



LIS COMMUNICATIONS

(A quarterly e-bulletin)

VOLUME - 2, ISSUE 4

OCT-DEC. 2016

Dr Sunil Kumar Satpathy
Editor

INSIDE THIS ISSUE:

- Research on ... / 2
Alam, Shukla & Sarkhel
- Scope of Lib.Prof.../ 13
Munesh Kumar
- Social Media/P. 16
Kumar &
J.K.Gupta
- Advantages & Disadvantages.../ 19
B.B.Maharana
- About a Library- 21
NIT, Goa/Munesh
Kumar
- Publishers' Corner- 24
Mendeley
- Jr Information 27

Editorial

Dear Friends,

The year 2016 is going to end and we all are eager to welcome the year 2017 with lot of promises and dreams for professional achievements as in the previous years. It is the right time to analyze our realization— success and failure by ourselves. If we consider the case of LIS field, the year 2016 came with a lot of discussions on e-Shodh Sindhu (ESS) library consortium which was formed by MHRD by merging three full fledged Library consortia i.e. UGC Infonet consortium, INDEST consortium and N-List. The consortium could not fulfill the expectations of all academic institutions. The reason behind this was unplanned and hurried way of formation of ESS Consortium, that is also in the last part of 2015. This time also it has not been able to extend its scope for 2017 in a desirable way for financial crunch. One more major development took place in our field in 2016 was a wider range of discussions on “Application of Social networking in libraries” as reflected through various Conferences, Seminars, workshops and LIS literature. If we analyze it, we can see that the conceptual thoughts are far away from the ground realities of the libraries. During last week, while I was attending a National Seminar related to “Social networking in libraries,” I noticed a presenter was giving suggestions for reaching the tail enders using public libraries of a particular state and she was not mentioning the use of Social Networking, although she was mentioning suggestions on more Computers for users, Internet speed etc. I asked the reason for the same and came to know that 70% rural areas of that state do not have electricity. This is the reality and we the LIS professionals are trying to advance *in theory only*, which may be applied to some few numbers of big established libraries and have no meaning for a larger numbers of public and academic libraries. Regarding use of Social networking, are we aware of the fact that how many users use social networking for academic purposes rather than entertainment? How many users responsibly use social networking? Are the libraries having required infrastructure and professional staff to handle the job perfectly apart from the daily routine jobs? Are the library authorities are so supportive towards LIS professionals regarding misuse of social networking? If not why we LIS professionals are always in a hurry to copy/implement the newly developed concepts of other fields into ours? It is the right time to look inwardly— our capabilities, our limitations as well as feasibility of the tasks we undertake so that the libraries of all types and LIS professionals of all libraries will earn respect in society.



I am highly thankful to the members of Editorial Board, contributors of write ups for this issue for their support and cooperation. All papers are checked with Turnitin Feedback Studio Anti plagiarism software .

On behalf of LIS Communications ,I wish you all a very Happy and Prosperous New Year 2017.

Thanks and Regards

Dr Sunil Kumar Satpathy, Editor

FEATURE ARTICLE

RESEARCH ON ASTRONOMICAL INSTRUMENTATION, METHODS AND TECHNIQUES (AIMT): A SCIENTOMETRICS ANALYSIS

Md. Nurul Alam

Library Assistant-A, Library and Information Services, Physical Research Laboratory, Ahmedabad 380009, Gujarat, INDIA

09748150460; alam@prl.res.in

Dr. Archana Shukla

Faculty of Library & Information Science, School of Social Sciences, Room no.143, Block F, IGNOU, Maidan Garhi, New Delhi - 110068 India

archana@ignou.ac.in

Professor Juran K. Sarkhel

Department of Library and Information Science, University of Kalyani, West Bengal, India,

jksarkhel@hotmail.com

Abstract:

The present study explores the characteristics of the literature and growth of Astronomical Instrumentation, Methods and Techniques (AIMT) research in India during 1960-2014, based on Web of Science (WoS) database and make quantitative and qualitative assessment by way of analysing various features of research output by using the scientometric techniques. This study analyzes the research studies based on year of publication, journal, international collaboration, spatial distribution and keyword frequency. A total of 2296 journal articles were published on AIMT, which received total 36316 citations. The average number of publications per year is 72.86 and Compound Annual Growth Rate (CAGR) is 0.15% and the average number of citations per publication was 15.82. The publications peaked in the year 2014 with 267 publications and the highest number of citations (3287) was in 2011. The results of this work reveal that the publication on the AIMT have grown high at a slow rate over the past 54 years and the curve fits the polynomial curve with $R^2 = 0.985$. Publications on AIMT appeared in 85 journals of which most active journal was Monthly Notices of the Royal Astronomical Society” published by Oxford University Press on behalf of the Royal Astronomical Society originating from United Kingdom and 489 (21.298 %) of the total 2296 publications. A total of 905 authors contributed on AIMT research. The most active author was S Mitra, produced maximum number of publications 66 (2.875%) of total publications. 1883 institutions contributed of which Tata Institute of Fundamental Research, India is the most productive institution which produce 584 (25.436%) of total publication. For globalization of AIMT Research in India, the results show there were 86 Countries/territories which participated in AIMT research. USA produced maximum publications 789 that is 34.364% of total publication with higher citations (20661). A Keyword analysis reveals that “Telescopes”, “Methods: Data analysis”, “Instrumentation: Detectors” and “Techniques: Image processing” are the most used keywords.

1. Introduction

The value of scientific instruments as a source for the history of science and technology cannot be underestimated. In India, various kinds of astronomical and time-measuring instruments have been in use since time immemorial. Their construction and use are discussed in a number of Sanskrit texts. While a few such texts have been published, the instruments themselves did not receive much scholarly attention (Sarma, 1994).

From the birth of astronomy, with the development in detection technology, astronomers have been developing new instruments and techniques to estimate these properties. India has been taking an active participation in the development of astronomical instrumentation. GMRT, Pune is one of the most sensitive radio telescopes in the world, widely used by both national and international astronomers. There are many

IR/optical telescopes at a many places in India, e.g. Mt. Abu 1.2 m telescope, Nainital 3.6 m telescope etc. With the new detection technologies, there has been a significant advancement in the X-ray astronomical instrumentation in India. Recently, India launched its first astronomical satellite, Astrosat for X-ray study of celestial astrophysical objects. There are few more X-ray missions have been proposed like Aditya L1 mission to study the Sun and Polix, a dedicated X-ray polarimetry mission (Daniel, 1992).

The field of astronomical instrumentation involves development of various instruments and telescopes for the detection of the photons. The information that a photon carries is converted into a measurable physical parameter. The field also involves the techniques to relate the measured physical parameters to the physical phenomena going on in the sources. Because the celestial objects emit in different wavelength bands depending on the emission mechanism going on there and a particular instrument is sensitive in a particular wave band, this makes this field quite challenging. Detection of low energy photons (Radio/IR/Optical) is normally done using ground based instruments coupled with telescopes. In case of X-ray astronomy, since the X-ray photons do not penetrate the earth's atmosphere, the instruments have to be taken beyond the atmosphere with the use of satellites or rockets or balloons.

Astronomical instrumentation research has experienced a considerable increase over the last few decades.

2. Methodology

2.1 Database and Scope

To assess the growth of research publication on AIMT and locate and collect the literature, Web of Science (WoS) was used. The Search Strategy used to conduct Web of Science (WoS) search is as mentioned below:

TS= "Instrumentation" OR "Methods" OR "Technique" = (Search Term)

Where TS is a topic search that retrieves occurrences of the search term in the article title, abstract, keywords within a time span of 1960-2014. This process was followed for another series of search terms given by Astronomical Subject Keywords (2013). These were used to locate publications that contained the words in publications' titles, abstracts, and keyword lists.

2.2 Filtering process

An extensive search of the Web of Science (WoS) database with the above mentioned Keywords produced vast amount of data. Resulting articles were filtered by Subject category-Astronomy & Astrophysics followed by Document Types: (Article), and Languages: (English). The filtered articles were again filtered by Countries/Territories: (INDIA). This final round of filtering produced 797 (Astronomy & Astrophysics) articles with which analysis was preceded.

3 Results and Analysis

There were 3013 publications that met the selection criteria which appeared in the WoS database during 1960-2014 and these were analyzed. The specific characteristics of the publications such as the number of publications, the number of authors involved in the production of these publications, institutions, journals, etc. were taken into consideration.

A. Publication Characteristics

Table 3.b(i): Bibliographic Records of AIMT research in India during 1960-2014

Bibliometric Indicators	No.
Total Article found:	2296
Total Number of Countries contribution	86
Total Number of Author's contribution	905
Total Number of Institution's contribution	1883
Total Number of Journal appeared	85
Total Number of Keywords (raw) appeared	2514

(Source: WoS)

The total 2296 articles of Indian scientists during 1960-2014 were abstracted from WoS related to AIMT publications. From the Tables 3.b(i) and 3.b(ii), the output of 2296 papers has received a total of 36316 citations during the said period with an average of about 15.82 citations per paper. The average number of publications per year is 72.86 and Compound Annual Growth Rate (CAGR) is 0.15%.

Table 3.b(ii): Citation Metrics of AIMT research in India during 1960-2014

Citation-based Indicators	No.
Sum of the Times Cited	36316
Sum of Times Cited without self-citations	32426
Citing Articles	23394
Citing Articles without self-citations	22114
Average Citations per Item	15.82
h-index	75

(Source: WoS)

B. Publication Pattern

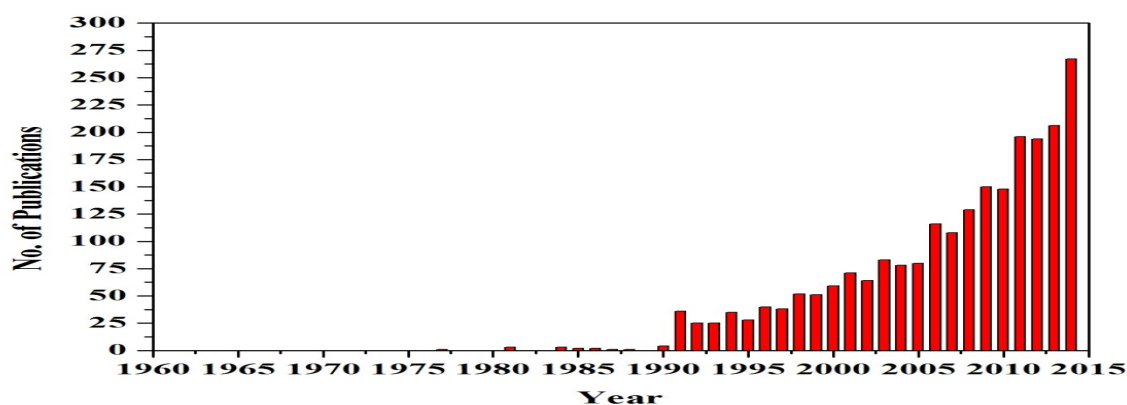


Figure 3.b(i): Publication Pattern of AIMT research in India during 1960-2014. From the period 1960-1976, no publication appeared in the WoS database.

Publication pattern of AIMT research from 1960 to 2014 is presented in Figure 3.b(i). The initial publication in the sub-field of AIMT research is observed in the year 1977. A near about two hundred sixty (260) times increase was observed over the study period, (from 1 in 1977 to 267 in 2014). The highest number of papers is published in the year 2014, with 267 publications and the lowest in 1978 with no publication.

C. Growth Trend

The cumulative progression is represented by a 4th degree power law distribution during 1960-2014 giving an idea of the polynomial growth curve as shown in Figure 3.b(ii). To choose the best fit growth model, various regression types with regression coefficients have been tested as shown in Table 3.b (iii). The best fit model is 4th degree polynomial curve, where $R^2 = 0.985$. The polynomial best fit for AIMT research is found to be: $y = 0.0005x^4 - 4.237x^3 + 12660x^2 - 2E+07x + 8E+09$, where y is the cumulative number of publications and x is the number of years. The growth of literature shown in Figure 3.b(ii) can be divided into two parts. In 1st part (1960-1976), there is no literature published by Indian authors and the 2nd part (1977-2014), follows a polynomial growth curve.

Table 3.b(iii): Different Regression Types with Regression coefficient (R^2) of AIMT research

Regression Type	Equation	(R ²)
Linear	$y = 5.6849x - 11284$	0.810
Logarithmic	$y = 11332\ln(x) - 86045$	0.809
Polynomial	$y = 0.0005x^4 - 4.237x^3 + 12660x^2 - 2E+07x + 8E+09$	0.985

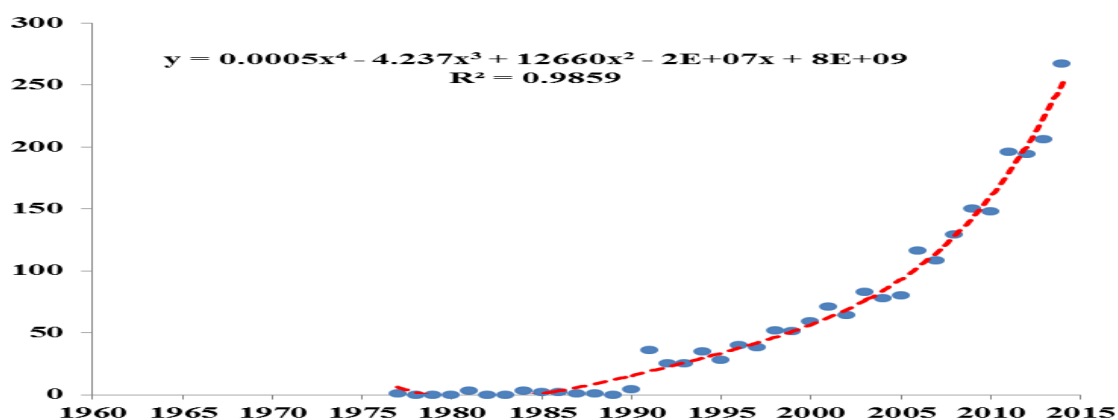


Figure 3.b(ii): Growth Pattern of AIMT research in India during 1960-2014. Blue dot describes the distribution of publications (observed value) and red dashed line describe the correlation of distribution of publications where regression coefficient R² = 0.985

D. Citation Pattern

Figures 3.b(iii) and 4.3.b(iv) represent the citation pattern and number of citations vs. number of publications per year during 1960-2014 on AIMT. A total of 2656 research papers have received 44732 citations. The pattern of citations is very fluctuating. In the initial year 1977, the total number of citations received is 5 with an average citation of 5. The minimum citation received in the year 1997 is zero (0) and the maximum citations received in the year 2011 are 3287 with an average citation of 16.77. It is observed from Figure 3.b(iv) that after the year 2011, the number of citations drop sharply and rise back considerably in the year 2013, while the publications increase all along.

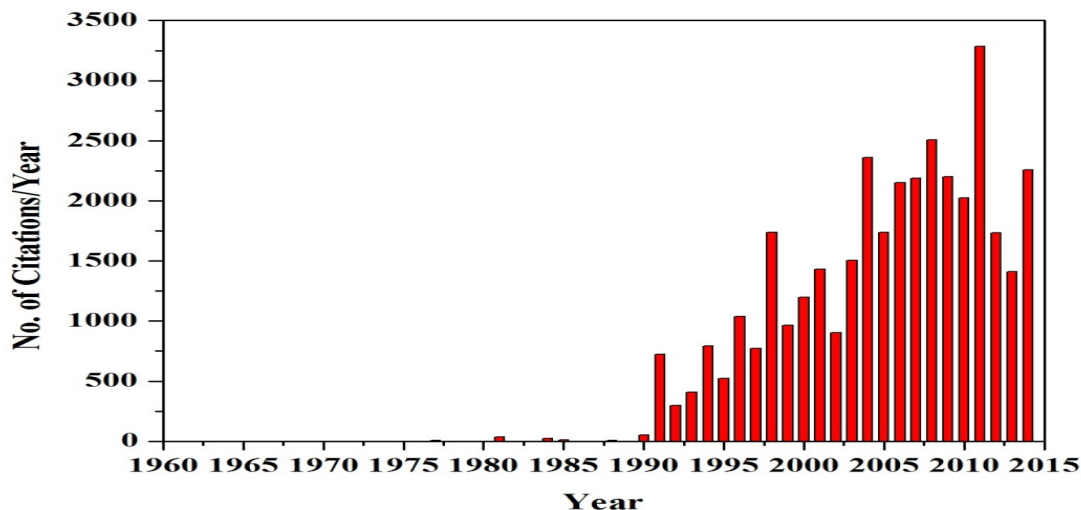


Figure 3.b(iii): Citation Pattern of AIMT research in India during 1960-2014. From 1960-1976, no citation received as no publication appeared in the WoS database.

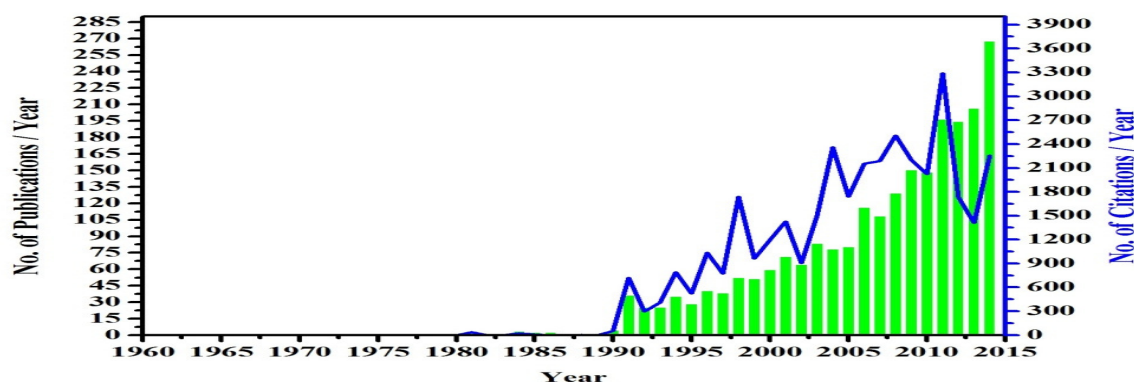


Figure 3.b(iv): Citation Pattern Vs Publication Pattern of AIMT research in India during 1960-2014: Blue line (right Y axis) indicates the citation pattern against green bar line (left Y axis) that describes the publications pattern

E. Top Institutions and their research impact

In the AIMT research, a total of 2296 articles appeared from 1883 institutions. Table 3.b(iv) shows that out of these top 20 institutions only 6 are Indian. Tata Institute of Fundamental Research contributed highest number of publications (584), followed by Inter University Centre for Astronomy Astrophysics which contributed 396 publications, Indian Institute of Astrophysics had a share of 339 publications, Raman Research Institute and Physical Research Laboratory (PRL) with 219, and Aryabhata Research Institute of Observational Sciences with 109, publications respectively. The other 14 are foreign institutions, among these 7 belong to the USA namely National Aeronautics Space Administration (NASA), USA; California Institute of Technology, University of California System, Goddard Space Flight Center, United States Department of Energy, Harvard University, Florida State University System ; 3 are from France namely Centre National De La Recherche Scientifique CNRS; Observatoire De Paris, Pierre Marie Curie University; 1 each from Australia, Russia and Germany.

Table 3.b(iv) reveals the impact of research in terms of quality of papers. It is seen from the Table 3.b(iv) that AIMT related articles authored in collaboration with Centre for Extragalactic Astronomy have the highest average impact (AvgCPA = 44.54) followed by Florida State University System (AvgCPA = 44.52). Among the Indian institutions, Inter University Centre for Astronomy Astrophysics has the highest average impact (27.92) in the AgvCPA index.

Table 3.b(iv): Top institutions on AIMT research and their research impact, 1960- 2014

Institution	Region	TP (%)	TC	AvgCPA	h-index
Tata Institute of Fundamental Research	India	584(25.436)	7764	13.29	41
Inter University Centre for Astronomy Astrophysics	India	396(17.247)	11056	27.92	52
Indian Institute of Astrophysics	India	339(14.765)	4497	13.27	33
Centre National De La Recherche Scientifique	France	319(13.894)	9746	30.55	48
Max Planck Society	Germany	273(11.890)	9020	33.04	49
National Aeronautics Space Administration	USA	242(10.540)	9773	40.38	52
Raman Research Institute	India	219(9.538)	3334	15.22	32
Physical Research Laboratory India	India	219(9.538)	1693	7.73	21
California Institute of Technology	USA	195(8.493)	7469	38.30	45
Observatoire De Paris	France	167(7.274)	6427	38.49	42
University of California System	USA	144(6.272)	5510	38.26	38
Goddard Space Flight Center	USA	143(6.228)	5745	40.17	44
Russian Academy of Sciences	Russia	132(5.749)	3992	30.24	35
United States Department of Energy	USA	124(5.401)	5214	42.05	37
Centre for Extragalactic Astronomy	South Africa	117(5.096)	5211	44.54	39
Pierre Marie Curie University Paris	France	114(4.965)	4149	36.39	35
Florida State University System	USA	113(4.922)	5031	44.52	40
Harvard University	USA	112(4.878)	2917	26.04	23
Australian National University	Australia	110(4.791)	3576	32.51	37
Aryabhata Research Institute of Observational Sciences	India	109(4.747)	1035	9.50	18

TP= Total no. of AIMT related articles published by an institution; *TC* = Total no. of citation received; *AvgCPA*= Average no. of citations per article; *h-index*=defined by the no. of *h* papers among an institution's no. of publications that have at least *h* citations each. **Source: WoS**

F. Top Journals and their research impact

AIMT research papers have appeared in 85 journals. Papers have appeared in highest numbers in the journal 'Monthly Notices of the Royal Astronomical Society' published by Oxford University Press on behalf of the Royal Astronomical Society originating from the United Kingdom. Table 3.b(v) shows the top 20 productive journals. These 20 out of the 85 journals have published 1593 (69.38 %) of the total 2296 articles. The 'Monthly Notices of the Royal Astronomical Society' ranked first with 489 papers (21.29%) followed by 'Astrophysical Journal with 391 papers (17.03%)', 'Astronomy Astrophysics with 350 publications (15.24%)', 'Physical Review D with 161 (7.01%)' and 'Journal of Astrophysics and Astronomy with 102 (4.44%)' papers, these journals ranked 2nd, 3rd, 4th and 5th respectively.

Table 3.b(v) also shows the citation impact of top 20 journals. The journal 'Astroparticle Physics' published by Elsevier and the journal 'Astrophysical Journal Supplement Series' published by IOP Publishing, both have the highest average impact (*AvgCPA* = 69.84), it is seen that though the journal 'Monthly Notices of the Royal Astronomical Society' has the highest number of publications but ranked 8th in the *AgvCPA* index.

Table 3.b(v): Top Journals on AIMT research and their research impact, 1960-2014

Journal	TP (%)	TC	Journal Metrics (2013)				Country
			AvgCPA	SJR	IPP	SNIP	
Monthly Notices of the Royal Astronomical Society	489(21.298)	6767	13.84	3.196	4.911	1.494	UK
Astrophysical Journal	391(17.030)	8626	22.06	3.159	4.348	1.145	UK
Astronomy Astrophysics	350(15.244)	7315	20.90	1.471	1.932	0.612	France
Physical Review D	161(7.012)	5130	31.86	1.899	3.192	1.136	USA
Journal of Astrophysics and Astronomy	102(4.443)	433	4.25	0.477	0.541	0.224	India
Astrophysics and Space Science	82(3.571)	478	5.83	1.081	1.748	1.056	Netherland
Solar Physics	78(3.397)	845	10.83	2.256	3.184	1.769	Netherland
Advances in Space Research	58(2.526)	198	3.41	0.751	1.416	1.291	Netherland
Astrophysical Journal Letters	50(2.178)	596	11.92	3.914	4.852	1.487	UK
Astronomical Journal	42(8.29)	605	14.40	2.795	3.282	1.092	UK
Bulletin of the Astronomical Society of India	38(1.655)	90	2.37	1.091	1.068	0.516	India
Indian Journal of Radio Space Physics	31(1.350)	51	1.65	0.347	0.514	0.621	India
Experimental Astronomy	31(1.350)	114	3.68	1.072	2.146	1.882	Netherlands
Classical and Quantum Gravity	30(1.307)	784	26.13	1.476	2.192	0.966	UK
Journal of Geophysical Research Space Physics	26(1.132)	259	9.96	2.376	3.286	1.412	USA
Astroparticle Physics	26(1.132)	1746	69.84	3.012	3.828	2.776	Netherlands
Research in Astronomy and Astrophysics	25(1.089)	76	3.04	0.953	1.331	0.768	UK
Astrophysical Journal Supplement Series	25(1.089)	1746	69.84	6.857	9.687	3.125	USA
Annales Geophysicae	25(1.089)	204	8.16	1.176	1.533	1.533	Germany
Journal of Cosmology and Astroparticle Physics	22(0.958)	299	13.59	0.615	2.374	0.465	UK

TP= Total no. of AIMT research related articles published by a Journal; *TC* = Total no. of citation received; *AvgCPA*= Average no. of citations that AIMT related articles in a journal received; *h-index*= no. of *h* papers among a journal's no. of publications that have at least *h* citations each. *SJR* = SCImago Journal Rank; *IPP* = Impact per Publication; *SNIP* = Source Normalized Impact per Paper; **Source: WoS and SCOPUS**

G. Top authors and their research impact

A total of 2296 articles included the author addresses having India as the country of affiliation. Articles on AIMT have been contributed by 905 authors. Table 3.b(vi) shows the top 20 productive authors during the last 54 years, 1960-2014. Top 20 productive authors are ranked based on the decreasing productivity of total publications. Mitra, S. produced maximum number of publications i.e. 66 which is 2.875 % of total publications and ranked 1st followed by Dhurandhar, S., Bose, S. and Sathyaprakash, B. S. at 2nd, 3rd and 4th ranks respectively.

Table 3.b(vi): Top Authors of AIMT research and their research impact, 1960-2014

Author	TP (%)	TC	TC woSC	CI	CIwoSC	AvgCPA	h-index
Mitra, S.	66(2.875)	2996	2315	1440	1387	45.39	35
Dhurandhar, S.	65(2.831)	2426	2229	1034	980	37.32	31
Bose, S.	63(2.744)	2467	2285	1074	1023	39.16	32
Sathyaprakash, B.S.	62(2.700)	2562	2404	1270	1223	41.32	32
Saikia, D.J.	59(2.570)	788	666	522	478	13.36	17
Chengalur, J.N.	59(2.570)	1068	972	661	619	18.10	20
Mccarthy, R.	58(2.526)	2355	2186	1038	990	40.60	31
Yoshida, S.	57(2.483)	2451	2282	1120	1073	43.00	32
Whelan, J.T.	57(2.483)	2360	2179	1013	963	40.69	31
Vecchio, A.	57(2.483)	2397	2227	1050	1002	42.05	32
Lazzarini, A.	57(2.483)	2329	2165	999	951	40.86	31
Zhang, L.	56(2.439)	2310	2142	996	949	41.25	31
Mukherjee S	56(2.439)	2460	2292	1143	1096	43.93	31
Grote H	56(2.439)	2357	2188	1025	977	42.09	31
Gonzalez G	56(2.439)	2356	2174	1015	967	42.07	31
Danzmann K	56(2.439)	2357	2188	1025	977	42.09	31
Buonanno A	56(2.439)	2444	2272	1062	1015	43.64	32
Babak S	56(2.439)	2365	2183	1011	963	42.23	32
Woan G	55(2.395)	2341	2172	1017	969	42.56	31
Willke B	55(2.395)	2322	2158	1020	973	42.22	31

TP: Total no. of AIMT related articles published by a author; **TC:** Total no. of citation; **TC woSc:** Sum of Times Cited without self-citations; **CI:** Citing Articles; **CIwoSC:** Citing Articles without self-citations; **AvgCPA:** Average Citations per Article; **h-index:** no. of h papers among a author’s no. of publications that have at least h citations each. **Source: WoS**

Table 3.b(vi) reveals the impact of research in terms of quality of papers by means of AvgCPA and the h-index. AIMT articles authored by Mitra, S. have the highest number of publications as well as the highest average impact (AvgCPA = 45.39) followed by Mukherjee, S. (AvgCPA = 43.93) who ranked 2nd in the AvgCPA index.

H. Collaboration pattern: Continents

Based on the author attributions, world-wide collaboration of AIMT research publications can be mapped. As shown in Figure 3.b(v), the major spatial clusters of research publications are located in Europe, followed by Asia and Africa. Several minor clusters are distributed in other parts of the world. North America and South America have equal contributions.

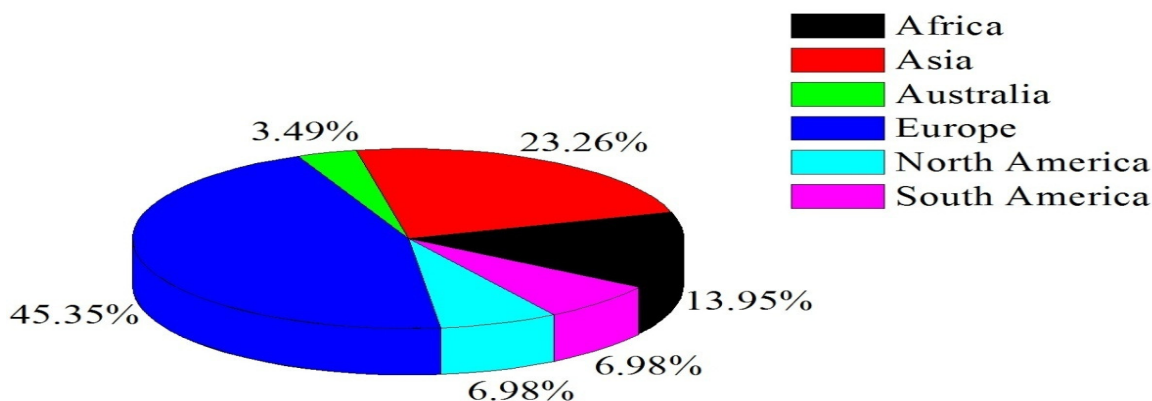


Figure 3.b(v): Continent wise Collaboration pattern of AIMT research

I. Collaboration Pattern and research impact: Countries

A total of 2296 articles included author address, source country and research institute. 86 collaborating Countries/territories participated in collaborative research with Indian institutions in AIMT research. As shown in the Table 3.b(vii), Top 20 countries / territories were ranked based on the number of total articles, along with the citations and percentage of international collaboration. Out of these 20 countries / territories, The USA produced maximum publications i.e. 789 which accounts for 34.36% of total publications with 20661 citations. It is seen from the Table 3.b(vii) that AIMT related articles authored in collaboration with in the Wales (Europe) have the highest average impact (AvgCPA = 43.54) followed by Canada (North America) AvgCPA = 39.57 while the USA ranked 16th in the AvgCPA index.

Table 3.b(vii): Country wise Collaboration Pattern and research impact of AIMT research

Country	Continent	TP(%)	TC	AvgCPA	h-index
USA	North America	789(34.364)	20661	26.19	66
Germany	Europe	412(17.944)	11723	28.45	54
France	Europe	381(16.594)	12221	32.08	52
England	Europe	331(14.416)	10861	32.81	52
Italy	Europe	263(11.455)	9691	36.85	49
Australia	Australia	242(10.540)	7331	30.29	46
Spain	Europe	228(9.930)	8250	36.18	48
Japan	Asia	199(8.667)	5199	26.13	42
Russia	Europe	183(7.970)	6372	34.82	44
Canada	North America	164(7.143)	6489	39.57	41
Netherlands	Europe	161(7.012)	4658	28.93	37
Poland	Europe	125(5.444)	3871	30.97	35
Wales	Europe	115(5.009)	5007	43.54	41
Peoples R. China	Asia	115(5.009)	2363	20.55	29
Chile	South America	109(4.747)	4113	37.73	34
Taiwan	Asia	96(4.181)	3196	33.29	33
South Africa	Africa	95(4.138)	3305	34.79	34
Brazil	South America	93(4.051)	2583	27.77	28
South Korea	Asia	90(3.920)	1971	21.90	23
Switzerland	Europe	82(3.571)	2664	32.49	33

TP= Total no. of AIMT related articles published by a country; TC = Total no. of citation received; AvgCPA= Average no. of citations per Article; h-index= no. of h papers among a country's no. of publications that have at least h citations each. Source: WoS

J. Keyword Analysis

The process of keyword analysis has been described by various authors in many ways. Li and Zhao performed the keyword analysis to demonstrate research trends and frontiers. The keywords analysis in their study utilised author keywords, which were provided by article authors as part of the articles and termed as Keywords (Li and Zhao, 2015). Another such analysis was used in a study by Montoya et al., 2014 in order to follow and search the trends in the science and engineering (Montoya et al., 2014). Yanhua et al. (2012) used keyword analysis to reveal the trends and identify hot topics that draw most research efforts. In another study, the authors mention that the keywords provide a reasonable description of an article's theme and could reveal the profile of an author's research preferences.

A total of 2514 different keywords, from 1960 to 2014 in the AIMT research have been identified. The no. of analysed publications during the study period was 2656. To obtain accurate results, keywords were pre-processed by merging the singular and plural forms of the same terminology, and those keywords with the same meaning while using different expressions. A total 2313 unique keywords are obtained. Among these unique keywords 721 (31.17 %) appear once or twice at the most, it can be deduced that this can be a sign of lack of research continuity or of a wide range of research focus. Table 3.b (viii) shows the most used keywords during the considered period.

J.1 Hotspots

An analysis of the keywords was undertaken to pick out the hotspots that have attracted most research attention and to reveal the research tendencies in the sub-field of AIMT. The top 20 most frequently used keywords for the study period are listed in Table 3.b(viii). The four most frequently used keywords were ‘Telescopes’, ‘Methods: Data analysis’, ‘Instrumentation: Detectors’ and ‘Techniques: Image processing’.

Table 3.b (viii): Top most frequently used keywords in AIMT research

Keywords	Forms of measurement	NO	%	R
Analytical	Methods	39	1.68	12
Data analysis		139	6.00	2
Laboratory		5	0.21	18
Numerical		106	4.58	3
Observational		56	2.42	9
Statistical		79	3.41	6
Adaptive optics	Instrumentation	14	0.60	16
Detectors		100	4.32	4
Interferometers		57	2.46	8
Photometers		7	0.30	17
Polarimeters		21	0.90	14
Spectrographs		42	1.81	11
Image processing	Techniques	79	3.41	6
Interferometric		55	2.37	10
Photometric		76	3.28	7
Polarimetric		32	1.38	13
Radar astronomy		18	0.77	15
Spectroscopic		91	3.93	5
Telescopes	Miscellaneous	484	20.92	1
Site testing		5	0.21	18

NO: Number of time occurrences; R: rank Source: WoS

J.2 Quick Rising Themes

The Compound Annual Growth Rate (CAGR) was used to identify the top most frequently used keywords and to select quick rising themes of AIMT research, which could be indicators of future research directions. The Compound Annual Growth Rate (CAGR) of top keywords was separately calculated based on the following formula:

$$CAGR(t_0, t_n) = (V(t_n)/V(t_0))^{\frac{1}{t_n-t_0}} - 1$$

$V(t_0)$: Initial observed value, $V(t_n)$: last observed value, $t_n - t_0$: number of years (Compound annual growth rate, n.d.).

The CAGR provides smoothed growth rates free from the annual fluctuations of keywords occurrences during the study period. Table 3.b (ix) lists the top 20 keywords according to the CAGR and sorts them by their rank. The ranks in Table 3.b(ix) show that Telescopes, Method: Data analysis, Method: Statistical, Technique: Interferometric are four leading hot issues that continue to attract broad attention. ‘Telescopes’ kept its dominance in terms of total quantity and CAGR.

Table 3.b (ix): Top Quick rising themes in AIMT research

Keyword		V (t ₀)	V (t _n)	t ₀	t _n	CAGR (%)	R
Analytical	Methods	1	3	1993	2014	0.05	17
Data analysis		1	22	1994	2014	0.16	2
Laboratory		1	1	2010	2013	0.00	18
Numerical		1	16	1992	2014	0.13	6
Observational		1	13	1994	2014	0.13	5
Statistical		1	16	1995	2014	0.15	3
Adaptive optics	Instrumentation	1	3	2000	2014	0.08	13
Detectors		2	19	1994	2014	0.11	9
Interferometers		3	9	1994	2014	0.05	16
Photometers		1	3	2005	2014	0.12	8
Polarimeters		2	5	1998	2014	0.05	15
Spectrographs		1	4	1994	2014	0.07	14
Image processing	Techniques	1	15	1992	2014	0.13	7
Interferometric		1	12	1995	2014	0.13	4
Photometric		1	9	1991	2014	0.10	11
Polarimetric		1	5	1997	2014	0.09	12
Radar astronomy		1	1	1998	2014	0.00	18
Spectroscopic		1	9	1993	2014	0.11	10
Telescopes	Miscellaneous	2	79	1991	2014	0.17	1
Site testing		1	1	1999	2014	0.00	18

t_0 : the Initial (first) year (The Year in which no. of keywords occurrence first time; t_n : the last year (No. of keywords occurrence); $V(t_0)$: Initial observed value (no. of keywords occurrence); $V(t_n)$: last observed value (no. of keywords occurrence); **CAGR**: Compound Annual Growth Rate; **R**: Rank. **Source**: **WoS**

K. Summary

A total of 2296 journal articles were published on AIMT, which received total 36316 citations. The average number of publications per year is 72.86 and average number of citations per publication was 15.82. Publications on AIMT appeared in 85 journals of which most active journal was Monthly Notices of the Royal Astronomical Society which published 489 (21.298 %) of the total 2296 publications. A total of 905 authors contributed on AIMT research. The most active author was S Mitra, who produced maximum number of publications 66 (2.875%) of total publications. 1883 institutions contributed of which Tata Institute of Fundamental Research, India is the most productive institution which produced 584 (25.436%) of total publications. For globalisation of AIMT research in India, the results show there were 86 Countries/territories which participated in AIMT research. The USA produced maximum publications i.e. 789 which are 34.364% of total publication with higher citations (20661). A Keyword analysis reveals that 'Telescopes', 'Methods: Data analysis', 'Instrumentation: Detectors' and 'Techniques: Image processing' are the most frequently used keywords.

References

1. *Astronomical Subject Keywords*. (2013). Retrieved from <https://aas.org/authors/astronomical-subject-keywords-update-august-2013>.
2. Compound annual growth rate", In Wikipedia; January 2015 Available at: https://en.wikipedia.org/wiki/Compound_annual_growth_rate
3. Daniel, R. R. (1992). Space Science in India. *Indian Journal of History of Science*, 27(4), 485–499.
4. Li, W. & Zhao, Y. (2015). Bibliometric analysis of global environmental assessment research in a 20-year period. *Environmental Impact Assessment Review*, 50, 158–166.
5. Montoya, F.G. et al. (2014). The research on Energy in Spain: A scientometric approach. *Renewable and Sustainable Energy Reviews*, 29, 173-183. doi:10.1016/j.rser.2013.08.094
6. Niu, B., Loáiciga, H. A., Wang, Z., Zhan, F. B. & Hong, S. (2014). Twenty years of global groundwater research: A Science Citation Index Expanded-based bibliometric survey (1993–2012). *Journal of Hydrology*, 519, Part A, 966–975. <http://doi.org/10.1016/j.jhydrol.2014.07.064>
7. Sarma, S. R. (1994). Indian Astronomical and Time-Measuring Instruments: A Catalogue in Preparation. *Indian Journal of History of Science*, 29(4), 507–528.
8. Yanhua, Z et al. (2012). Research Trends in Non Point Source during 1975-2010. *Physics Procedia*, 33, 138-143. doi:10.1016/j.phpro.2012.05.041

XXXXXXXXXX

SCOPE OF LIBRARY PROFESSIONALS IN GIG ECONOMY

Munesh Kumar

National Institute of Technology Goa
mun_esh@hotmail.com

Abstract

Getting a job is the dream of everyone, with respect to the skills and knowledge. Currently, full-time jobs are not much created by the organizations or eligibles are more but jobs are lesser may be anyone is true. Aspirants must not wait for a full-time job and waste their calibers, they should step into the Gig Economy with full of potency and updated skills. It has a global market and future ahead. This article tries to motivate LIS youth to create new areas of employment and identity rather waiting to be a part of a library setup.

Keyword

Management, Self-driven market, Entrepreneurship, freelance worker, Gig Economy, Job,

Introduction

The Internet has created different various scopes and platforms for creating a brighter future ahead by working day by day. The Internet means not only the technical but also a community prospect is important to be overviewed. Gig Economy is a buzzed concept around the world which is driven by the workforce, part-time, or an ad-hoc support to a project major or minor. There are a lot of peoples who are willing to work, therefore the new jobs are being created with same principles supply creates the demand, new areas of employments are in concept and much more are in emerging phase. Traditionally, Library professionals are having a very limited exposure within the library setup but modern professional could become a part of Gig economy through various projects of IT and management areas with subject to their skills and choices. Only the important task is harnessing the skills and job-related requirement or skills required which are in demand. Gig economy has a global size employment market even in India as HT Report says, “*Gig economy is on the rise in India and the country has potential to become the top freelancing and crowdsourcing hub in the Asia region, even globally*”.

In order to produce a professional definition of Gig economy we can refer the most common statement, frequently found at various sources, “*The gig economy comprises enterprises such as Uber the driver hire app, Airbnb the accommodation-sharing platform, and Deliveroo, the online food delivery company. These enterprises enable people to use digital platforms to buy services from, and sell services to, each other.*”- (Cameron, H.2016). GIG means "Live performance" or "Gigabyte" or "Job" as per internet slang.com

As per the McKinsey report(2016),“independent workers comes under Gig Economy, not the employees”. Three key features of the workers has been identified in the said report,

A high degree of autonomy

Payment by task, assignment, or sales

Short-term relationship between the worker and the customer

Within the above parameter, a service industry can deploy their assets and strengths to get stakes and market in their favor as per the sample size.

Librarianship and Gig Economy

Who are the gigs? Who could be the in the gig, and how a library professionals could be one of a gig? The answer can be given by the following quote, “*A user who goes by the name “itsmechetan” from Delhi “will advertise your company, website or anything by holding your message at Jama Masjid” for \$5. His bio claims he is an electronics and communications engineer. He claims he can teach you the basics of Java, translate 300 words from Hindi to English and speed-draw your logo in 24 hours among other things.*” - Assisi, Charles.2016

With the above paragraph, we get a person who has multi-talent is a gig who has a strong role in Gig economy. The size of Gig economy environment may vary place to place. *“Cities tend to have the most highly developed services and are the most entrenched in the gig economy”*- Investopedia

Library profession is equipped with source skills of managing the data and records, arranging the documents and making them accessible by applying different metadata and other tags which provide a wide scope to a particular document.

Required Competencies

1. Positive upward outlook -
2. Root level knowledge
3. Multi-tasking
4. Communication and Negotiation skills

Ambition and passionate

Usefulness gig Economy

1. Learning preference
2. Talent hunt
3. Idea Acquisitions
4. Learning Prepotence
5. Networking and Mergers
6. Market analysis and Research
7. Expansion of interests

Something is better than nothing

Winners in Gig Economy

1. Excellent understanding of subject
2. strong extracurricular activities
3. Professional zeal

passionate

Losers and optimal

1. Follower instead of workforce
2. Low level of understanding of market and negotiation skills

All other may be at full-time job

Criticism of Gig Economy

The criticism could be anything, not in favor of principles and social acceptance. Though Gig Economy is working with them who are not part of a full-time job, a very high appreciable role but has lots points of criticism, few of them are narrated as follows; No security of job-They can be eliminated if found another alternative or best and low budget arrangement. No facilities like others on full-time- *“Those working in the gig economy do not enjoy the same rights and protections as employed workers, such as health benefits, overtime pay, and sick leave pay”*.-(Cameron, H.2016)No recognition – Who were in the project and workers name, designation, address entire details are not in the picture. Higher Risk and No Recovery- the Higher risk may include casualty to life may be completely or partially is not included in Gig Economy.

Conclusion

Gig Economy is more popular in the USA and in other developed countries also since few decades. *“India is the top country in the world and in Asia where our users have been growing progressively. We believe the country has the potential to become the top freelancing and crowdsourcing hub in the Asia region, even globally”*- Helma Kusuma. In India most of Gig Jobs are in the following areas, softwadoctors, consultant, data scientist, PHP, graphic design, website design, HTML, Wordpress, logo designer, SEO expert, and Internet marketing. These scopes are very close to the skills of an Information officer or Information Scientist. The target of full placement can be achieved by a slight change in the syllabus and base education .

There are few shaded points in Gig economy, if Govt could make some rules at par with existing rules of central employees this could be more helpful for developing country like India. Gig Economy is a temporary solution which might be continued if the work and environment are developed and beneficial to the workers. It has a great opportunity, overall the idea behind this shorter note, 'Scope of Library professionals in Gig Economy' to motivate youth, freshers to try their caliber and skills in other domains which will help them to knit their future with more prospects and learning experiences etc. In the initiation phase, it is good to have a part of Gig Economy, later in coming future, one may switch to a full-time job.

References

Assisi, Charles.(2016). Available at <http://www.livemint.com/Sundayapp/jwoGeEWAbPTaKfSwJRtGUK/The-Gig-Economy.html>

ET Report. (2016). Available at http://economictimes.indiatimes.com/articleshow/55154558.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

Gig Economy. Investopedia (2016). Available at <http://www.investopedia.com/terms/g/gig-economy.asp#ixzz4Tl4fCt4P>

Kaine, S, and Josserand, E.(2016).The Conversation Workers are taking on more risk in the gig economy. Available at: <http://phys.org/news/2016-07-workers-gig-economy.html>

Cameron, H.(2016) available at <https://theknowledgeexchangeblog.com/2016/10/14/the-pros-and-cons-of-the-gig-economy/>

1. Mulcahy, D.(2016).Who wins in the Gig Economy, and who loses. HBR. - October edition -2016
Internetslang.com.(2016) available at <http://www.internetslang.com/GIG-meaning-definition.asp>

XXXXXXXXXXXX

SOCIAL MEDIA AS A TOOL IN LIBRARY MARKETING

Pankaj Kumar

Librarian

Govt. Sahid Venkatrao College Bijapur (C.G.)

Jitendra Kumar Gupta

Librarian

Govt. Gundadhur College Kondagaon (C.G.)

Abstract:

Social Media (SM) has provided new platforms for library and information professionals for marketing library services. This paper discusses social media as tools for helpful in accessing information needs of online users and libraries to get closer to the users.

INTRODUCTION:

The technology of Social media provides a wide range of tools for users to interact and share content. Library and information professionals can use and regenerate the library services and products in a wider way. Social media tools such as Facebook, LinkedIn, Blog, WhatsApp, and Twitter are being used to create a connection, relationships, and knowledge with user groups, to enhance libraries activities and services. Social networking sites were being used by a number of academic libraries and were perceived to be helpful in promoting library services and interacting with mass levels like as students, teachers, and academic community.

SOCIAL MEDIA:

Social Media has been defined in several ways. Oxford Dictionary (2013) defines Social Media as “websites and applications that enable users to create and share content or to participate in Social Networking. According to Bradley (2012), the term Social Media refers to “the use of web-based and mobile technologies to turn communication into an interactive dialogue. Kaplan & Haenlein (2010: 61) have described Social Media as “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content”. Based on the above definitions and the own simple words says that Social Media as a group of web-based and mobile applications (Mobile Apps) that allow users to share and create knowledge in a real-time social interaction.

PURPOSE OF SOCIAL MEDIA USAGE IN LIBRARIES:

Many libraries agreed that social media should be used for marketing of library resources, products, and services and to established conversation groups and joint work. There are many reasons of social media should be used in libraries.

- Easy to reach in users group
- Marketing of library products and services
- Marketing specific programs and services
- To modernize the library image and e-reputation
- To reach a new audience of potential users.
- To drive library news and press release.
- To provide quick updates to users.
- To build discussion groups and collaborative work.
- To spread news and service alerts.
- For fundraising

SOCIAL MEDIA TOOLS:

Blogs: Allow a user to share thoughts and opinions on subjects in a diary-like fashion in a series of posts. Create discussions or an Informational site published online and consisting of discrete entries or “posts”.

Twitter: Allow users to communicate with a handle or username that the user creates, and can write short messages, typically 140 characters that are sent to the user’s followers.

Wikis: Allow users to create and edit webpage content online. Hyperlinks and cross-links connect between pages. Users are allowed and encouraged to edit wikis.

Facebook: The massively popular and most widely used social networking site, Facebook is free social networking site launched in 2004 by Mark Zuckerberg. It allows building online communities for sharing information.

RSS Feeds: Rich site summary or really simple syndication comprises frequently updated web feeds that indicate news, events, and blog entries that a user can subscribe to and follow. RSS takes current headlines from different websites.

LinkedIn: Registered users in LinkedIn can create and manage their profile which will help to engage with their professional network.

YouTube: Content distribution of videos, typically available for free to the public access and subscribe the video.

WhatsApp Messenger is a cross-platform instant messaging application that allows iPhone, BlackBerry, Android, Windows Phone and Nokia Smartphone users to exchange text, image, video and audio messages for free.

Other tools:

Flickr: Flickr is possibly the best online photo management and sharing application. Flickr can be used to upload, maintain and share photo albums of events and programs.

WhatsApp: WhatsApp is a very useful application that helps in sending messages instantly. WhatsApp Messenger is a cross-platform instant messaging application that allows iPhone, BlackBerry, Android, Windows Phone and Nokia Smartphone users to exchange text, image, video and audio messages for free. This tool uses for faster and easier networking; it allows the creation of groups.

Pinterest: Pinterest allows its members to collect and organize web-based resources. It allows users to capture items found on the internet to a ‘pinboard’.

USES OF SOCIAL MEDIA IN LIBRARY:

Social media offers more than just traditional ways of marketing library services. It allows the user to create, connect, converse and share information and help libraries to get closer to the users. Social media take the attention of the new users, helps in distance learning, knowledge sharing and locating information. Social media is using for marketing of library product and services and to establish connection between discussion groups and collaborative work. It should be used for to spread news and service alerts, to provide quick updates to online users and to drive library news and press publication among online users.

- Library can use Blogs for periodically post messages; share information on a particular Subject or issue, and allow users to contribute to content. They can write articles, news on topical issues and expect an instant reaction from their users.

- Library can use Facebook for sharing information. The libraries participations in Facebook groups and discussion will help to build powerful communication between the users and library. It is a best and effective platform for providing ready reference service. Libraries can use YouTube for market their different programs, conferences, and workshops by uploading their videos on the YouTube. Libraries can create accounts on Twitter and use it for quick and brief information sharing. Twitter can be used by the library to marketing reference and research services. Libraries can use Flickr to share and distribute new images of library collections and new arrival books or journals can be disseminated to users by Flickr
- Libraries can use Wikipedia to create and maintain description about the library and the parent institution for historical purpose.
- RSS feeds are using by libraries for users give to updates on the new item in a collection, new services, and new content databases.
- Libraries can use WhatsApp for creating various user groups based on different criteria and share with the user's important information like new collection, new arrival books, and photos of library events and so on. WhatsApp is an effective tool for marketing library resources. Many librarians are effectively using WhatsApp tool for information dissemination.
- LinkedIn can be used by the libraries to create professional connections as well as market library services among other professionals working in different libraries of the world.

CONCLUSION

The social media play important role in market library resources and services. It helps student-faculty member and researcher to use the library. Students faculty member and researcher accept that social media also very helpful for knowledge sharing. A library can improve its image and visibility with the help of online marketing. This will outcome in attracting more users to use its products and services. Social media tools are not only being used as a vehicle for promoting services, programs and new resources but they could also use for reference services. Students are using tools like Ask a Librarian, and twitter to ask questions in “real time and this is assisting in promoting the library as a relevant, efficient and helpful place. Growing population of patrons and librarians using Social networking is an indication that “it is an ideal vehicle for marketing the services of libraries to patrons” (Ezeani&Igwesi, 2012:4).

REFERENCES:

- Frank Boateng Yan Quan Liu, F. (2014). Web 2.0 applications' usage and trends in top US academic libraries. *Library Hi Tech*, Vol. 32 (Iss 1), pp. 120 - 138.
- Habiba, M. M. (2015). Use of Social Media in Marketing of Library and Information. *DESIDOC Journal of Library & Information Technology*, Vol. 35. (, No. 4.), pp. 299-303.
- Ikonne, C. N. (2013,). Marketing of information services in the Social Media Framework of Communication. *International journal of Innovative Research in Management*, issue 2 volume 10.
- Jain, R. K. (, 2016,). Marketing of Library Resources and Services: A Structured Literature Review. *DESIDOC Journal of Library & Information Technology*, Vol. 36, (No. 3), pp. 119-125.
- Sriram, V. (2016). Social Media and Library Marketing: Experiences of KN Raj Library. *DESIDOC Journal of Library & Information Technology*, Vol. 36, No. 3, pp. 153-157.

ADVANTAGES AND DISADVANTAGES OF SOCIAL NETWORKING USE IN LIBRARIES

Bibhuti Bhusan Maharana
 Library Trainee, Central Library
 NIT,Raipur(C.G)-492010,India
 E-mail: bibhutimaharana22@gmail.com

Introduction

Social networking is web 2.0 tool where the numbers of user communicate each other through internet. In the present day the use of social networking is very essential for everyone life. Libraries being a users centric organisation, have experimented all the new technology to remain connect with their users and to provide better library services. In this row, use of Social networking by libraries have become a buzz word in the present day context. Although the numbers of libraries who are using SNSs are less in numbers and it is a matter of debate that whether libraries, particularly Indian libraries can use SNSs in a wider sense or not, still scope are there for libraries to provide some services through SNSs. According to **Breeding** “there are a multitude of social networking opportunities available for the today. Social networking sites can be used to content with patrons and to connect with other Librarians.”

Use of Social Networking in Libraries

Libraries can use Social networking to connect with its own users and also collaborate with other libraries forming a group with the similar types and interests. Libraries can make their own blogs and post various issues related to libraries to make aware users. Similarly library facebook, Twitter and WhatsApp group can be helpful in connecting users of libraries and share their views with the library on certain issues, which can be helpful for libraries to redesign their systems and services. Libraries can also use these SNSs for providing information on library, its rules and regulations, upload videos and photos of libraries, guidelines on how to use libraries and library resources, information on forthcoming events etc. There are many advantages and disadvantages of using social networking in libraries which are discussed below.

Advantages of Social Networking used in Libraries:

- To connect their long tail users with the library activities and engage them in library activities.
- To provide information on library, its rules and regulations, systems and services provided by the library etc.
- To collect feedback and comments on various aspects of libraries, there by redesign the library systems and services as per the need of the users
- To marketing the product and services of library
- To inform users about forth coming events of the library
- To provide information on new arrivals, on library resources and process to use it.
- To inform users about use of new technology or initiation of new services in libraries
- To provide personalised information and reference services
To make the library more users centric

Disadvantages of Social Networking used in Libraries:

Although use of SNSs by libraries are getting momentum day by day and has many possibilities within the realm of student outreach, very few libraries use many SNSs and some libraries have started using only one on experimental basis. Again there are several concerns faced by the libraries in using SNSs and the success rate has remained as a matter of uncertainty.

According to **Connell** the major problems of libraries face in using SNSs can be summarised as follows.

- Most of libraries run with shortage of manpower, hence it may not be possible to depute a full time staff to manage the SNSs.
- The users are more interested and habituated to use SNSs for entertainment and making friendship rather than to engage in library matter.
- There are possibilities of many misuses of SNSs by the users such as opening of fake account, posting misleading information, comments etc.
- It is not possible always to cater the feedback of users which are collected through SNSs, which may be against the interest of libraries.
- There are possibilities of creating disturbances in libraries by ill intended people through SNSs.
- Availability of required infrastructure facilities, lack of support from authorities and also lack of knowledge and interest among LIS professionals are problems in using SNSs in libraries.

Conclusion

The popularity of using Social Networking by users and its advantages to communicate with users have compelled libraries to think about the applications of Social Networking Sites (SNSs) in libraries. But there are many problems on the part of libraries in using SNSs which need to be addressed properly. We need to think are the users or libraries, particularly Indian context are ready to accept this new technology? Are the library users are so educated and disciplined that misuse of SNSs can be avoided? Are the library system and support of authorities towards libraries are so flexible that libraries can engage users for various library activities through SNSs? However change is the ultimate truth of nature and libraries, being a user centric unit cannot avoid such popular technology totally. Ultimately, the basic purposes of libraries are to collect, organise and disseminate information for user. If SNSs can be useful in performing these activities of libraries, there is nothing wrong in using this technology. However necessary precautions must be taken in using SNSs in libraries.

References

1. Boxen, J. (2008). Library 2.0: a review of the literature. *The Reference Librarian*, 49(1), 21- 34.
2. Connell, R. (2009). Academic libraries, Facebook and MySpace, and student outreach: a survey of student opinion. *Portal*, 9(1), 25-36.
3. Kumar, C. R. (2015). Social networks impact on Academic Libraries in Technology Era. *International journal of Library and Information Science*, 5(3).
4. Maharana, B. B. & Satpathy, S. (2016). Social Networking and its uses in Libraries:Prospects and problems. In Rautray, Swain D.K. & Swain C. In *Marching beyond Libraries: Role of Social Media and Networking*. (pp. 8-14).
5. Ramsey, T. P. (2008). Social Networking Services: Library Collaboration 2.0? Accessed from: <https://cdr.lib.unc.edu/record?id=uuid%3a01d677d2-e9bb-49ea858d-0e9dee3be2ad>
6. <https://networksocial.wordpress.com/2008/11/19/advantages-and-disadvantages>

XXXXXXXXXXXXXXXXXX

ABOUT A LIBRARY



Library National Institute of Technology Goa

Library of the National Institute of Technology Goa is a continuous growing organism with the compact features; document, user, and services. Its core objective is to support academics in knowledge generation through different educational activities; teaching and research. It formerly appeared in 2011. It has the qualitative documents on Science, Technology, Engineering, Economics & Finance, Management, Professional Communication and Ethics other subjects. Apart from these core collections, documents on literature and other subjects are also available. Library follows the ‘recommendation method’ to procure the documents, to meet the knowledge needs of academicians. The main focus of the Library is to develop a qualitative collection with the books, journals, digital document, magazines, and dailies. Library housekeeping activities are done by using library automation software. Library reminds and alerts to its users on their transactions and assists them in searching in OPAC and database to save the time.

Library works with the following prime priorities;

- To fulfill the need of information.
- To provide the reading resource to every member.
- To be an active part of the educational programme as resource providing channel.
- To provide the solutions on academic, research and publication arena.
- To provide a fresh support in fulfillment of the goals.

Major Resource and Services



1.Quick Access Page for saving the time of users. This page provides web-links of major resources and services, hosted and offered by the library. Currently operational from a local host at <https://goo.gl/6JJDAh>, may be kept in public very soon.

2.E-Journal Database – Library has 5 subscribed databases of e-journals.

3.Books – Library is having around 7000+ books particularly on the subjects recommended for study for its 600+ users.



Library

National Institute of Technology Goa

Library page	Library Catalogue	IDR @NITGOA	NIT GOA HOME	ACM	IEEE Xplore
IEEE SWEBOOK	ScienceDirect	SpringerLink	NPTEL @NITGoa	Article Altmetrics	NDL India
MENDELEY Mendeley	Koha OPAC	Koha Admin	Moodle @NIT Goa		
			turnitin Access to Turnitin		

4.Non-Book

Periodicals (Link to the periodicals here at <https://goo.gl/qXTezc> or scan the QR Code

Optical Media – Library In-houses the 600+ optical media containing the useful resource and software, program, solution on various subjects.

Annual Report – Library maintains the recodes of Annual Reports of various institutions shared under the policy of exchange of Annual Report.

Newsletter – Newsletter is accumulated and shared among the users for current happenings in various institutions.

Dissertation – Library in-house the dissertation of student submitted as their research output. Currently in print format.

5. Digital Resources–e-books - are to be added very soon in the core collection
Back volumes of Elsevier Engineering find here at <https://goo.gl/S4bHVV> or scan the code.



6.E-learning support with Moodle (currently at intranet)

7.NPTEL Lectures

Video lectures are hosted at intranet for internal users only. These resources are available freely hence, not provided outside

Discipline-wise listing of the content			
Aerospace Engineering	Atmospheric Science	Basic courses (Sem I and II)	Biotechnology
Chemical Engineering	Chemistry and Biochemistry	Civil Engineering	Computer Science and Engineering
Electrical Engineering	Electronics & Communication Engineering	Engineering Design	Environmental Science
General	Humanities and Social Sciences	Management	Mathematics
Mechanical Engineering	Mining and Mineral Science	Manufacturing Engineering	Nanotechnology
Ocean Engineering	Physics	Textile Engineering	

Instructions

- The Mozilla Firefox browser is recommended.
- Courses are free as provided by NPTEL.
- Copyright of the contents are reserved with the creator.
- Click on the Discipline to view list of courses.
- Update your ICA cookies plugin course if possible.
- Refresh the webpage course failure while at loading.

[NIT Goa Homepage](#) [Library Homepage](#) [Library TOR/OPAC](#) [NPTEL Main Website](#) [National Digital Library](#)

Library
National Institute of Technology Goa
Farmagudi, Ponda, Goa - 401 401, Contact No: 0832-2404223 | Email: library@nitgoa.ac.in

8.IDR@NITGOA

Go the IDR at NIT Goa
<http://idr.nitgoa.ac.in:8080/jspui/>
 IDR at NIT Goa is a taking part in
 NDL India. The IDR is using the
 Open Source software,
 DSpace.

**9.Koha, LMS**

Library has initiated the work to start function with Koha, a global library LMS, and solution. Currently, it is under customization phase and at intranet only.

Research and Anti-plagiarism support– Library provides the support in writing research and technical papers by assisting with **Mendeley**, for referencing and collaboration and **Turnitin** for duplicity check by organizing the various training sessions and short duration programme.

10.Policies

E-Resources Usage Policy – Find the policy of e-resources uses at <https://goo.gl/lj7CV0> or scan the code.

Library General Rules - General Policy for users are at <https://goo.gl/p4szg9> or scan the code.

Membership Policy – Membership policy includes a Globaltype of policy, for all types of users,find more at <https://goo.gl/Zf8OQ2> or scan the code.

11.Team / staff

Committee – Information here:<https://goo.gl/j8UQt0>

Staff– Click here :<https://goo.gl/7AESYq>

**Ask Librarian / Contact US**

You are welcomed and advised to contact us for any query related to access or services of Library. Click here: <https://goo.gl/aTODhN> or scan the code.

Complete Library Information:

Above data and information are provided briefly which only for communication purpose. For complete library information for all other services, resources, support, please visit our website hosted at <http://www.nitgoa.ac.in/clib> or scan the provided by your mobile QRCode Scanner.

Data provided by:

Munesh Kumar
 Assistant Librarian
 National Institute of Technology Goa
 Farmagudi, Ponda, Goa – 403401
 Email: munesh@nitgoa.ac.in, asst.librarian@nitgoa.ac.in, library@nitgoa.ac.in
 Contact: 0832-2404223, +91-9970219639
 Website: www.nitgoa.ac.in/clib



PUBLISHERS' CORNER



Mendeley is a free reference manager and academic social network that can help you organize your research, collaborate with others online, and discover the latest research:

- Automatically generate bibliographies
- Collaborate easily with other researchers online
- Easily import papers from other research software
- Find relevant papers based on what you're reading
- Access your papers from anywhere online
- Read papers on the go, with our iOS and Android apps

Mendeley allows RESEARCHERS to:

Conduct initial research

- Search for research
- Organize research
- Read and collect thought

Write a paper, review or grant proposal

- Compile a bibliography
- Organize references
- Cite and write

Submit a dissertation for review

- Create a private group
- Invite advisors and reviewers
- Track and respond to commentary

Collaborate in project teams or lab groups

- Create a private group
- Add research and draft papers
- Build your researcher profile
- Search the people directory

Identify collaboration partners

- Build your researcher profile
- Search the people directory
- Join/ follow interesting people and groups

Create awareness

- Create a public group
- Add content and stir debate
- Promote it: Mendeley and beyond

Promote yourself and your research

- Build your researcher profile
- Embed your profile elsewhere
- Track your readership

With its advanced analytics and collaboration features, the Mendeley Institutional Edition also supports LIBRARIANS:

- Get real time usage information
- Track the reach of your institution's research
- Facilitate social connections

Mendeley Certification Program for Librarians

Become a Certified Mendeley Librarian and secure a Mendeley Premium Upgrade for 500 users at your institution – at no cost.

The Mendeley Certification Program for Librarians is a free self-study program that can help you:

- Learn as much as possible about Mendeley so you can confidently train others;
- Plan a successful rollout of Mendeley at your institution;
- Be recognized for your efforts by becoming certified & receiving valuable benefits (see below for details)

IN A NUTSHELL, the certification program is:

- An opportunity to deep-dive into Mendeley while following a structured, self-paced, self-study program that will take you approximately 15-20 hours to complete;
- Divided into three levels, each level offers a valuable benefit for your library and user community (see chart below)

Level	Topic	Reward*	Approx. Time Requirement
1	Get to know Mendeley	Join "Certified Librarians" Mendeley group with premium-access upgrade	2-6 hours
2	Dive Deeper into Mendeley	Box of Mendeley materials to help spice up your training sessions**	4-8 hours
3	Promote Mendeley	1 year Mendeley upgrade for up to 500 users*** Eligible for significant discount on Mendeley Institutional Edition (MIE)	2-6 hours

*Rewards are offered to librarians at academic and government institutions; corporations are not eligible for program rewards but corporate librarians may still participate in the program for personal and professional development.

**Limited to two Level 3 rewards per institution

***Limited to one Level 3 reward per institution. Upgrades valid for 12 months with option to extend for three additional months following completion of "Refresher Program"; Includes 5 GB of personal storage, 20 GB of group/team storage and unlimited private/invite-only groups with up to 25 members in each.

What Elsevier provides:

- All the learning materials you need to complete your certification program (includes technical/functional product information, user adoption strategies and planning, teaching guidance and information about other common library sciences topics);
- Regular contact via email to assist you with any questions or concerns as you proceed through the program;
- Benefits along the way - upon successful completion of each of the 3 levels.

For any Queries, pl contact:

Vishal Gupta

Customer Consultant(Core Content)- South Asia A&G Team

Research Solution Sales,

RELX India Pvt. Ltd, 14th Floor, Building No: 10B, DLF Cyber City Phase II, Gurgaon, Pin Code: 122002

☎: +91 (124) 4774212

: +91 9874593456

✉: v.gupta@elsevier.com

www.relx.com

INVITATION FOR WRITE UPS

Write ups are invited from the LIS professionals for the next issue of LIS Communications(Volume-3,Issue-1) .All write ups will checked through “Turnitin” Anti-plagiarism software.PI submit the same by 30th Jan 2017 via e-mail to drsksatpathy@gmail.com.

Editor,LIS Communications

COPY RIGHT ISSUES

The authors/contributors of LIS Communications are copy right holders of their write -ups and the LIS Communications does not bear any responsibility for the contents or comments in these.

Editorial Board

Dr S.K.Satpathy, NIT,Raipur
 Dr K.L.Jena,CET, Bhubaneswar
 Mr D.R.Meher, OUAT,Bhubaneswar
 Dr S.B.Sahu, SIDBI,Lucknow
 Dr K.C.Satpathy, NIT,Silcher
 Dr C.K.Swain, IIM,Raipur
 Mr Munesh Kumar, NIT,Goa

Advisory Board

1.Prof. R.K.Rout
 2.Prof. B.K.Choudhury
 3.Prof. B.Ramesh Babu
 4.Prof N.Radhakrishnan, Periyar Univ, Salem

Invitation to Join “lisforum_orissa”

(https://groups.yahoo.com/neo/groups/lisforum_orissa/info)

This forum is a common platform for LIS professionals, teachers, researchers, students to share ideas, knowledge, messages, information etc with each other for the development of LIS profession and professionals. It will help to address issues on Library and Information Science ,to solve day today problems of libraries, resource sharing among libraries and generation of new ideas on LIS.

The name lisforum_orissa does not restrict itself to the state of Odisha, rather it indicates the place of origin only

PI join & invite your friends to join lisforum_orissa for professional development