publication rely on it in view of its impact, indexation status, reputation, peers' recommendation, accessibility and visibility, and authority's approval; regardless of whether they know or not the true meaning behind those trust and authority indicators. New forms of communication channels such as social media or new journal models are not used much in formal scholarly communication or perhaps on the verge of being used more.

The study indicates that the main drivers affecting the market for scholarly journals relate primarily to the attitudes and actions of the main players, i.e. the authors. Looking at the authors' trust-related

views, needs and issues in scholarly communication, it is emphasised that academic librarians apply their understanding of scholarly communication towards delivering the right services to meet the needs of the academic community. The findings of this study recommend the embedded ideas and practices presented in Table 1 to be incorporated in library's academic services.

Table 1: *Trust and Authority* major findings: Implication for embedded ideas and practices and librarians' competency

Information Behaviour	Major findings from the *Trust & Authority Study*	Implication for Embedded Ideas and Practices	Implication for Librarians' Competency
What scholarly resources authors read	Current, relevant, credentials and authorship; peer-reviewed; Have credential reference lists; reputable journals; Having an online platform (2015a).	Purposive selective dissemination of information service to researchers.	Systematic literature review; Critically evaluate published research.
What scholarly resources authors cite	Current, relevant, credentials and authorship; peer-reviewed; Have credential reference lists; reputable journals; Having an online platform (2015a; 2015b).	Conduct citation analysis.	Citation analysis; Statistical tools / quantitative analysis; Expertise on choice of data sources and analysis.
What publication channels authors trust	Journals that arehighly relevant in their respective fields; Peer-reviewed; indexed by reputable/prestigious abstracting/indexing databases such as Web of Science or Scopus ; Journals that are highly cited (2015c).	Conduct single journal studies; Provide advice to the faculty with regards to ranking of journals, journal impact factor and related indicators.	Bibliometrics; Scientometrics; Evidence appraisal / critical appraisal of institution's own research output.
What publication channels authors trust	Journals that arepublished by the society in the research field; Publishing with reputable traditional scholarly publisher; Journal that has reputable editors and editorial board members (2015b; 2015c)	Conduct single journal studies; Make academics aware that most scholarly e-journals are refereed and some are highly cited .	Bibliometrics; Scientometrics; Evidence appraisal / critical appraisal of institution's own research output.
Publishing and dissemination behaviour	Institutional mandate influences peripheral researchers' customary practices of information-source and dissemination evaluation. Research policy has tremendous influence on researchers when they publish their works. Researchers in all fields felt that the research policy more or less influences their research works. The tendency of publishing in higher impact factor journals, in international journals, in traditional	Highlight faculties about the types of e-journals available in respective disciplines, the referee status, their impact factor and whether they are on open access.	Institutional mandate or strategic plan. Knowledge on choosing a publication avenue.

	sources i.e. journals and monographs and in journals that have an *Online First* version is immensely influenced by policy directives and mandates (2015c).		
Publishing behaviour	Influence of prestigious journals in one's field – highly relevant, peer-reviewed, and indexed by global citation databases (2015c).	Regularly generated research assessment statistics.	Advance the theory and practice of embedded librarianship, and keep faculty apprised of new knowledge.
Open Access publishing; Social Media as research dissemination channels	Publishing in open access journals as well as blogging and micro-blogging to disseminate research findings are not influential as there are no forcible or encouraging measures for Malaysian researchers to blog or tweet (2015c).	Advocacy and promotion of open access journals and social media platform through liaison librarians, seminar on open access, leaflets, letters and e-mails.	Knowledge on open access scholarly communication; Altmetrics; Value of social impact of scholarly communication.
Dissemination behaviour	Authors trust institutional repositories more to disseminate their research compared to subject repositories. Social media platforms are the least popular choice for disseminating research as there are no forcible or encouraging measures for Malaysian researchers to blog or tweet about their research findings (2015c).	Advocacy and promotion of open access journals and social media platform through liaison librarians, seminar on open access, leaflets, letters and e-mails.	Knowledge on Open Access Scholarly Communication; Altmetrics; Value of social impact of scholarly communication; Familiarity of tools to disseminate research output
Publishing metrics	Scholarly metrics and status of indexation influence when looking for a place to publish, but not generally when looking for something to read and cite (2015c).	Advocacy and promotion of open access journals and social media platform through liaison librarians, seminar on open access, leaflets, letters and e-mails.	Knowledge on open access scholarly communication; Altmetrics; Value of social impact of scholarly communication
Publishing ethics	There are more unethical practices (e.g. plagiarism, falsifying, fabricating, citation gaming) but Malaysian researchers are in general cautious and aware about unethical practices in scholarly communication (2015b).	Evaluate journals, and educate faculty on suppressed list and predatory. journals. Respond to prevalent and misleading open access myths.	Knowledge on predatory journals/ publishers; Hijacked journals.

The findings of this study highlight one important implication; that librarians in higher education who are involved in supporting or conducting research, or who have an interest in conducting research, need to demonstrate a set of competencies supported from the findings of the *Trust and Authority Study*. These skills are knowledge in the area of bibliometrics, scientometrics, citation analysis, journal studies, and research assessment (Table 1). As such, librarians need to perform an assessment of their current competencies and competencies they need to develop. With such competency, a scenario planning may see embedded librarians organizationally attached to the centralized organizations, though they may spend their days away from the library and other librarians. They could be librarians working with information resources as they are generated over the course of the research, such as data, to prepare them for dissemination beyond the project personnel for re-use by others, or for long-term preservation. They could also be librarians designing workflows and systems to organize, manage, and deliver research project documentation or other needed materials. They could also be the librarians who not only perform literature searches, a standard library service, but would also be better able to identify search needs by joining researchers to do research. They could also conduct research that involves them to improve the library services or accountability, or a specific research topic in the areas of competency that require special attention with groups they are embedded with. They may have offices with the groups they are embedded with or they spend most of their time in collaboration with the teams whose work they are participating in. This embedded role offers librarians a means to increase their value in their organizations, their communities, and society as a whole.

DISCUSSION AND CONCLUSION

This paper uses findings from Abrizah's et al. (2015a; 2015b; 2015c) study to provide evidence to support the idea that university librarians play an important role in research undertaken by their organisations. It presents the notion of the embedded librarian in relation to research, and implication for a set of competency supported from the findings of the research. There has been, and continues to be, a tremendous amount of literature published addressing library and faculty research partnerships through embedded services. As new academic librarians enter the profession, they are realizing the importance of making strong connections with the faculty and make the latter understand that academic librarians are teaching professionals and that the role as academic librarians sometimes means doing major outreach services. Much of the current literature indicates that librarians have to do a great deal more to prove that libraries are needed, especially in the light of digital transition where so much information is being disseminated electronically, and that there is no longer a need for the traditional brick and mortar space. For academic librarians it has meant redefining their professional roles. The idea of academic librarians having to become experts in another discipline for the purposes of supporting research and curriculum is not new; what's new is the idea that academic librarians are increasingly being held accountable for the academic success of their stakeholders (Andrew 2014). Academic library outreach that can support research is another way librarians are keeping themselves relevant while at the same time helping students and faculty prepare for the information literacy and critical thinking skills needed for the world of scholarly communication.

In conclusion, a library should not relent in making their institutes aware of their responsibility for the scholarly communication process. Libraries should be involved in the complete information chain and start archiving and publishing knowledge created in the universities and provide knowledge access to users. In terms of embedding services in the form of publishing research, library publishing services are supposed to help scholars, authors, and editors. Libraries should provide expertise, timely notification, and advice on scholarly publishing in the rapidly changing scholarly communication paradigm. Libraries also provide the consultations regarding intellectual property rights, publications and the preservation of scholarly works. More embedded librarians are required to fulfill this role. In this, it could be inferred

that this immediately puts the librarian on an equal footing with research partners.This calls for academic librarians whose jobs involve supporting or conducting research, or who have an interest in conducting research, to develop research competencies, and the academic libraries to source research training for their librarians.This also means a revised curriculum in LIS education that incorporates the education for embedded librarians. It is the view of the author that a key way of supporting research as a librarian is to engage in the practice oneself, to partake in knowledge creation rather than simply providing information. As put forward by Carlson and Kneale (2011), embedded librarianship is a powerful way to show the impact that librarians can and do have beyond the traditional functions of the library, and why librarians are needed now more than ever.

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