



A Bibliometric Analysis of Soft Skills in LIS Education & Librarianship

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Libraries are no longer just repositories of books; they are dynamic spaces where information is curated, organized, and disseminated. In this modern era, the field of Library and Information Sciences (LIS) demands more than just technical knowledge. Soft skills, including communication, empathy, adaptability, and problem-solving play a crucial role in the success of library professionals. This paper explores the significance of soft skills in LIS, their impact on various aspects of library services, and the evolving role of librarians in the digital age.

In today's context, soft skills are a buzz word to minimize the knowledge gap among the various operational individuals of an organization, which deals with personal attributes, social skills, and qualities. Soft skills are crucial in the workplace and in various aspects of life, as they often determine how well someone can work with others, solve problems, and navigate complex situations. These skills are not typically taught in formal education settings but are developed through experience, social interactions, and self-reflection. This analytical study is based on the research output of the publications on 'soft skills with reference to LIS education and librarianship'. Today soft skills are need of the hour, as these minimize the gaps, what we preach and practice in the field of library and information sciences. This analytical study depicted that organizations/institutions are striving for soft skills training and development for their different stakeholders such as students and employees. Authors extracted (n=510) papers for the period 2011 to 2020 using various ontological keywords-based search. Based on the combination of keywords-based searches, the outcome was that in 2020 (n = 94) had the maximum number of documents. Among the other countries, the USA has the highest number of publications (n = 237) and the most studied document type is article (n = 283).

Based on this analysis, the authors want to examine the inferences of the need for soft skills development in the country to minimize the knowledge gap in the field of library and information sciences.

Keywords: *Soft Skills, Bibliometric Analysis, Library Sciences, LIS Education, Library Professionals*

Introduction

1. Soft skills

1.1 What are soft skills?

Soft skills refer to a set of *personal attributes, social skills, and qualities* that enable someone to interact effectively and harmoniously with different tiers of stakeholders in an organization. As mentioned in Figure 1, these skills are typically related to how individuals work with others (teamwork), communicate, solve problems (problem-solving skills), and manage their work and behaviour in their day-to-day operations. Soft skills are distinct from technical or hard skills, which are specific to certain tasks or industries. Here are some common examples of soft skills:

Soft skills are essential in the job and many other spheres of life since they establish an individual's

capacity for problem-solving, collaboration, and managing challenging circumstances with critical thinking. These abilities are usually acquired from experience, social interactions, and introspection rather than being taught in traditional educational settings¹⁻².

1.2 Why are soft skills necessary in training and development?

Soft skills are essential in training and development for several reasons which are stated in Figure 2 and mentioned below:

- To build effective communication skills,
- Need assessment of staff/personnel,
- To train staff in problem-solving skills as per the situation,
- To keep staff motivated towards their work,
- Soft skills help in building effective leadership,



Fig. 1 — Primary Components of Soft Skills



Fig. 2 — Soft Skills in Training & Development

- Adaptability is the key to today's rapidly changing world,
- Help in enhancing career prospects for new opportunities and promotion, and so on.

In the nutshell, soft skills play a critical role in training and development by facilitating effective communication, understanding learner needs, creating engaging content, managing group dynamics, problem-solving, collaborating with SMEs, managing feedback, and overseeing the project. Trainers with

strong soft skills are better equipped to create impactful and successful training programs.

In the majority of developed nations, a strong emphasis is given to a variety of skills, including soft skills, even at an early age. The education system in these countries emphasizes both hard and soft competencies. Most of the top colleges and universities are located in industrialized nations. In all facets of education, they put the necessary emphasis while providing training and development³⁻⁴.

2. The Role of Soft Skills in Library and Information Sciences

(LIS) is a field specialized in information management, organization, and distribution. Technical skills like cataloguing, classification, and information retrieval have historically been the main focus of LIS practice and instruction. However, the digital revolution has had a substantial impact on the library landscape. Libraries increasingly function as centres of activity for the community, offering more than just books on loan. Soft skills, which were once thought to be intrinsic or personality-based qualities, are now seen as being just as important to a library professional's success as technical skills. These abilities help librarians deal with the challenges of information access and literacy, interact with customers in an efficient manner, and evolve with emerging technological advancements. The article explores the function of soft skills in LIS, their significance in diverse library settings, and the consequences for the field in the digital age⁵.

2.1 The Significance of Soft Skills in LIS:

1. Communication Skills:

The foundation of library services is effective communication. Librarians deal with a wide range of clients, from seniors looking for leisure reading to students looking for research resources. Effective delivery of instructional sessions and comprehension of client requirements are facilitated by librarians who communicate clearly and succinctly.

2. Empathy and Customer Support:

One essential soft skill that promotes a friendly and inclusive library atmosphere is empathy. Strong empathetic librarians are able to recognize each customer's specific needs and provide tailored support and recommendations. Proficient customer service abilities augment user contentment and foster

a favourable perception of the library in the community.

3. Flexibility and Adaptability:

Libraries are dynamic organizations that are always adjusting to new developments in technology and shifting user needs. To use new tools, systems, and services, librarians must be flexible and adaptive. Librarians who possess soft skills linked to flexibility are better equipped to manage changes with ease and stay relevant in a quickly changing information environment.

4. Problem-solving Skills:

Librarians frequently deal with technical problems and intricate information requests. Strong problem-solving abilities enable librarians to effectively oversee these difficulties. Effective problem-solving improves the calibre of library services, whether it be fixing a computer issue or helping a user with a challenging research question.

5. Collaboration and teamwork:

Libraries are becoming more collaborative places where businesses, schools, and community organizations work together. Librarians with soft skills in collaboration can work well in groups, jointly develop programmes, and make the most use of resources for the good of users. The effect and reach of library services are increased through collaborative activities.

6. Advocacy and Leadership:

Having soft skills like advocacy and leadership is crucial for librarians working in administrative or supervisory positions. Proficient leadership cultivates a driven and committed library workforce, augmenting efficiency, and calibre of service. Furthermore, advocacy skills enable librarians to promote the value of libraries in society by arguing for financing, materials, and legislative support⁶⁻⁷.

2.2 Impact of Soft Skills on Library Services:

1. Improved Patron Experience:

A patron's time in a library is directly impacted by soft skills. Strong communicators and empathy foster a friendly environment where clients feel appreciated and supported. Customers are encouraged to return to the library and make effective use of its resources by this satisfying experience.

2. Enhanced Information Literacy Instruction:

An essential part of library services is information literacy teaching, and soft skills are crucial to this. Strong communicators may teach patrons how to browse and critically assess information sources through interactive seminars and tutorials. Empathy enables educators to adapt their lessons to students with varying backgrounds and learning abilities.

3. Efficient Reference and Research Services:

Soft skills, like flexibility and problem-solving, are essential in reference and research services. When it comes to conducting efficient searches, locating pertinent resources, and overcoming barriers during research projects, librarians with these talents can help. This effectiveness raises the library's worth as a centre for research.

4. Community Engagement and Outreach:

Libraries can conduct community engagement projects with the use of soft skills. Strong interpersonal and teamwork abilities enable librarians to establish alliances with nearby businesses, organizations, and educational institutions. These collaborations result in services, activities, and programmes that are community-focused and cater to the wide range of requirements of the populace.

5. Technological Integration and Innovation:

Libraries are adopting modern technology in the digital age to increase the range of resources they offer. Librarians who possess soft skills such as creativity and adaptability are more equipped to incorporate modern technologies into their services. With the help of makerspaces and digital archives, librarians can use technology to the advantage of their clients thanks to soft skills.

2.3 The Evolving Role of Librarians:

Soft skills are altering the role of librarians in reflective ways:

1. From Gatekeepers to Guides:

Libraries today function as knowledge facilitators and guides rather than only as information gatekeepers. Librarians with soft skills can help customers effectively traverse the immense sea of knowledge.

2. Information Advocacy:

Strong advocacy abilities enable librarians to stand up for literacy and access to information. They combat

disinformation, support fair access to information, and highlight the value of critical thinking abilities.

3. Community Linkages:

Librarians become community connectors through the use of soft skills in collaboration and communication. They establish inclusive environments where everyone is welcome, encourage conversations, and fill gaps between various community groups.

4. Lifelong Learning Facilitators:

Librarians are increasingly seen as facilitators of lifelong learning. Soft skills enable them to design engaging programs for patrons of all ages, fostering a culture of curiosity and continuous learning within the community.

5. Digital Navigators:

With the digital shift, librarians serve as digital navigators, assisting patrons in navigating online resources, digital tools, and e-learning platforms. Soft skills in technology integration ensure that librarians can guide patrons through the digital landscape effectively⁸⁻⁹.

Objectives & Scope

In view of the significance of “*Soft skills*” in learning and professional excellence at all stages of life, the researcher aims to discover the research output published from 2011 to 2020 studying the present research status of the “*Soft skills*” in LIS context. The researchers want to emphasize that “*Soft skills*” should be included in Library & Information Sciences education, training and faculty development programs and more research should be done on the topic in LIS ecosystem. It is noted that the literature on library and information sciences (LIS) indicates that communication and interpersonal skills are essential soft skills for information professionals to possess to be able to listen to clients, be personable, and demonstrate interest in their information needs. Similar to other professions, library and information professionals need soft skills to conduct daily tasks, manage relationships with coworkers and clients, and accomplish their regular work¹⁰. The following are the main objectives of the study –

RQ 1: To assess authorship patterns (like single authors, multiple authors, etc.) and interest of the researchers in the field?

RQ 2: To examine the year-wise research productivity and usual quantity of publications

showcasing awareness on the topic as a research field?

RQ 3: To assess document form-wise (like article, review, proceedings, etc.) division of research output?

RQ 4: To examine the “*Soft skills*” research globally by providing country-wise research contribution?

Literature Review

The researcher attempted to explore two major abstract databases, LISA (Library and Information Sciences Abstracts) & LISTA (Library, Information Sciences and Technology Abstracts)¹¹. A delimiter has been used to restrict the scope of the databases i.e., 2011-2020. The researcher used various keywords and metatags to mine the pertinent data from these two databases. The search was conducted by creating five combinations of keywords and metatags using permutation and combination methods to maximize the output. The total publications in all forms resulted in more than 20,000 records¹². In the scientometric research of Library Philosophy and Practice from 2004 to 2009, it was discovered that the level of collaboration in LPP ranged from 0.222 to 0.52, with Nigerians accounting for the highest proportion of contributors, followed by Americans, Indians, and Iranians¹³.

Bibliometric Techniques

The earliest definition of Bibliometric was “The application of mathematical and statistical methods to books and other media”¹⁴. Numerous scientists have attempted to assess the research trend in the publication outputs of nations, research institutes, journals, and subject categories ever since the first idea of “evaluative bibliometric” was proposed.

Soft Skills & Library and Information Sciences Education

The primary goal of higher education institutions (HEIs) is to build competent and qualified workers to make them independent and effective contributors to the firms that hire them. The distinction from one another was their capacity to train knowledge workers in the appropriate employability skills, also known as “soft skills,” including interpersonal, communication, problem-solving, and other abilities deemed crucial as the foundations by which they require to function at work regardless of the nature of employment. The study addressed seven areas under the soft skills: leadership, lifelong learning, teamwork, critical-

thinking and problem-solving, moral and professional ethics, and entrepreneurial dimensions¹⁵.

The results of the exploratory study suggested that university programmes and courses should concentrate on learning outcomes linked with the development of soft skills to boost new graduates' employability. University graduates should also emphasize their soft skills, critical thinking and problem-solving abilities when seeking for jobs¹⁶⁻¹⁷.

Information Literacy & Soft Skills

Every person is impacted by soft skills and information literacy in a diversity of contexts, including job, school, leisure, and others. It covers the various kinds of soft skills, their significance, and their relevance to the library profession. For both library employees and users, soft skills and IL skills are essential, particularly when utilizing 21st-century resources. This will encourage patrons to use the library's resources successfully and efficiently¹⁸⁻¹⁹.

Core Competency & Soft Skills

The identification of key knowledge, skills, and abilities for LIS professionals was a remarkable contribution. Conventional library skills, research skills, computing skills, data management skills, and soft skills were the five main categories that were determined as the core competency skills. Sustainable development and employability skills are crucial as they substantially determine the diverse opportunities of employability at graduate levels²⁰⁻²¹.

METHODOLOGY

The study and evaluation of the publication history and trends of written works is known as bibliometric. Essentially, bibliometric is the quantitative investigation of publications to ascertain how a subject has developed. The current study was conducted in a comparable manner, and data was gathered through the LISA & LISTA databases²².

In this exploratory study, the scoping review framework was used to conduct the evaluation²³. **PRISMA** is an evidence-based minimal set of components for systematic review and meta-

analysis reporting. The **PRISMA framework** was used for data visualization. However, certain filters (like language, document form, subjects, etc.) were applied to acquire comprehensive yet peculiar data. These methods have been influential to build the future work on the topic. The collected data was further tabulated and analysed. Figure 3 depicts the stages of the present study.

(Stage 1): Formulation of Research Questions

This study sought to find research on the “soft skills in LIS education and librarianship.” What is the research output on the topic during the second decade of the 21st century i.e., 2011-2020?

(Stage 2): Search for Relevant Studies

A thematic search was conducted to identify references for this analysis through searches of LISA and LISTA using the search combinations mentioned below in Table 1:

Keywords Combinations Used for Research Study

The selected publishing window is from 2011 to 2020. To limit the search results, these terms were concatenated with Boolean operators. Additionally, because the term "education and soft skills" is too broad, manual searches were done to narrow the study output in context to “**library & information sciences field**” by using delimiters. The records that were retrieved were further filtered to limit publishing to English language publications exclusively. Records were screened and chosen using the inclusion/exclusion criteria depicted below in Table 2:

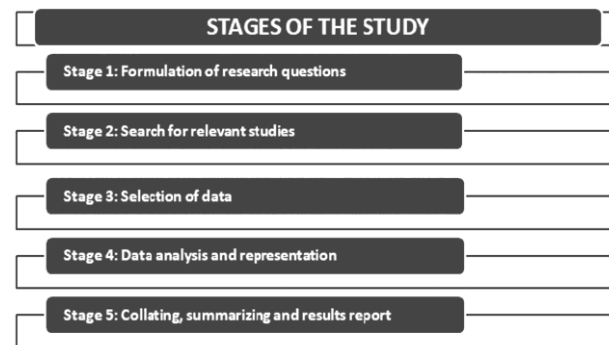


Fig. 3 — Stages of the study

Table 1 — Research study keyword combinations

Soft skills AND librarians	Soft skills AND LIS education
Soft skills AND library education	Soft skills AND library professionals
Soft skills AND library sciences education	Soft skills AND library & information sciences education

Table 2 — Research inclusion & exclusion criteria

Inclusion criteria	Exclusion criteria
Research on the prominence of soft skills in education and profession with respect to LIS field	Research published on soft skills in general are omitted
Studies between 2011 to 2020 published paper	The period before 2011 and after 2020 is not included along with 'articles in the press' not taken
Studies such as articles, conference papers, book chapters, thesis/dissertations, newsletters, and reviews only are taken	Documents like letters, handbooks and manuals are not reviewed
Studies published in English language only	Publications in other languages

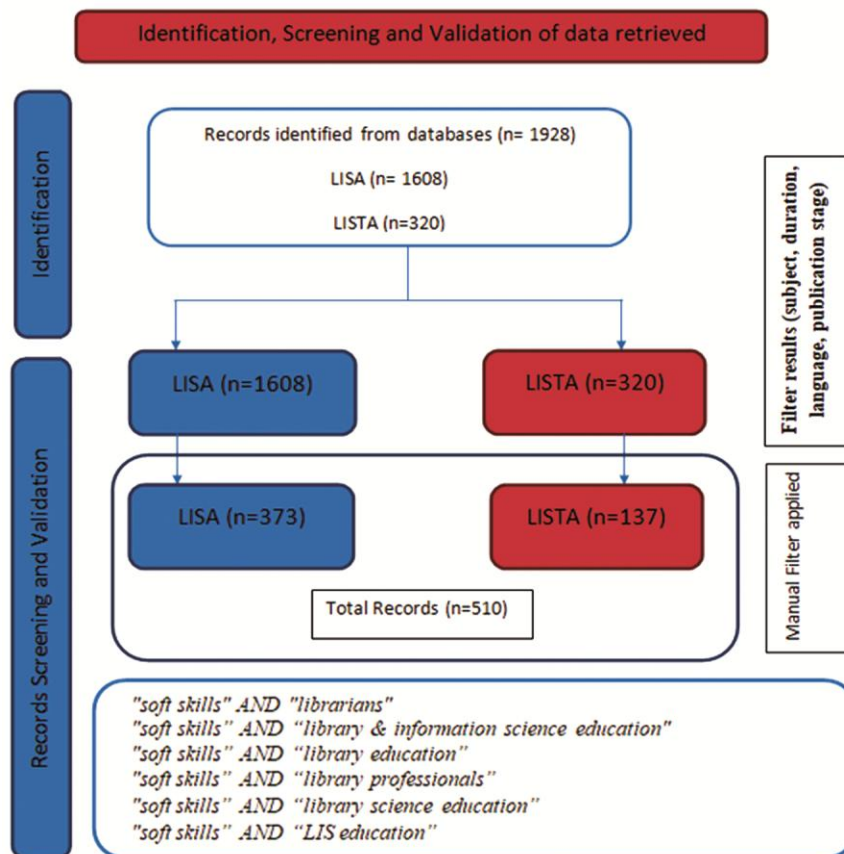


Fig. 4 — PRISMA Framework

Criteria for Current Review

(Stage 3): Selection of Data

Initial searches in both databases using all possible search keyword combinations produced a total of 1928 records (LISA-1608 and LISTA-320). Additionally, the results (filtering by primary subject, duration, language, and stage of publishing) were included. Following the most recent manual title examination, 510 records that met the requirements for inclusion (373 LISA and 137 LISTA) were chosen. The literature search adhered to PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analysis extension for Scoping

Reviews) criteria. In Figure 4, the PRISMA chart is displayed with the search keywords and results^{24,25}.

(Stage 4): Data analysis & representation

The analysis & representation of LISA and LISTA data is elaborated in the Table 3 and Figure 5. The data extraction criteria for the present scoping analysis were established, and together with the two reviewers, the data extraction form was created using excel sheet.

Data Analysis & Interpretation

Below is tabulated total search output using all six keyword combinations:

Table 3 — LISA & LISTA databases research output

Keyword Combinations	Total result output		Total result output with delimiter		Total Output	Percentage
	LISA	LISTA	LISA	LISTA		
	Soft skills AND librarians	564	28	155		
Soft skills AND library education	204	28	11	22	33	6%
Soft skills AND library sciences education	172	189	67	51	118	23%
Soft skills AND LIS education	222	4	38	4	42	8%
Soft skills AND library professionals	248	32	13	29	42	8%
Soft skills AND library & information sciences education	198	39	89	5	94	18%
Total	1608	320	373	137	510	100%

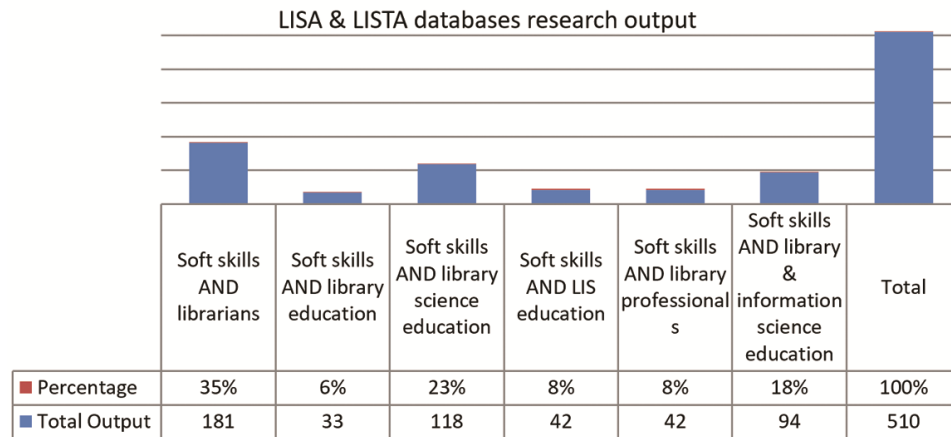


Fig. 5 — LISA & LISTA databases research output

As per analysis in Table 3 and Figure 5, it is evident that LISA has excelled in the publications on “Soft skills” as compared to LISTA database.

(Note: the researcher would like to mention the LISA & LISTA scope of coverage below):

LISA provides bibliographic data on recent and ongoing breakthroughs in information sciences, publishing, online retrieval, and technology. Currently, LISA includes abstracts.

Over 440 journals in over 45 different languages and from over 45 different countries. Collection development, Consumer health information, Copyright and intellectual property, Digital divide, Digital libraries, Digital preservation, E-learning, and so on. It spans the years 1969 through the present.

On the other hand, LISTA’s coverage ranges around the topics, Automation, Care and restoration of books, Cataloguing, Censorship, Circulation procedures, Classification, Copyright, Electronic resources and ERM systems, electronic searching, Government aid, Library

equipment and supplies, Public relations, Publishing, Rare books, Reference services.

a) Authorship Pattern

According to data, 510 documents are published, and single authorship stands at the top with 51% publications. Joint authorship also resonates near to the single authorship in percentage of publications as presented in Table 4 and Figure 6.

b) Year-wise Publication Trend 2011-2020

Table 5 and Figure 7 elaborates the research productivity in different years. 2020 is the year with the highest number of publications in both LISA & LISTA databases. It shows the research has increased on the topic over the years. The truncation method was used to specify the research on ‘soft skills’ in ‘library & information sciences’ context with regards to both library sciences education and librarianship.

Table 4 — Authorship Pattern of Research Output

S. No.	Authorship Pattern	LISA		LISTA		Total Output	
		Documents	Percentage	Documents	Percentage		
1	Single Author	184	49%	77	56%	261	51%
2	Two Author	94	25%	21	15%	115	23%
3	Three Author	61	17%	21	15%	82	16%
4	Four Author	18	5%	9	7%	27	5%
5	More than Four Author	16	4%	9	7%	25	5%
	Total	373	100%	137	100%	510	100%

Table 5 — Year-wise Publication Trend

S. No.	YEAR	LISA	LISTA	Total Output	Percentage
1	2011	17	18	35	7%
2	2012	19	15	34	7%
3	2013	25	5	30	6%
4	2014	21	5	26	5%
5	2015	36	8	44	9%
6	2016	53	4	57	11%
7	2017	40	20	60	12%
8	2018	47	14	61	12%
9	2019	59	10	69	14%
10	2020	56	38	94	18%
	Total	373	137	510	100%

Authorship Pattern

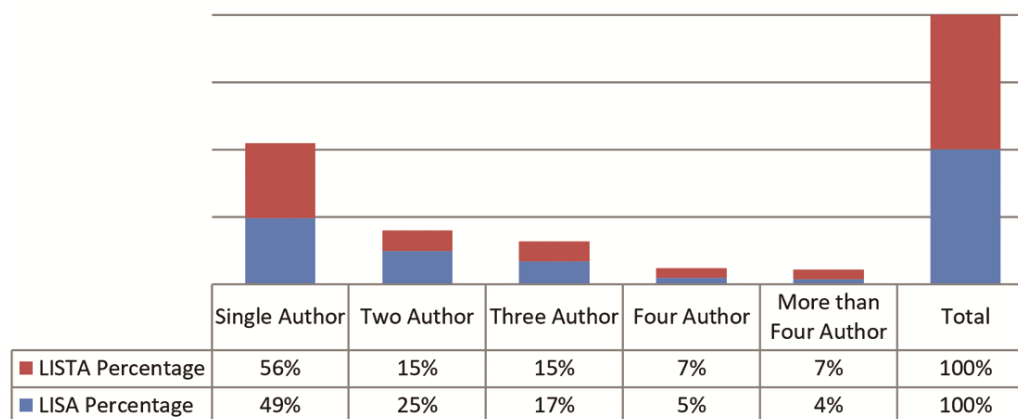


Fig. 6 — Authorship Pattern

c) Document-wise Publication Trend:

The document type indicates the type of publication of the research output of researchers. The majority of them were published as articles. Table 6 depicts the distribution of research output by document type. Journals' articles top as the preferred document type followed by review and conference papers. It is noticeable that Covid-19, i.e., 2020 witnesses the highest number of publications.

d) Country Wise Publication Trends:

USA stands first followed by the UK, Netherlands, India, Germany, and Canada, respectively. Table 7

and Figure 8 give insights into the productivity research by different countries.

(Stage 5): Collating, Summarizing and Results Report

Narrative findings were combined and presented below:

- The study reveals soft skills research output globally, with year wise increasing trend.
- Among the countries, the USA did the highest research in soft skills.
- The majority of papers are published in journal articles (47.7% articles in LISA & 76.6% articles

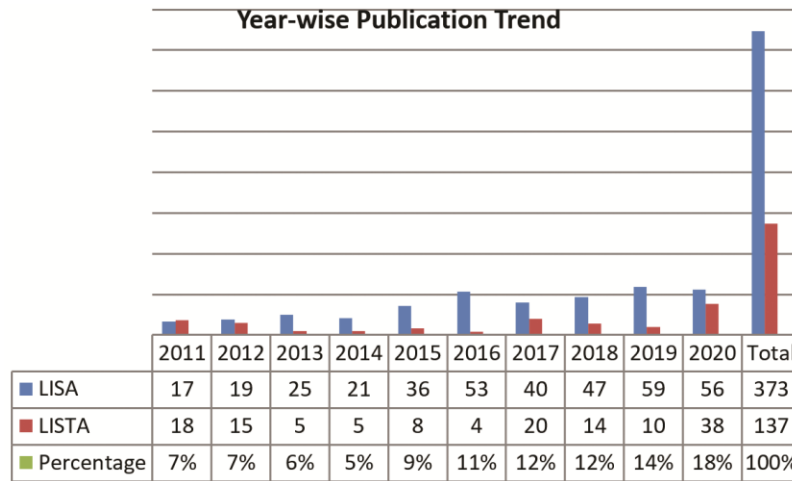


Fig. 7 — Year-wise Publication Trend

Table 6 — Document-wise Publication Trend

S. No.	Document types	Total documents in LISA	Total documents in LISTA	Total	Percentage
1	Book review & feature	48	1	49	10%
2	Case study	13	2	15	3%
3	Conference Proceedings	49	23	72	14%
4	Dissertations/Theses	85	6	91	18%
5	Journal articles	178	105	283	55%
	Total	373	137	510	100%

Table 7 — Country-wise Publication Trend

S. No.	Country	LISA Publications	LISTA Publications	Total Publications	Percentage
1	Canada	23	9	32	6.27
2	Croatia	1	0	1	0.20
3	Egypt	2	0	2	0.39
4	Germany	17	2	19	3.73
5	Greece	0	2	2	0.39
6	India	18	3	21	4.12
7	Iran	5	0	5	0.98
8	Italy	1	1	2	0.39
9	Malaysia	3	3	6	1.18
10	Netherlands	3	15	18	3.53
11	Pakistan	3	1	4	0.78
12	Russia	2	0	2	0.39
13	Singapore	1	0	1	0.20
14	South Africa	3	0	3	0.59
15	Spain	5	1	6	1.18
16	Switzerland	0	8	8	1.57
17	Taiwan	1	0	1	0.20
18	UK	107	33	140	27.45
19	USA	178	59	237	46.47
	Total	373	137	510	100.00

in LISTA) followed by conference proceedings and dissertations/thesis.

- It is evident from the study that soft skills, along with the other hard and information literacy skills,

build a person as the desired candidate with suitable combination of skills and increases their chances for employability. It also helps in sustainability in the profession along with other intangible benefits.

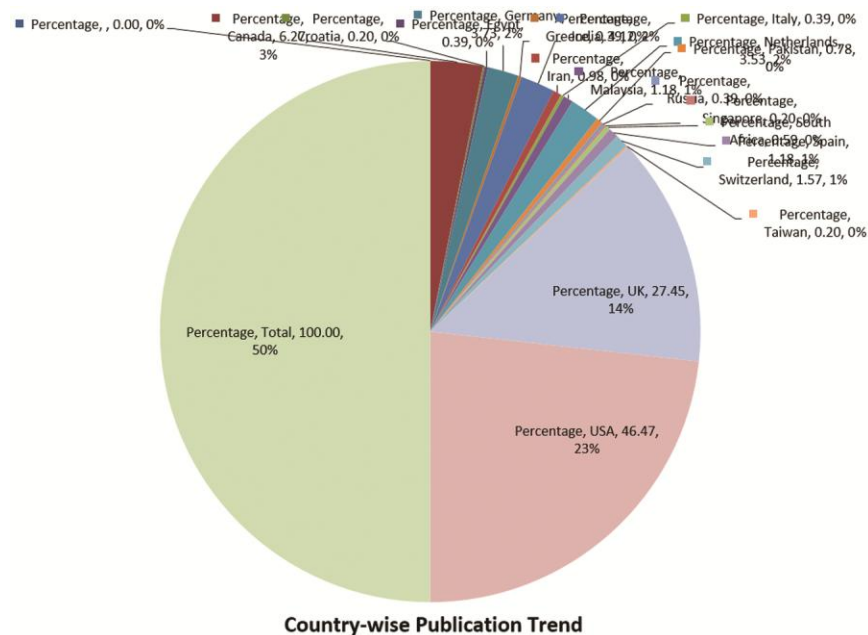


Fig. 8 — Country-wise Publication Trend

Limitations

The present study has the following limitations:

1. The selected research output is limited to publications in English language only.
2. Additionally, the time period is restricted to 2011-2020. The selected abstract databases are LISA & LISTA only.

Conclusion

The authors concluded that bibliometric is a study to evaluate the performance of the researcher and the research publications. Monitoring the advancement in the scientific performance of a research group, an organization, a subject area, a university, etc. has become a crucial area of study in the modern world.

The entire study is conducted in context to LIS field on the ‘soft skills’ literature published from 2011 to 2020 using bibliometric analysis. The study examined yearly growth, patterns in document forms, authorship, and geography. Collaboration between authors has resulted in the most publications. The USA stands out contributing the maximum publications.

LISA & LISTA are the highly preferred resources for communication by the LIS professionals in the field. Although technical and ICT education and training are crucial for success in a career, the soft skills are proven essential employability skills for any field of work. The present analysis shows the gaps on the topic by distinct factors. This bibliometric study

was the first analysis on soft skills in context of LIS education and practice. It encourages ample opportunities for future research.

The presented literature under this study is an attempt to establish the importance of “*Soft skills*” in overall performance of LIS professionals²⁶. At the same time, the lack of literature on “*Soft skills*” in LIS context is the disguised motivation towards advocating the pressing need of research on “*soft skills*.” in the field. Additionally, its inclusion in curriculum and implementation in pedagogy in LIS education and praxis should be made imperative to become effective workforce in the 21st century.

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