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Author :

DR. ANTARA CHAKRABORTY

Librarian, Bolpur College, Bolpur,
Birbhum, West Bengal.

ENHANCING INTERDISCIPLINARITY IN LIS RESEARCH : SOME PROS & CONS

Abstract : The purpose of this present study is to highlight how interdisciplinarity can be introduced and enhanced within LIS Research by adopting different techniques like abstracting, bibliometric analysis, fog index calculation, researches on ICT and so on. Observation Method has been used has been used for this present research. The present paper helps to explore how interdisciplinarity is a part and parcel of LIS domain by the nature of its subject itself. And at the same time, it focuses how with the advent of ICT specially during and after Covid era the role of library is evolving to meet the need of its smart users. And this changed pattern of library collection and the ICT based user services has also a profound effect on selection of the subject for LIS research by the new researchers. Their way of using interdisciplinary approaches within LIS domain is the central importance of this research. Therefore, the value of this paper includes collaborate, and explore how injecting interdisciplinary approaches within LIS research enriching the LIS field day by day. And the outcome of this paper would be beneficial for academicians and research scholars of diverse fields to work more on similar and related areas.

Keyword : LIS, Research, Interdisciplinarity, ICT, Library.

Introduction : The Library & Information Science (LIS) is itself a discourse which deals with books, documents, and other non-book materials belonging to diverse range of subjects. Books and journals on Arts, Science, Commerce, Social Science etc. all can be accessed through library. A library can be described as an ocean of knowledge where n-number of rivers of knowledge can merge and become the ocean of knowledge itself. Thus, interdisciplinarity is by nature present within LIS domain.

In all academic institutions be it a school, college, or university library remains as an essential part for knowledge discrimination. Traditional library was a store-

Corresponding Author :

DR. ANTARA CHAKRABORTY

Librarian, Bolpur College, Bolpur,
Birbhum, West Bengal.

house of knowledge where acquisition of books and journals, their technical processing including accessioning, followed by classification, cataloguing, and their physical stacking in the library racks are done. But with the introduction of ICT, and for the compulsion of changed demands transformed libraries from traditional to hybrid comprising both traditional system and digital system; and then from digital to virtual library. And now library without wall is a common concept where users enjoy remote access facilities from their personal space. Thus, library is a growing organism as proposed by Dr. S.R. Ranganathan, has flourished in true sense by reaching the user in their home corner.

However, the collection available in all libraries of the world are not same. It depends mainly on the target audience for which the library is built. In a more precise way to explain that the collection in any Public library has a general approach as the age-group of its users are varied. Mainly, users use it as a community space of meeting with each other, light reading for time pass, sharing experiences, information and so on. Academic libraries are bit different from the same as it focuses on the syllabus of the students mainly. It also contains some comic books for children, some books containing pictures, and some inspirational books necessary for moral development. For the secondary, higher-secondary level students it offers text books, dictionaries, encyclopaedias, competitive exam books, travel books, books on sports and many more. College libraries and University libraries on the other hand keeps in their collection text books by different authors, reference books, year book, directories, encyclopaedia, books on career guidance and competitive exams, research-oriented books and many more.

LIS research can be done on multiple topics. It may be on traditional topics related to DDC, AACR2R, user behaviour analysis, library budget analysis, library & society and many more. And at the same time, it also may be on the scope of job opportunity in LIS, recent trends in LIS studies, change management and many more. The concept of library is changing day by day, its effect also ushered while choosing the topics for LIS research. Day by day trend is coming in using LIS approaches on different range of subjects. For example, bibliometric analysis can be done on a huge number of medical journal articles while doing Quantitative research. Whereas abstracting can be done on multiple number of lectures, letters etc. while doing Qualitative research. Thus, LIS technique can be used for multiple researches by linking different subjects' fields and thus ushering interdisciplinarity within LIS domain.

Actually, the term 'research' is itself has an unending approach. It explores new horizons of knowledge, and gifts society the light of new knowledge. No research can be strictly confined within its subject domain only. Collaboration in concept, reference from other disciplines always makes a research work innovative and lively. It may be on a similar topic but from a new light. Therefore, the way of presentation of a particular topic also has its novelty which makes it unique from other works.

The spirit of experimentation and research dates back to the lap of history when the cave dwellers invented wheel and fire. Mining the literary heritage of India, it is found that India witnessed a rich heritage of Vedic oral tradition where knowledge was transmitted through teacher-taught tradition. (Chakraborty, 2025) Time flies witnessing n-number of historic and literary evolution. Human intellectual outputs were previously kept in the form of clay-tablets. Later on, writing in parchment, vellum, bhurjapatra etc. also are perceived for recording the views of ancient scholars. Ancient Indian scholar started to record their acquired knowledge in the manuscripts or puthi. (Puthi, n.d.) The use of birch-bark, palm-leaves, copper-plates, agarubark, bricks, earthenware, shell, ivory, cloth, wood, pottery, conch-shell etc. are used as materials for writing. Writings on miniature stone, sculptures of God and Goddesses, copper coins were also done often. Wooden board, called phalaka, was widely used for writing in ancient India.

(Writing materials in Ancient India, n.d.)

Time roles on, society developed from traditional society to information society and now in knowledge society. The transition from the world of Gutenberg to Zuckerberg took a long time. Families transformed from joint family structure to nuclear family and then to the extended family connected through Skype, Google Meet etc. In the rat race of having good job many shaping came in the field of education as well. Now for having a good salaried job, having many degrees are not enough rather the expertise on modern ICT driven skills also matters. Soft skills are getting prioritising day by day. So, based on the pattern of recruiting some changes in grooming of the students are also required. It also leads to mushrooming of different English Medium schools and the proliferation of degrees like MLIS, MBA, MCA, BTech, HRA, and other job-related professional degrees.

Libraries are also absorbing the continuous change. The Government college libraries are now becoming member of NLIST program of the UGC – INFLIBNET centre for the purpose of accessing the electronic resource. The of E-books, E-journals maximised specially during and after Covid Era. Fear of infection has maximised the maximised use of cashless online money transaction. In this age of Net-neutrality information is waiting just behind a single click of the mouse. Smart phone has become part and parcel of today's lifestyle. This changed situation affected academia therefore changed user behaviour started to demand changed library services. Hence concept of Smart library evolved for satisfying Smart users.

Since knowledge is not grow in isolation, interdisciplinary education is an important tool in creating new ways of thinking and helping to connect fragmented knowledge in a coherent way. Interdisciplinary education allows students to see same subject from different perspectives and work in groups with the synthesis of disciplines as the ultimate goal. Thus, encouraging students also possible to reach beyond the typical constraints of a single content area and engage in interdisciplinary learning fosters critical thinking, creativity, collaboration and communication skills. The term 'interdisciplinarity' arises when a certain discipline is analysed from the point of view of some other disciplines. Such interdisciplinary research relies on shared knowledge. When this happens, a fundamental shift can take place over time and a new interdisciplinary field emerges. Examples include educational psychology, sociology of education, educational economics, philosophy of education etc. On the other hand, the term 'Transdisciplinary' arises as a result of the penetration of the theory and research methods of one discipline into many other disciplines. Examples include energy politics, agriculture politics. Another example of Transdisciplinary is the formation of new disciplines that use statistical methods to study various areas of the world. Examples include scientometric, bibliometrics etc.

The world we are living now is predominated by the application of Artificial Intelligence (AI). GenAI is a subset of AI designed to create original, human-like content. Unlike traditional AI, which follows preset rules, genAI learns from data patterns to generate text, images, code, music, and more. From content creation to gaming, genAI tools are revolutionizing processes, reducing manual efforts, and opening doors to limitless possibilities. Examples of AI Tools for Content Creation include Scribe, ChatGPT, Bard, Research Rabbit and many more. On the other hand, examples of AI Tools for Design & Visual Arts include Dall-E2, Midjourney, Canva AI etc. Then again, the examples of AI Tools for Coding & Development include AlphaCode, Pico, Amazon Bedrock etc. And the examples of AI Tools for Audio & Video Generation Synthesia, Auto-GPT, Elicit etc. (Top Generative AI Tools and Applications, 2025). More researches on this ICT based AI applications are now occurring and thus research trends in LIS domain are also affecting accordingly.

Objectives:

- To point out different Pros & Cons for enhancing Interdisciplinarity in LIS Research
- To illustrate how following different methods like abstracting, bibliometric study, fog index, ICT application etc., interdisciplinarity can be injected within LIS research.
- To highlight the risk involved in absorption of too much interdisciplinary approach within LIS research.

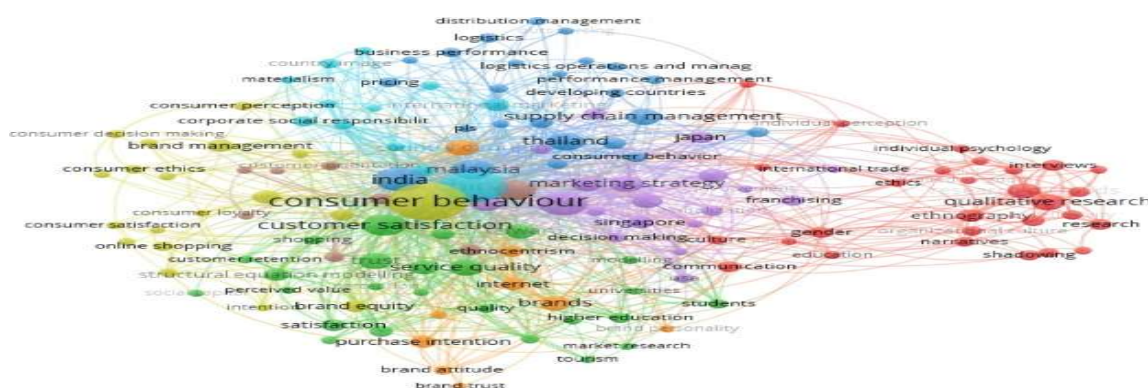
Methodology : Observation Method has been used to locate the recent trends of the topics of articles that LIS students and professionals are writing for journals, seminars, conferences, dissertation, and research.

Analysis & Findings : Though we are living in the world of ‘Google it’ still the proliferation of being online both in commercial sector as well as in educational sector started during the Covid era. Prolonged quarantine period has forced the common mass to use digital services. Students and teachers became habituated with online classes. NDLI proliferated to meet the need of the Smart users. Thus, smart phones, laptops, tabs took a big place in the daily routine of the common mass. Time flows on and the Covid crisis also became pacified with the flow of time. But the habit of online teaching-learning remains as usual. The Universities, colleges, schools have started offline classes but still n-number of seminars, conferences, workshops, short-term course, Faculty Induction Programme, Refreshers Course are running online. Demand for distance learning and e-learning courses hosted on SWAYAM, Coursera, Udemy, Udacity are gaining popularity day-by-day. Therefore, the demand for online study materials, ppt, video, e-books, e-journals are also increasing.

Enhancing Interdisciplinarity in LIS Research: Some Pros

- In this age of M-Learning life without a smart phone cannot be think of. Habit of purchasing from Amazon, Flipkart, Meesho, Swiggy, Zomato has become part & parcel of our daily life.
- Popularity of different kinds of OER, and Linked data became heightened. Online courses conducted by SWAYAM, Udemy, Udacity are gaining popularity day by day.
- Schools and Colleges are taking online classes as and when required. Professional courses like FIP, RC, workshops, seminars also are conducted online in various universities.
- Through the LIS technique of Abstracting, various interdisciplinary studies of qualitative researches like ‘Abstracting letters of Swami Vivekananda’, ‘Abstracting lectures of Rabindranath Tagore’ etc. can be done.

For quantitative research, applying statistical methods like bibliometric analysis can be applied on huge number of documents and then analysing their number of citations, h-index, r-index etc. Bibliometric analysis refers to quantitative measurement or analysis of bibliographic data. It is used to identify patterns, trends, similarities, citation analysis, co-citation analysis, co-word analysis, co-authorship analysis, page rank analysis, measurement of bibliographic coupling, clustering and so on. Sometimes bibliometric analysis uses network visualization software. (Donthu, N., 2021)



When the researcher wishes to mine just a single para then concept of Fog Index can be applied. It can be calculated in the following ways:

$0.4 \times ((\text{total words} \div \text{total sentences}) + 100 (\text{total complex words} \div \text{total words}))$. So, in a one passage,
 If the total number of words: 54
 Number of sentences: 5
 Number of complex words: 6
 Then its Fog Index would be: $0.4 * ((54/5) + 100 (6/54)) = 0.4 (10.8 + 100 (0.111)) = 0.4 (10.8 + 11.111) = 0.4 * 21.911 = 8.764$
 So, the Fog Index of the passage is 8.764

- Sentiment mining of the user community can be done specially when data set of the user community is very large. For example, use pattern of the user community of a company; or behaviour of users in social media.
- Different AI tools like ChatGPT, Bard, Research Rabbit and their respective applications can become topics of different interdisciplinary researches.
- Research related to ICT also are getting popularized since Covid era.

Thus, there are various possibilities of enhancing Interdisciplinarity in LIS research which help to usher new areas of research and thus proliferation of LIS domain can be perceived.

Enhancing Interdisciplinarity in LIS Research: Some Cons

Happiness and sorrow are two inevitable parts of life, the two sides of the same coin. Similarly, ICT enabled services also bear its backdrops. These are:

- Natural calamities like thunderstorm and heavy rain affecting internet speeds, unexpected power cuts and different network issues
- Antivirus and other related issues; and hardware problems including problems in servers and also in terminals.

Use of ICT for the academic benefit is good but its addiction may lead to serious consequences. These are:

- Addiction to browse the social networking sites frequently is a common habit in today's world which is affecting eyesight; enhancing sleeplessness; viewing other's success stories psychologically creating mental pressure, frustration, anxiety and so on.
- Excessive use of electronic gadgets is making people emotionally hooked to the screen. Addiction of browsing frequently becomes almost a mechanical habit and thus hampering the scope for exploring personal creativity, individual's intellectual sprouting and expansion.
- It generates a technical dependency, for example a student who is habituated in using Zotero for preparing references for his article may feel less interested in reminding how to frame a reference manually. Thus, extreme dependency on ICT applications may lead to reduce personal expertise.
- Excessive use of ChatGPT is reducing the power of manual power of translating, hampering the power of memorising vocabulary, and reducing fluency and efficiency in English language.

Topics of writing journal articles, sub-themes of seminar and conferences are shaping day by day. The subject Library Science has entered into the era of Library & Information Science and topics like bibliometric, webometric, text-mining, sentiment-mining, opinion mining, web analytic tools etc. are gaining importance day by day. But LIS is itself an open subject where students join from Science, Arts, and Commerce etc. disciplines. So, the basic expertise of those students is obviously different from each other. So, while writing an academic paper the issue of pre-set ideas matters a lot. Hence the possible cons of penetrating too much interdisciplinarity

are as follows:

- Too much interdisciplinarity may hamper the original spirit of the subject itself. Maximum number of LIS paper are now adopting either statistical analysis, ICT applications, etc. So, the traditional LIS topics like classification, cataloguing, circulation, user service are having less attention from the LIS scholars and academicians while they are choosing topics for their journal articles, seminar papers, or other researches.
- Basic subjects of LIS professionals are not necessarily same. LIS professionals coming from Arts background feel more competent in Qualitative analysis like abstracting of lectures, letters etc. while Science background or Commerce background professionals will feel ease with Quantitative analysis like Bibliometric, Webometric analysis and so on. So, equality and uniformity in expertise cannot be expected always.

Conclusion : Thus, it can be concluded that adaption of change and necessary mutation is needed to exist in this new ICT enabled world. Libraries are undergoing changes from traditional to hybrid, then to digital, and now virtual. This concept of library without wall popularized specially after the Pandemic outbreak when life became confined within the 4 walls under quarantine rules. In order to satisfy modern day users, libraries also updated its services in many ways in order to prove useful in this age of ICT. Thus, updated library collection and services also has its reflection on topics of paper writing in journal, edited books, seminars, conferences, and for researches as well. This choice of new topics indicates the psychological effect of adapting changes within the LIS domain to meet the need of the hour. So, the intrusion of interdisciplinarity is inevitable.

For all subjects, PhD degree is awarded which stands for ‘Doctor of Philosophy’. So, the term ‘philosophy’ is common for all subjects thus a scope for ‘interdisciplinarity’ exist in research level which helps to critically evaluate a subject from different points of views. As rivers flow from multiple locations but merges ultimately into ocean and loses its narrow individuality and becomes the part of ocean itself similarly, subjects also can overlap with each other to form new knowledge or edit existing ideas in a new light. Thus, all domains are collaboratively adding to the ocean of knowledge and helping today’s knowledge society with information. Similarly, LIS domain is also incorporating multiple interdisciplinary subject approaches to meet the need of the hour. However, it is important to note that adapting interdisciplinarity is good to the extent that if after the incorporation, the originality of the subject is not hampered. Incorporating changes should be like adding cherries to the cake and not to distort the cake itself. In our society as well, we witness adaption of foreign cultures within Indian culture. But this adaption should be balanced. So, change is good if one can handle it.

Stagnation is death. Life demands flowing! No matter what it accumulates in the course of flowing but incorporating change according to the demand of time is necessary. Similarly, in LIS domain, adopting Interdisciplinary approaches is inevitable in order to keep pace with the need of the hour therefore its effect also become visible in the field of LIS research.

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