



5th WORKSHOP OF THE ASIA
LIBRARY AND INFORMATION
RESEARCH GROUP 2013
(ALIRG)

5th WORKSHOP OF THE ASIA LIBRARY & INFORMATION RESEARCH GROUP

7-9 July 2013 Taksila Hotel, Maha Sarakham, Thailand

+ Organized by :

Faculty of Informatics, Mahasarakham University
Academic Resource Center, Mahasarakham University, Thailand

+ Co-organizers:

Wee Kim Wee School of Communication & Information,
Nanyang Technological University, Singapore

Graduate Institute of Library and Information Studies,
National Taiwan Normal University, Taiwan (RoC)

Information and communication Division,
Faculty of Humanities and Social Sciences,
Khon Kaen University, Thailand

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Organizing Partners



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5th Workshop of the Library and Information Research Group

7-9 July 2013, Maha Sarakham, Thailand

Chair

- Sujin Butdisuwan, Mahasarakham University, Thailand

Scientific Committee

- Chaveelak Boonyakanchana, Mahasarakham University, Thailand
- Sujin Butdisuwan, Mahasarakham University, Thailand
- Surithong Srisa-ard, Mahasarakham University, Thailand
- B. Ramesh Babu, Mahasarakham University, Thailand
- Chutima Sacchanand, Sukhothai Thammathirat Open University, Thailand
- Kulthida Tuamsuk, Khonkaen University, Thailand
- Lampang Manmart, Khonkaen University, Thailand
- E. Rama Reddy, RRRLF Research Fellow, Dept. of Culture, Govt. of India.
- Chistopher Khoo, Nanyang Technological University, Singapore
- Shaheen Majid, Nanyang Technological University, Singapore
- Hao-Ren Ke, National Taiwan Normal University, Taiwan
- Chao-Chen Chen, National Taiwan Normal University, Taiwan
- Li-Kuei Hsueh, National Cheng Chi University, Taiwan
- Chihfeng P. Lin, Shih Hsin University, Taiwan
- Diljit Singh, University of Malaya, Malaysia
- Kiran Kaur, University of Malaya, Malaysia
- Shigeo Sugimoto, University of Tsukuba, Japan
- Emi Ishita, Kyushu University, Japan

Keynote Speakers

- Chutima Sacchanand, Sukhothai Thammathirat Open University, Thailand
- E. Rama Reddy, RRRLF Research Fellow, Dept. of Culture, Govt. of India

Invited Speakers

- Kulthida Tuamsuk, Khonkaen University, Thailand
- Chistopher Khoo, Nanyang Technological University, Singapore
- Hao-Ren Ke, National Taiwan Normal University, Taiwan
- Kiran Kaur, University of Malaya, Malaysia
- H.S. Siddamallaiiah, National Institute of Mental Health and Neuro Sciences, Bangalore, India.
- Dong-Geun Oh, Keimyung University, South Korea
- Khanthamaly Yangnouvong, National Library, Laos PDR

Session Chairs and Panelists

- Hao-Ren Ke, National Taiwan Normal University, Taiwan
- Mallikajun Angadi, Tata Institute of Social Science, India
- Lampang Manmart, Khonkaen University, Thailand
- Chollabhat Vongprasert, Khonkaen University, Thailand
- Chistopher Khoo, Nanyang Technological University, Singapore
- S.K.Patil, Symbiosis International University, India
- E. Rama Reddy, RRRLF Research Fellow, Dept. of Culture, Govt. of India.
- Gangarn Somprasertsri, Mahasarakham University, Thailand
- Namtip Wipawin, Sukhothai Thammathirat Open University, Thailand
- Kiran Kaur, University of Malaya, Malaysia
- B. Ramesh Babu, Mahasarakham University, Thailand
- Chantana Wech-o-sotsakda, Mahasarakham University, Thailand
- Chutima Sacchanand, Sukhothai Thammathirat Open University, Thailand
- Surithong Srisa-ard, Mahasarakham University, Thailand

Opening Speech by the President

Keynote Speakers, Invited speakers, Scientific Committee members, Organizers and Co-organizers of this Workshop distinguished participants, invitees, guests, ladies and gentlemen.

Very Good Morning to you all and Greetings from the Mahasarakham University.

It is indeed a great pleasure and I am deeply honoured to associate myself on the occasion of the official opening of the 5th Workshop of the Asia Library and Information Research Group (ALIRG).

At the outset, on behalf of the Organizers, I would like to extend my heartfelt thanks to the Workshop organizers, various committees and co-organizers for giving us the privilege of hosting this workshop in Mahasarakham. I would like to draw your attention that Mahasarakham is the heart of North-East Thailand and Mahasarakham University is rapidly expanding its academic roots by collaborating with the other nations. The Faculty of Informatics in the Division of Information Science making efforts in furthering the roots of Information Science education and research. It is appropriate and right time that this workshop focusing on research collaboration at regional level is being organised this year in this University. I understand that this workshop is different from other workshops and conferences, since the main focus is on regional collaboration by reporting the ongoing and completed research projects and exploring the collaborative research projects.

The Library and Information Science research focusing many challenges and this workshop I believe would be the platform to discuss, debate and deliberate at length and arrive at workable solutions. The emerging areas of research and research collaboration are dynamically changing due to the impact of Knowledge Society and new Information Society.

I understand that there are presentations from the Asian nations like, Singapore, India, Japan, South Korea, Malaysia, Taiwan, mostly by the research scholars and also the research reports and collaborative research projects by the academics and professional community. The Workshop would discuss some of the significant areas of Library and Information Science such as Digital Libraries, Knowledge Management, Scholarly Communication, Metadata and Ontology, Information Services and Academic Libraries and Information Seeking Behaviour. In addition to these it also covers Regional Collaborative proposals by the presenters from the participating nations. The areas covered are Assessment of Public Libraries, Evaluation of Scholarly Communication, Thesaurus, Manuscript Libraries and some more areas of collaboration.

I am glad to state that about one hundred registered participants in this Workshop representing the Asian nations.

I thank profusely the Organizers, co-organizers, Members of the Scientific Committee, Keynote speakers, Invited speakers, for your untiring efforts and contributing for the success of the Workshop in a grand manner. I welcome whole heartedly the distinguished participants and wish that this Workshop will open new vistas and avenues for all of you to exchange your ideas and build the strong binding for research in Library and Information Science and furthering the future collaborations.

There are many challenges before you and I am sure you will succeed in the realization of the goals and vision and mission of the Workshop.

I wish you a very pleasant stay in Mahasarakham and deliberations are fruitful and academically productive. Now I have great pleasure in declaring this Workshop open for deliberations.

Thank you all.

Welcome Speech by DEAN, Faculty of Informatics, Maharakham University

It is indeed a great pleasure to welcome you all to 5th Workshop of the Asia Library and Information Research Group (ALIRG) being organised by the Faculty of Informatics and Academic Resource Center, Maharakham University, Thailand during 7-9 July 2013 at Taksila Hotel in Maharakham. The earlier workshops in this series were held at Taiwan, Thailand, Singapore and Taiwan. We are happy to inform you that this Workshop series being expanded to other nations in Asia by adding some more countries such as Malaysia, India, Korea and Japan.

The Faculty of Informatics and the Academic Resource Center, Maharakham University is very much honoured to host this 5th Workshop of ALIRG. This Workshop is different from other conferences where in, the focus is on regional collaborations and reports of collaborations. We hope that this Workshop contribute furthering the collaboration from some more countries of the Asian continent to explore the research collaborations in the field of Library and Information Science.

I am very much grateful to the co -organizers of this Workshop namely, Wee Kim Wee School of Communication and Information, Nanyang Technological University, Singapore; Information and Communication Division, Faculty of Humanities and Social Sciences, Khon Kaen University, Thailand and Graduate Institute of Library and Information Studies, National Taiwan Normal University, Taiwan for their constant support. I am also thankful to the members of the Organizing Committee, Steering Committee, Technical reviewers, staff members and students of the Faculty of Informatics and Academic Resource Center, who have been working for several months for the successful execution of this workshop. I would like to thank the Maharakham University authorities for their sponsorship to this historic workshop.

Finally I wish all the participants to have a comfortable stay during the workshop and continue to keep the spirit of ALIRG in the years to come for the cause of Library and Information Science education and research

The present volume is a collection of research papers compiled and brought out in connection with the **5th Workshop of the Asia Library and Information Research Group (ALIRG)** being organised by the Faculty of Informatics and Academic Resource Center, Mahasarakham University, Thailand during 7-9 July 2013 at Taksila Hotel in Mahasarakham. The co-organizers are Wee Kim Wee School of Communication and Information, Nanyang Technological University, Singapore; Information and Communication Division, Faculty of Humanities and Social Sciences, Khon Kaen University, Thailand and Graduate Institute of Library and Information Studies, National Taiwan Normal University, Taiwan. This is the fifth in series jointly participated by the Library and Information Science professionals from Thailand, Taiwan, and Singapore. In the 5th ALIRG workshop the coverage has been expanded to other nations of Asian continent such as Malaysia, India, Japan and South Korea.

This Workshop is different from other conferences where in, the focus is on regional collaborations and reports of collaborations. The participants are invited to take part in this workshop by proposing regional research collaborative projects, reporting on the on-going regional collaboration and hold working group meetings with collaborators, exploring in new or existing collaborative projects and inviting the research scholars by presenting the research proposals either completed or ongoing research projects.

There are presentations from the above stated nations mostly by the research scholars and also the research reports and collaborative research projects by the academics and professional community. The Workshop Proceedings cover about 50 presentations in the following areas of Library and Information Science:

- Digital Library
- Knowledge Management
- Scholarly Communication
- Metadata and Ontology
- Information Services and Academic Libraries
- Information Seeking Behavior

In addition to the above, it also covers Regional Collaborative proposals by the presenters from the participating nations. The areas covered are Assessment of Public Libraries, Evaluation of Scholarly Communication, Thesaurus, Manuscript Libraries and some more areas of collaboration. There are about one hundred registered participants representing the participating nations

The Editorial Board thanks all the contributors who have responded to the invitation by the Organizers. The Editors wish to congratulate the authors for their spontaneous response. Contributors to this workshop are by renowned faculty and practicing LIS professionals. Views expressed in these contributions are of the respective authors only and the Editorial Board is no way responsible for the thought content of the articles. The Editors are sure that this workshop proceeding would be a valuable addition and contribute to the growth of LIS literature.

The Organizing Committee thank the authorities of the Mahasarakham University and other sponsors for their generous financial support for making the Workshop a grand success and a memorable one and

contributes this workshop experience as a land mark in the annals of history of Faculty of Informatics and Academic Resource Center, Mahasarakham University.

The Organizing Committee wishes the participants a comfortable stay and stands as a memorable event in their professional career.

5th ALIRG Organizing Committee

www.5lirg.info

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Khamriang, Kantarawichai, Maha Sarakham 44150, Thailand
Tel. +66(0) 4375 4359 website: www.it.msu.ac.th

Sunday, 7 July 2013	
8.30-9.00	Registration
9.00 - 9.15	<p>Opening Session</p> <ul style="list-style-type: none"> - Welcome Remarks : Dr. Sujin Butdisuwan Dean, Faculty of Informatics, Mahasarakham University - Opening Remarks : Assoc. Prof. Supachai Samappito President, Mahasarakham University
9.15 -10.30	<p>Keynotes</p> <ol style="list-style-type: none"> 1. Prof. Chutima Sacchanand Research in Library and Information Science in Thailand: an Overview 2. Prof. E. Rama Reddy LIS Research and Asia <p style="text-align: right;">Moderator: Dr. Sujin Butdisuwan</p>
10.30-10.45	Coffee Break
10.45-12.00	<p>Invited Papers</p> <ol style="list-style-type: none"> 1. Assoc. Prof. Christopher Khoo LIS Education and Research in Singapore 2. Assoc. Prof. Hao-Ren Ke LIS Education and Research in Taiwan 3. Assoc. Prof. Kulthida Tuamsuk LIS Education and Research in Thailand 4. Dr. Kiran Kaur LIS Education and Research In Malaysia 5. Dr. H. S. Siddamallaiah Move from Science to Applied Science : Information Engineering and Management 6. Prof. Dong-Geun Oh LIS Education and Research in South Korea 7. Mrs. Khanthamaly Yangnouvong The Digital Library of Lao Manuscripts <p style="text-align: right;">Moderator: Dr. Sujin Butdisuwan</p>
12.00-13.00	Lunch Break

	Parallel Track	
13.00-14.30	<p>Session 1A: Digital Library, Web 2.0, and Open Access</p> <ul style="list-style-type: none"> • Working with D-space: Setting up a digital institutional repository at an Indian Management Institute by Meenal Oak and S.K.Patil • Library and information services using social media tools: Need of the future by N.B. Dahibhate and S.K.Patil • The use and gratifications perspectives on academic libraries' social media presence by Niusha Zohoorian-Fooladi and A.Abrizah • Innovation diffusion: The case of E-publishing amongst Malaysian journal publishers by Sanni Shamsudeen A. • Building a Digital Audiobooks Library Using Commons-based Peer Production by Ruling Wu and Hao-Ren Ke • A Preliminary Study of the Impact of Social Tags on Book Search by Heng-Yi Chen, Hao-Ren Ke <p>Chair: Prof. Hao-Ren Ke Panelist: Dr. Mallikajun Angadi</p>	<p>Session 1B: Knowledge Management</p> <ul style="list-style-type: none"> • Knowledge-based expert system of the researches on development of Northeastern Thailand by Jirapong Panawong and Kultida Tuamsuk • Interface design for a clinical decision support system: The effect of information cues on clinicians' diagnosis: Research proposal by Pian Wenjing • Knowledge management model for sustainable cultural tourism development of local communities in Thailand by Duldantai Wanthongchai and Chollabhat Vongprasert <p>Chair: Assoc.Prof. Lampang Manmart Panelist: Asst.Prof. Chollabhat Vongprasert</p>
14.30-15.00	Coffee Break	
	Parallel Track	
15.00-16.45	<p>Session 2A: Scholarly Communication</p> <ul style="list-style-type: none"> • Open access and scholarly communication: author perspectives in Thailand and India with special reference to MSU and UoH by Sujin Butdisuwan and E. Rama Reddy • Scholarly communication in Thailand- A scientometric analysis of biomedical research by J.P.S. Kumaravel, T.S. Seethalakshmi, E.M. Manimala, and L. Mohamed Idhris • The idol may be small, its fame is big- A scientometric view of research in Thailand by A. Manoharan, M. 	<p>Session 2B: Metadata and Ontology</p> <ul style="list-style-type: none"> • Statistical metadata model for knowledge creation in clinical research by Sukanya Ruangsuwan, Lampang Manmart and Malee Kabmala • Developing an ontology in banking using open source software by Kaushal Giri • Development of an open access institutional repository of the faculty of Humanities, Chiang Mai University by Marisa Chung Vinitketkumnuan • Development of the Greater Mekhong Sub-region tourism ontology by Rapassit

	<p>Nagarajan, and B. Kanagavel</p> <ul style="list-style-type: none"> • Scientometric analysis of leukemia research output(1960-2011): An Indian perspective by R. Jeyshankar and B. Ramesh Babu • Informal scholarly communication among fishery scientists in Taiwan by Chia-Hsiang Chen and Hao-Ren Ke • The development of social network model to enhance research productivity of faculty members in Thai research universities by Ruchareka Wittayawuttikul and Namtip Wipawin <p>Chair: Assoc. Prof. Christopher Khoo Panelist: Dr.S.K. Patil</p>	<p>Chinnapatjeeras, Kultida Tuamsuk, Kanyarat Kwiecien</p> <ul style="list-style-type: none"> • Integrating folksonomy and subject heading concepts in building searching terminology for information resources in the field of business administration and economics by Napassakorn Kruaysawat, Lampang Manmart and Malee Kabmala <p>Chair: Prof. E. Rama Reddy Panelist: Asst.Prof. Gamgarn Somprasertsri</p>
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16.45-17.45	<p>Understanding Discoverability and Research Trends: Research and Usage Trends in Asia, and JSTOR new initiatives to help improve Soeythip Sukul, Country Coordinator, EIFL-Thailand</p>
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18.30-20.30	Banquet
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Monday, 8 July 2013

Parallel Track			
9.00- 10.30	<table border="1" style="width: 100%;"> <tr> <td data-bbox="337 1120 858 1915"> <p>Session 3A: Information Services and Academic Libraries</p> <ul style="list-style-type: none"> • Sense of belonging among visually impaired student in University Library in Malaysia by Nahid Bayat Bodaghi • NAAC accreditation and college libraries in Maharashtra, India by Shivshankar Ghumre • Library anxiety, communication anxiety and foreign language anxiety: A correlatives study among non-native speakers of English by Janaki Sinnasamy • Overview on Internet and web search engines: An Osmania University research scholars perspective by J. Vivekavardhan and </td> <td data-bbox="858 1120 1430 1915"> <p>Session 3B: Information Seeking Behavior</p> <ul style="list-style-type: none"> • Parental-child interactive reading with preschoolers from Asian immigrant families in the North Texas Area of the United States by Yaowaluk Suwannakhae • Health information behavior model of people in rural areas, Thailand by Pichet Polpichit, Yupin Techamanee and Chollabhat Vongprasert • Information perceptibility for behavioral adjustment of drug abuse youths by Thanahatai Sinthunok and Chollabhat Vongprasert • Information seeking behavior of health professional of NGOs in Karnataka: A </td> </tr> </table>	<p>Session 3A: Information Services and Academic Libraries</p> <ul style="list-style-type: none"> • Sense of belonging among visually impaired student in University Library in Malaysia by Nahid Bayat Bodaghi • NAAC accreditation and college libraries in Maharashtra, India by Shivshankar Ghumre • Library anxiety, communication anxiety and foreign language anxiety: A correlatives study among non-native speakers of English by Janaki Sinnasamy • Overview on Internet and web search engines: An Osmania University research scholars perspective by J. Vivekavardhan and 	<p>Session 3B: Information Seeking Behavior</p> <ul style="list-style-type: none"> • Parental-child interactive reading with preschoolers from Asian immigrant families in the North Texas Area of the United States by Yaowaluk Suwannakhae • Health information behavior model of people in rural areas, Thailand by Pichet Polpichit, Yupin Techamanee and Chollabhat Vongprasert • Information perceptibility for behavioral adjustment of drug abuse youths by Thanahatai Sinthunok and Chollabhat Vongprasert • Information seeking behavior of health professional of NGOs in Karnataka: A
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	<p>A.S. Chakravarthy</p> <ul style="list-style-type: none"> • Impact of Information Technology on university library services in India and Thailand: A survey by Patorn Nilati and N. Laxman Rao • Public Libraries in Thailand in the Context of Living Library Model for Life Long Learning in the Community by Rungtip Charoensak and Chollabhat Vongprasert <p>Chair: Assoc.Prof. Namtip Wipawin Panelist: Dr.Kiran Kaur</p>	<p>study by Suman Muddapur</p> <ul style="list-style-type: none"> • The information needs and uses among elderly people in Southern Thailand by Yasatsawin Boonchuay <p>Chair: B.Ramesh Babu Panelist: Chantana Wech-o-sotsakda,</p>
10.30-11.45	Coffee Break	
10.45-12.00	<p>Regional Collaboration Proposals</p> <ul style="list-style-type: none"> • Outcome assessment of public libraries by Hao-Ren Ke • Evaluation of scholarly communication by V.Vishwa Mohan and Ms. Achala Munigal • Subject headings for Indian publications (SHIP) by E. Rama Reddy and Phatthira Suwannako • Manuscript libraries in Thailand and Tamil Nadu (India): A comparative study of their management in the ICT environment by Sujin Butdisuwan and B. Ramesh Babu • Information Seeking and Social Media Sites by Christopher Khoo <p>Chair: Prof. Chutima Sacchanand Panelist: Dr. Surithong Srisa-ard</p>	
12.00-13.00	Lunch Break	
13.00-14.30	<p>Closing Sessions</p> <ul style="list-style-type: none"> - Summary of the Sessions by Session Chairs - Closing remarks: Chairman and co-organizers <p style="text-align: right;">Moderator: Dr. Sujin Butdisuwan</p>	
14.30-16.30	<p>Campus Tour</p> <ul style="list-style-type: none"> - Faculty of Informatics, Mahasarakham University - Academic Resource Center - MSU Museum 	
Tuesday, 9 July 2013		
7.00-12.00	Visit Phu Kum Khao Dinosaur Museum, Kalasin Province (75 Km).	
12.00	Drop off at Khon Kaen Airport or Pullman Hotel (for ALIEP participants)	

LIS Research and Asia

5th ALIRG Workshop at Maharakham University, Thailand

July 7-9, 2013

Keynote Address by

Dr. E. Rama Reddy

RRRLF Research Fellow, Dept of Culture, Govt. of India &

University Librarian (Retd.), University of Hyderabad

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Abstract

This presentation is based on the review of LIS literature focusing on research. It is necessary for us to question ourselves to find relevant and sustainable answers regarding LIS. The presentation mentions growth of Digital information, bigger role for ALIRG for creating platform to address various LIS research issues in the Asian Region, LIS Schools in the South Asia and ASEAN, including China and Taiwan, LIS education and research in general and India in particular. The presentation also mentions briefly the present status and future of LIS research and also the LIS research needs in Asia

Introduction

The past 30 years have seen many changes in library and information science (LIS) education, and the professional working environment generally. The most far reaching of these changes is the development of a research base and research methodologies for LIS and the subsequent impact of these research findings on professional practice. Investment in research and development by governmental, educational and commercial agencies will ultimately do more to secure the long term future of the LIS profession than any amount of evangelizing on the importance of information. Nevertheless, a major problem in LIS research has been a lack of co-ordination and planning at a national level.

Before we go further into the topic, it is necessary to ask ourselves few Questions to find sustainable answers:

- Is LIS a professional course? and can we confidently say that we are professionals?
- Is LIS a stand-alone or a multi-disciplinary course?
- Why LIS is not able to get status and recognition on par with many other professions?
- Is growth of a discipline based on the research (theoretical, experimental and need-based)?
- Why we are not able to focus on creating new theories in LIS to build a strong foundation?
- How important the theories are for a course to stand up and develop?
- Why LIS research is not innovative and visible to the society?
- How long can we depend on the tools that are created or devised outside LIS discipline?
- Why the LIS teaching staff and practicing LIS professionals can't work together?
- Can we say quality of LIS services depend on the quality of teaching and learning in LIS dept?
- Can we say with confidence, LIS research can add value to the course in particular and profession in general?
- Why library professionals are not motivated to serve the users with dedication?

- In many Asian countries, non-library personnel are working in the libraries and why?

If we find convincing and sustainable answers, we need to look at the developments that are happening around us at national and global level. Information Technology and the information formats are challenging the profession and it is time for us to take these challenges as opportunities to bring glory, status and recognition to the LIS. Such a situation will attract more number of enthusiastic students to come into LIS courses, who will confidently take forward the mission of LIS.

Digital Universe

The digital information is growing with at very high rate and the Internet and Web information is chocking and the users are finding it very difficult to search for information. "The volume of information continues to grow at an astonishing rate. This growth and 'big data' are transforming all aspects of research, business and society. The 2011 Digital Universe study "Extracting Value from Chaos" reveals all". www.emc.com. Less than 1/3 of the information in the digital universe has minimal security/protection, 1/2 of the information that should be protected is protected. The digital universe paradox is: Falling costs & rising investments

It is found that the world's information is doubling every two years. By 2011 the world created a staggering 1.8 zettabytes (1.8 trillion gigabytes) of information. By 2020 the world will generate 50 times the amount of information and 75 times the number of "information containers" while IT staff to manage it will grow less than 1.5 times. New "information taming" technologies such as reduplication, compression, and analysis tools are driving down the cost of creating, capturing, managing, and storing information to one-sixth the cost in 2011 in comparison to 2005 www.emc.com/leadership/programs/digital-universe.htm

ALIRG and Research Activities

The Asia Library and Information Research Group (ALIRG) started with an objective to encourage collaborative research in LIS, need to also focus on the present developments and

trends in LIS research, both theoretically and practically, in the Asian region. The review of research in LIS field indicates two major trends across Asia: growth in the number of LIS schools and expansion of programs, and growth in research outputs in some countries. The LIS education and research growth can be seen in the Asian countries, particularly in China and India.

The Directory of Library & Information Science Programs in Asia shows that there are 95 universities having LIS programs in China, 120 in India, 12 in Indonesia, 17 in Thailand, 12 in Taiwan, and 1 in Singapore... At the same time, Australia and New Zealand have been fairly stable in LIS education growth compared to Asia, but they provide significant distance education and training programs. It is found that major centres of the world producing LIS research have been the universities and information institutions in North America, the United Kingdom, and Europe.

If we look at the growth of the Asian economies, universities, and information industries, LIS research being conducted and published in the Asia region seem to be not significant. It is found that up to 2011, there were totally 377,650 LIS document records in the database of Web of Science, and around 10,000 of them were written by Asian researchers working not only in the Asian Region but elsewhere as well. It is time for us to closely look at LIS research developments and practices in Asia.

ALIRG can be an ideal platform to showcase the LIS research, allowing presentations and comparison of history and trends in LIS research in Asia, along with an investigation of reasons for similarities and differences in the outcomes. It is also time for us to work on creating trends in LIS research in our countries for us to share at this platform.

Main goal of this presentation is to request the participants from different countries to come together and share theories and practices, achievements, and challenges in LIS research studies in our countries. It is necessary to assemble researchers from the major LIS schools in Asia to disseminate and discuss the changing nature of the research, the major advances, and practical development in the field. Presentations at ALIRG can showcase evolving and emerging research and practices in diverse countries in the region. It will also enable in identifying the areas to establish collaborations to highlight the current concerns and issues surrounding both theories and practices.

LIS Schools: ASEAN and South Asia

The following table indicates, number of LIS Schools/departments in South Asia and ASEAN Region, including China and Taiwan (www.cisap.asia). There is need to update this with inputs from the participants to make it comprehensive. More details need to be added to disseminate the levels of LIS courses with relevant details to promote LIS programs in the Asian Region.

<u>Country</u>	<u>LIS schools</u>	<u>Ph D programs</u>
Indonesia	12	-
Malaysia	6	3
Singapore	1	-
Thailand	17	2
Vietnam	5	-
South Korea	5	1
Philippines	34	1
Brunei	1	-
Taiwan	12	3
China	95	11
India	120	80
Bangladesh	3	-
Pakistan	2	-
Sri Lanka	1	-
Nepal	1	-

LIS Education and Research

Research in LIS in the past was considered primarily to provide a theoretical foundation to professional practice. Roots of research in LIS profession appears to be not very deep and strong.

Research in library science can be traced to the Library School of the University of Chicago, in mid-1920s. Bibliometric studies, citation analysis became popular with the times. During 1950's, Primary research methods include: questionnaires, interviews, etc. Information retrieval research started to take over few decades back. Research qualifications became a requirement for more faculty positions. Growth in the number of conferences, seminars encouraged the professionals to undertake research activities to submit papers. With the increased interest in research in LIS, emphasis on training researchers in LIS became part of the curriculum. There has been increasing emphasis on relevance to practical applications "applied" focus. New topics of interest emerged focusing on online retrieval, digital libraries, application of IT to LIS management, health information, information seeking behavior etc. Surveys still popular but other methods increasingly used. Pace of library research is picking up slowly today because of social pressure, as well as, inspiration. It has been the feeling of many that, if librarianship aspires to become a profession, it should depend upon research to develop its knowledge base and its theoretical framework.

LIS Research in India

LIS Education is 100 years old. There has been steady growth of LIS education over these years. LIS research started in the year 1957 and we can see the growth for the past 40 years only. Growth of Ph D in LIS can be attributed to the decisions taken by the UGC by making Ph D a compulsory qualification for the recruitment of Assistant Professors in LIS departments and Assistant Librarians in the University and College Libraries in India. India produced over 850 PhDs until 2010 and the number is on the increase. The following figures are taken from the statistical reports published by the Association of Indian Universities (AIU). AIU also publishes "Research in Progress" by compiling the ongoing research activities in the Indian Universities with the topic, name of the research scholar, research guide etc.

<u>Year</u>	<u>No. of Ph Ds</u>
1957	1
1963-70	2
1971-80	16
1981-90	131
1991-00	337
2001-10	363

LIS education in India is over 100 years old and the research in LIS is of recent development. Large number of LIS Ph.D. theses in India focused in the field of:

- Bibliometrics / scientometric / Informatics
- library management,
- university libraries,
- Public Libraries
- indexing system,
- information seeking behavior, and
- Library and information services.

National Knowledge Commission

National Knowledge Commission (NKC) report of the 'Working Group on libraries' published in March 2007 revealed: "India has a long tradition of libraries and has contributed to the development of basic concepts in the discipline such as fundamental principles of library services, and knowledge organization tools, R&D activities in LIS today are extremely limited. This is utmost concern for the growth of LIS profession in India".

NKC has recommended the following research areas:

- user studies,
- organization of community information and development of appropriate standards,
- standardization of Indian names,
- vocabulary control,
- development of Open Source Software,
- development of digital libraries both in English and Indian languages,
- cross language information retrieval and subjects that have high potential of doing research in LIS

LIS Research

The research productivity is highly significant in any discipline because of the efforts of the contributions of the researcher and their guide(s). It is worth remembering Dr. S.R. Ranganathan and many other professionals who have contributed much to the development of the profession, as well as, knowledge and skill in India. Many faculty members feel that most of their time is spent on teaching and find very little time to involve in research activities. Teaching does not really hamper research; rather it helps generate newer ideas/questions. If good facilities and congenial environment is created in the universities, the faculty members would have the double advantage of good research and pleasure of teaching. Infrastructure, Institutional support and motivation for quality are other factors that need to be in place for excellence.

Current Status of LIS Research

Research in LIS generally considered being uneven and oriented to practice - applied more than basic research.

Descriptive research is very prevalent and much less than half published research is basic research. Overall, studies of the published literature cast LIS research in a somewhat negative light: not enough basic research and lack of rigor and also non-cumulative & often episodic without connection to previous research.

Future of LIS Research

Need for more basic research as a field: To test existing conventions or accepted practices help develop stronger theories and move beyond dependence on descriptive data. Establish "principles and theories on which libraries and information systems and services can be based. It is necessary to "establish or develop a body of theory on which to base our practice". We see not many LIS practitioners are involved in research because of poor communication between active researchers and practitioners. Practitioners feel overwhelmed by the professional literature. Great amount of research jargon discourages practitioners from reading the research literature. Practitioners have all that they can handle keeping up with emerging information technology and service responsibilities. However, things are not as bleak as previous points might suggest. Several studies showed that LIS research improved in the 20th century. Research journals show interest in wide variety of research topics.

LIS Research Needs in Asia

Asian Region has more potential to get into research studies. There are many similarities and also differences to share and identify the best practices in LIS: The basic needs required to undertake research activities in Asia include:

1. **Research infrastructures (RI), global challenges and internationalization:** Global challenges are important drivers for identification, construction and operation of large research infrastructures, both single-sited and distributed ones linked by high-speed networks for optimal sharing of data and resources.

2. **Role played by RIs in strengthening research capacity within Asia:** 'Research capacity' must be interpreted within the context of research requirements. Research capacity describes the potential that arises through the combination of scientific knowledge, technological expertise, managerial skills, and other human and physical resources to address specific research questions

3. **Prioritization procedures:** There is, little or no coordination between the Asian Countries for prioritization procedures to determine how limited national funds should be allocated to build research infrastructures for creating new infrastructures, or for continuing support for existing RIs. Three different approaches can tackle this problem.

- First approach would be to develop the prioritization process within their countries.
- Second approach would be to designate a body charged with aiding and assisting Member Countries with the process of prioritizing research infrastructures.
- Third approach – the creation of a separate entity, reporting to the Member Countries, charged with responsibility for the coordination and harmonization of the

prioritization procedures to be adopted by one or several Member States in a later stage.

4. Decision-making, funding and governance processes: For research infrastructures, whether single-sited or of distributed nature, many different funding schemes may be used to facilitate the construction and operational phases. It is important to combine different sources of funding and to develop governance processes and management structures which provide both single-sited and distributed RIs with the flexibility to respond to evolving research, innovation and educational challenges.

5. E-infrastructure and access: The development and management of access arrangements to RIs is critical to their value as research resources. Full spectrum of e-infrastructure, including computing, data, networks, software and related competences has to be supported in a balanced way to achieve efficiency in building the ICT ecosystem supporting access to RIs and sharing their research functions. Closer collaboration between research communities and providers of e-infrastructure and related services needs to be promoted. Mode of operation has to move from project based activities towards a sustainable model with guaranteed resource and service development to make long-term commitment attractive for research groups.

6. Legal framework: To further the development of the Asian Research, a beneficial legal environment is a key requirement. Such environment facilitates the progress of research actions, aids in attracting scientists and researchers, smoothes the innovation process, and offers appropriate protection to intellectual Property Rights

7. Evaluation and impact assessment: Decision makers need relevant information about the range of impacts of existing and proposed RIs to underpin their funding decisions. Likewise, research infrastructure managers need to be fully aware of performance factors based on the evaluation of relevant indicators.

Concluding Remarks

There is need to critically question and find sustainable answers to bring back the status and recognition to LIS as an acceptable professional course. Teaching and practice should go hand in hand to get better products with practical skills. If you all agree, I conclude saying "Quality Research" is the backbone for LIS as a discipline to standup as a strong professional course.

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Research in Library and Information Science in Thailand: an Overview

Keynote Address by

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Abstract

This paper is an overview with historical background of library and information science research in Thailand. Content analysis of findings from theses by graduate students and research works by faculty and academic librarians shows the status of library and information research in Thailand, its scope, research methodology, statistics used, obstacles and roles. The author highlighted some issues and trends on the increasing number of LIS research works, the interdisciplinary nature of the library and information science, and its roles

Background

Research in library and information science in Thailand has its long history, according to Suthilak Ambhanwong (1970: 247), the first library science Professor in Thailand and the founder as well as the Head of the first library school in Thailand probably originated with the formation of the Department of Library Science in the Faculty of Arts, Chulalongkorn University in 1955, with the authority to grant a Diploma in Library Science to holders of a bachelor's degree program. In almost all courses, students had to write term papers using research techniques, especially historical or documentary research. As many of the papers were valuable, the Department of Library Science selected and published the ones which were useful to library work and library education, including papers of faculty members as "Library Science Papers Series" which was started in 1965. The first book of this series is "Frances Lander Spain: Founder of Modern Library Service in Thailand" (1965) by Professor Suthilak Ambhanwong. The first Master degree program in library science in Thailand which was offered at Chulalongkorn in 1964 was an important step towards research in library science in Thailand as thesis was a requirement for partial University fulfillment of the M.A. degree program majoring in library science.

Status of Library and Information Science Research in Thailand

a. Research studies about the LIS research status in Thailand

Many theses by graduate students in library and information science as well as research works by LIS faculty members and academic librarians, were conducted using content analysis, to study the status of research in library and information science in Thailand in various aspects, with the national scope or a single LIS institution. They are presented according to the scope of the research studies and chronologically arrangement as follows:

National scope:

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- Suebson, Prapawadee. (1987). Status of Library and Information Science Research : A Qualitative Analysis. Bangkok: Department of Library and Information Science, Faculty of Arts, Chulalongkorn University.
- Sacchanand, Chutima (1994). Status of Research in Library and Information Science in Thailand. Bangkok: National Commission for Research.

National scope but focus only to master's theses:

- Tupyotha, Jaroonluk (1995). A Content Analysis of Library and Information Science Master Theses in Thailand (1986-1993). M.A. (Library and Information Science) thesis, Maharakham University.
- Nathong, Pensupa (2000). An Analysis of Theses in Library and Information Science in Thailand (1994- 1998). M.A. (Library and Information Science) thesis, Khon Kaen University.
- Wongchun, Duangkamol. (2011). An Analysis of Master Theses in Library and Information Science in Thailand (1999-2008). M.A. (Library and Information Science) thesis, Srinakarindharawitrot University.

A Single LIS Institution but focus only to master's theses :

- Sirichot, Poranee. (1978). An Analysis of Library Science Theses , Chulalongkorn University, the Academic Year 1985 – 1996. M.A. (Library Science) thesis, Chulalongkorn University.
- Sirichot, Poranee. (2002). An Analysis of Theses in Library and Information Science , Khon Kaen University (1996 – 2001). Library and Information Science, Khon Kaen University, 19(2): 86-98.
- Sungtada, Rataporn.(2008). An Analysis of Research in Library and Information Science Maharakham University (1985- 2006). TLA Research Journal 1(1): 43-81.

- Rungvichaniwat, Siripun. (2009). An Analysis of Library and Information Science Theses , Songkranakarin University (1990- 2007). TLA Research Journal 1(1): 43-81.
- Sacchanand, Chutima. (2011). An Analysis of Master's Theses of the Information Science Programs, School of Liberal Arts, STOU (2003-2010). Nonthaburi: School of Liberal Arts, STOU.

National scope but focus only to research works by academic librarians and information professionals

- Chaimintr, Charochinee and Na Lumpoon, Ratana. (2010). A Content Analysis of Library and Information Research Conducted by Academic Librarians and Information Professionals. Journal of Information Science, 28(2): 37-48.

A Single LIS Institution but focus only to research works by academic librarians and information professionals

- Jaruthawee, Prapaipun. (2007). Conducting Academic Works of Librarians of Thammasat University Library. Bangkok: Thammasat University Library.
- Manomayitikarn, Yuvadee, Pudpeng, Suthilak and Leenarach. (2007). A Synthesis of Research Conducted by the Academic Resource Centers, Khonkaen University. Khonkaen: Academic Resource Center, Khonkaen University.

From the above research studies, it can be summarized that the content analysis of the LIS theses in Thailand has been interesting research topics and be undertaken continuously, especially by the graduate students for the partial fulfillment of the master's degree programs. At the same time, research conducted by academic librarians and information professionals in a specific academic library has become of interest to be studied successively during the past five years. This is in accordance with the development of the research roles and competencies of academic librarians.

B .Findings from research studies

Findings from research studies can be analyzed as follows:

- Research in library and information science in Thailand are mostly theses. However, there is an increasing trend of research conducted by academic librarians and information professionals in the past five years. They were conducted individually and supported by the universities where research is one of the major university mission.
- Scope of the LIS research in Thailand accords with the development of the LIS education and profession in Thailand and abroad as well. In the beginning, it was in the area of library science and later on the scope was enlarged to library and information science, with the application of theories and practices from related fields, especially information and communication technologies, management, business and marketing.
- Topics of interest in the earlier period include, reading and library use have been shifted to user-oriented approach, e.g. user studies, user needs, user information behavior as well as the use of information of various user groups. Other popular topics include library and

information services, information literacy and the application of information and communication technologies to library and information work, e.g. information storage and retrieval, information system development, and digital libraries.

- Most research works were quantitative research. Research methodology, mostly used was survey method, using questionnaires as research instrument. Historical research or documentary research was found in the beginning and experimental research and quantitative research are rarely found. Mixed method has been introduced later and used more in LIS research.

- Statistics was mostly used is descriptive research, percentage, means and standard deviation. The inferential statistics has been used mostly later.

- Obstacles include putting research into practice, lack of research competencies in some LIS academicians, professionals and students in the field, recognition of the importance of research by the policy makers and the administrators. Thus, in the past, research in library and information science in Thailand had a minor role to play on academics, professionals and society. The reasons mostly include are research topics which were irrelevant to the needs of users, not oriented towards practice, too idealistic, poor research design and poor quality of some of the research works. These have also prevented the LIS research to have impact on the profession, education and training as well as on the society at large.

Issues and Trends

1. There is increasing number of LIS research works in Thailand due to many reasons stated below:

a.The increasing number of LIS Master degree programs and Master degree students in Thailand, especially the programs offered by the two open universities, Ramkhamhaeng University (RU) and Sukhothai Thammathirat Open University (STOU). In addition, two doctoral degree programs in Information Science offered by Khon Kaen University and STOU.

b.Writing theses is a requirement for partial fulfillment of the Master degree program majoring in library and information science/library and information studies/ /information science/information studies or whatever the name is called, as well as writing dissertation is a requirement of the doctoral degree programs. Moreover, LIS research and statistics are the required core courses for all LIS curriculum at the graduate levels. This provides strong foundation to increase research knowledge and competencies in all the graduates.

c.Research activity is important and the University faculty members should undertake research activities. It is a requirement for University faculty members for career promotions, academic status and position. Hence, LIS faculty members should recognize the importance of research, the need to conduct research, to disseminate and use research results etc. This situation can also be applied to the academic librarians and information professionals.

d.Dissemination of research results is a requirement for all graduates, who submit theses/ dissertations. According to the Standard Criteria for Graduate Curriculum (Ministry of Education, 2005) the articles based on the master degree theses and doctoral degree dissertation should be published in the peer-reviewed

journals or presented at the national and international conferences or publication in the proceedings. This is also applied to the faculty members to submit their research works for evaluation for promotion and to get academic status.

e. The quality assurance system of the higher institutions in Thailand, which comprised of Internal Quality Assurance (IQA) and External Quality Assurance (EQA) by the Office of National Education Standards and Quality Assessment (ONESQA) have included indicators related to research that will enhance research outputs, research quality, research dissemination and research use. In addition, the Thai Qualification Frameworks for Higher Education (TQF:HE) which has been announced by the Office of Higher Education Commission, Ministry of Education, also enhance research competencies of graduates at all levels.

f. The requirements of the Standard Criteria for Undergraduate Curriculum and Standard Criteria for Graduate Curriculum announced by the National Commission of Higher Education, Ministry of Education showed that in offering any degree programs at all levels, feasibility study (needs of employment market, society and/or employers), evaluation research of the curriculum every five year, studies of the students' satisfaction, and follow-up studies of graduates from the programs are required.

2. As LIS is interdisciplinary in nature, more LIS research is based on applied knowledge and theories from other related disciplines, e.g. information and communication, communication, public relations, marketing, customer relationship management. On contrary, research from other areas/disciplines also applied the LIS context, settings, theories and practices e.g. reading, digital libraries.

3. LIS Research will play more and more important roles in both theories and practices of the LIS education and profession. This is due to the transformation of education in the country and worldwide, the paradigm shift in the profession, and research as one key competency of the LIS professionals worldwide.

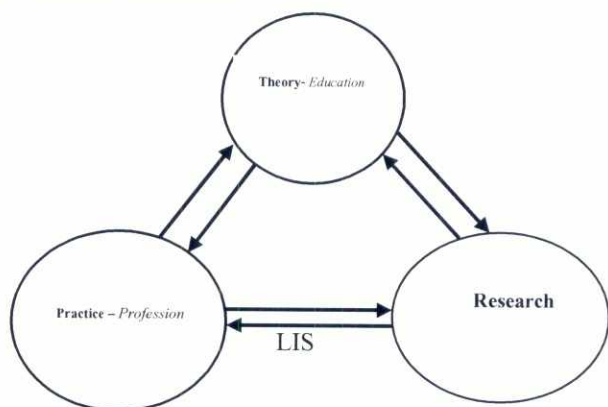


Figure 1 Research as a key component of the Library and Information Science.

Some key attentions to research in Thailand can be found in many seminars, conferences, workshops organized by library and information science institutions, libraries and professional association. Another distinctive point is the issuing of "Research Journal of the Thai Library Association" which is the peer-reviewed journal in the national journal database, as well as other academic journals in the field also focuses on more research papers to be published.

4. Collaborative effort/ collaboration or networking among LIS researchers/ educators in ASEAN, ASIA and worldwide in the form of the group, e.g. Asia Library and Information Research Group (ALIRG), consortium, e.g. Consortium of ISchools in Asia Pacific (CiSAP) or part of professional association, e.g. Research and Theory Section of International Federation of Library Associations of Institutions (IFLA). These enhance the learning environment, sharing of knowledge and experience in the form of conferences, seminars, workshops, joint research work as examples.

Summary

Research in library and information science in Thailand has its long history of development. In the past, the LIS research was static and not much visible in the Thai society. The changing learning environment of the world and the Thai society, especially the educational transformation, the paradigm shift of the LIS profession as well as the national policies, frameworks, standards, criteria help enhance the awareness, recognition, theories and practices of research in this field. LIS research will have more important role to play in the management and decision making; education and training; teaching and learning as well as more to learn and to share through collaborative effort and spirit of academicians and professionals in the field for the benefits of the LIS profession, professionals and the society.

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LIS Education and Research in Taiwan

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Abstract

This report presents the status quo of Library and Information Science (LIS) education and research in Taiwan. The primary source of this report is the *2012 Almanac of Libraries in Taiwan* (R.O.C.). Currently, Taiwan has nine LIS-related departments/institutes, five of which offer undergraduate programs, seven offer master programs, four offer in-service master programs, and three offer Ph.D. programs. Unfortunately, one undergraduate and one in-service master programs have stopped recruiting fresh students. The accumulative number of students who have obtained the bachelor, master, and Ph.D. degrees are 11,674, 1,140, and 21, respectively (to July, 2011). The total number of faculty members of the nine LIS-related departments/institutes is 65, and 58 (89%) of them are Ph.D. The academic backgrounds of the 58 Ph.D. faculty members include Library and Information Science, Computer Science, Education, Management, and Communication.

In order to explore the LIS research in Taiwan, LIS research is divided into eight subfields, Theories and Development of Library and Information Studies, Library

and Information Studies Education, Collection Development, Organization of Information Knowledge, Information Services and User Studies, Management of Libraries and Information Providers, Information Systems and Retrieval, Digital Collections and e-Learning Research, and Information and Society. In 2011, 54 projects were conducted by the abovementioned LIS-related departments/institutes; 135 theses / dissertations and 174 domestic journal articles were published by the faculty and students of these LIS-related departments/institutes, respectively. Ninety (24.79%) projects, theses / dissertations, and domestic journal articles can be classified into Information Services and User Studies, and Digital Collections and e-Learning Research ranks the next (77, 21.21%).

There are 10 LIS-related domestic journals in Taiwan. Two of them, *Journal of Library and Information Science Research*, and *Journal of Educational Media & Library Sciences*, are included in TSSCI. *Journal of Library and Information Science*, and *Journal of Library and Information Studies* are awarded as the first-class LIS journals by National Science Council.

The Digital Library of Lao Manuscripts

Khanthamaly Yangnouvong, Deputy Director of NLL

In 2007, the National Library of Laos began a three-year project to digitise over 1,000 rolls of microfilm copies of manuscripts from throughout the country and to make its national literary heritage freely available via the Internet. The bi-lingual web application, which can be viewed at www.laomanuscripts.net was officially launched in Vientiane in January 2010. At that time, over half of the approximately 12,000 texts had been inventoried and could be searched and downloaded. More texts are being added throughout 2010, giving a total of almost 500,000 digital images containing 3-4 million manuscript pages.

The majority of manuscripts are from the Theravada Buddhist tradition, most commonly Lao translations or commentaries which shed light on the local interpretation of the Pali texts. One special genre is the huge number of extracanonical works, especially narrative literature such as *Jataka* stories, a considerable number of which are thought

to originate from local Southeast Asian traditions and contain valuable information about social life and values in the Buddhist societies of the region. Other manuscripts contain a wide range of works about history, traditional law and customs, astrology, magic, mythology and rituals, traditional medicine and healing, grammar and lexicography, as well as poetry and epic stories, folk tales and romances, etc. While the vast majority is in Lao Tham script, a considerable number of holographs are in the ancient secular Lao Buhan, Lan Na (Northern Thai or Yuan), Tai Lue, Tai Nuea, and Khom scripts.

The aim of the digital library is to complement ongoing manuscript preservation work in Laos by making this extensive collection of primary sources easily accessible and to facilitate the study of Lao literature and culture within Laos and overseas. It is also an important step in the development of such digital resources in the region.

The Digital Library of Lao Manuscripts

In 2007, the National Library of Laos began a three-year project to digitise over 1,000 rolls of microfilm copies of manuscripts from throughout the country and to make its national literary heritage freely available via the Internet.

This paper provides an overview of the Digital Library of Lao Manuscripts project, including background information about the Lao literary tradition, previous research, and the Preservation of Lao Manuscripts Programme, as well as the contents, languages and scripts found in the collection, and a description of the web application.

1. Introduction

The Digital Library of Lao Manuscripts (DLLM) web application was officially launched in Vientiane in January 2010, and can be viewed at <http://www.lao-manuscripts.net>. It provides free online access to digital images of almost 12,000 palm-leaf and other traditional texts from throughout Laos.

The main aim of the DLLM project is to enhance the study of Lao literature and culture in Laos and internationally through making a countrywide selection of primary sources from the Lao literary tradition freely available via the Internet. The project also seeks ways to enhance networking and coordination with related manuscript preservation and inventory projects in neighboring countries and overseas, in particular in the development of digital libraries.

The project is funded by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) and the Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (BMZ, Federal Ministry of Economic Cooperation and Development), under the DFG/BMZ programme *Research Cooperation with Developing Countries*. It is implemented by the National Library of Laos in collaboration with the University of Passau, the Staatsbibliothek zu Berlin (hosting the web application server), the Reese Consulting Co. Ltd. (database and website development), and Herrmann und Kraemer GmbH & Co. KG (digitisation of the microfilm collection).

The project was made possible through the generous support of the Government of the Lao PDR, which granted permission for the manuscript collection, representing the national literary heritage, to be made accessible via the Internet.

2. Background

The Digital Library of Lao Manuscripts collection represents five centuries of scholarship in the monasteries of what is now the Lao PDR and its neighbouring countries. Surveys and inventories of Lao literature began in the early 20th century, leading to the establishment of the Preservation of Lao Manuscripts Programme in 1992.

2.1 The Lao Literary Tradition

Laos possesses a rich literary tradition dating back to the 15th/16th century AD. Most works have been handed down through continuous copying and have survived in the form of palm-leaf manuscripts traditionally stored in wooden caskets and kept at the libraries of Buddhist monasteries. A small proportion of texts are written on other materials, such as mulberry or *sa* paper, which is much less durable than palm-leaf. While monasteries have been seats of learning in the country since ancient times, tens of thousands of invaluable manuscripts have run into danger of destruction during recent decades.

Throughout the centuries there has been a constant movement of people and an exchange of culture, religion, arts and literature among the Tai and Lao population in what is now the Upper North of Thailand, North-eastern Myanmar, Southwest Yunnan, Laos and Northeast Thailand. The exchange of literary works has been facilitated by the very close linguistic relationship between the languages spoken in these areas. Historically this relationship was especially close between the ancient kingdoms of Lan Sang and Lan Na. In fact, the Lan Na region which is now the eight provinces constituting the Upper North of Thailand used to be referred to as 'Western Laos' by some European scholars, due to its close historical and cultural ties to its eastern neighbour.

In addition, the Buddhist monasteries in these regions use very similar versions of the Tham or *Dhamma* script (a derivative of an ancient Mon alphabet) in contrast to Khom - a variant of an old Khmer script, which was used for religious writings in Siam up to the end of the 19th century. This large area of common cultural tradition may therefore be referred to as the 'Tham Script Domain.' Further connections exist to Tai cultures found in parts of Assam state in India, Northern and Northwestern Myanmar, Yunnan Province of China, and North Vietnam. In a broader perspective, the Theravada Buddhist culture and literature of Laos is closely related to that found in Sri Lanka, Myanmar, Thailand, and Cambodia. Within Laos, this mainstream Buddhist literature is shared by the Tai Lue and Tai Nuea.

2.2 Previous Research

Research concerning the literature of the territories of what is now the Lao PDR, the eight northernmost and the sixteen Northeastern provinces of Thailand, the Northeastern provinces of present Myanmar, and Xishuangbanna (Sipsongpanna) in Southwestern Yunnan, started at the beginning of the 20th century, a few years after the incorporation of Laos into French Indochina.

Almost all of the early surveys and registrations of manuscripts were undertaken by French scholars and their Lao assistants. While now outdated in many respects, these remain helpful tools for researchers up to the present. Louis Finot's *Recherches sur la littérature laotienne*, published in 1917 in the *Bulletin de l'École française d'Extrême Orient* still provides a useful overview of traditional Lao literature in a Western language. The *Liste générale des manuscrits*

laotiens provided in the final part of his study is of two principal collections existing at the time: that of the Bibliothèque Royale de Luang Prabang (catalogued by M. Meiller, 1181 entries), and of the Bibliothèque de l'École française d'Extrême Orient (338 entries).

Several other inventories of monastery or library holdings were undertaken during the period from 1900 to 1973, by both Lao and French scholars, listing a total of 3,678 manuscripts from 94 monasteries in nine provinces. A notable initiative is the work of the Chanthabouly Buddhist Council, under the leadership of Chao Phetsarat, which asked abbots throughout the country to submit lists of their manuscript holdings between 1934-36.

Work on the EFEO inventory, plus research and analysis of manuscripts followed in 1950s and 1960s by Henri Deydier, Pierre-Bernard Lafont and Charles Archaimbault. An *Inventaire des Manuscrits des Pagodes du Laos*, building on the previous work of French scholars, was conducted under the leadership of Pierre-Bernard Lafont in 1959 and covered altogether 83 monasteries: 13 in Luang Prabang, 25 in Vientiane, and 45 in Campasak. Other related catalogues during this period, while valuable tools in themselves, were of limited collections and not intended to be representative of Lao literature as a whole. An example is Georges Cœdès' 1966 catalogue of 116 manuscripts, of which 23 are in Pali language and Lan Na (Northern Thai) script, in the Royal Library, Copenhagen.

During the Second Indochina War and the years immediately following the proclamation of the Lao PDR in 1975, the country met with extremely difficult conditions, and it is only since the mid-1980s, with changes in the global political climate and the end of the Cold War, that national awareness of the importance of literary works re-appeared. In March 1988, with the support of the Toyota Foundation, a conference was convened in Vientiane attended by monks as well as knowledgeable lay people from all over Laos who were invited to discuss the state of conservation of manuscripts in their home communities, and to exchange views on what should be done in order to safeguard the remaining manuscripts which were in danger to be forgotten in the monastic libraries. As a result of this meeting a project to set up a Lao-language *Inventory of Palm-leaf Manuscripts in Six Provinces of Laos* was initiated by the Ministry of Information and Culture with the support of the Toyota Foundation. In the course of this project (1988-1994) altogether about 128,000 fascicles were inventoried from some 250 selected monasteries in Vientiane Capital and the provinces of Luang Prabang, Vientiane, Bolikhamsai, Khammuan, Savannakhet, and Campasak.

2.3 The Preservation of Lao Manuscripts Programme Microfilm Collection

The digital images in the DLLM collection are from the microfilm collection made during the Preservation of Lao Manuscripts Programme (PLMP), undertaken by the Lao

Ministry of Information & Culture, and supported by the German Ministry of Foreign Affairs through its cultural assistance programme from 1992 until 2004. The main objectives were to help the Lao PDR physically preserve its national literary heritage, to revitalise public awareness of its value and build local capacity for field preservation and for research and dissemination of these resources.

As a major product of the project, a collection of microfilm recordings of some 12,000 selected texts was set up, including a large number of parallel versions or additional copies which are necessary for any serious study. The master copy is stored at the Lao National Film Archive and Video Centre, while a working copy is kept at the National Library of Laos, and a second copy at the Staatsbibliothek zu Berlin Preußischer Kulturbesitz, in Germany. Most important for the wider study of Lao culture, this collection is by far the most extensive to date and can be seen as representative of the national literary heritage. It comprises almost 500,000 frames, which on average contain about 6-8 palm-leaf pages, giving a total of some 3-4 million recorded manuscript pages.

Criteria for selection for microfilming were historico-cultural importance, cultural diversity or regional representation, age (all manuscripts over 150 years old) and quality of the manuscript. Within these general guidelines, priority for microfilming was given to extra-canonical literature, all manuscripts which were thought to represent indigenous literary traditions, and all texts of a non-religious nature whenever the condition of the manuscript allowed.

Microfilming began in the capital, Vientiane, in April 1994, and then in the provinces, using a Zeutschel OK102 camera and Fujifilm microfilm negative, on 35mm x 30.5 m (100ft) rolls. Whenever possible, the filming was done at the premises of provincial cultural offices or provincial museums, since these generally provided better facilities than in remote villages. In addition, the microfilming equipment could be damaged on rural roads. Texts selected for microfilming were taken there temporarily from temples or private collections in the district and returned after filming.

In order to obtain the best possible contrast in the grey-tone images, the cleaned and sorted manuscripts were wiped with 90 percent alcohol immediately before filming. Local volunteers assisted the cameraman. The exposed microfilm rolls were then sent in batches to the National Library to be developed, which was initially done manually on a Zeutschel developer, and later on using a Kodak Prostar I-L processor, with Kodak Prostar Plus developer and fixer. The master films were thoroughly checked and then copied using a Zeutschel 100L copier. Other microfilm equipment used at the National Library of Laos includes two Zeutschel OL2 microfilm readers and a Canon NP Printer 980 microfilm reader-printer.

This project - for the first time ever - covered all of the country's provinces, and included remote monasteries in addition to the more well-known collections, many of which had never been surveyed before. Over the course of ten years until the cooperation project officially ended in December 2002, the manuscript holdings of over 800 monasteries had been surveyed, and approximately 86,000 texts (368,000 fascicles) preserved. The inventory data sheets for these texts are kept in hard copy at the National Library of Laos.

3. The DLLM Collection

There is a wide diversity in the manuscript collection, covering a large geographical area and historical timeframe, different literary traditions and schools of scribes, and different languages and scripts. As such, the collection reflects the historical exchange of literature between neighbouring countries as well as the literary traditions of several of the ethnic groups living within Laos.

3.1 Contents of the Texts

The subject matter of a large number of manuscripts is taken from the Theravada Buddhist canon, a significant portion of which are bi-lingual versions, often with elaborated Pali-vernacular translations, which shed light on the local interpretation of these texts. The oldest manuscripts, from the beginning of the 16th century, are monolingual Pali texts. One special genre is the huge number of extra-canonical works, the bulk of which consists of narrative literature, especially Jataka stories, a considerable number of which are thought to originate from local Southeast Asian traditions. There are complete sets of bi-lingual (Pali-Lao) *Paññāsajātaka* collections as well as some twenty bundles representing other incomplete sets of these famous 'Fifty Apocryphal Jatakas,' which are believed to be of Southeast Asian, perhaps Lan Na, origin. Many of these legends remain among the most popular texts used by the monks in their recitations and sermons given to the lay people, and deserve special interest because they contain valuable information about social life and values as well as the *conditio humana* in the Buddhist societies of the region. Other manuscripts contain a wide range of works about history, traditional law and customs, astrology, magic, mythology and rituals, traditional medicine and healing, grammar and lexicography, as well as poetry and epic stories, folk tales and romances, etc. Many of the texts are not known outside the region and research based on the study of primary sources has remained very limited due to their inaccessibility.

A limited number of illustrated manuscripts are to be found in the collection, and an option is available on the DLLM website to search for only illustrated texts. It is also possible to search for only texts with colophons.

3.2 Languages in the DLLM Collection

The vast majority of manuscripts in the DLLM collection are in the Lao, Northern Thai, Tai Lue, and Tai Nuea languages, which belong to the Southwestern subgroup of the Tai-Kadai language family, or are bi-lingual Pali-vernacular texts. A considerable number of texts are in monolingual Pali, a small number are in Central Thai, and a single Tai Dam text is also included in the collection.

In general, each of the vernacular languages used in even the older manuscripts is understandable for contemporary speakers of that language who are familiar with the terms and idioms of traditional literature. The written languages of Lao, Northern Thai and Tai Lue are to a large extent mutually understandable, due to shared lexicon and syntax, while the pronunciation differs considerably.

The oldest dated manuscripts from Laos and Northern Thailand, which are from the late 15th century, are in monolingual Pali. A huge number of texts containing Pali-vernacular translations, glosses, and elaborations is also to be found.

The Pali used in texts in Southeast Asia, especially Thailand, Laos and Cambodia, often diverges from the orthodox form of the language, such as laid down in Kaccāyana's grammar. In bilingual texts, the vernacular can provide important information about local understanding or interpretation of the Pali.

3.3 Scripts in the DLLM Collection

The majority of manuscripts in the collection are written in variants of the Tham or *Dhamma* script. Others are in the Lao Buhan, Lik Tai Nuea and Khom scripts, while a few remaining texts are in Central Thai and Tai Dam scripts. All of these can be traced to South Indian writing systems which were adapted for writing Pali and vernacular languages in Southeast Asia.

The Tham script shows a strong similarity to the Mon script used in inscriptions in the ancient Mon kingdom of Hariṇpūjaya (present-day Lamphun Province of Northern Thailand), dating from the 13th century CE. The oldest dated document using the Tham script, from CE 1376, is a bilingual inscription on a gold folio discovered in Sukhothai, containing one line of Pali language, while the vernacular is in Sukhothai Siamese language and script. The Tham script was adapted for the writing of vernacular languages not later than the 15th century CE, most probably in Chiang Mai, from where it spread to neighbouring Tai-Lao kingdoms. The oldest known dated manuscript using Tham script (not included in the DLLM collection) is a monolingual Pali copy of a section of the *Jātaka-aṭṭhakathā-vaṇṇanā*, from CS 833 or CE 1471, kept at Wat Lai Hin, Amphoe Ko Kha, Lampang Province, in Northern Thailand. The oldest known dated manuscript in the DLLM collection (in Tham Lao script) is a monolingual Pali copy of part of the *Parivāra* (PLMP Code 06018504078_00), from CS 882 or CE 1520, kept at the Provincial Museum in Luang Prabang (formerly

the Royal Palace). Versions of the Tham script continue to be used to this day by the Lao, Northern Thai, Tai Lue and Tai Khuen. One can therefore refer to a ‘Tham script domain’ comprising present-day Laos, the Upper North and Northeast of Thailand, the Northeast of Myanmar, and the Southwest of Yunnan Province in China.

The Lao, Lan Na, and Tai Lue versions of the Tham script are very similar, and texts in these scripts from can be read by anyone who is literate in any one of them, and most of the contents can be understood. Characteristic features of these scripts are that the inventory of 33 consonants is in concordance with that of the Pali language, and that the second components of consonant clusters are written beneath the first. Likewise, most syllable-final consonants in vernacular texts are written beneath the preceding vowel symbol. The form of some of these subscript consonant symbols differs considerably from the standard symbol. In contrast to the Thai and Lao alphabets, the Tham script uses special ‘independent’ symbols for syllable-initial vowels in Pali texts. Another special feature is the use of various ligatures and abridged forms of certain frequently used terms. The orthography of vernacular texts written in the Tham script is much less ambiguous than, for example, that of the modern Central Thai writing system.

In Laos, the Tham script was generally reserved for religious writings, whereas texts which were considered secular were written in Lao Buhan, the precursor of the modern Lao script. A considerable number of works with identical titles are found in both Tham and Lao Buhan scripts. In most of these cases, the Lao Buhan versions are literary adaptations of religious works, intended for use by the laity. Neither Tham nor Lao Buhan scripts use tone markers, and remarkable variations in the writing of Lao Buhan add to the difficulty of reading this script.

The Tai Nuea script belongs to a group of Indic-based scripts known as *lik*, which are thought to date from before the 14th century CE. Related scripts are used by the Tai Nuea (Tai Le) in the Dehong region of Yunnan Province in China, and by Tai Khamti, Tai Phake, Tai Aiton, Tai Ahom, and other Tai peoples across Northern Myanmar and into Assam State of Northeastern India. Several of the consonant symbols are similar to Tham script, while others bear no clear resemblance to their Tham equivalents. In contrast to the Tham script, the very limited inventory of 16 to 18 consonant symbols indicates that these scripts were perhaps not developed for writing Pali. Even for vernacular texts, the number of consonant and vowel symbols is less than the phoneme inventory. Together with minimal written indication of tones, this makes the orthography ambiguous, with several possible readings and semantic interpretations for some written words. While the Tai Nuea manuscripts in the DLLM collection are all kept in Mueang Sing District in Northern Laos, their provenance covers a much wider area including parts of Yunnan Province in Southwestern China and Shan State in Northeastern Myanmar, from where the

Tai Nuea inhabitants of Mueang Sing migrated, and there is a corresponding variety in the form of the scripts used. Many of the texts appear to be in an old form of the *Lik tho ngok* or ‘bean sprout’ script previously used by the Tai Mao. This differs somewhat from the old Tai Dehong script and from the reformed version of Tai Dehong script introduced in China in the mid 1950’s, which are better known examples of this type of script.

The Cambodian or Khmer script is considered to have developed from South Indian sources, but independently from the Mon script. The Khom form of this script was used for writing Buddhist texts and other treatises in Central Thailand until the early 20th century, when it was gradually replaced by Thai script. The DLLM collection contains a number of manuscripts in Pali, Lao or Thai languages, written in Khom script, from Southern Laos. Like the Tham script, it contains the full inventory of consonants in concordance with the Pali language, and uses subscript consonant symbols, as well as ‘independent’ symbols for syllable-initial vowels. Additional consonant and vowel symbols are used for writing the Thai and Lao languages. The Khom script used in Thailand is very similar to the *aksar khom* and *aksar mul* forms of modern Cambodian script which are used for titles of publications, etc.

4. The DLLM Web Application

The DLLM web application is available in both Lao and English languages, and is designed to facilitate the search of the manuscript collection and viewing of texts, together with resources for their study. It originally went online in September 2009 for test purposes, and was officially launched in January 2010. The application was developed using Ruby on Rails, with additional static content written in HTML, CSS and Javascript. The website is hosted on a Suse Enterprise Linux server and is maintained by the East Asia Department of the Staatsbibliothek zu Berlin. The codebase is maintained using Subversion and deployed using Capistrano. DLLM images and associated data are stored in a MySQL database and retrieved using ActiveRecord, a component of Ruby on Rails.

4.1 The Website

The website has seven sections: Home, About, Resources, Search the Database, Help, Site Map, & Contact Us. ‘About DLLM’ contains three large web pages: *Background* (an introduction to the Lao literary tradition, previous research on Lao manuscripts, and the work of the Preservation of Lao Manuscripts Programme), *DLLM Project* (information about the project, including project partners and collaborating institutions, the people involved, funding sources, overall statistics about the number of texts and digital images, and technical information about the digitisation of the microfilm collection and the database and website), and *DLLM Collection* (an overview of the manuscripts in the collection, the languages and scripts used, and detailed descriptions of the inventory data and Romanisation systems).

'Resources' contains five pages: *Languages and Scripts* (information about the languages and scripts found in the collection, including resources such as primers, dictionaries, grammars and other reference works, together with selected articles and links to further resources), *PLMP Newsletter* (PDF copies of the 22 volumes of a Lao-language newsletter published during the Preservation of Lao Manuscripts Programme), *Research Papers* (PDF copies of papers in Lao, Thai and English from the international conference *The Literary Heritage of Laos: Preservation, Dissemination and Research Perspectives*, and other research papers), *Gallery* (a gallery of 360 selected photographs, mostly taken during the course of the Preservation of Lao Manuscripts Programme, showing manuscript preservation, the social and cultural context of the project, including examples of Lao Buddhist temples, Buddha images and murals, village life, festivals, making palm-leaf manuscripts, and subsequent related fieldwork conducted in Northern Laos), and *Links* (links to related websites, including online dictionaries and reference works for Pali and other languages, online resources for Buddhist texts in Pali and in translation, and links to universities and other institutes with relevant courses and programmes, etc.).

There is also an extensive Bibliography, a Glossary of Terms used in the web application, and a 'Favourites' section, where registered users can save searches or texts together with their own notes, for reference on future visits to the site.

Registered users of the DLLM site are able to post comments and findings with individual texts, and the collected comments will soon be made available via a separate web page, DLLM Text Comments, which can be viewed by all users and contains links to the commented texts. Registered users can also make their contact details and areas of interest available on the DLLM Directory page.

4.2 The Database

The DLLM database contains inventory data for the collection of almost 12,000 texts, together with some 500,000 digital images of the manuscripts. Data is entered in both Lao and Romanised/English, and can be searched by title, ancillary term, language, script, category, material, location, date, and code number.

Each digitised text in the collection has a unique 13-digit code number, as used in the Preservation of Lao Manuscripts Programme, which identifies the location, category, and manuscript bundle of the original text. The name of each digital image contains core information identifying its precise location in the PLMP microfilm collection as well as this unique code number.

The DLLM inventory is based on the handwritten Lao-language data sheets produced by researchers in the course of over 10 years under the Preservation of Lao Manuscripts Programme. These data sheets, which appear at the

beginning of each microfilmed text, are also included in the digital images. Additional research conducted during the DLLM project has led to corrections and additional data, and discrepancies between the handwritten PLMP data sheets and the DLLM data are explained in the inventory. However, given the size of the collection, it is not possible to examine each text in detail during the project timeframe. Users of the database who discover errors are therefore invited to inform the project so that additional corrections can be made.

4.3 Searching for Texts

Search is possible by title (both auto-complete and by browsing alphabetical lists), ancillary term, language, script, category, material, location, date, and PLMP code number. Search results can also be filtered to show only texts with illustrations or only texts with colophons.

The list of Search Results provides data for Title, Alternative Titles, Language, Script, Location, Date, Completeness, Number of Folios, and Image Legibility, to help select a text. Once a selection is made, the Text Overview page provides full inventory data together with thumbnail images and a larger viewing screen with zoom and scroll functions. From this page, users can also view a full-screen image, download a zipped folder of the entire text (with inventory details), add the text to Favourites, or select from options to show other texts from the same bundle, the same location, or to show related texts.

The Google search engine is now enabled to search the 'deep content' of the database in addition to the static pages, meaning that Google searches for titles, etc. in either English or Lao give results from within the DLLM database. This also applies to the Google-powered Site Search on the DLLM website.

At present, search within the DLLM collection is limited to data entered in the inventory database. However, the project plans to add a feature to the web application which would allow search within the digital images of handwritten manuscripts, and would thereby significantly enhance research possibilities. Ideas for this feature came about through efforts to facilitate research on over 60 medical texts within the DLLM collection. This research, into traditional treatments for tuberculosis, was begun in 2009 and is ongoing at the University of Illinois at Chicago, in conjunction with the Traditional Medicine Research Centre of the Lao Ministry of Health. Staff in the Manuscript Section of the National Library of Laos undertook painstaking research to help identify the contents of these texts and to inventory key terms related to the treatment of respiratory ailments.

Once this feature is added to the site, users will be able to select and save a term (or any part of a digital image of a text) online and then adjust the threshold of the OCR to find the optimal setting. Searches within a single text could be

performed quickly and the results made available online, whereas more complex or very broad searches (potentially even of the whole collection of almost 12,000 texts) would be done on the server and then users would be informed by automated email once the results were available.

In addition to allowing users of the DLLM site to search for specific terms within the handwritten texts, this could also be used to identify texts written by individual scribes based on handwriting styles, to allocate undated texts to historical periods based on the development of the script, and to search for toponyms, personal names, etc.

Conclusion

The Digital Library of Lao Manuscripts is unique in Southeast Asia in providing online access to such a large number and variety of primary literary sources. While it does not yet include samples of all the ethnic groups having written literature, it can be said to be broadly representative of the national literary heritage.

In providing access to these digital resources, the project is also bridging the gap between the 'ancient' manuscript tradition and modern technology, which is still in its early development in Laos. This provides challenges not only in terms of the ancient and modern technologies, but also for the people concerned: local manuscript experts are largely unfamiliar with the Internet, while for many of the younger generation it provides an exciting opportunity to access an important part of their traditional culture.

The National Library of Laos is currently implementing a two-year project to directly digitise its manuscript collection of over 1,200 texts (estimated at approximately 52,000 frames, each containing 5 or 6 folios of palm-leaf manuscript). During the image editing process, numbers are placed to the right of each folio, and the PLMP code numbers placed at the bottom of each image frame. The digitised colour images are incorporated into the Digital Library of Lao Manuscripts, replacing the grey tone images currently available.

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Introduction

Library and Information Science (LIS) is an interdisciplinary or multidisciplinary field that ranges from studies of library related areas to areas related to diverse organization and dissemination of information. Traditionally, when it was only library science, the field was limited to practices and perspectives of library management, collection development, information organization, dissemination and preservation. The education and training of library science produced librarians who were practitioners. The research in library science in the early 20th century focused on how to best

improve library management and services to its users. However as information residing in text books shifted to different mediums, so did the method of how it was created, stored and accessed. The user began to change, Thus arose the need to study different mediums, different users, different ways to disseminate, different ways to preserve, Competition with commercial information providers and pressure to establish the discipline as a science, elevated the research agenda in LIS. Research became a focal point in LIS education and practice.

Table 1 Institutions offering LIS education

Institution	Education level	Program content
University Teknologi Mara Malaysia, UiTM	Diploma Information Management	Library Management, marketing Records management Archives management Access & Organization of information Multimedia, instructional media, programming, e-publishing,
	Bachelor of Science Library & Information Management	Inf. Management Library skills Organization of information Reference & information services Publication & production of information materials Digital libraries
	Bachelor of Science Information System Management	Information systems Web design Multimedia Database
	Bachelor of Science Records Management	Record center management, unctional design, Managing archives Automated records management Archive repositories Document imaging e-records
	Bachelor of Science Resource Centre Management	Academic library School resource center Digitization of educational materials Literature & reading programs

	<ul style="list-style-type: none"> • Master of Science (Information Management) • Master of Science in Knowledge Management • Master in Library Science <p>40 credit</p> <p>12 credit dissertation</p> <p>Doctor of Philosophy</p>	<p>E-learning</p> <p>Organization of knowledge Information retrieval Metadata Library administration Marketing, user needs & user studies</p> <p>Information services, digital libraries, multimedia applications information systems evaluatio</p> <p>(Information Management, Library Mngt, Knowledge Mngt, Records Management)</p>
	<p>Master of Library and Information Science (by Coursework)</p>	<p>Knowledge Management Legal Informatics Information Retrieval Business Informatics Medical Informatics Web-based Information and Metadata ICT Application in Information Services School Resource Centre Management of Information Institutions</p>
International Islamic university Malaysia	<p>Master of Library and Information Science (by Research)</p> <p>Master of Library and Information Science (by Coursework & Thesis)</p> <p>Dissertation 12 credit</p> <p>40 credit</p>	
University of Malaya	<p>Master in Library & Information Science (Coursework Research)</p> <p>16 credit coursework 40 credit dissertation</p> <p>Master in library & information science (Research) 56 credit</p>	<p>Organization of information Information services Information literacy Technologies for LIS Research foundation Digital Library Web publishing Collection development Libraries, information & society</p>

LIS Education in Malaysia

Currently in Malaysia, there are 3 major schools that offer LIS education at the Diploma, Bachelor, Master and PhD degree. Table 1 describes the programs in each institution. Generally the focus is on producing practitioners who are in demand in the industry, especially the education sector. University of Malaya on the other hand has shifted the focus on producing practitioners and researchers. Overall the content of the programs is still basic LIS components: organization of information, information services and management, with electives ranging from user studies to information technologies. Besides the three main

institutions, Universiti Kebangsaan Malaysia also offers a PhD in Digital Library (Department of Information Systems) and more recently Universiti Selangor (UNISEL) is offering a Diploma in Library Science & Bachelor of Library Science. To date these programs have fulfilled the need for library & information science professionals in the country and the employment rate is satisfactory.

LIS Research

Why is research important? A discipline only grows and thrives if its body of basic and applied research increases. As such research sustains the discipline, provides a basis for the development of new fields of inquiry, and suggest approaches for studying problems (McClure and Herson, 1991). Research contributes to strengthen the discipline through regular scrutiny and review. LIS is more skewed to social science research, basic research – discovery of knowledge and theory building; applied research – testing, confirmation, revision and refutation of knowledge and theory and action research – investigation of a problem as an aid for local decision making (McClure & Herson, p.5). Research makes LIS in to a mature profession and discipline, one that has broad societal recognition and meets the criteria specified for excellence in academe. LIS research is expected to have impact on the profession and discipline. Beginning from focus on librarianship as a profession, it has evolved to a discipline of library and information science, with library science at a certain time on the continuum. An interesting chapter by Mary Biggs in *Library & Information Science Research* (1991) argues that librarianship is neither a discipline nor a profession, but rather an occupation grounded in techniques and personal arts. She questioned the existence of a coherent body of basic knowledge and the relevance of such knowledge (if it existed) to library practice. Research in classification, cataloging, collection development, bibliographic instruction have contributed to librarians' knowledge base and thus promoted a sense of professionalism in the work. Much of the earlier research was carried out by practitioners to improve and inform decision making in running of libraries, but the quality of the research was questionable as these librarians were not trained in 'research methods', especially since LIS does not have its own methods and relies heavily on the social science research methods.

In his opening keynote at Evidence, Value and Impact: The LIS Research Landscape in 2010, Andrew Dillon outlined the major background shifts in the ecology of information. He emphasised the need to separate two types of research:

- looking at the technology of organizing and presenting, and;
- studying the ways that humans deal with information.

In doing so it is more likely that we shape technology so it serves people better. The shift from work place-based, practitioner-led studies to a more academic, scientific approach to LIS research.

Where is LIS research headed?

(i) Evidence from publication

There have been several researchers that have analyzed the direction taken by LIS research (Table 2). Journals papers are selected because of the important role they play in scholarly communication, because they indicate emerging new ideas in any discipline, and because they reveal problems and research patterns (Davarpanah and Aslekia, 2008). An evaluation of periodical literature may represent a picture of the discipline and the profession (Davarpanah and Aslekia, 2008).

Table 2 Publications on LIS research

Publication	Findings: focus of LIS research
<u>Järvelin and Vakkari (1990)</u> :examined more than 800 articles published in 1985	research articles and professional articles practical topics and involving daily operations of libraries
<u>Järvelin and Vakkari (1993)</u> : content analysis of LIS research from 1965–85	loss of interest in methodology and the shift of interest from classification and indexing to information storage and retrieval.
<u>Koufogiannakis et al. (2004)</u> : reviewed articles published in 91 journals in 2001	access and retrieval collections, management, education and reference
<u>Blessinger and Frasier (2007)</u> analyzed trends in publication and citation in LIS journals (1994–2004)	practical issues that face the profession and, Internet impact on the LIS community
<u>Astrom (2007)</u> : examined changes in the LIS research 1990 through 2004,	infometrics and Internet research

(Hider and Pymm, 2008) : content analysis in high-profile LIS journal literature published in 2005. (identifying the distribution of empirical research strategies and techniques reported)	survey approach remains the predominant research strategy A marked increase, however, was noted in experimentation.
<u>González-Alcaide et al. (2008)</u>	World Wide Web, libraries and education
Noa Aharony (2011) top 10 LIS journals in 2007–2008	information technology (search engines, search logs, information retrieval systems, mobile information systems) methodology social information science (disabled people, adolescents, health information cultural aspects)

(ii)evidence from scientific publication

Reviewing the areas of interest covered by top LIS journal gives us an indication of what is being published (Table 3).

Table 3 Scope of LIS journals

Journal title	Scope
Journal of the American Society for Information Science & Technology	production, discovery, recording, storage, representation, retrieval, presentation, manipulation, dissemination, use, and evaluation of information and on the tools and techniques associated with these processes.
<u>Scientometrics</u>	concerned with the quantitative features and characteristics of science, with emphasis on investigations in which the development and mechanism of science are studied by means of (statistical) mathematical methods.
Information Processing and Management	information science, computer science, cognitive science and related areas, information retrieval ; digital libraries; knowledge organization and distribution; digitized contents ; management of information resources, services, systems and networks, and digital libraries.
Journal of Information Science	information science and knowledge management.
Library and Information Science Research	cross-disciplinary research in library and information science.

An analysis of the performance of several top journals with the Malaysian Journal of Library & information Science reveals that the Malaysian journal is increasing in its productivity and has been consistent in publication. Figure 1 shows the productivity based on Web of Science. Overall

most journals are increasing the number of papers published per year.

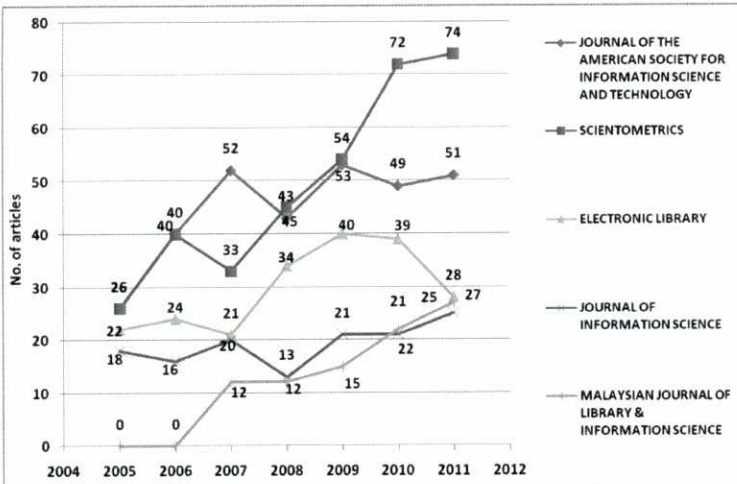


Figure 1 LIS journal in WoS

An analysis of publications indexed by WoS (2005-2012) in the research domain of Social Science and Humanities and further narrowed to Research Areas=(INFORMATION SCIENCE LIBRARY SCIENCE) revealed status of selected countries and the output (Table 4). China, Taiwan and Singapore are doing well in publication output. Malaysia has 145 publications, of which 123 are articles.

Table 4 Number of publications indexed by WoS (2005-2012)

Country	No. Publication in WoS
China	1150
Taiwan	678
Singapore	365
India	347
Japan	276
Israel	253
Iran	247
Malaysia	145
Thailand	42
Sri Lanka	10
Indonesia	6

The number of publication have increased from only 3 in 2005 to 39 in 2012 (Table 5). This indicates an increasing trend in publishing research in journals indexed by WoS by Malaysian LIS researchers.

Table 5 Number of publication from 2005 to 2012

Year	No. of articles	%
2012	39	26.9
2011	33	22.8
2010	23	15.9
2009	21	14.5
2008	14	9.6
2007	12	8.3
2005	3	2.0

The top 10 authors that have contributed to the 123 articles indexed by WoS are shown in Table 6. Prof. Zainab Awang Ngah tops the list as the most prolific LIS researcher in Malaysia. Seven of the top 10 researchers are from University of Malaya. However it is interesting to note that two of them are not from the LIS field, Chong Sc is from a private institution and has published on Knowledge management, whereas Wong Cy is from the faculty of Science and has published in the area of bibliometrics.

Table 6 Top 10 authors (articles only)

No	Author	Affiliation	No of articles
1	Zainab AN	University of Malaya	22
2	Abrizah A	University of Malaya	12
3	Chong SC	Asian Inst Finance, Kuala Lumpur	6
4	Karim NHA	University of Malaya	6
5	Diljit Singh	University of Malaya	6
6	Kiran K	University of Malaya	6
7	Nor Edzan N	University of Malaya	5
8	Sanni SA	University of Malaya	5

9	Wong CY	University of Malaya	5
10	Kassim NA	UiTM	4

Further analysis of where these authors were publishing revealed 41.6% of the articles were published in the Malaysian Journal of Library & Information Science, published by University of Malaya. It is an advantage having a local journal to encourage publication of research output, especially works by postgraduate students

Table 7 Top Journals Preferred for Publishing

Journal	No	%
MALAYSIAN JOURNAL OF LIBRARY INFORMATION SCIENCE	51	41.5
ELECTRONIC LIBRARY	7	5.7
LIBRI	7	5.7
SCIENTOMETRICS	6	4.9
JOURNAL OF KNOWLEDGE MANAGEMENT	4	3.3
KNOWLEDGE MANAGEMENT RESEARCH PRACTICE	4	3.3
LIBRARY HI TECH	4	3.3
ASLIB PROCEEDINGS	3	2.4
INFORMATION DEVELOPMENT	3	2.4
GOVERNMENT INFORMATION QUARTERLY	2	1.6

CONCLUSION

It is concluded that LIS research has been absorbed into the mainstream of academic research, but that it is still producing outputs which are transferable into the sphere of professional practice. Research in LIS in Asia is globally recognized, with countries like China, Taiwan and Singapore leading the scientific productivity in LIS. The numbers of researchers in Malaysia are few, yet they have shown increased productivity over the last eight years. The establishment of a homegrown journal has been a trigger to publishing research findings. The postgraduate LIS program in University of Malaya focuses on the research element and students in the full research mode for Master and PhD are required to publish articles in WoS indexed journals. This too has impacted the increase in number of publications. It is hoped that collaboration between the local institutions will be increased and research opportunities with other regional and

international collaborators will also elevate the LIS research output in Malaysia.. The current researchers need to consider perspectives on the library and information science research landscape with reference to: identifying LIS research opportunities; translating research outcomes into practice; growing research capacity amongst LIS professionals; and developing the future LIS research agenda. The LIS programmes are designed to appeal all LIS research stakeholders, ranging from the funders of LIS-related research activity to those who publish LIS research output, as well as practitioner researchers and academics.

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Session 1A: Digital Library

Working with D-Space: setting up a digital Institutional Repository at an Indian Management Institute

The ICT has tremendously changed the way of accessibility of information of users. Today the users are not entirely dependent on the printed resources for accessibility of information and mainly through the libraries. They prefer to retrieve the information through the e-resources which can be used by their easy accessible devices such as laptops and mobile devices like I pads and the tabs also in near future.

The academic libraries cater to the needs of the academic community for supplementing the study and the research program of the parent institutions and help to conserve and disseminate knowledge. These Libraries are initiating the digital projects and created open-access resources for their user segments. The use of open access software for providing access to research and learning resources by developing an Institutional repository has become a prime important need for providing easy access to the Institutional research collection. Institutional repositories are developed primarily for collecting, preserving and disseminating an intellectual output of an institution. This knowledge assists in sharing and learning of an institution. For the successful set up of an Institutional Repository, strategic planning is required with a predetermined goal and scope as well.

This paper is a case study of setting up a digital Institutional Repository at MES's IMCC, Pune, India using the Open Source D-Space Institutional Repository Software. The Institute of Management and Career Courses, popularly known as IMCC, was established in 1983 (<http://www.mesimcc.org/>) by the Maharashtra Education Society, Pune, India for providing quality education and technical expertise at the Post Graduation Level.

The basic objective of this paper is to provide a roadmap for setting up an institutional repository in an academic institution. The paper has discussed the role of librarian in setting up a digital Institutional

Repository, problems faced and major milestones to cover in the venture.

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Library and Information Services Using Social Media Tools: Need of the Future

Applications of ICT made an impact on various elements and among them educational and information system are concerned more and also related to information and knowledge society. In educational system e-learning and distance learning is emerging fast and needs use of electronic resources in educational system. The main function of information system is to assist users in different fields as well as educational sector to fulfil their needs using sharable electronic resources and acquiring qualitative information in e-form as well as using advanced technology. Libraries and information centres have already accepted the use of ICT and automated their libraries. The progress continued and creation of digital libraries is in the process. Use of internet and web resources are used to share the information by both library professionals and scholarly community.

Social media tools are helping libraries in providing collaborative, shared, participative, remixable, user centered services to their users faster and at any time. Library services need to be shifted towards value added services to meet the growing needs of end users. Tools like Facebook, MySpace, Flickr, Slideshare, Blogging, Forums, Wikis, Twitter, Ning and YouTube etc are currently among the most frequently used tools in libraries for dissemination of information. Libraries and information centres are incorporating use of social media tools to offer best service to their users using technology. This paper made an effort to elaborate the use of social media tools for managing library services which is the need of present and future using new technologies based on mobiles and cloud computing for education, teaching, learning, research, etc. In brief paper highlighted impact of media tools and technologies on library and information services, and analysed the challenges and skills required by information professionals in digital environment.

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A Uses and Gratifications Perspectives on Academic Libraries' Social Media Presence

Despite the widespread use of social media by students and its increased use in higher education, very little practical evidence is available concerning its prevalence in library services by interpreting academic librarians' social media presence based on theoretical assumptions. The purpose of this research is to understand academic librarians' social media presence with respect to their awareness, motivations and current practices using theoretical lens uses and gratifications. The objectives of this study are threefold: a)

To identify the primary uses and gratifications found from using social media among academic librarians, b) To understand the gratifications sought and gratifications obtained from creating a social media presence among academic librarians, and c) To model academic librarians' social media presence in terms of awareness, current practices and motivation using personas. Data were gathered via 26 interview sessions and three focus groups with academic librarians from three research-intensive universities in Kuala Lumpur, Malaysia. The results indicated that at least four types of social media are deployed in libraries to reach out to the users: blogs, multimedia sharing sites, social bookmarking and social networking sites (SNS). Facebook, Blog, Delicious, YouTube and Twitter are the tools mainly adopted by these libraries. The motives for librarians to use social media are to promote library services, manage organizational knowledge and receive instant feedback from users. This study has yielded "personas" describing four different classes of academic librarians' social media presence: namely Skaters, Sliders, Shufflers and Starters. These personas represent hypothetical librarians in their work place which introduce them by name, picture and a narrative. It was apparent from the results that librarians in these three research intensive universities need support from the library management to mobilize them into a more active and participatory role in creating social media presence.

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Research Proposal Title: Innovation Diffusion: The Case of E-Publishing amongst Malaysian Journal Publishers

This study will employ Rogers's innovation diffusion model to investigate the variables and attributes that influence the innovation adoption decision of e-publishing amongst Malaysian journal publishers. Rogers's model has been used in various disciplines to describe the adoption of an innovation and has produced a lot of useful results. For example the outcome of the adopter categories can help product developers and service providers in targeting prospects for a brand newly introduced technology innovation (i.e., potential innovators and laggards), developing strategies to penetrate various adopter categories and predicting the growth and continued acceptance of a new product.

Research in innovation diffusion is also useful to information system developers as it can assist in information system implementation. With necessary information from research findings, system developers could be able to determine the perceived attributes of a program before it is developed and could modify it to suit the targeted market. Another significant aspect is that system developers could be able to identify the perceived attributes after the program is developed. This would enable to observe the most effective dissemination strategies for a speedy diffusion while marketing and diffusing the innovation. In doing so, they may choose to highlight attributes people perceive positively or to develop messages and embark on promotion efforts to improve attributes that were perceived to be negative.

Knowledge of variables and attributes that are positively or negatively related to innovation diffusion would serve as a good recipe for information system designers, scholarly journal publishers, service providers, policy makers and other stakeholders. It can create a clear understanding of the issue and help to uncover underlying logics of publisher's activities and can aid technology transfer, implementation and future innovation diffusion promotions. This study will also enable information system providers, and publishers to understand changes in information use by scholars and how scholars react to them in order to anticipate the resulting impact.

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Building a Digital Audiobooks Library Using Commons-based Peer Production

Commons-Based Peer Production (CBPP) is the creation of Internet-based works through global dynamic participation of volunteers according to public collaboration, freedom and equality code of conduct. This study presents a digital audiobooks library setting as it relates to commons-based peer production. There are many outstanding features of digital audiobooks such as a combination of multi-element, unrestricted on ambient lighting, hands-free, portable collection, diversified carrier, easier to share, and flexible use of time.

Compared to the English counterparts, Chinese digital audiobook resources are obviously inadequate. This study aims at engaging open source content management software to build a Chinese digital audiobooks platform with the idea of CBPP in mind and using this platform to recruit voluntary participants, contributing their works, gathering experiences and views of participants. It is expected that the results of this study will be an important reference to the development of digital audiobooks platform.

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A Preliminary Study of the Impact of Social Tags on Book Search

With the proliferation of Web 2.0, Social Tag is widely used in various applications. Online bookstores (like Amazon) and online bibliographic community Websites (like LibraryThing) have quickly accumulated a large amount of user-generated information. INEX (INitiative for the Evaluation of XML retrieval) have been using the Amazon/LibraryThing corpus for its Social Book Search Track since 2011. The purpose of the INEX Social Book Search Track is to develop novel

algorithms leveraging professional metadata and user-generated metadata for effectively retrieve books. This paper uses INEX 2011 Social Book Search Track test data set to conduct book search experiments and evaluate the retrieval results. Indices based on professional metadata, user-generated metadata and both are created respectively. The experimental results show that searching via user-generated metadata outperforms searching via professional metadata.

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Session 1B: Knowledge Management

Knowledge-based Expert System of the Researches on Development of Northeastern Thailand

The Northeastern region, the one third of all area of Thailand, has the effect of domestic and world changing. Then it is important to focus on creating the opportunities to make the economy based strong and also creating immunity for environment factor of domestic changing and globalization. Including the threat from turbulently climate of global warming that is more intense. For the development of the Northeastern region, it is necessary that the people have to happily adapt with the changing for better life quality development and improve social immunity by conservation and intelligent natural resource and environmental apply with research knowledge. The issues of regional development have been of the great interests among researchers all over the country. The National Research Council of Thailand (NRCT) has also announced the Research Strategies on Northeastern Region, 2012-2016 which composes of five strategies: 1) Potential and capacity building on social development; 2) Potential and capacity building on economic development; 3) Conservation, promotion and development of natural and environmental capital resources; 4) Potential and capacity building of innovation and researchers; and 5) Knowledge management of research products, innovations, and

intellectual properties for commercial and public utilizations. To reinforce the strategies, research funding has been granted to the researchers, especially those who are under the universities and research institutions. During the past 10 years (2002-2012), there are more than 452 research titles on the development of Northeastern Thailand found in the databases of NRCT and major universities in Thailand. However, the database system can only provide information on the bibliographical data and abstracts of the researches. The knowledge which can be extracted from the researches in the meaningful forms, such as theme based, issue based, site based, problem based, and expertise based has not been organized, resulted in the lacks of knowledge on development of the northeastern region of Thailand which based on the research studies, therefore, lacks of knowledge for decision making and policy setting.

This research aims for developing of the knowledge-based expert system of the researches on development of Northeastern Thailand. The researches on development of Northeastern Thailand which were published in the past 10 years (2002-2012) and recorded in the database of NRCT will be analyzed and synthesized. The data of research will be organized using knowledge organization and ontology techniques. Then the knowledge based expert system will be developed so that the knowledge on the northeastern

Thailand development extracted from the research studies can be use for decision making and policy setting.

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**Interface Design for a Clinical Decision Support System:
The Effect of Information Cues on Clinicians' Diagnosis:
Research Proposal**

A clinical decision support system (CDSS) is an interactive system designed to support clinicians in diagnosis and treatment selection. While various types of CDSS have been developed, little is known about the interaction factors that may enhance diagnosis and treatment selection. The proposed study will investigate how information cues on CDSS interfaces and help screens support clinical diagnosis. Diagnosis is conceptualized as one kind of categorization behavior. The psychological theories of human categorization behavior are adapted as the conceptual framework for this study. The study investigates the effect of a set of information cues derived from categorization theories on the clinician's diagnosis performance. The study is carried out in the domain of wound management, in particular pressure ulcer and diabetic foot, and investigates the effect of information cues on different kinds of wound assessments, as well as the influence of various cognitive and situational factors.

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**Knowledge Management Model for Sustainable
Cultural Tourism Development of Local
Communities in Thailand**

This paper aims to study the knowledge management model for sustainable cultural tourism development of local communities in Thailand. The research was conducted using a qualitative approach. The research area scopes a community that is a famous tourism destination in the Banphu village, Tambon Banpao, Nongsung District, Mukdaharn province, Thailand. Research results show that

When tourism in Banphu is at its peak, changes occur in the community. The Phu Tai local cultures have been used as commodity to serve tourism. The famous cultural products in Banphu consist of sui fabric production, home-stays, tourist attraction, local foods, folk rituals and the Phu Tai lifestyle. These cultural products have been commoditized through production, distribution, and consumerism to serve the tourism industry, which spread rapidly to the local community. Commodification of culture also affects the community in economic, social, and cultural ways. These impacts can be both negative and positive. What is the appropriate KM model that can use for sustainable cultural tourism development of local community in Thailand.

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Session 2A: Scholarly Communication

**Open Access and Scholarly Communication: Authors
Perspectives in Thailand and India with Special
Reference to MSU and UoH**

Access to knowledge is fundamental to education and research and creation of human capital upon which the

development of societies depend. Libraries play a key role by providing high quality information resources and services. However, factors such as the high cost of commercial e-resources, legal barriers and poor technology infrastructure risk leaving many people in the developing world. There is extensive coverage and ongoing discussion in scientific communities, literature, and on the Internet regarding open access and scholarly communication. The open access movement is supported and advanced by a spectrum of interest groups and activities such as national and international organizations, publishers, individuals, and

many special events. While open access is gaining strength and popularity as the new model for dissemination of information, there are still many issues not completely resolved such as pricing models, peer reviewing, indexing and impact factors, archiving, and the stability of this new publishing model for scholarly literature. The open access movement has had a tremendous worldwide impact and involves not only the academic and publishing communities but also many other disciplines. This paper is based on a study undertaken by the authors with the financial assistance from the Faculty of Informatics, Maharakham University, Thailand. The full report reviewed the existing open access and scholarly communication issues and also tried to know the authors perspective in Thailand and India using survey method with sample from Maharakham University (MSU), Thailand and University of Hyderabad (UoH), India.

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Scholarly Communication in Thailand-A Scientometric Analysis of Biomedical Research

Scientometric techniques are applied to analyse 28507 articles in the field of biomedical research published during the period between 1991 and 2012. The tools include Pareto's Principle. (80/20 Rule), authorship pattern, Subramanyam's formula for checking the degree of collaboration, the geographical distribution of contributions and publications of research articles in the leading universities in Thailand. Results of this study shows that the highest number of papers have been written by the co-authors. The study showed a progressive research trend in the discipline. It also states that the number of researchers in medical science is also in progressive way.

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The Idol may be Small, its Fame is Big - A Scientometric View of Research in Thailand

The development of a country depends mainly on the Science and Technology research of that country. Thailand is the world's 51st-largest country in terms of total area and is the 20th-most-populous country, with around 64 million people. This paper focuses on the the Scientific and Technological Research of Thailand. Thailand, being a small country is supposed to become a developed country within 10 years.

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Scientometric Analysis of Leukemia Research Output (1960-2011): An Indian Perspective

This study analyses the Leukemia research output carried out during the year 1960 – 2011 the different parameters including authorship pattern, growth, Time Series Analysis Degree of Collaboration Co-Authorship Index, Institutions' contribution, most productivity journals were analysed. The overall growth rate of literature output is found to be positive with an increasing trend in LEUKEMIA research throughout the study period. Two and more authored papers constitute majority of the contribution and degree of collaboration had a maximum value of 0.96. The result shows that research development activities are increasing in LEUKEMIA research in India.

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Informal scholarly communication among fishery scientists in Taiwan

This study is a qualitative research to explore informal scholarly communication among fishery scientists in Taiwan. The goal is to identify the informal scholarly communication patterns of Taiwan fishery scientists and, therefore, to investigate the factors among the institutes.

This research aims to analyze informal scholarly communication among fishery scientists from interpersonal channels, scientific networks and motivations. The primary emphasis will be on the informal communication which occurs among fishery scientists in the research institution.

Semi-constructed interviews will be conducted with over 30 researchers and across 6 research institutions in Taiwan. The fisheries-related organizations include Academia Sinica, Fisheries Research Institute, COA, National Taiwan University, National Taiwan Ocean University, National Museum of Natural Science and National Museum of Marine Biology & Aquarium.

It is expected that this study will contribute to the understanding of informal scholarly communication among fishery scientists in Taiwan. In addition, the analytical dimensions of this study may be useful for analyzing how fishery scientists collaborate and how relate to each other

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The Development of Social Network Model to Enhance Research Productivity of Faculty Members in Thai Research Universities

Faculty research productivity is one of the most important indicators to measure research excellence in the university. Research collaboration by any means is needed to develop research productivity. Therefore, the study on research collaboration and social network of the faculty members measured by co-authorships are considerable to discover the relevance to research productivity.

The aim of this research study is to develop a social network model to enhance research productivity in research universities: the case of Thailand. This study uses bibliometric methods to survey Thai research publications in Scopus database. All publications are divided into 26 journal subject fields in life sciences, physical sciences, health sciences, social sciences, arts & humanities. Top-100 authors from each subject fields were sorted by number of publications, h index, and number of citations, respectively. The most prolific authors in the particular subject field from 9 research universities were selected as the representatives of their university. Co-authorship networks are analysed by using social network analysis to identify their collaborators, followed by semi-structured interview to find out the purposes of collaboration, collaborator types, and levels of research collaboration. The selected samples will be interviewed in depth to identify their motivation and keys to success. The findings from co-authorship networks and interviews will be used to construct a social network model. Focus group of research professional specialists will finally give feedback to review the social network model to enhance research productivity in Thai research universities.

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Session 2B: Metadata and Ontology

Statistical Metadata Model for Knowledge Creation in Clinical Research

Knowledge is an essential factor for all businesses and countries to drive economic growth and development of the country. Research is an important method to create new knowledge for development. Research synthesis is one type of research to create new knowledge by synthesizing a

collection of previous research. The quality of research synthesis relies on reliable and valid primary research and its selection process. This study aims to build standard elements of metadata which support the consolidation of primary research data from various sources, and construct a statistical metadata model for making reliable research synthesis by implementing statistical analysis. The model is expected to enable novice researchers in conducting a high quality of research synthesis.

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Developing an Ontology in Banking using Open Source Software

The term "Digital Libraries has a variety of potential meanings, ranging from a digitized collection of material that one might find in a traditional library to the collection of all digital information along with the services that make the information useful to all possible users. Digital Libraries have role in preservation/archiving information. Digital library presents opportunities for long term preservation of resources. Libraries have been always been a source of organized knowledge for various application areas, teaching, research, decision-making, etc. They not only deliver high quality knowledge, but also provide wide range of search and browsing services, but in recent years finding information from the Digital Library is becoming more and more complex. Searching through Digital Libraries today can be compared to dragging a net across the surface of the ocean. The traditional retrieval system is unable to provide satisfactory solutions for the issues. Work is still in progress to build up a strong retrieval system, which is semantically richer than the current one. The vision of semantic web proposes an environment where the data and services can be semantically interpreted and processed by machines to facilitate human consumption. The semantic web relies heavily on the formal ontologies that structure underlying data for the purpose of comprehensive and transportable machine understanding. Semantic web technology relies on ontology as a tool for modeling an abstract view of the real world and contextual semantic analysis of documents. The success of the Semantic Web crucially depends on the easy creation, integration and use of semantic data, which will depend on buildings Ontology. Ontologies provide a shared and common understanding of a domain that can be

communicated between people and across application systems. Ontologies will play a major role in supporting information exchange processes in various areas.

This research has aimed to study the existing problems and solutions in Digital Library Organization, in the field of Banking. The approach taken for the study is organization or giving the Structure to Digital library Resource. For this purpose qualitative analysis will be the suitable method to carry out the research. The Scope of the present study is limited for Banking (Export-Import) using Open Source Software for developing Ontology to structure Digital Library.

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Development of an Open Access Institutional Repository of the Faculty of Humanities, Chiang Mai University

This paper presents a pilot phase of the development of an open access institutional repository of the Faculty of Humanities, Chiang Mai University. An open source content management system software, known as Drupal was chosen to use for the institutional repository (IR). This IR aims to be the center where research and scholarly work can be published digitally for free online access as well as digital preservation. Materials in the IR include journal articles, research reports, and instructional materials. Necessary steps for setting up an IR had been taken.

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Development of the Greater Mekong Sub-region Tourism Ontology

Tourism industry is important for national economic development and can generate a huge income of many countries. Tourism information is considered to play critical roles in the decision making of tourists on the selection of travel services. Advanced technologies, such as semantic web and Web 2.0 have been used for the enhancement of tourism information management in order to provide a better service to the travelers via Internet. The tourism ontology which is a key mechanism for the development of semantic web, has been developed under several projects, such as Harmonise Ontology, Mondeca Tourism Ontology, Ontour Ontology, OTA Specification, and SigTur/E-Destination. These ontologies cover the contents of tourism information in Europe and

some other parts of the world. There has not been any project on the tourism ontology which focusing the scope of GMS. This study aims at analyzing and classifying the knowledge domains of GMS's tourism, and constructing a tourism ontology of GMS that will be used for the development of advanced tourism information system, such as semantic search, knowledge based system, and expert system.

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**Integrating Folksonomy and Subject Heading Concepts
in Building Searching Terminology for Information
Resources in the fields of Business Administration and
Economics**

The purpose of this paper is to develop process and approach of the building terminology, which is consistent with the concept of the user, and the terminology will differ from the subject headings of library. The new concepts and new processes of building terminology by integrating concept of Folksonomy and principle of defining the subject headings will be included. Consequently, the terms have to build relationships, create the meaning of the terms, and define the controlled vocabulary to be useful to the Library in the next stage.

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Session 3A: Information Service and Academic Libraries

Sense of Belonging among Visually Impaired Student in University Library in Malaysia

The World Health Organization (WHO) and the United Nations estimated, approximately 10 percent of each nation's population has one type of disability (WHO, 2011). The United State Agency for International Development (USAID) also predicts the population of the disabled differs, based on the country and sometimes it is more than 10 percent (Metts, 2000). Tiun, Lee and Khoo (2011) and Kassim et al.(2011) based on the current population of Malaysia, which is nearly 28 million people, estimated the number of disabled people should be around 2.8 million, while based on the statistics from the Social Welfare Department in 2009, the total number of disabled people was around 277,506 and in 2010 it was 299,305. This means that the number may not reflect the true picture of the disabled population in Malaysia (Kassim, 2011; Tiun, et al., 2011).

Also, since the Malaysian 2020 vision is to become rich and high income country, the needs of highly skilled and educated individuals both disabled and non-disabled is

obvious. So the best way to reach this vision is to provide appropriate education opportunities for everyone. The statistics from the Ministry of Higher Education in Malaysia (2011) indicate the number of disabled person who are registered in Malaysian universities has also increased between 979 in 2009 to 1,115 in 2010. So, it has become necessary for universities to improve policies, physical accessibilities, services and opportunities to enable disabled students reach their educational goals.

The university libraries considered as heart of universities and as a mediator in providing access to information resources for both disabled and non-disabled students. Hence, it is vital to improve the library services in both tangible and intangible dimensions to assist disabled users obtain their educational goals.

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NAAC Accreditation and College Libraries in Maharashtra, India

The objective of the present study is to highlight college library services in Marathwada, Maharashtra, India. It includes technical processing, circulation, periodical, reference, book-bank services and IT based services as well as modernization of the library. The present study has various aspects. One of them is the assessment of the present status of college libraries and services in Maharashtra, India and to find out need for change, to suggest practical solutions to the prevailing problems of the college libraries with the help of the questionnaire method, the questionnaire was sent to all 116 NAAC accredited Arts, Commerce and Science colleges along with self addressed duly stamped envelope with return postage by the researcher in the month of October 2012. The respondents were asked to return the questionnaire within 15 days. Out of 116 only 80 (68.97%) questionnaires were received within a month.

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Library Anxiety, Communication Anxiety and Foreign Language Anxiety: A Correlative Study

The concept of Library Anxiety was formulated by Constance A. Mellon (1986). A quantitative instrument to measure library anxiety known as the Library Anxiety Scale was developed by Sharon Bostick (1992). Since then, there had been a significant increase in research studies related to library anxiety both. The recurring factor which prevails in these studies, particularly among non-native speakers of English, is that, barriers with staff and the use of English language are among the important antecedents to library anxiety. The objective of this study is to explore if there is a correlation among library anxiety, communication anxiety and foreign language anxiety. The instruments used are LAS, FLCAS and PRCA-24. It was revealed that there is a correlation among the three anxieties. The strongest relationship was found in library anxiety subscales 'affective barriers' and 'barriers with staff' with dimensions of foreign language anxiety and communication anxiety.

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Overview on Internet and Web Search Engines: An Osmania University Research Scholars Perspective

This paper explores an overview on internet and web search engines for information retrieval. There is a paradigm shift from traditional information retrieval system to modern web search engines. "Internet is the fabric of our lives". World Wide Web contains enormous amount of information, that is growing at a exponential rate. The present paper briefly explains the concept of search engines, search engine trends and technologies, working process of web search engines and different types of web search engines. The study also highlights the Osmania University research scholar's perspective on internet search engines, purpose of using internet, training in using internet, satisfaction level for accessing web search engines.

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Impact of Information Technology on University Library Services in India and Thailand: A Survey

The emergence of the Internet and WWW as new media of information storage and delivery systems provides an unparalleled media for delivery of information with greater speed and economy. Many university libraries in India and Thailand access some of their resources and services through their websites. IT application on library services can include online bibliographies such as OPACs/WebOPACs, instruction modules, access to circulation functions, online reference services etc. The inherent character of IT offers many advantages and improvements for library services. Considering the significance of IT in Libraries especially academic libraries, the researcher being studied and working as lecturer in the university sit up in Thailand and investigated in India for the doctoral study, it was proposed to examine the impact of IT on university libraries. Further on the review of literature, it was found that a numbers of small scale research studies on the IT application on university libraries have been conduct. There is no large such study at the national level and comparing the two nations. Therefore the researcher proposed this study to bridge the gap. Hence this study. The primary objective of the present study was to examine the impact of information technology on university library services in India and Thailand. The specific objectives were to Survey the existing information technology infrastructure; Study the implementation of IT in selected central university libraries in India and public university libraries in Thailand; Study the impact of IT on university library services; Asses how IT implementation has changed the overall environment of the libraries, especially the services including introduction and enhancement of quality of new services and management;

Compare the impact of IT in university libraries of India and Thailand.

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Public Libraries in Thailand in the Context of Living Library Model for Life Long Learning in the Community

The objective of this research is to study the situation of Public Libraries in Thailand with different sizes which is a part of the study on development of living library model for life-long learning in community. The survey research was implemented and the questionnaires were administered for collecting data from the 230 administrators (81.27%), and 263 library staff (90.07%) from the Public Libraries selected by multi-stage random sampling method. The statistics used for analyzing the collected data were percentage, mean, and standard deviation. The research findings revealed that: the reality operation of Public Libraries in accordance with

living library model for life-long learning in the community as a whole and in each of these aspects are at a high level, excepted activity was a middle level, and the budget was a low level. Public Libraries in small size as a whole and in each of these aspects at a high level, excepted information services was a middle level, and the budget was a low level. Public Libraries in middle size as a whole and in each of these aspects are at a high level, excepted network participation, information resources, information services, and activity were middle level, and the budget was a low level. Public Libraries in large size as a whole and in each of these aspects are at a high level, excepted budget was a middle level.

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Session 3B: Information Seeking Behavior

Parental-Child Interactive Reading with Preschoolers from Asian Immigrant Families in the North Texas Area of the United States

The purpose of this descriptive research design was to observe the interactive reading behaviors of Asian immigrant parents and their preschool-aged children. The Adult-Child Interactive Reading Inventory (DeBruin-Parecki, 2007) was employed for data collection. Twenty five parent-child dyads voluntarily participated in the video recorded observation of interactive reading sessions. Parent and child behaviors evident in video recordings of shared reading sessions provided findings that revealed for both adults and children, as measured by the Adult-Child Interactive Reading Inventory (ACIRI), the highest means scores were in the category "Enhancing Attention to Text", while the lowest mean scores were in the category "Using Literacy Strategies". In terms of the relationships between parental reading behavior categories and child behavior categories, the findings demonstrated that the relationships between parental reading behavior categories and child behavior categories were found to be significantly correlated in a positive manner. The results of the study will potentially benefit parents, children, and families by

providing child development specialists and early childhood educators with information about the home literacy environments and literacy support activities of Asian immigrant families.

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Health Information Behavior Model of People in Rural Areas, Thailand

This research is studying in Health Information Behavior consist of Information Needs, Information Seeking and Information Use in context Health Promotion, Prevention & Control, Diagnose & Treatment, Rehabilitation and people in rural area, Thailand.

Purpose; First, To Study, Analysis and Synthesis health information for People. Next, To Study health information behavior consist of Information needs, Information Seeking

and Use. Last, To Develop health information behavior model. All purpose are studying in context Health Promotion, Prevention &Control, Diagnose &Treatment, Rehabilitation and people in rural area, Thailand.

Methodology; This research use mix-method methodology consist of Survey, Document Analysis, Indebt-Interview and Focus Group. Target are people in rural areas. Duration to study about 1 year.

Finding; Literatures review found that Health education most delivered through top-down programs controlled by government and agencies via organization, mass media, printing media, local media, or interpersonal media not success. Therefore, People are illness with prevention disease and continuously increases of out-patient and in-patient especially the patients with cancers, heart disease, diabetes and hypertension. Then, Research in Health information behavior are essential.

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Information Behavior Model of Drugs Abuse Adjournment Youths

Contemporary drug problems is a problem with global impact. At present, drug abuse is estimated at the proportion of 1: 20 of the world populations in which there are approximately 7,000 millions. The drugs abuse are mostly found in populations at the age of 18-25. The spread over of drug abuse has played the tremendous affects on the quality of the populations and drug addiction will affect the physical health. Thailand is a country that is experiencing severe drug problems. Both social security and health of the population. The government has determined that the drug problem is a national agenda and the implementation of the Rehabilitation Act of addiction is defined as 2545. "The drug is for patients, not criminals, they need to be treatment and rehabilitation thoroughly" in such operations requires knowledge of various academic to develop a model of the implementation process treatment. appropriate to the target group in Thailand. And consistent with the cultural life of

the community (Office of drug abuse suppression,2013). Understanding the youths addicted by communicating information designed specifically for the treatment of patients to patients interested in information and lead to behavior change, and decided to give up drugs (Brenda Dervin, 2005) As the persons will be interested in the content of the information as soon as they viewed that it is relevant to the problems they are confronting or relating to their interest. They will then begin to seek for more information and innovation knowledge in order to making decision or change behavior (Rogers, 1983). The purposes of this study were 1) to study the perception of Information for behavioral adjustment of drug abuse youths, and 2) to identify the factors contributing to the perceived of Information for behavioral adjustment of drug abuse youths 3) to develop a model of perception of Information for behavioral adjustment of drug abuse youths. The study is a qualitative research led to suggestions and guidelines that can be implemented as a social context in Thailand.

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Information seeking Behavior of Health Professionals of NGOs in Karnataka: a Study

Health information has been variously described as the "foundation" for better health. All resources, organizations and actors that are involved in the regulation, financing and provision of actions whose primary interest is to protect, promote or improve health with the maximum utilization of the information. The study of information seeking behavior can stand on its own as an applied research where the motive of study is pragmatically related to Health system design and development. The study explores the complete transformation in the way people seek and gather information and the factors that has influenced such transformation. Information seeking behavior varies from person to person and from discipline to discipline. However, the objective of seeking information by researchers remains the same i.e., to satisfy their information needs. An attempt has been made to understand the information seeking behavior of health professionals working in Non-Government Organizations in Karnataka to fill up gaps and overcome the weaknesses of the prevailing information systems.

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The Information Needs and Uses among Elderly People in Southern Thailand

The study is entitled as "The Information Needs and Uses among Elderly People in Southern Thailand". This study consists of three research objectives which are, first of all, to investigate the information needs and uses of the Thai elderly people to access information, secondly, to examine the pattern of usage of existing public information facilities by the Thai elderly people, and, finally, to reveal particular problems faced by the Thai elderly people while using the information source provided by the library. In addition, this study is a survey research, using questionnaire and interview methods. Its population aggregate and samples are elderly people of more than sixty years in Songkhla Province graduated from primary-school level and upper, and are specified size accordingly to Taro-Yamane Formula. The significance of the study appears in two aspects. Firstly the results of this research study can be used to construct effective collaboration on information resources and services in Southern Thailand with the aim of satisfying the

information use of the elders in the country. Another is that the findings are expected to help improve, plan and develop the information resources and services in the South of Thailand. This will be useful for determining the information needs and uses of the elders.

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Regional Collaboration Proposals

Outcome Assessment of Public Libraries

Background

With the proliferation of information communication technologies, our society enters into a knowledge economy age and the patterns of how patrons search and use information have rapidly changed. Confronting the intense competitiveness and challenges in twenty-first century, commercial companies and nonprofit organizations have endeavored to offer distinguished product and service quality, and public libraries are no exception. Under the prevailing global economic recession, some local and national governments start cutting down the

budget of public libraries due to the budget deficit. The change of societal context causes the parent institutions, higher authorities, and even the public to ask public libraries to articulate the importance and the need for their services and the resources, to provide evidence for the use of their services and resources, and also to establish both the value and impacts that their services and resources have on the community they served (Bertot & McClure, 2003). In the age that emphasizes accountability, public libraries are urged to establish an assessment method

for evaluation of their services and resources, and further support future decision-making. The assessment method should be able to highlight the outcome of the services and resources offered by public libraries to patrons, parent institutions and higher authorities, and confirm the value and impact of public libraries on the community served and the whole society.

Problem Statement

The traditional performance measurement usually assesses the input of resources and services, for example, the budget, the number of staff, the quantity of collection, the space, the equipment, etc., and also the output which results from the input invested in public libraries, such as loans, documents downloaded, and the quantity of advisory service. However, this performance measurement fails to explain the benefits users get from their interaction with public libraries. The uses of library services and the user satisfaction do not necessarily related to users' benefits from public libraries. Hence, in order to understand the impact of public libraries services on users and the society as well, there is a need for evaluating the outcome/impact of public libraries services.

Literature Review

Outcome is a multifaceted indicator of quality. Outcome assessment mainly evaluates the change of users' skills or knowledge after their use of the library and her services. Outcome assessment emphasizes on how library users have changed as the result of their contact with library and its service (Hernon & Dugan, 2002).

Bertot & McClure (2002) deem outcome assessment might be new to librarianship whereas in many other fields, it has been applied years ago. However, though outcome is not a new concept, there is still not a single concise definition of outcome. According to Bertot & McClure (2002), outcomes, in a broad view:

1. Include the notion of impact, benefit, difference, or change in a user, group, or institution based on the

use of or involvement with a library service or resource;

2. Are predetermined based on a service/resource planning process in which the library encourages to produce desired service/resources outcomes through the setting of service/resource goals and objectives; and

3. Involve measuring and demonstrating the extent to which library services/resources meet the anticipated outcomes determined by the library or imposed by the community the library serves.

There are two trends of studying public library outcome, either focus on specific programs or the general benefits as a result of library use (Vakkari & Serola, 2012). The former category mainly focuses on the specified outcomes produced by particular library programs, such as the development of a special collection, and BookStart reading programs. The latter category, general benefit, broadly explores the impact on users' daily life after their use of library. Our project, concentrating on the second category, aims at examining library outcomes of general benefit on

users' daily activities.

What is the outcome of public library for their patrons? In the short term, outcome might refer to finding relevant materials, solving specific problems, saving labor time, learning search skill after single or several visits to the library. In the long term, outcome refers to the improvement of patrons' information literacy, academic success, the change of their motivation, and the attitude and behavior toward things. In other words, the library outcome might contain a range of dimensions, such as knowledge, information literacy, democracy participation, lifelong learning, and so on (Huysmans & Oomes, 2012; Bertot & McClure, 2003). The library outcome can be illustrated as a pyramid shape. At the bottom of the pyramid is the impact of patron's acquired perception and learned knowledge; in the middle is the change of their attitude or perception, and at the top of pyramid is the impact of their behavior

Table 1 Selected Outcome Assessment Cases

Country	Citation	Outcome assessment type(s)	Research method(s)	Outcome assessment facet(s)
USA	Becker, Crandall, Fisher, Kinney, Landry & Rocha (2010)	Specific	Questionnaire In-depth interview	Computer access
Australia (Victoria)	State Library of Victoria (2005)	General	Questionnaire Focus Group	Information, Learning, Social communication, Meeting place, and Computer access
Australia (New South Wales)	Library Council of New South Wales(2008)	General	Literature Review Questionnaire In-depth interview	Society, Culture, Economic, and Environment
Africa (Ethiopia, Kenya, Uganda, Tanzania, Zimbabwe, and Ghana)	Elbert, Fuegi & Lipeikaite (2012)	General	Questionnaire In-depth interview	Information, Education, and Community issues
Canada	Fitch & Warner (1998)	General	Literature Review	Economic Culture, Learning, and Technology
Norway	Aabø, Audunson, & Vårheim (2010)	Specific	Questionnaire	Public Library as a meeting place
Finland	Vakkari & Serola (2012)	General	Questionnaire	Daily life, Hobbies, and Career

outcome assessment types, research methods, and outcome assessment facets of each case studied. It could be concluded from literature review that in outcome assessment, researchers often use literature review, questionnaire, in-depth interview, and focus group interview as research methods. There are general and specific types of outcome assessment. For outcome

assessment facets, there are society, community, culture, economy, environment, information, as a meeting place, computer access, technology, and daily life activities included.

Objectives

The objectives of this project are the followings:

1. In theoretical aspect, through solid theory construction

process, this project aims to develop the framework of outcome assessment for public libraries.

2. In practical aspect, this project is developed to understand the perceived outcomes and services of the public library through the questionnaire of outcome assessment among public libraries. Furthermore, the research results will offer public libraries, and their stakeholders to improve their policy of public library services and outcomes.

3. Through focus group and in-depth interview with public library stakeholders, this project will assist them to review their services critically and to plan the future services more profoundly. This project also tries to prove the contribution of public libraries to society and shows the evidences to the related stakeholders, for example, local/national governments or policy makers.

4. This project will build well-informed, valid, feasible, and comparable public library quantified outcome assessment indicators for the public library, and also other institutions to evaluate outcomes of public libraries more objectively.

Research Methodology

This project starts from previous literature on library service quality and outcomes, and attempts to interpret public libraries service quality and outcomes. In order to achieve the abovementioned objectives, merely literature review is not sufficient, and the construction of theory is needed. Hence, this project would first summarize related facets of public library outcome assessment from literature review, and secondly conduct interviews to collect first hand material, and thirdly verify the literature analysis and design questionnaire framework. Grounded theory systematically generalizes principles and is applied to collect and analyze data; in this manner, a middle level theory framework to interpret the data collected can be built (Charmaz, 2000).

As to achieve the purposes, this project will adopt both qualitative and quantitative research methods. In qualitative research approach, based on grounded theory from Strauss & Corbin (1997), the researchers will interview 10 to 30 stakeholders, including library users, library curators or staff, and other organizations or institutions that join partnership with public libraries. The interview is designed to understand their perceptions of public libraries services and the divergence among them. The interview will be recorded, after obtain informant's consent, and the content will be studied and analyzed in order to generalize outcome assessment facets for conducting theory and evaluation. And then researchers will construct the framework of outcome assessment based on the interview. Through quantitative study approach, the questionnaire will be applied to verify the framework theory of public library outcome assessment. Besides, this project will adopt Delphi method to construct quantitative indicators for public outcome assessment.

Collaboration Rationale

Due to divergence of culture, society, economy and other factors, the outcomes of public libraries on citizens of Asian countries may be different from Western countries. Even in Asian countries, the outcomes of public libraries may be different as well. Therefore, it is interesting to discover identical and different outcomes of public libraries among

Taiwan, Singapore, Thailand, and other countries.

Time Table

This project will be a three-year project. The tasks of the project for each year is briefly listed as follows, and may be modified after discussing with those who are interested in collaboration.

Year 1: Interview stakeholders and apply grounded theory to analyze and generalize outcome assessment facets.

Year 2: Conduct the questionnaire survey to conform the outcome assessment facets.

Year 3: Use Delphi method to construct quantitative indicators for public outcome assessment.

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Criteria for evaluation of scholarly communication

Abstract

There is exponential growth of research output in the modern society. However, there are also opinions and studies that present a cynical view on the growth of research output. In other words, they apprehend that there is a proliferation or unnecessary growth of redundant, substandard and duplicate research output. The present study is basically a qualitative study that does not attempt to quantify the results. This paper is the result of the evaluation of about forty PhD theses, MPhil dissertations and hundred articles in international journals. Objective of the study is to present the evaluation of research reports/scholarly communication. The paper presents criteria for evaluation of research reports/scholarly communication. It presents various examples. It concludes by stating that "Quality of scholarly communication/research reports should not be compromised for quantity".

Keywords: Scholarly Communication, Research Reports, Criteria for Evaluation

Introduction:

There is exponential growth of research output in the modern society. It indicates that there is immense research activity that is taking place in the contemporary world. The astonishing developments in the fields of science and technology are the direct results of the research activity that is taking place today. However, there are also opinions and studies that present a cynical view on the growth of research output. In other words, they apprehend that there is a proliferation or unnecessary growth of redundant, substandard and duplicate research output. "When we contemplate the astonishing magnitude [of the literature] in any department of science ... there is the greatest reason to apprehend that, from the continual multiplication of new essays which are merely repetitions of others that have been forgotten, the sciences will shortly be overwhelmed by their own unwieldy bulk. – Thomas Young (1807)¹"

Chemical literature is fast becoming unmanageable and uncontrollable from its very vastness. Not only is the number of papers increasing from year to year, but new journals are constantly being established. Something must be done in order to assist chemists to remain in touch with their subject and to retain their hold on the literature generally. – H.E. Armstrong (1894)²

Speaking at the 3rd World Conference on Research

Integrity, held in Montreal, Canada, from 5 to 8 May, Véronique Kiermer said a lot of errors that needed correction were "actually avoidable errors...and I think that is a very troubling trend". Although - unlike across academic publishing as a whole - the publishing group's 18 journals had seen no increase in the number of retractions per year, the number of corrections issued had risen, said Dr Kiermer. Directing her concerns mainly at the biomedical sciences, she listed problems with papers that included missing control tests, inappropriate and poor image manipulation, issues in experimental design and reporting, and problems with statistics. "It's not always that the information is wrong, it's that it's not described properly...So it's both an issue of rigour and the design and execution of these experiments, but also precision in reporting these experiments so they can be interpreted properly," she told the biennial conference³.

A 2011 study carried out on behalf of biotech firm Bayer found that results were either fully or partially replicable in only 32 per cent of the academic studies that they tried to repeat. In a further study by biotechnology company Amgen, industrial labs were only able to fully confirm the original scientific findings in 6 of 53 papers⁴.

"Out of 12 works adjudicated, there was only one work that did not deviate from the focus"⁵.

Three papers by German management prof retracted for duplication, statistical issues⁶.

Seeing double: Current Eye Research retracts three papers for duplication⁷.

Sixteen randomly chosen papers were examined from a PubMed search of 370 publications between 1995–2000 by the same author. Two papers were virtually identical, differing only in the form of the introductory paragraph and the list of authors. Neither publication acknowledges the other. Another paper reported a "second ever published case", and two subsequent papers reported the same "second" case without reference to the earlier published paper⁸.

A new computerized scan of the biomedical research literature has turned up tens of thousands of articles in which entire passages appear to have been lifted from other papers. Based on the study, researchers estimate that there may be as many as 200,000 duplicates among some 17 million papers in leading research database *Medline*⁹.

Of course the initiation of the use of plagiarism software to detect plagiarism, is an indication that there is considerable amount of duplication or replication of research and research findings. Apart from this, if rigorous studies are carried out on the quality of present research output they would reveal the state-of-art of the current research in various fields.

This calls for rigorous evaluation of research output and also ensure quality control on research activity.

Why proliferation of research output?

Day (1996) "has given four main themes under which most of the reasons given fall under

1. Because I have to
2. Because I want to get ahead
3. Because I need to learn through others
4. Because I need clarity¹⁰,"

Day presents the reasons in a very generic fashion. However, the reason listed at number 2 'because I want to get ahead', is the one which forces the aspirants of good positions and promotions publish indiscriminately. It is very clear that the present day appointments/job opportunities or promotion channels warrant considerable number of publications by the candidates. As a result, there is hectic activity of publishing among the professionals.

The concept of scholarly communication is directly related to process of communication/reporting of research results. There have been many international efforts to present standards for scholarly communication like style manuals for research papers. For example:

- APA: psychology, education, and other social sciences.
- MLA: literature, arts, and humanities.
- AMA: medicine, health, and biological sciences.
- Turabian: designed for college students to use with all subjects.
- Chicago: used with all subjects in the "real world" by books, magazines, newspapers, and other non-scholarly publications¹¹.

These are some of the various standards that are developed to provide guidelines to the researchers/writers to improve their communication or quality of their research report. In spite of the existence of all these standards still there are many lapses in considerable number of research reports. An intensive study on the quality of the emerging research reports will certainly provide better insights into the extent of quality or standard of research reports. However, there is a need to carry out studies on the quality of scholarly communication that is taking place today. As a prerequisite for such studies there is a need to develop valid/suitable criteria for evaluation of the output of scholarly communication.

In this paper, an attempt is made to provide criteria for evaluation of scholarly communication/research reports maybe full length research reports/technical reports/theses and/or research papers published in Journals, conference papers/proceedings etc.

Methodology:

Basically it is a qualitative study that does not attempt to quantify the results. This paper is the result of the evaluation of about forty PhD theses, MPhil dissertations and hundred articles in international journals. One of the authors of this paper is the adjudicator of PhD thesis, MPhil dissertations, member of board of international reviewers for three international journals. Besides this some articles from international journals were evaluated for the study. Based on findings on evaluation of these documents this paper is prepared. The examples provided in this paper are not cited as the researcher has to ensure anonymity of the subjects under study and therefore some of the examples are not the original examples but they are the ones that are modified

based on the originals. After evaluating so many documents it is felt that there is a need for developing criteria for evaluation of scholarly communication and also there should be empirical studies on evaluation of research reports/outputs of scholarly communication.

Operational Definitions:

This paper uses basic concepts such as scholarly communication or technical/research reports. In order to define this operationally, following operational definitions are provided below:

Scholarly communication means the output of scholarly work such as technical or research reports.

Technical/Research reports include full length research reports/technical reports/theses and/or research papers published in journals, conference papers/proceedings etc.

Quality expected of scholarly communication:

The very term itself indicates that it is scholarly communication. The dictionary meaning of the word 'Scholarly' is: Involving or relating to serious academic study; of, relating to, or characteristic of scholars or scholarship. The meaning for Scholar is: A learned person. Therefore, what communication qualifies as a scholarly communication? It is that which has quality, clarity, valid and useful content presented by a learned person. Therefore it is expected that scholarly communication should ensure quality. To ensure this quality research report should have the following:

- Clarity: Facts in clear terms.
- Focus: Be very specific
- Objectivity
- Orderliness
- Standard Format

Clarity:

• The concepts that are dealt with in the research report should be very clear. In other words, the researchers should use standards and well defined terminology. As a matter of fact, most of the concepts that are dealt with by the researchers should be operationally defined.

• And the language used should be simple without spelling and grammatical mistakes and bombastic or ambiguous words or expressions.

There is no room for 'something to be understood': It means that the author of the report should not take it for granted that something is to be understood. There are many instances where the research scholars do not mention 'The particular research method' that is applied to carry out their research work. This approach is not the right approach. Though certain things can very much be understood, it is under the obligation on the part of the research scholars to explain in clear terms what valid research methods, data collection techniques they use to carry out the study. Above all, the objectives, hypotheses and the final findings should be clearly worded. Example: In the abstract of a paper it is presented as :

Design/methodology/approach: The objectives of this paper are achieved by connecting local experiences with other parent initiatives on university campuses throughout the country. This paper takes the approach of addressing marketing strategies for recruitment and retention of parents,

Sl. No	Library	Percentage of users satisfied by the library services
1)	Library A	23%
2)	Library B	34%
3)	Library C	18%
4)	Library D	8%

while also including opportunities for these strategies to be applied.

The above does not explain what is the basic research method that is applied by the author(s). And further more interesting part of it is in the text of the paper no design, methodology or approach is explained. Under such circumstances the validity of the findings will be questionable. On reading the text of the paper it gives such an idea that it is a case study whereas in the abstract it states that with other parent initiatives on university campuses throughout the country and connecting local experiences. What methodology it is? Is there any method called 'connecting local experiences' with some initiatives? Is it a national level survey or a case study? Is it a qualitative study or quantitative study? These aspects are not clearly known through the contents of the paper.

One of the thesis presents under the methodology in the following fashion.

The method used for the study is the 'questionnaire method'.

Is questionnaire method a research method? By simply mentioning the data collection method used for collection of data for the study does not clarify what research method is used for carrying out the study

Focus:

Research itself implies that it is a focused study. Researcher primarily endeavours to find out a specific fact. In the process he conceives some objectives for the study and formulates relevant and related hypotheses for verification, instead of verifying the formulated hypotheses and addressing the specific statement of the problem if unrelated aspects are dealt with by the study and finally the study does not address the focal issue such a study is an unfocused study.

A thesis dealing with factors of motivation in libraries does not entail the very word or phrase 'motivation', 'factors of motivation' respectively in objectives of the study.

In another thesis that deals with impact of Information Technology (IT) on distance education, programs in Library and Information Science (LIS) does not contain an objective and hypothesis that is related to impact of IT on distance education program in LIS.

A study on Library and Information Services for medical practitioners presents findings on problems of medical practitioners.

There is another example of thesis where two chapters are totally unrelated to the topic of the study.

How these reports could be called as focused ones?

Objectivity:

This is a precondition for every research activity. If objectivity is not ensured the very purpose of research is violated. There are many studies that tend to be subjective. The subjectivity in research report can easily be perceived if the inferences and interpretations are erroneous or deliberate. For example, when data relating to the user satisfaction on the select library services reads as:

Interpretation reads as: majority of the users are satisfied by the services of Library B. It is a clear indication that 34% is not a majority. How can the researcher interpret the data in the above fashion unless he is biased towards library B or it can be an erroneous interpretation?

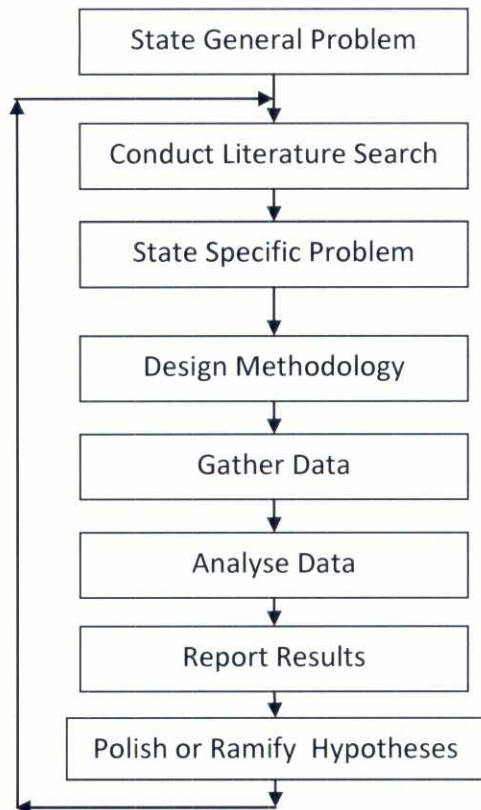
There is another example where the research work proceeds with the hypothesis that "majority of the library users depend on library catalogue." Whereas the data showed that a very meagre percentage of minority of users indicated that they depend on the library catalogue. Whereas the conclusion was that majority of the users depend on the library catalogue, therefore the hypothesis is proved. When the research scholar was questioned at the time of viva-voce examination that how come a negligible percentage of minority of users who depend on library catalogue is interpreted as majority of users depend on library catalogue? Then the scholar answered "The hypothesis has to be proved. So it is interpreted like that."

This case indicates that the scholars should be thorough with the research methodology and the research activity. Such things need to be dealt with very carefully by the researcher and/or research supervisor if it is academic research work while preparing the research reports.

Orderliness:

Though it could be considered as part of the format in order to emphasise that the flow of the text in the research report should follow logical order, the order of flow of the text is discussed here. Before dealing with the order or flow of the text in the research report, it is important to consider the general model of scientific method of investigation so that it clearly presents the flow of the contents of a research report.

Diagrammatic presentation of general model of scientific method of investigation :



(Source: Charles H. Busha, Stephen P. Harter. *Research methods in librarianship : techniques and interpretation*. New York : Academic Press, 1980).

The above diagram clearly indicates that the research report should start with the background of the research problem to present the problem in general. It should also present the significance of the problem. This should be followed by the need for the study based on the review of the literature. Then the specific problem needs to be stated. It implies that at this stage the objectives and hypothesis(es) of the research activity should be presented. Based on the objectives/hypothesis(es) of the study the methodology has to be designed. In other words, at this point the methodology applied for carrying out the study should be clearly explained with explanations on the basic research design used, the data collection tools developed, the universe dealt with, sampling techniques used if any to select the sample, method of administration of data collection tools, data collection process, and the statistical tools and techniques used for data analysis. It is followed by the section/chapter that deals with data analysis and the data analysis will be followed by the findings of the study to report the results. And finally the research report should also raise issues for further research for ramification of the study. That is how research gives rise to a systematic, studious, valid and reliable study that gives rise to further research. But, it is found out that a majority of the research reports miss this order.

Standard Format:

The styles sheets present the format of the research report. In fact the style sheets deal with all aspects of research report writing right from the mechanics of writing, language

dynamics, format of research report especially fonts and font sizes, citation of original sources, etc.

Besides the above basic framework for evaluation of scholarly communication/research reports, to sum up in detail the following aspects have to be considered for evaluation of scholarly work.

Conclusion:

In spite of existence of various standards at national (ANSI, BIS) and international level and discipline-wise standards such as APA Style Sheet: for psychology, education, and other social sciences; MLA Style Manual: for literature, arts, and humanities; and AMA: for medicine, health, and biological sciences. Still there are many reports/scholarly communication that do not adhere to the specifications. As a result the quality of scholarly communication suffers. And it also affects the image of the research institution from where the reports emerge. It is imperative on the part of the researchers/research scholars and the research supervisors to ensure quality of the communication. Some serious empirical studies on evaluation of scholarly communication would bring forth useful findings to improve the quality of output of present research work which is the need of the hour. The criteria presented in this paper would prove to be useful in evaluating the quality of scholarly communication. However an objective and open study with high rate of integrity alone would present the facts of the prevailing condition.

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Subject Headings for Indian Publications (SHIP)

Purpose: To undertake a project to design and develop a list of subject headings for Indian Publications and documents published on India in English to enable the libraries in India to use a standard list of subject headings that would help accurate retrieval of documents apart from creating authority files.

Aim: The aim is to maximize the impact of online access to Indian subject terms used in English. This project can use the existing resources like Indian National Bibliography or the bibliographic databases of Indian publications spread across Indian libraries apart from the major libraries like National Library, Central Reference Library etc. Several other sources can be also consulted to standardize the subject headings for Indian publications in English.

Synopsis: The printed book is still sought after by readers in India. The publishing industry in India, valued at over \$2 billion, is witnessing healthy growth despite the slump in the international market and threats from digital medium. While some say that publishing in Europe and the United States is on decline, the printed book industry in India continues to grow. Experts say the old tradition of written texts, conservative Indian mindsets, vigorous promotion of the reading culture, the spurt in national and state-level literature festivals and competitive pricing are keeping the industry on the move, drawing new segments of readers. About 50,000 new books and 13,000 journals and magazines are being published in India every year by more than 13,000 publishers in English and in other Indian Languages. India ranks third in the world as a producer of books in English

after USA and UK. Around 20,000 books are published in English in India.

Existing subject headings derived or created in the Indian libraries are not standardized and there are no authority files to render Indian names, Indian terminology & vocabulary control. Most of the libraries are devising a mechanism of natural subject heading, resulting the improper retrieval of documents making the subject catalogue irrelevant. Standard subject terms will enable better retrieval when user searches the online databases. The terminology used in Indian philosophy, Psychology, religion, some of the social science subjects, Indian government publications, Indian English Literature, fine arts, sculpture, dance and music forms, Indian history, archeology, ancient & medieval Indian history, and Indian Medicine are unique to India.

The Catalogue Information develops a bibliographic database for documents accessible in the libraries. To ensure satisfactory retrieval of information in the library catalogue, considerable time needs to be spent in documenting and applying descriptive cataloguing rules, maintaining a controlled vocabulary for subject analysis and the assigning of subject headings to each document.

Librarians and library users in India are not able to overcome the limitations of the existing schemes like: Library of Congress Subject Headings (LCSH) and Sears List of Subject Headings to describe a publication which is either uniquely Indian or for which the LCSH terminology is inappropriate for the Indian publications. It is proposed to undertake a project to design and develop a list of subject heading for the purpose to enable the libraries in India to use a standard list of subject heading that would help accurate retrieval of information/documents. The proposed list of Subject Headings for Indian Publications (SHIP) can be divided into four categories:

- To represent a new concept not covered in LCSH, and Sear's List of subject headings
- To render Indic names for subject headings,
- To refer the library staff to the equivalent LCSH and Sear's List term, and
- To replace LCSH and Sear's List terms with an equivalent Indian term.

The list of Subject Headings for Indian Publications in English is to provide a controlled vocabulary approach suitable for subject access to the library catalogues for the users. This list can be used by cataloguers when selecting or devising appropriate subject headings for Indian resources catalogued into the databases. The list can be also used by the libraries to assist the library staff in conforming to standards when adding subject headings to local resources.

The List of Subject Headings can be also used by organizations that require Indian English language

controlled vocabulary with focus for the subject analysis of resources. For example, the list could be used as a source to assign headings to indexed journal articles in an online database. The List of Subject Headings could be used when creating metadata for digital library collections of Indian documents for efficient retrieval of digital materials in a virtual environment.

If any LIS professional, from the Asian Countries, working in such areas or interested to work in such projects are invited to work together to devise methods in standardization of terminologies and also to work on controlled vocabulary taking into consideration of unique terminologies specific to their countries. It is possible to devise guidelines or mechanisms for subject headings with unique terms that are used in our countries, and which are not covered in the existing LC or Sears List of subject headings.

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Manuscript Libraries in Thailand and Tamil Nadu (India): A Comparative Study of their Management in the ICT Environment

Abstract

Manuscripts serve as a source for targeted knowledge rediscovering system as such and thus help in the evolution of intellectual process of mankind. The issue related to the organization and preservation of manuscripts poses some problems. This proposed research would make a comprehensive survey of Manuscript libraries in Thailand and Tamil Nadu (India) and identifies the issues involved in the management of those libraries. This study has been proposed with the objectives such as To trace the growth and development of Manuscript Libraries in Thailand and Tamil Nadu (India); To survey the selected manuscript libraries with regard to the nature of collection, organization and management; To examine the manpower and other infrastructure facilities available with the Manuscript Libraries under the study ; To elicit Librarians opinions about the causes of deterioration of Manuscripts; To examine the means and methods adopted in the preservation and conservation of Manuscript Libraries and To survey the extent of digitization carried out in Manuscript Libraries.

Based on the findings and observations from the study, the research team would propose solutions for the better management and greater sustainability to preserve the cultural heritage of both the countries.

Key Words:

Manuscript Libraries- Organization and Management- Thailand- Tamil Nadu (India) - ICT Environment- Comparative study- Survey

Existing Collaborators:

Dr. Sujin Butdisuwan from Thailand and Dr B Ramesh Babu from India

Number of Collaborators sought: Other Asian countries participation in the research collaboration

Rationale of Research

The existence of manuscripts is as old as the origin of written records. The history of writing and the history of civilization are inseparable entities. The ancient knowledge in the form of Manuscripts which are the powerful medium for transmission of ideas ,facts and knowledge of our society and they as such serve as powerful tools for preservation of our literary, linguistic, cultural and art heritage. Manuscripts serve as a source for targeted knowledge rediscovering system as such and thus help in the evolution of intellectual process of mankind. There are many manuscripts and records preserving institutions in these countries.

The issue related to the organization and preservation of manuscripts poses some problems. The extremely fragile nature of the material, aggravated by physical and climatic conditions and lack of facilities for proper storage and preservation of manuscripts against heat, humidity and insects have been responsible for the loss of manuscripts in any country and Thailand and Tamil Nadu are not an exception to this phenomena. In the case of palm leaf manuscripts there was a strange customs under which old manuscripts which reach the irreparable condition had to be written on new leaves and the old ones were consigned to the river. The religious taboos also disallow the pundits to hand over the manuscripts to the places of safe custody. Paucity of funds, lack of equipment, materials and skilled personnel in the manuscript repositories are the factors which hamper proper upkeep of manuscripts. Indian trust for art and cultural heritage has brought remarkable developments in the state of art of manuscript preservation and in creating awareness among the manuscript keepers. Indira Gandhi National Center for Arts [IGNCA], identified the manuscript repositories across the country and envisaged microfilming of the contents of the manuscripts.

The launching of National Mission for Manuscripts [NMM] is another milestone in the field of conservation in the field of documentary heritage with an objective of identifying, documenting, and sharing the intellectual wealth of India contained in manuscripts. However, these efforts are not enough as most of the manuscripts are in dire need of conservation.

Literature Review

Mukhopadhyaya (2007)¹ expressed that though the systematic survey of manuscripts, their collection and preservation, and also cataloguing has been going on since the establishment of the East India Company's rule in India, the importance of manuscripts, their storing and listing were not totally unknown in classical and medieval India. He has reviewed the efforts of Indians in the cataloguing of manuscripts starting from the earliest catalogue of manuscripts which was compiled under the title, *Brihattippanika*, as early as Vikrama Samvat 1440 (1383 C.E.) by a Jain monk. According to him an extensive survey of manuscripts were carried on by Indian and European experts in various regions of the country, particularly in Bengal, western, central and northern regions.

Brimmer (2005)² identified the major issues in the management of music manuscripts within the UK. Three major aspects of management are identified - collecting (collecting policies, storage and preservation), describing (finding aids, standards) and providing (access, outreach) - and each of the five case studies is tailored to fit these key areas.

Dean (1999)³ discussed vividly the common problems that have affected the longevity of library materials in South East Asian Countries, especially in the northern regions. Here climates are unfriendly to paper based materials, poor economies and civil unrest are just a few of the reasons that librarians and archivists find it extremely difficult to ensure the survival of cultural property. Some other problem areas are deficient building fabric of many structures with uninsulated walls, faulty shelving system, lacking of house keeping operations and hazardous handling of library materials. Also depicted some of the strategies employed by the Cornell University Department of Preservation and Conservation to preserve materials in Burma, Cambodia, Laos, Viet Nam, and Thailand.

Bokhare (1997)⁴ highlighted the types of the deterioration of paper manuscripts that are reflected in wear and tear, cracks, shrinkage, brittleness, softening, warping, bio-infestation, dust and dirt accumulation, abrasion, holes, missing pieces etc. He also mentioned the causes of deterioration that include light, temperature, humidity, dust, disaster and has

stressed the importance of preventive aspect of conservation.

Hofenk De Graff and Hofenk De (1986)⁵ stated that the deterioration of wood-pulp paper through natural acidity has long been a matter of concern to librarians. Although it is possible to treat such materials on a small scale, the problem is now so acute that a means must be sought of dealing with entire collections of books and documents. The rate of deterioration of paper is closely linked to changes in methods of paper manufacture. However, the atmospheric condition in which materials have been stored is a further factor-influencing rate of deterioration. In addition to devising methods for mass de acidification of such materials, the means must be sought for large scale repairing of materials already in a fragile condition.

Neeraja Gopi (2006)⁶ stated that Conservation of manuscripts is one of the most important fields of activity that the National Mission for Manuscripts[NMM] has been engaged in over the last three years. NMM has devised conservation programs for both institutional and private collections and has set new benchmarks in the field in India. The NMM's first step in this direction has been to set up Manuscript Conservation Centres (MCCs) across the country to protect manuscripts from further decay, damage and destruction by providing support and manpower for conservation activities.

Biswal (2005)⁷ explained that manuscripts and holographs are invaluable sources for the creation and preservation of the art, history and culture of any land. A number of up-to-date scientific techniques have been developed in the past few years for the durable preservation of the manuscripts. However, it should be a matter of great concern for us that most museums in India are not in a position to afford them. It is a matter of regret that the importance of manuscripts is being overshadowed by the spread of a lifestyle dominated by modern science and technology. The author argued that it is high time now not only to know and recognize the knowledge imparted in our manuscript heritage but also to utilize it and therefore it should be preserved properly.

Dean (1999)⁸ suggested palm leaf manuscripts are prone to damage through becoming brittle over a period time. Damage and deterioration tends to be the result of insects staining, splitting and cleavage (separation of upper and lower surfaces) and mechanical damage. The author briefly reviewed the methods used for treating manuscript prior to storage: notably killing insects and cleaning the surfaces of the leaves; and remedial treatment of damaged manuscripts. Concludes with notes on conservation techniques used for repairing manuscripts.

Alan (1997)⁹ highlights the activities and services of the British Library, which issues a number of authoritative newsletters to inform the library and information community of the latest developments in the Library's services departments. These cover a wide variety of topics from the preservation of eleventh-century Buddhist manuscripts to the specialist collection of traditional, ethnic and folk music.

Samuel (1994)¹⁰ discussed the issue on preservation and conservation of library materials. Some of the problems of preserving palm leaves are outlined including the use of microfilming projects supported by other work of the Institute of Asian Studies in the acquisition of manuscripts and the preparation of an integrated descriptive catalogue.

The conservation treatment of palm leaf manuscripts at the Victoria Memorial by fumigation, restoring flexibility, re-inking, joining the fragments, filling up the gaps and mending the tear has been described by Dutta (1978)¹¹.

Baynes-Cope (1976)¹² made a survey of various lamination techniques in use in United Kingdom. Observed that Barrow's process of lamination is ideal for manuscripts written in iron gall-ink or documents printed in carbon ink.

Lai (1977)¹³ evaluated the efficacy of the processes and materials used in conservation. For this purpose he selected representative samples of paper produced by different pulping processes such as bond paper, craft paper, art paper and the papers were subjected to different treatment like deacidification, fumigation, lamination and repair with application of lacquer to examine their suitability. Finally the papers were measured for their tensile strength, folding strength, internal tear strength, bursting strength and found out that the durability of paper depends on environmental conditions of humidity and temperature.

According to Mazumdar, Nirmal Ranjan (2009)¹⁴, Information technology has facilitated preservation of the documents, i.e. digital preservation. Digital preservation of manuscripts restores it from loss, theft and decay. This paper highlights some of the initiatives taken in Assam for the digital preservation of manuscripts.

Smith (2003)¹⁵ pointed out the issues and challenges dealt with long-term digital preservation of manuscripts particularly that associated with "born digital" materials. He is of the view that digital information is easily created, quickly accessed, cheaply disseminated and provides significant benefits to users, but this versatility brings with it a new level of volatility and fragility. The rapid changes in hardware and software make digital media short-lived and inherently fragile. Therefore the task of preserving the digital records is formidable and raises social and technical

challenges of a fundamentally new form. It is vitally important to understand that digital format is extremely fragile media for preserving the cultural heritage of the world. Traditionally preserving things meant keeping them unchanged, however if digital information is held without modification, accessing the information over time becomes increasingly more difficult and eventually impossible. Digital information is highly susceptible to technical obsolescence and physical deterioration and requires continuous conversion, refreshing and migration to new formats.

Kowalska (2002)¹⁶, compares the impact of digitization of information in today's world to the changes that followed at the time of discovery of print. He discussed about the issue of retrospective digitization of manuscripts and other old materials and steps undertaken by some German libraries and other organisations in order to achieve that goal.

Dumitrescu (2010)¹⁷, described a practical digitization project which was carried out by the Manuscripts Department and the Information Technology (IT) Department of the Romanian Academy Library (BAR) under the coordination of the Romanian Academy and with the support the Romanian Ministry of Culture.

Ceynowa, Klaus (2009)¹⁸, opined that the Bavarian State Library is one of the largest European research libraries. The Library's unique collection profile is characterized by extremely precious manuscripts, rare printed books and comprehensive special collections from thousands of years of cultural heritage. Responding to the challenges of the digital age, it is a primary strategic objective of the Bavarian State Library to digitize as soon as possible its unique collections, which are a good part of written cultural heritage, and to make them usable for the world. Aiming for this strategic objective, the library undertakes several large-scale digitization projects, which will bring more than 1.2 million books online during the next few years. The deployment of state-of-the-art robotic scanners as well as a public-private partnership with Google, which are part of this digitization strategy, is described in detail.

Objectives

- To trace the growth and development of Manuscript Libraries in Thailand and Tamil Nadu (India).
- To survey the selected manuscript libraries with regard to the nature of collection, organization and management.
- To examine the manpower and other infrastructure facilities available with the Manuscript Libraries under the study.
- To elicit Librarians opinions about the causes of deterioration of Manuscripts.

- To examine the means and methods adopted in the preservation and conservation of Manuscript Libraries.
- To survey the extent of digitization carried out in Manuscript Libraries.

Hypotheses

The growth of Manuscript Libraries is not in Linear Trend.

- The collections, organisation and management of Manuscript Libraries are heterogeneous in nature.
- There is no uniform pattern in the availability of manpower and infrastructure facilities in the Manuscript Libraries under the study.
- There exists diversified opinions among the Librarians with regard to the causes of deterioration of Manuscripts.
- There exists variation and differences with regard to the means and methods of preservation and conservation in Manuscript Libraries.
- There exists variation among the manuscript libraries in respect to the extent of Microfilming and Digitization activities.

Methodology

The study is based on both secondary and primary data. The secondary data are being collected from the official records of the sample libraries and from their web sites. The primary data are being collected through personal interviews with the authorities of the sample manuscript libraries with the help of a well designed and pre-tested questionnaire. The research team will also visit the libraries to have observation data.

The following methodology will be adopted in this study:

Step 1: Review of literature

Literature on preservation and conservation will be collected with reference to manuscript libraries and survey of manuscript libraries various conference documents on archival materials manuscript libraries has been thoroughly studied. Both primary and secondary records have been examined. The review would facilitate the construction of the questionnaire

Step 2: Questionnaire construction.

Based on the review of literature, a structured questionnaire will be designed and developed to collect data from the manuscript libraries in a province of Thailand and in Chennai district of Tamil Nadu (India).

Step 3: Administration of the questionnaire

Accordingly the questionnaire was finally administered among the manuscript libraries under survey

Step 5: Data analysis

The data collected from the questionnaire has been analysed and interpreted to test the hypotheses framed and to fulfill the stated objectives

Scope

The present research is a comparative study of the state of the art of the manuscript libraries in a province in Thailand and in Chennai district of Tamil Nadu (India). Important manuscript libraries have been considered with respect to their nature of collections, procedures, practices in respect of procurement/classification, cataloguing, care, maintenance, preservation, restoration, staffing pattern, use and service, and future planning for any development work of these manuscript repositories.

Benefits from this research

Benefits to community, society, economy, industry and research circle

The proposed research is beneficial to the community because the results would throw light on the state-of-the-art of the Manuscript libraries under survey. Based on the results and proposed suggestions by the researchers, the managements can organize those libraries to serve the user community to disseminate the cultural heritage stored in these libraries. The research would also encourage the research scholars to undertake research on these lines in other provinces and places.

Expected publication from this research

The outcome of the proposed research would result in the publication of articles in the peer reviewed journals. It is also possible to present the findings of this research in National and International conferences. This project report may be published as a Research monograph. It would also draw attention of the government and other related agencies in the up keep of the manuscript libraries in the respective countries.

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Information Behavior on Social Media Sites

Traditionally, the library and information field has focused on published information sources, and user searching of online library catalogs and databases of journal abstracts and articles. More recently, researchers have studied how users search the Internet for information. Researchers in the area of Information Behavior have broadened the field to investigate *everyday life information seeking*, including obtaining information from news sources and from colleagues and friends. They have also expanded the field from purposive information seeking to serendipitous information encountering and accidental acquisition of information.

There is however a rapidly expanding body of information on the Internet that is not well-studied, i.e. user-contributed content on social media sites, include discussion forums, blogging and micro-blogging sites, review sites, social networking sites, social bookmarking sites, media and news sharing sites, social Q&A sites, and wikis.

Traditionally, information from social media sites are considered to be less authoritative and reliable than information from publications that have been subjected to peer review. However, some social media sites have been heavily used as information and news sources, and have gained respectability. These include Wikipedia, some hotel and tourism review sites (e.g., Tripadvisor), various product review sites, Twitter, YouTube, and Yahoo! Answers.

I invite the Workshop participants to form a regional research cluster in the area of *Information Behavior on Social Media Sites* to study the range of information behaviors on different types of social media sites. The same kinds of research questions and information behaviour frameworks that have been directed at traditional information sources, can now be directed at social media sites. In addition, as consumers are now also producers of information, the research will cover not only information seeking and consuming, but also information sharing and publishing.

I also seek collaborators in the following three projects that I am working on:

1. Information behavior on Facebook: this project investigates what categories of friends people have on Facebook and what types of information they exchange with different categories of friends. A preliminary survey has

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been carried out to find out how people would categorize their friends on social networking sites (SNS). The main categories of friends were found to be school friends, work-related friends, friends sharing same interest/activity and family. The study found some differences by age, gender and nationality. Female respondents were more likely to list school friends, work-related friends and family friends than male respondents, who were more likely to list friends with the same interest/activity. Local Singaporeans were more likely to list friends sharing same interest/activity, whereas international students from India and China were more likely to list family friends, close friends, mutual friends and school friends. Females, younger people and international students tended to have a bigger variety of friends.

A questionnaire is now being developed to find out the types of information exchanged with different types of friends. The survey will initially target undergraduates and junior college (i.e. high school) students. A second study using interviews is investigating the types of health information that is exchanged on Facebook and what impact this has on health behavior. Collaborators are invited carry out the questionnaire survey in their own countries and schools.

2. Drug information on authoritative versus social media sites: This project seeks to determine whether health-related social media sites contain useful types of information not found on authoritative sites, and whether patients as well as healthcare professionals can gain useful knowledge from the user-contributed content. A preliminary study was carried out comparing three authoritative websites (*Mayo Clinic*, *Epocrates*, and *DrugLib*) with three social media sites (*PatientsLikeMe*, *WebMD*, and *Rate A Drug*) using content analysis. Three chronic health conditions (chronic pain, insomnia and diabetes) and five common prescription drugs for each of these conditions were selected for analysis (15 drugs in total). Types of information that can found on social media sites and not on authoritative sites were found to be:

- Efficacy—users' experience
- Treatment burden—users' difficulties with various aspects of the treatment, and convenience issues
- Cost—users' financial burden, and experience with the insurance and government subsidy
- Quality of life—impact on the users' overall wellness and ability to have a normal life
- Stop reasons—users' recorded reason to stop treatment, which includes severe side effects, ineffectiveness, cost, or instruction by the doctor
- User experience—this includes coping advice, beneficial complementary drug or treatment, dietary habits, etc.
- Accessibility to drug—at the users' geographical locality
- Reported treatment duration, dosage and adherence to treatment.

A more detailed follow-up study is being carried out with an expanded framework. Collaborators are invited to replicate the content-analysis study using the same framework applied to other health social media sites and other diseases.

3. Information seeking behavior on health social media sites: This is an observation study of how users search and browse

a health social media site for information on a particular disease or health issue. The study makes use of interview, eye-tracking, and video capture of screen behavior. The focus of the study is on relevance judgement—how people decide whether a post or piece of information is relevant, useful or interesting. The study distinguishes between three types of information need:

- Searching for self, i.e. searching for information for the user's own health issue
- Searching for others, i.e. searching for information for a relative or friend's health issue
- Searching for no one, i.e. without any particular person's health issue in mind.

As the user browses the postings on the site, the user may encounter information that may be useful for someone else other than the person whose health is the focus of the search (i.e. accidental acquisition of useful information). The user may also encounter health information of general interest, not related to the health issue of self or friend. The relevance criteria used may be different depending on whether the user is searching for self, others or no one, and whether the information is relevant to the focus of the search, accidentally relevant to someone else, or just of general interest. In addition, the issue of accidental acquisition of information also raises the question of what attributes of the information or patient triggers the recognition of a piece of information as relevant to some other person or task (i.e. triggering the change in the focus of the relevance judgment).

Collaborators are invited to carry out similar studies in their home countries with different user groups.

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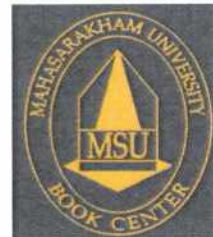
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