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(A Peer Reviewed Quarterly Journal)

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Social Media and its Impact on Reading Habit among the Under Graduate Students of Some Selected Colleges of Assam. : an analytical study

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Librarian

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Abstract :

This paper looks at the influence that social media exerts in shaping the reading habits of undergraduate students in Assam. It attempts to determine the use and effectiveness of social media in fixing the intellectual and academic excellence of these students. Social media helps users to connect with people and share thoughts globally. It is a tool to build social network co-relations among those who share common internet activities, background, and real-life connections. In addition to traditional resources, students also take help from social media and social network sites mostly due to the increased popularity and potential use of today's academic environment. Based on a questionnaire-based survey, this paper shows that students prefer the use of social media as an obligatory and highly beneficial part of their academic activities, in addition to their traditional modes of studies. A detailed analysis of the responses reveals that the entertainment and communication aspect of social media serves in facilitating students' academic upliftment. In this way, this paper contributes to the larger debate of the necessity of social media in fulfilling the academic obligations of the students.

Keywords : Social media, ICT, Reading habit, Assam

1. Introduction :

Social media in recent years has been explored as an overwhelming sought source for academic and student-centric practices. It opens a new world of information and thus it boosts, energizes, and accelerates a gamut of academic activities mostly practiced by the young generation of people all over the world (Jose, Toney & Chesnean, 2021). It is rapidly growing as a vital component of the daily life of tertiary students and it is steadily taking over the reading culture of the youth

(Kojo, Agyek & Arthur, 2018). Since access to social media and the translation of its potential to maximum advantage do not require advanced internet knowledge or experience, students today find it easy to connect with peers through these platforms (Sudha & Kavitha, 2016). These platforms provide a smooth and user-friendly medium for the creation and exchange of user-generated content (Kaplan & Haenlein, 2020). In addition to this, they facilitate the process of content sharing, posting comments, and engaging in discussion anywhere in the world in real-time. The prevalent use of social media such as Facebook, WhatsApp, Twitter, YouTube, and Instagram has grabbed the attention of people all over the world. The splendid growth in social media applications and increased adoption of the applications by people around the world during the last few years has revolutionized how people communicate and share information. Social media influenced the lifestyle of an individual, revolutionized communication, collaboration, and creativity. As social media remains the easily accessible technological means of academic enrichment, students form a large group of its users. This study looks at such a group consisting of the students of the degree colleges of Assam excluding the newly provincialized ones. It explores the temporal aspects, content-wise patterns, and advantages and disadvantages of content-specific uses of social media of these subject groups and shows how social media continues to be a vital part of their academic career.

2. Reading Habit :

Reading is one of the oldest cultures for human progress in society. Reading is the heart of self education and lifelong learning and it is an art capable of transforming life and society (Tella & Akande, 2007). Reading is an active attempt on the part of reader to understand a writers message (Smith & Robinson, 1980) Reading habit is a basic tool of education and one of the most powerful lasting influence in promotion of one's personal development in particular (Biswas, Chakrabarti, & Das Biswas, 2013) and social in general (William S. Grey, 1984).

The presence of technology and its influence is felt in every sphere of our lives. Information and communication technology (ICT) and other digital technologies like computers, mobiles and internet prove to be more powerful tools in bringing educational reform. With the development of technology and its application in the educational sector, teaching and learning now days are not confined to the class room (Pim, 2003).

This new move is welcomed by the students and the teachers alike and



this result in a new learning environment i.e. virtual learning. Since the advent of COVID-19 across the globe teaching-learning at various levels have been effectively done in technologically enabled platforms. Due to the availability of social media in various forms the continuous process of teaching and learning beyond physical campuses has not been disrupted and still these modes are in vogue quite effectively. Considering the necessity and utility of the use of social media in the context of educational institutes this paper studies that social media in various forms can be alternative learning modes that can enhance academic excellence of the student community under the select colleges in Assam.

3. Review of Literatures :

The inclusion of ICT in the field of education at all levels has far-reaching effects on the reading culture of students. (Kojo et al., 2018) has conducted a study to explore the effects of social media on the traditional reading habits of students in a technical university in Ghana. Students are adversely affected by the constant use of social media that consumes their quality time to be devoted to reading habits in a formal educational environment. Students develop an urge to access social media at their own pace to find out relevant course materials for day-to-day study. They prefer Wikipedia for learning and academic activities (Daluba and Maxwell, 2013). Social media can help the students for self-learning also. There is a relationship between time spent on social media and reading habits and constant use of social media leads to low reading habits (Michel, 2016). The conclusion drawn in this study is that social media falls a negative effect on one's reading habit. Students may be motivated by their facilitators to use social media for educational purposes (Sarkodee et al., 2015). Students can keep themselves updated on general knowledge and current affairs by use of social media. It is not merely a chatting tool. Its use for diverse educational purposes can not be ignored (Saikia and Kumar, 2019). Facebook serves as a vibrant virtual platform for academic discussion among distance learners and a study was conducted at Open University Malaysia to develop a blended learning approach. It shows that Facebook does have the potential to draw distance learners to engage in meaningful academic interaction. But the quality and quantity of posts very much depend on timing and the topics for discussion (Lim, 2010). An interesting study was conducted in the Faculty of Communication Sciences at Anadolu University in Turkey and it shows that the main purpose of Facebook is to communicate with friends. The use of



Facebook is only for maintaining the social bond. The researchers recommend that Facebook can contribute towards social interaction among students and it can be a medium for instructors and students (Tiryakiogiu and Erzurum, 2011). The above review of literature provides an exposure to understand the specific theme selected for the study.

4. Objectives :

1. To find out the purpose of using social media.
2. To assess the impact of social media on their reading habit.
3. To know the time being spent in accessing social media
4. To identify the negative effects of social media
5. To provide possible suggestions to promote reading habit.

5. Methodology :

5.1. Scope and coverage :

Only degree colleges of Assam were considered for the study. This study excludes the newly provincial colleges under Assam Education (provincialisation of services of teachers and re-organisation of educational Institutions) Act, 2017. Altogether 300 regular students are covered on day to day basis for a period of three months. Students of all the semesters' classes are surveyed.

5.2. Methodology :

The work is mainly based on a survey method that consists of a structured questionnaire. Data are collected personally by visiting the different colleges of Assam by distributing 300 questionnaires given to all regular students.

6. Result and Discussion :

The analysis is based on the questionnaire collected from the students. The data collected from the students are analyses and tabulated.

**Table 1: Reasons for Using Social Media**

Sl. No.	Networking Site	No. of Student	Percentage
01	Entertainment	170	56.66
02	Educational	95	31.66
03	Informational	30	10
04	Any other	05	1.16

Table 1 shows the causes of using social media by the under graduate students. 170 students (56.66%) uses social media only for entertainment. It reveals that students are basically engage in entertainment rather than educational purposes. Only 95 students (31.66%) of total population are using social media for educational purpose.

Table 2: Purpose of using Social Media

Purpose	No. of Student	Percentage
To meet friends	131	43.66
News	51	17
Inspiration	22	7.33
To find interest	30	10
Time pass	66	22

Table 2 shows that most of the student uses social media to meet the friends i.e. 43.66%. 22% students are using for time pass and only 17% students are using social media for news.

Table 3 : Usage of Apps

Sl. No.	App used	No. of Student	Percentage
01	Whats app	201	67
02	Face Book	75	25
03	Instagram	16	5.333
04	Others	08	2.66

It is seen from table 3 that most of the students(67%) use Whatsapp as their communication media. Facebook ,Instagram and other apps like twitter are usedby 25%, 5.33% and 2.66% students consecutively

Table 4 : Frequency of Usage of Social Media

Sl. No.	Frequency	No. of Student	Percentage
01	Not every day	06	02.00
02	Once a day	17	05.66
03	2-5 times daily	67	22.33
04	More than 5 times daily	210	70.00

Table 4 shows the frequency of uses of social media by the undergraduate students. Study reveals that 70% students use social media more than five times daily to keep them up to date.Only 5.66 % use social media once a day. It shows that use of social media has become an integral part in their day to day life.

Table 5: Number of Account in Social Media

Sl. No.	Accounts	No. of Student	Percentage
01	One account	196	65.33
02	Two accounts	71	23.66
03	More than two accounts	19	03.33
04	No account	14	04.66

Table 5 highlighted that 65.33% students have social media account and 23.66% students having two accounts and 6.33% is having more than two accounts.

Table 6: Time Spent to Chat with Friends

Sl. No.	Time spent	No. of Student	Percentage
01	Less than 30 minutes	98	32.66
02	Less than one hour	73	24.33
03	More than one hour	24	08.00
04	Whenever necessary	105	35.00



Table 6 shows the time spent in using social media. 35% of total populations are spending time in social media whenever necessary. On the other hand 32.66% students are spending time less than 30 minutes.

Table 7: Social Media Affecting the Academic Performance

Sl. No.	Opinion	No. of Student	Percentage
01	Social media affects academic performance	06	02.00
02	Does no affect	294	98.00

Table7 shows that 98% students opined that social media does not affect in their academic performance. Only 02 % students agreed that social media affect in their study.

Table - 8 :Opinion on the Academic Usefulness of Social Media

Sl. No.	Opinion	No. of Student	Percentage
01	Yes	278	92.66
02	No	22	07.33

Table 8 reflects that uses of social media are very useful for under graduate level students.92.66% students opined that social media helped them tremendously in their academic activities.

Table - 9 : Most Communicated Persons through Social Media

Sl. No.	People	No. of Student	Percentage
01	Family	24	08.00
02	Friends	233	77.66
03	Relatives	15	05.00
04	Others	28	09.33

Table 9 shows that most communicated persons through social media are friends.77.66% students get connected with their friends through social media. Only 8%students are connected with their family through social media.

Table 10: Mode of Surfing Social Media

Sl. No.	Mode	No. of Student	Percentage
01	Smart Phone	275	91.66
02	Laptop	13	04.33
03	Desktop	07	02.33
04	Internet Cafe	00	00.00
05	Others	05	01.66

Table10 shows that 91.66 % of students are surfing social media via smart phone. Students feel very comfortable surfing social media via smart phone. Only 4.33% of students use social media via laptop. Students are very much reluctant to go to the internet cafe.

7. Findings and suggestions :

In a nutshell, it can be said that most of the students are well acquainted with social media and its uses. After analyzing the data the following points can be drawn :

1. The study reveals that the majority of the students (56.66%) use social media as a tool for entertainment. On the other hand, 31.66% of students use social media for educational purposes.
2. The main purposes of using social media are to meet friends(43.66%), 22% for time passing and 17% uses for news.
3. 67% of total student uses WhatsApp followed by Facebook.
4. A majority number (70%) of the students uses social media more than five times daily.
5. 65.33% of students have a single account on social media and only 4.6% have no account on social media.
6. 35% of total students use social media whenever they need it.
7. 98% of students' opinions that the use of social media does not affect their academic performance.



8. Most of the students(92.66%) remark that the use of social media is academically useful.
9. The study reveals that77.66% of students are connected with friends via social media.
10. Most of the students (91.66%) using social media via smart phones.

7.1 Negative Effects of Social Media :

Based on the data analysis and feedback from the students some negative effects of social media can be drawn. Such as:

- i. The study reveals that 56.66% of students use social media for entertainment only. This may hamper their academic performances.
- ii. Addiction to social media may hamper the normal life of a student community.
- iii. Abuse of social media may create negative effects in society.
- iv. Social media used only for entertainment is an unproductive one and gives no food for thought.
- v. Spending much more time on social media may hamper creativity among the students' community.

7.2 Measures for Creating Reading Habit :

- i. The library should be properly equipped with up-to-date books and modern ICT facilities.
- ii. Colleges should have an attractive and spacious reading room.
- iii. Students of the colleges should be oriented by the librarian with the new arrival of books and other reading materials of the library.
- iv. Importance should be given to procuring popular books on diverse subjects by the college authority.
- v. The librarian may organise readers clubs, library sessions, etc. to attract the students to the library.
- vi. In classroom teaching, students should be encouraged to maximum use of the library; so that students are bound to spend more time in the library reading books.

8. Conclusion :

The use of social media plays a significant role in this modern age. It is an effective means of communication for their day-to-day academic activity. The use of smartphone and frequent use of social media now becomes an integral part of the teaching-learning process. It helps the students to communicate the information promptly among the classmates and with their teachers. Students can exchange their views and see the various notices given by the respective colleges through Social media. From this study, we can conclude that social media plays a vital role as an information source in conducting academic activities.

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Security of Human Resources at the University Libraries in Maharashtra

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Abstract :

Human resources are an asset to any institution provided they are taken care of. The purpose of this paper is to find out the implementation level of the security of human resources in university libraries in Maharashtra. Three factors such as conventional, ecological and emotional security are discussed that majorly affects the security of library staff. The survey data was collected using an online questionnaire. It was found that on an average 58% of university libraries have fully implemented three main factors as security measures in their libraries while only some part has been implemented by 31% and 11% of university libraries have not implemented the security measures for the library staff consecutively. Results indicate that efforts are taken by university libraries in Maharashtra to secure human resources but some more are required to develop a healthy environment for the development of libraries.

Keywords :

Human resources, library security, library staff, staff security, conventional security measures, emotional security measures, ecological security measures.

1. Introduction :

Human Resource is an important component for any institution. The success of an institution depends solely on the human resources more so for a service oriented institution which includes libraries. It is the people in the library that needs to be developed and secured for greater productivity. Unlike any other resource of a



library, the security of human resources that is the library staff needs to be looked at from a different perspective. Library staff security plays a very important role as they spend a good amount of time in the development of a library and caters to the users. The library staff should feel and be secure when they work. The security issues need to be strengthened and the risk affecting the staff to be reduced. The staff could be at risk in the circulation area and stack area with sharp edges of furniture, open cabinets and long shelf height. There could be problems with slippery floors due to water leakages. Staff is prone to several health issues due to ergonomically wrong furniture and computers. Termites, insects also cause harm to staff. The emission of harmful gases leads to respiratory problems. There are several stressful events making staff unhappy. Thus the various factors to the security of library staff could be broadly captured to their emotions, environment and surrounding, biological, and other general measures. For any library to achieve its goal securing human resources is as important as the security of other resources. This paper put forth the efforts taken by university libraries in Maharashtra on the security of its human resource that is the library staff.

2. Need of the Study :

Security of libraries is not bound by any one aspect of security but there are several types of security measures that libraries need to take care of for their resources. A very important resource for libraries is the security of staff which has hardly been discussed and needs immediate attention for libraries. The reason is that there are issues related to users, the health of staff, the environment, ergonomic issues, etc. The gap was found after the literature search emphasizes the need for this study. The findings may be relevant to other types of libraries because similar situations are found in all types of libraries. In this context, 'Security of Human Resources at the University Libraries in Maharashtra' becomes important research to enable libraries to function effectively and efficiently by securing their important human assets.

3. Review of Literature :

Library Security has been studied for a long time now. There are several studies found on the security of print resources, especially books and physical library security. For more than a decade, the security of digital information has also

been studied. However, staff security seems to be a weaker section among the researched library securities identified. Some of the studies are reviewed here.

Dixon, J. (2016) stated that staff has to deal with disruptive and threatening actions, including drug use, gang activity, and patrons who become verbally abusive when asked to correct a behaviour. Many libraries addressed these issues by banning repeat offenders from the premises for some time. The author suggested measures like communicating the library's expectations for behaviour, managers should listen to staff opinions on security matters and empower them to make security decisions, holding training sessions with staff, and having clear policies.

Ghosh (2012) in her study tried to identify and evaluate the occupational musculoskeletal and psychological stresses among the library employees. The library issues assessed showed that most libraries surveyed do not have a proper workstation layout for the employees and users. Some solutions were provided to modify the existing workstations for the betterment of the libraries and to reduce the occupational stress of library employees which consequently helps to improve their health and efficiency. An assessment of the fire safety checklist was also provided. Cleaning and maintenance including pest control were also discussed.

Biswas, Nausheen and Chakrabarti (2011) also discussed the stress management issues including the dyads which involve trust, mutuality and good communication among staff and their supervisor.

Pal, J. (2019) explored the underlying causes of occupational risk and injuries to library workers in the Indian context. He revealed how occupational hazards emanate in the library workplace and how library managers can prevent these hazards by creating health and safety compliance in the workplace.

Pillai, C. and Jayalatha, K (2006) in their article analyzed the health problems among library professionals working with computers in the Kariavattom Campus of the University of Kerala. The survey revealed that many of them are suffering from health problems like cumulative trauma disorders, musculoskeletal disorders, loss of concentration, irritability, and dizziness due to emotional fatigue, muscle pain, etc due to prolonged use of computers and unfavourable working environment. The paper provided various suggestions for the improvement of equipment and the working environment.

Yeboah, E., Kwafoa, P., and Amoah, G. (2017) investigated the security breach experience of the staff in the Sam Jonah Library, University of Cape Coast, and



identified the measures to ensure staff security in the library.

The review of related research provided an insight into the various security threats that library staff is facing and security measures practiced.

4. Objectives of the Study :

1. To find the number of staff present in the University Libraries of Maharashtra
2. To find the implementation of conventional security measures for the library staff
3. To find the implementation of security measures about emotional well-being for the library staff
4. To find the implementation of ecological security measures for the library staff

5. Methodology :

The study covers the Universities Libraries in Maharashtra. There are a total of 63 Universities as per the UGC list which comprises Central, Deemed, Private, and State University libraries.

The survey research method was used and for data collection questionnaire was the tool used. The questionnaire was prepared using Google form and sent online to all university libraries in Maharashtra. The E-mail / WhatsApp / telegram/ telephone were used to communicate and send reminders to get maximum responses. The data was collected from September till mid-December 2020 over 3.5 months. The questionnaire was pilot tested and improved according to the suggestions received.

The University Libraries constituted a finite population for the study. The random sampling method was used so that each library has an equal chance of being selected for the study. The study presents herewith the 37 responses received from University Libraries in Maharashtra. The responses were analyzed using excel and are presented in charts or tables.

6. Findings and Discussion :

The total response received is 37 (58.73%) out of 63 (100%) University libraries in



Maharashtra. It was observed that due to the corona pandemic data collection was a challenge as at some of the Universities, the library staff was coming only twice a week to the office, some required authority approval for filling up the questionnaire while some were still working from home. However, the responses received are from libraries existing for a long period and even the newer ones. The participating Deemed University Libraries are 21, Private University Libraries are 10, and 24 are from State University Libraries. There was no response from the Central University Library of Maharashtra.

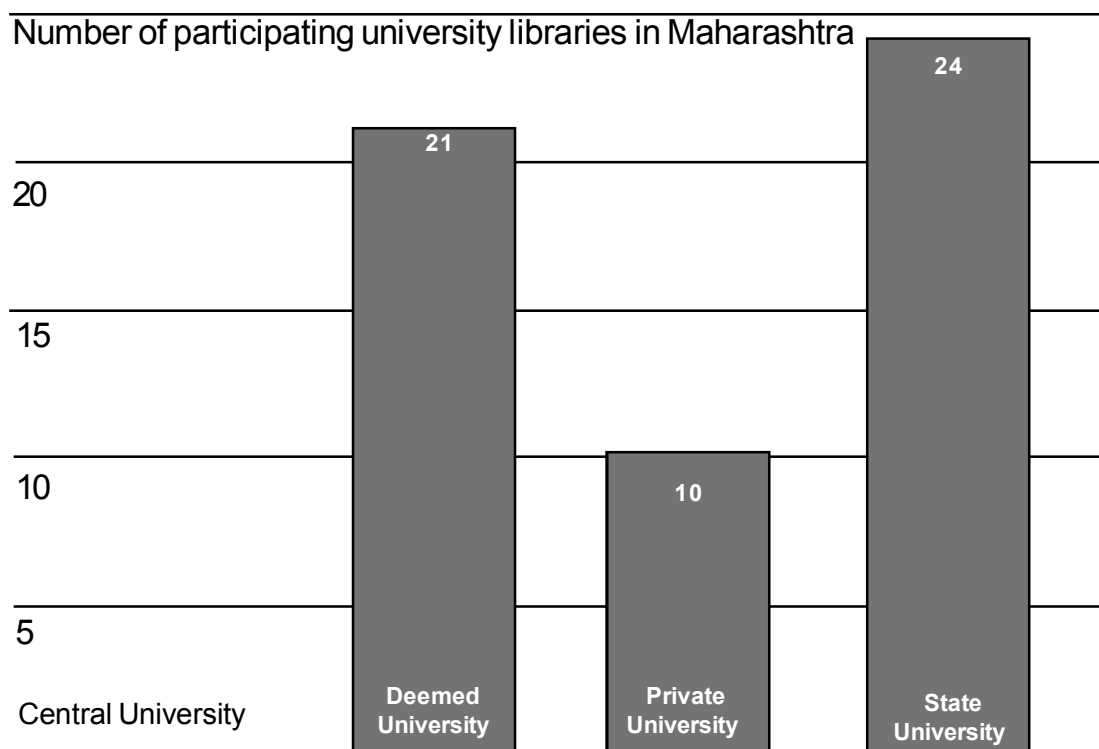


Chart I : Number of participating university libraries in Maharashtra

Table 1: Nature of Service

	Permanet	Temporary
Male	574	292
Female	150	56

It is observed that there is more number of male than females in the University Libraries in Maharashtra not only on permanent posts but also on temporary posts.

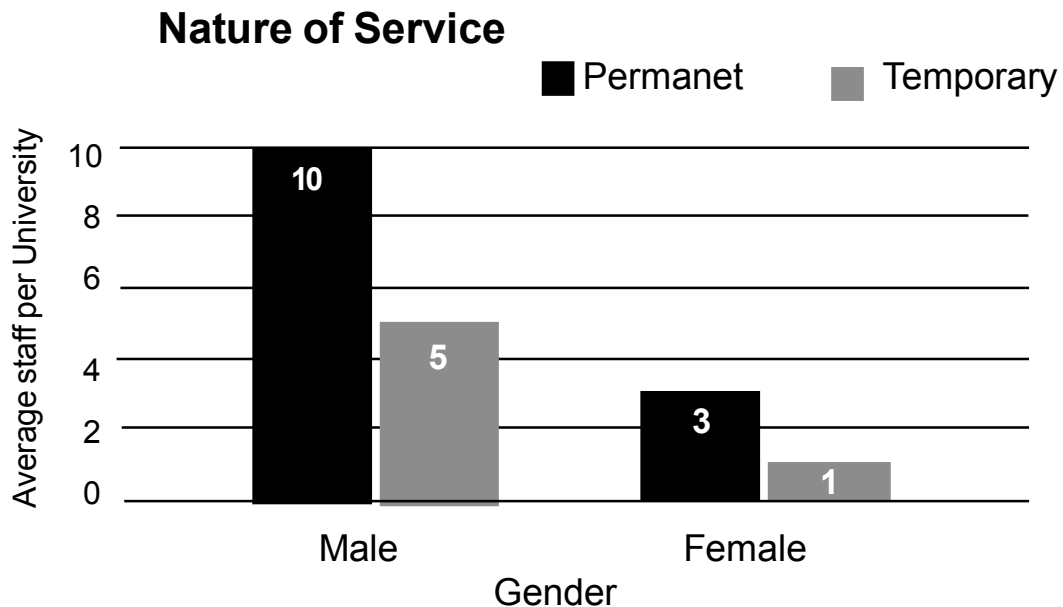


Chart II : Nature of service

So on an average each University Library has 10 permanent male staff, 03 permanent female staff, 5 temporary male staff and 1 temporary female staff respectively .

The respondents were asked about three broad security measures that are implemented at their place. First is about the conventional security measures, second about the emotional well-being and third about the environmental and biological security measures. The respondents have to mark whether the security measures have been Fully Implemented (FI) or Only Some Part has been Implemented (OSPI) or Not Implemented (NI).

For the conventional security measures, there were seven general points put forth by the respondents. Survey asked them about safeguarding library staff by keeping them away from the stuffy area, providing necessary material like mask/ gloves/ sanitizer, etc., use of safe chemicals during pest control, sanitization and for the preservation of documents, first aid box available handy, ergonomically designed furniture, conducting annual staff survey to understand about workplace environment and punishment for wrong behaviour.



Conventional Security Measures for Human Resources

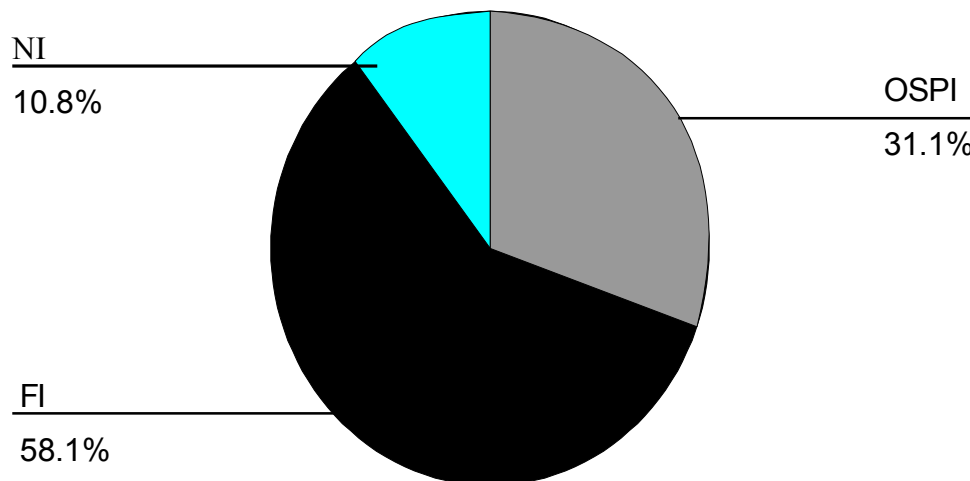


Chart III: Conventional Security Measures for Human Resources

Implementation of these conventional security measures is that 58.1% of the respondents have fully implemented, 31.1% have implemented some part while 10.8% have not implemented at all. Though the majority of them seem to have taken into account the library staff's security others must look into it as these form the basic security measures that any library could offer to its staff.

As part of the security of library staff, another important facet understands their emotional well-being. Eight aspects formed the security measure for the emotional well-being of the library staff. Appreciation, bridging the gap, safeguarding professional jealousy, commitment and belongingness, right to information, mental health issues, motivation, and safeguarding from assault.

Emotional Security Measures for

Human Resources

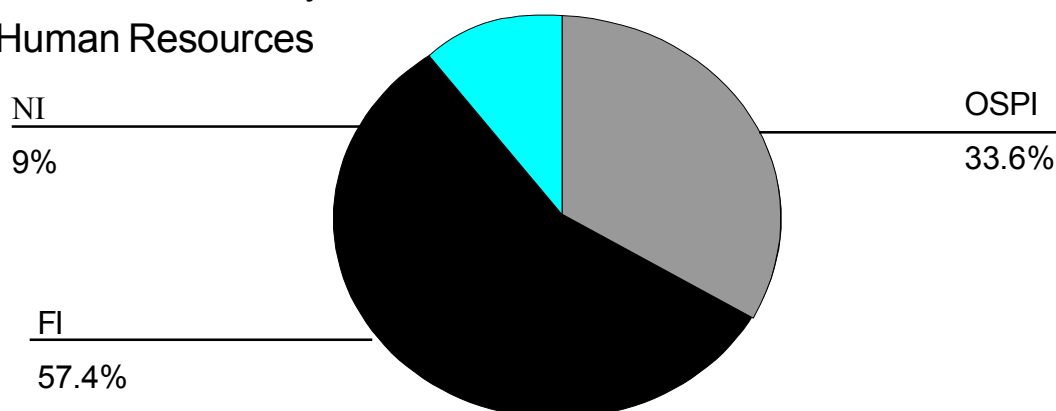


Chart IV : Emotional Wellbeing Security Measures for Human Resources



Implementation of emotional well-being security measures reflects acceptable data from the survey respondents. Only 9% have not implemented any of these security measures for its staff. Only some part has been implemented by 33.6% while 57.4% have completely taken care of its staff emotional well-being. It implies that emotional well-being security measures are seen as an important aspect as it helps the staff to think and behave. Staff can take appropriate action when dealing with users. It also influences decision-making about every activity that is undertaken.

The third essential security that is required for library staff is the environmental and biological measures that are the ecology. The implementation level was understood from the six measures. The survey asked about the disposal of electronic waste, emission of gases from gas-emitting equipment, handling fungus books, health issues because of dust, etc., the heat of machinery, and disposal of other infectious items.

Ecological Security Measures for Human Resources

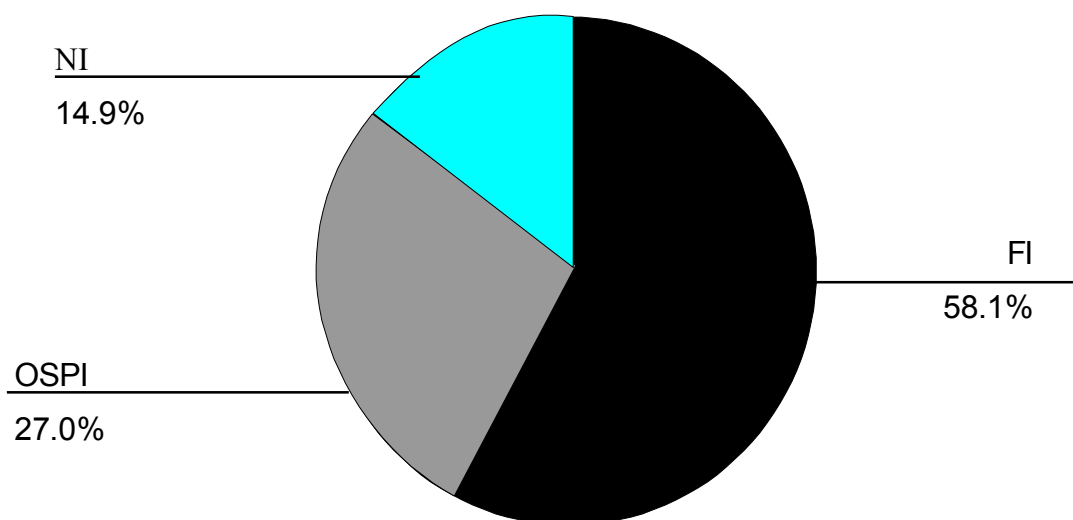


Chart V : Ecological Security Measures for Human Resources

The library staff needs to adapt itself to various ecological factors in the physical environment of the library. The application of proper security measures is necessary for the staff to work. 58.1% of the survey respondents have fully implemented the security measures needed to develop a healthy environment in the library for the staff to work hassle-free. 27% have implemented only some parts and 14.9% have not implemented any security measure about the environment or biological factor.

7. Conclusion :

The resources of the university library are their assets. The security of all resources is important for its growth and development. Human resources or library staff should feel secure and safe at work. It is observed that more than 50% of the respondents are serious about staff security. Whether it is conventional security, emotional wellbeing or ecological security all the security measures have been completely taken care of. The remaining just about 50% is a matter of concern. This comprises security measures for library staff which the university libraries have not implemented or only some part has been implemented. The library staff should be provided with a comfortable environment. They must feel secure to deal with the authorities, subordinates, and users. The final goal of the library must be the safety and security of its very important asset that is human resources.

8. Suggestions :

Libraries need to protect their resources. To do so, various security measures need to be taken care of. The security measures to protect library resources like print resources, digital resources, and human resources are different. Securing human resources and their surroundings play an important role as their security will ensure that the staff can focus on the work and perform their duties with responsibility. This is possible only with the development of a security policy for the human resources of the library. Developing a robust security policy covering the following aspects for human resources will create a confident environment for the library staff.

Conventional security measures

- To conduct staff survey annually to understand the workplace environment
- To submit confidential report/assessment including self-reporting of all staff
- The furniture including stacks, circulation desk, etc. must be ergonomically designed
- Equipment fittings must be such that there is comfort in use
- The workstation that is computers must be designed ergonomically
- First aid box should be available handy
- Rules for wrong behaviour of staff with legal action is required



- Safeguarding staff by keeping them away from the stuffy area and providing necessary material like mask/gloves/ sanitizer etc. especially when working with chemicals
- Use of safe chemicals that do not emit harmful gases during pest control, sanitization, and for preservation or conservation of documents

Emotional well-being measures

- Appreciation in the form of incentives. Incentives could be a monetary, award, or a letter
- Bridging the gap between the subordinates to avoid non-cooperation or delay in work & also safeguarding professional jealousy
- Commitment and belongingness towards the library is developed in staff by creating trust, making responsible, and taking them along in all tasks
- Helping staff to understand their rights like RTI or tribunal cases or Posha (Project Occupational Safety High Academy)
- Job responsibility varies or rotation of duties given to staff to avoid doing same work for a long time & developing frustration
- Mental Health issues like stress free job by taking frequent breaks, meditation, organizing work, mild exercise, pleasurable commuting, and proper diet
- Motivating staff to progress by permitting them to attend & hold seminars/ workshops & develop professionally. Also encouraging the generation of new ideas & implementing
- Safeguarding from higher authorities aggressive behaviour, workplace violence, or user assault (like abuse / illegal language / Firing / Non- co-operation / blaming for mistakes/ fights, etc) leading to mental issues
- Working hours made suitable to the staff to avoid any disruption in lifestyle

Ecological Measures (Environment / Biological)

- Disposal of electronic waste by burial, burning, or recovery in a proper containment area
- Emission of gases from binding material or any other gas emitting equipment is carried in a closed area

- Handling old books, termite books, leather bound volumes having fungus / Use of polymer resin is done in a specified area
- Health issues like skin infection because of dust, termites/pest / harmful insects/reptiles
- The heat of machinery is avoided by safe covers
- Tobacco smoking, burning candles, discarding cartridge/toner ink or powder, electrical burning, and all other items disposed of in a containment area.

Based on the above suggestions, libraries may adopt strategies and develop security measures to safeguard its human resources.

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Users' Satisfaction with library facilities and services in Government B.Ed. College libraries in West Bengal : a survey

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Abstract :

This study revealed the user satisfaction with library facilities and services provided in the six fully Government B.Ed. College libraries in West Bengal are affiliated with National Council for Teacher Education (NCTE). A survey was conducted through a structured questionnaire to know the opinion of users. Few primary, as well as secondary literature, were reviewed to find out the user's response regarding various facets like library facilities, collections, services, staff, etc. From that study, it was found users visited the library mainly for lending and reading books. It was revealed from the study that as far as 'overall satisfaction' of users' was concerned there is scope for further improvement. It was felt that it is very much essential to improve and modernize the library facilities and services in those college libraries to increase the satisfied user. This study will certainly help to understand the present status and condition of B.Ed. college libraries in West Bengal and will help to identify the areas where improvement is required.

Keywords :

Academic libraries, B.Ed. College Libraries, College Libraries, Learning Resource Centre (LRC), Library facilities, NCTE, User satisfaction, User Survey, WBUTTEPA.

1. Introduction :

Teacher education prepares teaching professionals to reach different levels like primary, secondary, higher secondary, and tertiary according to need and requirements. Teacher education involves three types of skills like teaching,

pedagogical and professional skills (Lal, 2016). These types of skills can be only developed by providing proper facilities, infrastructures, orientation, and training in those institutions. College library especially B.Ed. College library plays an important and significant role in that aspect. Bhatt (2010) suggested three types of teachers' training colleges in India. They are Government Colleges, Aided or Sponsored colleges and private colleges. Different Commissions, different committees, many bodies had been formed from time to time to reform the education system in the country (Biswas & Chakrabarti, 2014; Biswas, 2021;). The teacher education system is not an exception to that. In 1973 NCTE was established in India first as an advisory body and then from 1995 (17th August) made as a statutory body to advise state and central Governments for the development of teacher education which includes Bachelor of Education or B.Ed. also. In West Bengal, there are different types of B.Ed. colleges. Few colleges are only B.Ed. colleges, few colleges provide B.Ed. course with other disciplines. The West Bengal University of Teachers' Training, Education Planning and Administration or WBUTTEPA was established in 2015 in West Bengal to pay much more emphasis on teachers' training colleges and to provide uniformity in standards, and to improve the quality of teacher education. User feedback is considered a reliable factor in measuring and experiencing the effectiveness and usefulness of any institution (Rehman, Shafique & Mahmood, 2011). Healthy competition among the growing number of B.Ed. colleges need to provide quality services and sufficient facilities to attract users. Today library is judged by its ability to satisfy the need of its users (Kumar, 2017).

2. Review of related literature :

It was observed that the Government of India focused so much attention on the quality of teacher education. Different bodies like NCTE and other such bodies and their roles were discussed. Several issues and challenges of teacher education were highlighted (Dwivedi, 2012). In one study it was found the present state of education college libraries and their use in Punjab (Singh, 2009). Another study indicated the use of educational college libraries in Dehradun (Partap and Joshi, 2013). These studies highlighted the status of educational college libraries on different aspects like library staff, collections, services and infrastructures, etc. NCTE guidelines were taken into consideration for such studies. Few suggestions were recommended after identifying the lacuna in different areas. The importance of



understanding the level of satisfaction of different users on the collection and services of a library found in a text. It also highlighted the role of librarians and other staff in providing a positive impact on users in the use of the library (Murgai, 2002). A study on user satisfaction in the Doon University library focused on the level of satisfaction of users' in the library, especially in four areas. Users' feedback was analyzed to consider the present condition and recommending the future aspects for betterment (Kumar, 2017).

3.Objectives :

The important objectives of this study are :

- i. To identify the reason of library use by the users in Government B.Ed. College libraries.
- ii. To know at what frequency users come to the college library.
- iii. To identify whether users are satisfied or not with different library facilities and services available in those fully Government B.Ed. Colleges in West Bengal.
- iv. To provide few measures for improving the library facilities.

4. Methodology :

First of all to fulfill the objectives of the study a structured questionnaire was designed and distributed to the 400 users of the six fully Government B.Ed. College libraries in West Bengal were based on personal meet and online. The received responses (275) were calculated with Solvin's to determine the sample size. All the collected data have been summarized, then tabulated and finally, analysis was done based on statistical techniques. Weighted Arithmetic Mean (WAM) was used for analyzing the data. Respondents' views were assessed using five point Likert Scale. The calculation was made using Microsoft Excel software.

4.1 Scope and Coverage of the study :

The study covers six fully Government Colleges of Education in West Bengal. The study is carried out only to the users of those fully Government B.Ed. College libraries. To be part of these study users were selected from students, faculty members or staff of that college.

5. Analysis of data and related discussion :

Table 1: Distribution of Frequency of Respondents' Gender

Gender	Frequency	Percentage
Male	154	56%
Female	121	44%
Total	275	100%

Table 1 shows that out of 400 questionnaires distributed total 275 (68.75%) responses received, of which 56% were male, and 44 % were female.

Table 2 : Distribution of frequency of Respondents' Status

Status of Respeondents	Frequency	Percentage
Student	223	81%
Faculty	40	15%
Staff	12	4%
Total	275	100%

Table 2 presents the category wise distribution of respondents from six fully Government B.Ed. college libraries. Most of the responses were received from students, i.e. almost 81% of total responses, and then from faculty members (15%) and 4% from different staff members.

Table 3: Frequency of visit to library

Sl. No.	Frequency of Visit to Library	No. of Respondents	Percentage
1	Everyday	134	49%
2	Twice in a week	86	31%
3	Once in a week	42	15%
4	Fortnightly	10	4%
5	Once in a Month	03	1%
	Total	275	100



Table 3 shows the frequency of visit by the respondents in library. It shows a good trend of library visit by the users, because most of them were either daily (134, 49%) or twice a week (86, 31%) visitor in those libraries. 42 (15%) respondents visited weekly. Some users (10, 4%) visited fortnightly and mere (3,1%) users visited the library just a single time in a month.

Table 4: Purpose of Library Visit by the Respondents

Sl. No.	Purpose of visit	Total	Percentage
1	To know some information	42	15%
2	Lending books	192	70%
3	For reading books/journals	184	67%
4	To read newspaper	128	47%
5	To meet friend	20	7%
6	To browse internet	71	26%

The purposes of any academic library are many. Users come to the library for different tasks. Table 4 represents the data which reflects the purpose of different users for visiting the library. According to the given questionnaire a respondent can choose more than one option. As per Table 4 “lending books” (192, 70%) and “for reading books/journals” (184, 67%) were found as the main two reasons for which users visited the library. Quite a good number of users (128, 47%) visited the library for reading newspaper. 71(26%) users visited for “browsing internet”. While “to know some information” (42,15%) and “to meet friend” (20, 7%) were other purposes for which they visited the library.

Table 5 to Table 10 shows the descriptive statistics of users' perception and satisfaction on different library facilities. The users were asked to rate the statements on library facilities on five point Likert Scale. Weighted Arithmetic Mean (WAM) was calculated against each statement and then on the basis of calculated value they were ranked. Satisfied responses were considered those, which had WAM3.5 or above.

Table 5: Users Response on different Statements on Library Collection

Sl. No	Statements	Strongly Agree	Agree	No opinion	Dis-agree	Strongly Dis-agree	WAM	Rank
i	The library has sufficient books to support my academic purposes	112 (41%)	47 (17%)	5 (2%)	38 (14%)	73 (26%)	3.31	1
ii	The library has sufficient journals to support my academic purposes	20 (7%)	33 (12%)	19 (7%)	105 (38%)	98 (36%)	2.17	5
iii	Finding of printed resources is easy and well organized	64 (23%)	65 (24%)	12 (4%)	65 (24%)	69 (25%)	2.96	3
iv	Reference collection is sufficient, well organized and easy to find	60 (22%)	66 (24%)	25 (9%)	63 (23%)	61 (22%)	3.00	2
v.	Library has sufficient CDs/ E-Books/ E-Journals	14 (5%)	41 (15%)	33 (12%)	80 (29%)	107 (39%)	2.18	4

Scale : 5= Strongly Agree, 4= Agree, 3 = No opinion, 2= Disagree, 1 = Strongly Disagree

Table 5 shows respondents had No Opinion (value of WAM is in between 3.5 to 2.5) with the statements like “The library has sufficient books to support my academic purposes” (WAM=3.32), “Reference collection is sufficient, well organized and easy to find” (WAM=3), “ Finding of printed resources is easy and well organized” (WAM=2.96). No opinion actually probes the users' perception and satisfaction with those statements. For the remaining two statements like in serial number v and ii (rank 4 and 5) respectively, most of the users were disagreed or dissatisfied as the value of WAM were below 2.5 as shown in the table.

**Table 6 : Responses from Users Regarding the Statement on Library Staff**

Sl. No	Statements	Strongly Agree	Agree	No opinion	Dis-agree	Strongly Dis-agree	WAM	Rank
i	Library staff is very helpful	88 (32%)	103 (37%)	8 (3%)	38 (14%)	38 (14%)	3.60	1
ii	Library staff shows good communication skill	66 (24%)	75 (27%)	3 (1%)	91 (33%)	40 (15%)	3.13	3
iii	Library staff responses to my questions and needs	69 (25%)	77 (28%)	5 (2%)	85 (31%)	39 (14%)	3.18	2

From Table 6 it is found that users were agreed with the statement that “Library staff is very helpful” (WAM=3.6) but they did not give any opinion on the remaining two statements in that table.

Table 7: Responses from participants regarding the statement of Library services

Sl. No	Statements	Strongly Agree	Agree	No opinion	Dis-agree	Strongly Dis-agree	WAM	Rank
i	Library provides training regarding how to use different reference materials in the library	35 (13%)	72 (26%)	5 (2%)	99 (36%)	64 (23%)	2.69	3
ii	Library provides sufficient books for borrowing purpose	81 (29%)	60 (22%)	6 (2%)	90 (33%)	38 (14%)	3.20	2
iii	Library provides document delivery services (DDS)	20 (7%)	24 (9%)	50 (18%)	100 (36%)	81 (30%)	2.28	7
iv	Catalog of different resources is easy to use	80 (29%)	78 (15%)	3 (1%)	60 (22%)	54 (20%)	3.25	1

Sl. No	Statements	Strongly Agree	Agree	No opinion	Dis-agree	Strongly Dis-agree	WAM	Rank
v	CAS or Current Awareness Service in library is helpful	48 (17%)	62 (23%)	34 (12%)	36 (13%)	95 (35%)	2.46	4
vi	Library web pages are very much informative, easy to use and helpful	22 (8%)	55 (20%)	36 (13%)	66 (24%)	96 (35%)	2.42	5
vii	Library provides answers to the digital and electronic reference queries	12 (4%)	26 (10%)	80 (29%)	68 (25%)	89 (32%)	2.29	6

Researcher also asked the respondents regarding different library services. According to Table 7 respondents mentioned that they have No Opinion with the statements as provided in serial numbers (iv, ii and i), it seems that respondents showed perception and satisfaction with those three statements, but for rest of the four statements (as in Sl. No. v, vi, vii, and iii) respondents showed their dissatisfaction.

Table 8 : Responses from Respondents on Library Facilities

Sl. No	Statements	Strongly Agree	Agree	No opinion	Dis-agree	Strongly Dis-agree	WAM	Rank
i	Library's environment is good for study	70 (25%)	84 (31%)	9 (3%)	55 (20%)	57 (21%)	3.20	2
ii	Space in the library is enough for my academic needs	75 (28%)	70 (25%)	6 (2%)	69 (25%)	55 (20%)	3.14	3
iii	Photocopying system is easy	47 (17%)	65 (24%)	9 (3%)	88 (32%)	66 (24%)	2.78	6
iv	Opening/closing hours of library meet my academic needs	97 (35%)	80 (29%)	13 (5%)	44 (16%)	41 (15%)	3.53	1
v	Library provides good internet facility for searching documents	58 (21%)	50 (18%)	20 (7%)	82 (30%)	65 (24%)	2.83	5



vi	Sufficient computers are available in the library	68 (25%)	45 (16%)	24 (9%)	80 (29%)	58 (21%)	2.94	4
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Table 8 shows that as far as library facilities were concerned respondents were happy with the opening or closing hours of the library (WAM=3.53) but they did not give high score to the overall library facilities. In other statements the respondents showed No Opinion.

Table 9: Responses regarding the overall satisfaction of respondents in using the Library

Sl. No	Statements	Strongly Agree	Agree	No opinion	Dis-agree	Strongly Dis-agree	WAM
i	I am satisfied with the overall library facilities and services	71 (26%)	64 (23%)	28 (10%)	63 (23%)	49 (18%)	3.16

It is revealed from Table 9 that, respondents expressed No Opinion as far as overall satisfaction in using the library is concerned, which actually shows their overall perception and satisfaction in using the library.

Table 10: Few Suggestions Provided by the Users against few Statements in the Fully Government B.Ed. College Library

Sl. No	Statements	Strongly Agree	Agree	No opinion	Dis-agree	Strongly Dis-agree	WAM	Rank
i	Updated materials should be procured by the library in all disciplines	130 (47%)	66 (24%)	30 (11%)	41 (15%)	08 (3%)	3.97	1
ii	Librarian/Library staff should be properly trained and should answer all the relevant queries of the user	111 (40%)	81 (30%)	25 (9%)	36 (13%)	22 (8%)	3.81	5
iii	Internet speed must be good enough for proper ICT application	115 (42%)	58 (21%)	69 (25%)	22 (8%)	11 (4%)	3.88	4

Sl. No	Statements	Strongly Agree	Agree	No opinion	Dis-agree	Strongly Dis-agree	WAM	Rank
iv	Library environment should be conducive for the study	94 (34%)	71 (26%)	58 (21%)	34 (12%)	18 (7%)	3.68	7
v	More print and e-books/journals should be subscribed by the libraryinternet facility for searching documents	89 (32%)	79 (29%)	58 (21%)	32 (12%)	17 (6%)	3.69	6
vi	Trained staff should be appointed	74 (27%)	62 (23%)	80 (29%)	41 (15%)	18 (6%)	3.48	9
vii	OPAC facility should be included for ease of users	77 (28%)	71 (26%)	57 (21%)	36 (13%)	34 (12%)	3.44	10
viii	Library should start Online information service	107 (39%)	69 (25%)	77 (28%)	16 (6%)	6 (2%)	3.92	2
ix	User education program should be improved	82 (30%)	80 (29%)	70 (25%)	27 (10%)	16 (6%)	3.67	8
x	Library may start more facilities like e-corner, sending e-mails, sms service, exhibitions, study corner etc.	117 (43%)	67 (24%)	50 (18%)	30 (11%)	11 (4%)	3.90	3

Table 10 shows that except in two suggestions (as in serial number vi and vii) most of them recommended and agreed with the other statements. Only in those two suggestions the value of WAM was less than 3.5. So it can be said that users suggested more improved services for their library (See Table 10).

5.1 Major findings of the Study :

- Total 275 respondents participated in this study. Out of those 154 (56%) were



male and 121 (44%) were female.

- Among the total users, 49% users visited the library daily for lending and reading purposes.
- A review of responses against different statements on library collections, services and facilities indicated that users were unhappy with the availability of journals, e-collections webpages, CAS and DDS in library but they were happy with library timings and the cooperation received from library staffs.
- As far as overall satisfaction of users in using the library is concerned users showed that they were neither very much satisfied nor too much dissatisfied.

6. Conclusion and Future Scope of the Study :

This study was made to reveal the effectiveness of library services provided by fully Government B.Ed. College libraries in West Bengal based on users' satisfaction. It is revealed from the study that although there were many constraints still B.Ed college libraries were providing good services in West Bengal. It had been found that under limited capacity librarians and other library staff were providing great services for their clientele but there is a scope for further improvement. In the review of many statements, "No Opinion" from the users signified that users' were unaware of different library functions and services. Sometimes users may have very few ideas regarding different aspects of library functioning and services but library administration must acknowledge their perception for better utilization of library to get more satisfied users.

The study is carried out only in six fully Government B.Ed. college libraries in West Bengal. Similar research may be carried out to other self-financed and Government aided B.Ed. College libraries in West Bengal to get a complete picture. Further study may be done in other parts of the country and other disciplines as well.

6.1 Few Recommendations :

- The libraries should function now as LRC. The development of automation and its use is no longer now an option for libraries, it is now a must to increase self-service.
- It is required to emphasise computer literacy for both users and the staff to

improve the services provided by the library.

- The library should focus on the strengthening of collection development aspects particularly in periodicals and e-contents.
- This is to be mentioned that the use or application of Information Communication Technology (ICT) in libraries is an expensive process, so there is a need to share the resources among others. This is the collaborative approach. In this approach, different libraries come together, coordinate and share resources.
- It is also suggested that orientation of users is very much necessary to make them familiar with changing environment of the library.

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Digital Asset Management in Selective Television Libraries in India : a study

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Abstract :

Television libraries transformed from a physical disk library to a simple file base library. Later with the rapid growth of assets and reusing or repurpose using of news become the main challenge to the television industry. To better manage these assets, information and news Digital Asset Management (DAM) has emerged. This study is to investigate the overall status of services in selective Indian television libraries with the introduction of DAM. It is found that to handle a huge number of data most of the television libraries have started complete automation. Cost-effectiveness makes DAM essential in television library functioning. To prevent data loss and privacy it is recommended that DAM must be implemented in the television library. Online and offline both backup must be taken in television libraries for data security. Metadata tagging must be included in DAM workflow for effective information retrieval and smooth data export.

Keywords :

Digital Asset Management, Television library, India, DAM workflow, Metadata tagging, Data security, Backup process.

1. Introduction :

Television is the prime source of information for society. It plays a vital role in information dissemination in society. Information and news cater from television help to build social-political, economic, and cultural perception. In this aspect as a heart of an organisation television library has a great responsibility to fulfil the information demand of editors, journalists, reporters, and other users in their news making. Television libraries not only satisfy internal and external users' demands but also collect, organise and curate huge information and act as the nation's socio-cultural heritage. Every day huge information is stored in the archive or



library of television houses and it becomes a rich resource of news and information for future work. But in this age of digital era, it is a tough job to manage this huge data manually. Therefore, DAM is highly required in the television library. DAM is also effective to provide service in a quick manner which is a requirement of the television industry to sustain in high completion among other television channels. Data security and maintaining news privacy is another challenge of television libraries.

2. Literature Review :

It was found that media asset management (MAM) is the backbone of an organisation which includes workflow analysis, technical requirement, recommendation, architecture blueprint, solution design, implementation in a small scale media house, testing, rollout customised solution, and training. It was suggested that for maturity and prevent risk factors aforesaid steps must be done before project implementation (Tourneur, 2005). The video production industry like the TV industry worked through an intermediate period between video tape-based and digital production methodologies with metadata integration. (Comerford, 2006). It was also explored the need for an organised and efficient model workflow to manage the shortage of storage space happening due to expanding formats and sources of content and high resolution of video content. (Coughlin, 2007). This was also suggested to successfully designing the news digital systems of audio-visual documentation (Agirreazaldegi, 2008). For DAM different metadata standards for resource, the description was mentioned such as MARC 21 formats, MARCXML, MODS, MADS, EAD, and digital library standards like METS, MIX, NISO, PREMIS, TextMD, ISO/DIS 25577, ISO 2077, ALTO, etc. (Paul, 2010). It was also suggested that library management software should be used in the library especially for circulation which was very much essential. The building of the electronic media library should have adequate infrastructure to preserve the AV materials and the librarians should be deputed for the training programmes and workshops on regular intervals for better handling of digital materials (Das & Das, 2010; Biswas, Nausheen, & Chakrabarti, 2011). It was suggested that the broadcasters should as early as possible provide attention to data security and move in Internet Protocol (IP) technology to get the speed and other benefits (Vecchi, 2014).



3. Objectives :

The objectives of the study are:

- a) to study the overall DAM system in television libraries in India including all processes, sources, services and assets.
- b) to assess the cost-effectiveness and powerfulness of digital assets management solution in television libraries in India,
- c) to understand the information architecture, specifically, the role of metadata standardisation and security measures of television libraries' assets.

4. Scope and limitations :

Selective television channel Libraries in India have been covered in this study. There were more than 850 permitted private satellite TV channels and government TV channels according to Ministry of Information and Broadcasting. With the help of a rank list of Broadcast Audience Research Council of India (BARC) television channels had been selected. As per BARC TV channels top 10 Television channels, top 5 English news channels and top 5 Hindi news channels had been selected.

5. Methodology :

A survey method was followed to carry out this study. An analytical survey was the main method used for this study. Data were collected through questionnaires, interviews, and personal observation. Existing academic literature about television libraries and DAM was an interview with commercial media senior executives and different personnel engaged with the broadcasting production house. A total of 200 questionnaires were sent to twenty Television channels. Among these 110 responses were received.

6. Analysis :

As per objectives DAM in television libraries in India have been analysed as follows :



Table 6.1: General Information of Indian Television channels taken for survey. [As per the rank list of Broadcast Audience Council (BARC), India 50 week data in 2018]

Rank No.	Name of Television Channels	Language	Year of Establishment
	General TV Channels		
1	Sun TV (ST)	Tamil	1991
2	Zee Anmol (ZA)	Hindi	2013
3	Sony Pal (SP)	Hindi	2014
4	Sony MAX (SM)	Hindi	1999
5	Zee TV (ZT)	Hindi	1992
6	Star Maa (STM)	Telugu	2002
7	Colors (CO)	Hindi	2012
8	Sony Wah (SW)	Hindi	2016
9	Star Bharat (STB)	Hindi	2017
10	Star Plus (STP)	Hindi	1992
	Hindi News Channels		
11	Aajtak (AT)	Hindi	2000
12	India TV (ITV)	Hindi	2004
13	NDTV	Hindi	1988
14	News 18 India (N18)	Hindi	1999
15	Zee News(ZN)	Hindi	1999
	English News Channels		
16	DD India (DDI)	English	1995
17	Republic TV (RT)	English	2017
18	Times Now (TN)	English	2006
19	India Today Television (ITT)	English	2003
20	CNN News 18 (CN 18)	English	2005

Table 6.1 shows that as per the rank list of BARC report, Sun TV was the highest viewing television channel in India. AajTak was the highest viewing channel among other selected Hindi news channels and DD India was the highest viewing English news channel. Among these 20 television libraries, NDTV is the oldest one, estab-



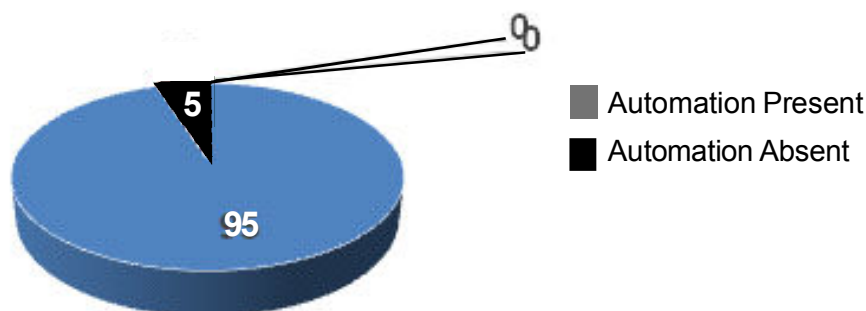
lished in 1988. This table also displays that there were only two regional language channels i.e. Sun TV (ST) and Star Maa (STM) among the rank list of general television channels. ST has established in 1991 and it is a Tamil television channel and STM is a Telugu television channel established in 2002. From this table, it is also shown that Republic TV (RT) and Star Bharat (STB) are the youngest television channels in this rank list. Both these channels started in the year 2017.

Table 6. 2 : Status of Library Automation in different Television Libraries in India.

Status of Television Libraries	Library automation Present	Library automation Absent
Total	19	01 Star Bharat (STB)
Percentage	95	5

Figure 6. 1 : Status of Library Automation in different Television Libraries in India.

Status of Library Automation



From table 6.2 and Fig. 6.1 it is clear that 95% Television libraries have already started library automation process for digital asset management of their libraries. Only Star Bharat (STB) have not begun library automation process for their library functioning.

**Table 6.3: Different types of Assets used in Different Television Libraries in India**

SL. No.	Name of Television Libraries	AV File	Photo	Graphics	Image	Story	Cartoon	Logo	Books	Periodicals
1	Aajtak (AT)	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	CNN News 18 (CNN18)	✓	✓	✓	✓	✓	✓	✓	×	✓
3	Colors (CO)	✓	✓	✓	✓	✓	✓	✓	×	×
4	DD India (DDI)	✓	✓	×	✓	✓	✓	✓	×	✓
5	India Today Television (ITT)	✓	✓	✓	✓	✓	✓	✓	✓	✓
6	India TV (ITV)	✓	✓	✓	✓	✓	✓	✓	×	✓
7	NDTV (NDTV)	✓	✓	✓	✓	✓	✓	✓	✓	✓
8	News 18 India (N18)	✓	✓	✓	✓	×	✓	✓	×	✓
9	Republic TV (RT)	✓	✓	×	✓	✓	✓	✓	×	✓
10	Sony MAX (SM)	✓	✓	✓	✓	✓	✓	✓	×	×
11	SonyPal (SP)	✓	✓	✓	✓	✓	✓	✓	×	×
12	Sony Wah (SW)	✓	✓	×	✓	✓	✓	✓	×	×
13	Star Bharat (STB)	✓	✓	✓	✓	✓	×	×	×	×
14	Star Maa (STM)	✓	✓	✓	✓	✓	×	✓	×	×
15	Star Plus (STP)	✓	✓	✓	✓	✓	✓	✓	✓	×
16	Sun TV (ST)	✓	✓	✓	✓	✓	✓	✓	✓	×
17	Times Now (TN)	✓	✓	✓	✓	✓	✓	✓	✓	✓
18	Zee Anmol (ZA)	✓	✓	×	✓	✓	×	✓	×	×
19	Zee News (ZN)	✓	✓	✓	✓	✓	✓	✓	✓	✓
20	Zee TV (ZT)	✓	✓	✓	✓	✓	✓	✓	×	×
	Total	20	20	16	20	19	17	19	07	10
	Percentage	100	100	80	100	95	85	95	35	50

Table 6.3 shows the different types of assets used in different Television Libraries in

India. It also depicts that AV files, photos and images were the resources available in all television libraries (100%). Sixteen Television libraries (80%) libraries have graphics as resources. Nineteen Television libraries (95%) have news story as library resources. Seventeen television libraries (85%) have cartoon in their library collection as resources. Logo is used in nineteen libraries. Ten Television libraries (50%) have periodicals in their collection as resources. From table 6.3 it is revealed that 65% television libraries do not have books in their collection. Only seven television libraries (35%) have books as their assets.

Table 6.4: Types of Services of DAM in Different Television Libraries in India

SL. No.	Name of Television Libraries	Reference Service	Bibliographic Service	Archival Services	Provide water marked footage in CD/DVD format	Translation Service
1	Aajtak (AT)	✓	✓	✓	✓	✓
2	CNN News 18 (CNN18)	✓	✓	✓	✓	✓
3	Colors (CO)	✓	✓	✓	✓	×
4	DD India (DDI)	✓	✓	✓	✓	✓
5	India Today Television (ITT)	✓	✓	✓	✓	✓
6	India TV (ITV)	✓	✓	✓	✓	✓
7	NDTV	✓	✓	✓	✓	✓
8	News 18 India (N18)	✓	✓	✓	✓	✓
9	Republic TV(RT)	✓	✓	✓	✓	✓
10	Sony MAX (SM)	✓	✓	✓	✓	×
11	SonyPal (SP)	✓	✓	✓	✓	×
12	Sony Wah (SW)	✓	×	✓	✓	×
13	Star Bharat (SB)	✓	✓	✓	✓	×
14	Star Maa (STM)	✓	×	✓	✓	×
15	Star Plus (STP)	✓	✓	✓	✓	×
16	Sun TV(ST)	✓	✓	✓	✓	×
17	Times Now (TN)	✓	✓	✓	✓	✓
18	Zee Anmol (ZA)	✓	✓	✓	✓	×
19	Zee News (ZN)	✓	✓	✓	✓	✓
20	Zee TV(ZT)	✓	✓	✓	✓	×
	Total	20	18	20	20	10
	Percentage	100	90	100	100	50



Table 6.4 depicts the services provided by DAM in different television libraries in India. This table also shows that all television libraries (100%) provided reference service and watermarked footage in CD or DVD format. 18 libraries (90%) have provided bibliographic service. 10 television libraries (50%) have provided translation service.

Table 6.5 : Distribution of DAM Workflow of Different Television Libraries in India

SL. No.	Name of Television Libraries	Automatic Ingestion	Editing Raw Footage	Metadata Tagging	Central Cataloguing	Encryption/ Watermarking	Archiving for repurpose use
1	Aajtak (AT)	✓	✓	✓	✓	✓	✓
2	CNN News 18 (CNN18)	✓	✓	✓	✓	✓	✓
3	Colors (CO)	×	✓	✓	✓	✓	✓
4	DD India (DDI)	×	✓	✓	✓	✓	✓
5	India Today Television (ITT)	✓	×	✓	✓	✓	✓
6	India TV (ITV)	✓	×	✓	✓	✓	✓
7	NDTV	✓	×	✓	✓	✓	✓
8	News 18 India (N18)	✓	✓	✓	×	✓	✓
9	Republic TV(RT)	✓	✓	✓	✓	✓	✓
10	Sony MAX (SM)	×	✓	×	×	✓	✓
11	SonyPal (SP)	×	×	×	×	✓	✓
12	Sony Wah (SW)	×	×	×	×	✓	✓
13	Star Bharat (SB)	×	×	×	×	✓	✓
14	Star Maa (STM)	×	✓	×	×	✓	✓
15	Star Plus (STP)	×	✓	×	✓	✓	✓
16	Sun TV(ST)	×	✓	×	×	✓	✓
17	Times Now (TN)	✓	✓	✓	✓	✓	✓
18	Zee Anmol (ZA)	×	✓	✓	✓	✓	✓
19	Zee News (ZN)	×	✓	✓	✓	✓	✓
20	Zee TV(ZT)	×	✓	✓	✓	✓	✓
	Total Score	08	14	13	13	20	20
	Percentage	40	70	65	65	100	100



Table 6.5 depicts that only 8 television libraries (40%) have automatic ingestion in workflow and in fourteen television libraries (70%) raw footage editing have been included in workflow. Metadata tagging has been followed in 13 television libraries (65%) and central cataloguing process is present in thirteen libraries. All television libraries (100%) had watermarking and archiving for repurpose use facilities in DAM workflow.

Table 6.6 : Distribution of Different types of Video Content Metadata Standard used in Television Libraries in India

SL. No.	Name of Television Libraries	MPEG 7	MPEG 21	IPTC	SMPTE
1	Aajtak (AT)	✓	✓	×	×
2	CNN News 18 (CNN18)	✓	✓	×	×
3	Colors (CO)	✓	✓	×	×
4	DD India (DDI)	✓	✓	×	×
5	India Today Television (ITT)	✓	×	×	×
6	India TV (ITV)	✓	✓	×	×
7	NDTV	✓	✓	×	×
8	News 18 India (NI8)	✓	✓	×	×
9	Republic TV (RT)	✓	✓	×	×
10	Sony MAX (SM)	✓	✓	×	✓
11	SonyPal (SP)	✓	✓	×	✓
12	Sony Wah (SW)	✓	×	×	✓
13	Star Bharat (SB)	✓	×	×	✓
14	Star Maa (STM)	×	✓	×	✓
15	Star Plus (STP)	✓	✓	×	✓
16	Sun TV (ST)	✓	×	×	✓
17	Times Now (TN)	✓	×	✓	×
18	Zee Anmol (ZA)	✓	×	✓	×
19	Zee News (ZN)	✓	×	×	×
20	Zee TV (ZT)	✓	×	×	×
	Total	19	12	02	07
	Percentage	95	60	10	35



Table 6.6 shows the distribution of different types of video content standard used in television libraries in India. It is clear from this that MPEG 7 was the maximum used (95%) video content format in nineteen television libraries. MPEG 21 was used in twelve television libraries (60%). SMPTE video format is present in 7 television libraries (35%). Times Now and Zee Anmol only these two television libraries used IPTC format for video content.

Table 6.7 : Different Backup Process of News and Information System of Different Television Libraries in India

SL. No.	Name of Television Libraries	Online Backup	Off-line	Online+ Off-line
1	Aajtak (AT)	No	Yes	No
2	CNN News 18 (CNN18)	Yes	No	No
3	Colors (CO)	No	Yes	No
4	DD India (DDI)	No	Yes	No
5	India Today Television (ITT)	Yes	Yes	Yes
6	India TV (ITV)	No	Yes	No
7	NDTV	No	Yes	No
8	News 18 India (N18)	Yes	No	No
9	Republic TV(RT)	No	Yes	No
10	Sony MAX (SM)	Yes	Yes	Yes
11	SonyPal (SP)	Yes	Yes	Yes
12	Sony Wah (SW)	No	Yes	No
13	Star Bharat (SB)	Yes	No	No
14	Star Maa (STM)	No	Yes	No
15	Star Plus (STP)	Yes	Yes	Yes
16	Sun TV(ST)	Yes	Yes	Yes
17	Times Now (TN)	Yes	Yes	Yes
18	Zee Anmol (ZA)	No	Yes	No
19	Zee News (ZN)	Yes	Yes	Yes
20	Zee TV(ZT)	Yes	Yes	Yes
	Total	11	17	08
	Percentage	55	85	40



Table 6.7 presents that 11 Television Libraries (55%) which have followed only on-line backup process and 17 Television libraries (85%) have taken off-line backup. and 8 Television libraries (40%) have used to take both on-line and off-line backup.

Table 6.8 :Recognition level of DAM Powerfulness in Different Television Libraries in India.

Level of Satisfaction of DAM users	Class Interval	Mid Value(x)	Frequency	Percentage
Strongly disagreed	0-1	0.5	0	0
Disagreed	2	1.5	16	14.55
Neither agreed nor disagreed	3	2.5	18	16.36
Agreed	4	3.5	52	47.27
Strongly agreed	5	4.5	24	21.82
No response	6	0	0	0
Total	-	-	110	100

Fig 6.2. Showing Recognition level of DAM Powerfulness in Different Television Libraries in India.

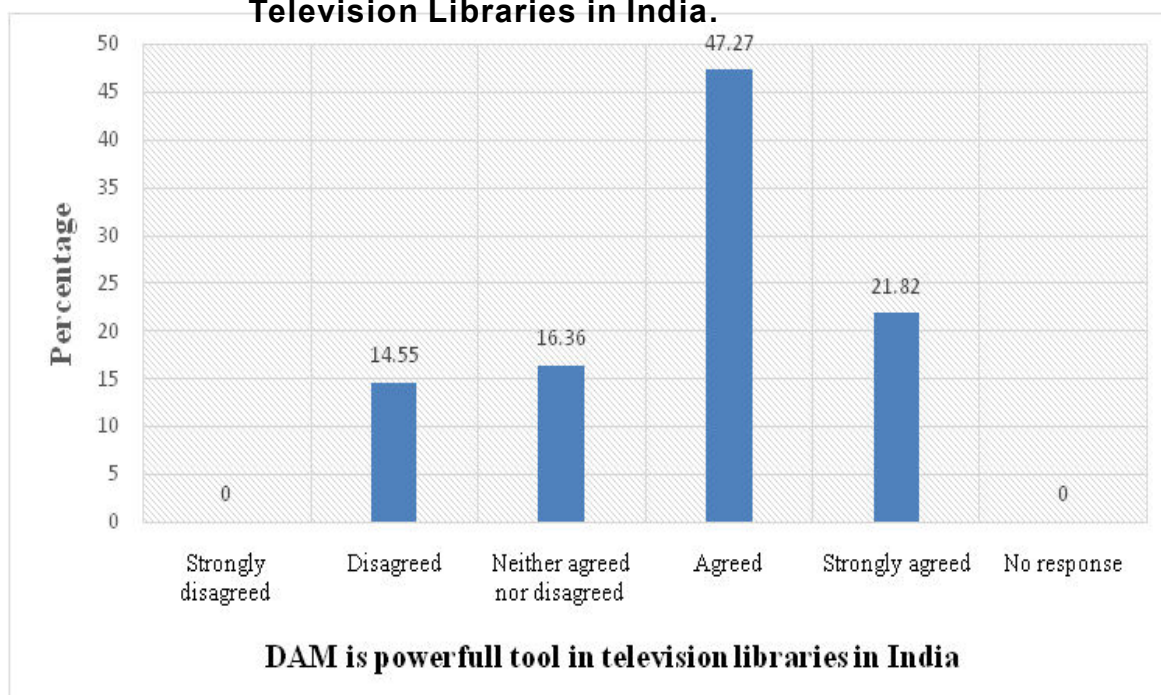




Table 6.8 and figure 6.2 show that among 110 respondents of television libraries, 52 respondents (47.27%) were agreed and 24 respondents (21.82%) were strongly agreed that DAM is a powerful tool for library functioning. The rest of the 16 respondents (14.55%) disagreed and 18 respondents (16.36%) were neither agreed nor disagreed with the concept that DAM is a powerful tool.

7. Findings :

The findings of the study are detailed as follows:

- As per the rank list of the BARC report, ST was the highest viewing television channel in India. AT was the highest viewing Hindi news channel and DD1 is the highest viewing English news channel. Among these 20 television libraries, ST is the oldest one, established in 1991.
- Nineteen television libraries had already started the library automation process for digital asset management of their libraries. Only STB has not begun the library automation process for their library functioning.
- AV files, photos, and images were the resources available in all television libraries (100%) and they (100%) provided reference service and watermarked footage in CD or DVD format.
- Eight television libraries (40%) had automatic ingestion in workflow and in fourteen television libraries (70%) raw footage editing was included in the workflow. Metadata tagging followed in 13 television libraries (65%) and the central cataloguing process also had in thirteen libraries. All television libraries (100%) had watermarking and archiving for repurpose use facilities in DAM workflow.
- MPEG 7 was the maximum used (95%) video content format in nineteen television libraries. MPEG 21 was used in twelve television libraries (60%). Video format had in 7 television libraries. Times Now and Zee Anmol only these two television libraries used IPTC format for video content.
- The online backup process was followed by 55% of television libraries and 17 television libraries (85%) took the offline backup. 8 Television libraries (40%) used to take both online and offline backup.

- Among the hundred ten respondents, 52 respondents (47.27%) were agreed and 24 respondents (21.82%) were strongly agreed that DAM is a powerful tool for library functioning. The rest of the 16 respondents (14.55%) disagreed and 18 respondents (16.36%) respondents were neither agreed nor disagreed with the concept that DAM is a powerful tool.

8. Conclusion :

This study reveals that DAM is the most powerful tool for television libraries and most of them had already completed automation and some had the plan to complete library automation. It can be said that most of the management of television libraries in India are not interested to procure physical documents rather they emphasise built digital collections and wanted to manage these collections with the help of the Digital Asset Management system. As data security is the most important part of the television industry, DAM of all television libraries followed encryption or watermarking. For the prevention of data loss, regular backup of the online and offline backup process are essential. It is found that translation services are not given by all television libraries, it could be started especially in television channel of regional language. Metadata standards are not followed in most of the DAM of television libraries in India. But maintain standardisation of metadata is very much required for automatic ingestion and cataloguing in DAM which will help manual metadata entry and curation effort and save the time for quick workflow in television libraries in India.

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College Library Services and User Community : a study

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Abstract :

The purpose of the study is to assess the performance of the library services of government colleges of Manipur assessing the views and comments of their user community. A semi-structurally designed questionnaire has been used to understand library services of the colleges and assess user's views and comments covering 41 government colleges of the state and 225 users. In some cases χ^2 tests have been performed to test the significance of library and information channels, use of services and rating of library facilities. It is found that users are mainly fond of internet access for academic purpose. There are certain aspects on which libraries need to introspect to enhance their way of functioning, mode of delivery of services and facilities they provide. The study is an original one conducted very recently taking into account the government college libraries of Manipur.

Keywords :

Enhanced Accessibility, Government College, Library Service; Manipur, User Community.



1. Introduction :

College libraries play a very crucial role in the higher education sector. Effective delivery of their services enhances the quality of academic and research pursuits. Such libraries are in existence to serve the complex needs of the users who comprise of faculty members, scholars, students and other working staff of the college. Provision of value added services, need based collections, timely response to users demands, etc. are also equally important for meeting the need of the users community being served. However, the evaluation of the services has been prevalent in most of the libraries to understand if the same are to the expectation of the users. In recent years, academic libraries have started to adopt innovative technologies and use of information communication technologies has replaced their system from traditional to digital. The changes are also seen in the concept of information searching and seeking behaviour of the users (Guruprasada and Kumbar, 2019). Their mode of access to the information resources has also been changed. Assessment made on the basis of the views and comments of the users can provide clues on various evaluative perspectives of the library and its services. In this study, government college libraries of Manipur have been assessed through their users to assess the performance of their libraries.

2. Past studies :

There is no dearth of literature on related to library services as a number of studies on college library services are found to be conducted by different scholars in different geographical regions. In a study, Town (2011) has focused on libraries that were under pressure to prove their worth and not have achieved fully successful. While factors influencing students' perception towards Digital Library based on Chang's Model was analyzed by Muqtadiroh, Astuti, and Zulfasari (2019), in another assessment on awareness and usage of electronic information resources, Kumar (2020) found electronic information resources becoming more and more important for the academic community. In his analysis, Gibson (2019) described how librarians at college and undergraduate libraries contribute to digital humanities research. Dar and Madhusudhan (2020) described the overwhelming growth of mobile devices that have created new challenges of providing access to online content in mobile-accessible formats. Tait, Martzoukou and Reid (2016)

evaluated the role of IT utilities in the transformation of academic library services. In a study, Ahmad, Lone and Basharat (2020) have revealed that the application of ICT has put a huge impact on Information Industry and has revolutionized the way libraries acquire process, organize, store and disseminate information. Keshava, Naik and Lokamma (2020) assessed the information need and use pattern of undergraduate students of University College of Science, Tumkur University. In a study, Cox (2020) had focused that the higher education environment was a key operating context for academic libraries and many political, economic, social and technological (PEST) factors shape it. Guruprasada and Kumbar (2019) investigated the adoption of innovative technology in academic libraries, how the innovation of technologies has helped to improve information and library services. Gowridevi, Ramakrishna and Sasikala (2020) discussed pattern of use of online information resources by students for academic purposes in Andhra Pradesh covering various basic aspects.

3. Objectives of the study :

The study has been taken up with the objectives to:

- assess the various library services rendered by different government colleges of Manipur;
- know the existing scenario and significance of the library facilities;
- understand the significance of users access to different library and information channels; and
- identify the problem encountered and suggest suitable measures to be undertaken for improvement of library services through performance evaluation.

4. Scope and limitations of the study :

The present study has covered 41 Government Colleges of Manipur as described above. The study does not cover other category of colleges other than government colleges, which is the limitation of the same. The study covers different group of users, 225 in numbers, such as students, research scholars, faculty members and working staff of these colleges.



5. Methodology :

The performance of the services of the college libraries have been assessed through conducting a survey of their users during September-December 2019 using a semi-structurally designed questionnaire. Likert Scale of 3 and 4 point scales have been used in some of the questions in the questionnaire. Simple manual calculation and MS-Excel in some cases have been used in data analysis and interpretation. Chi Square tests have been performed to test the level of significance and null hypotheses formulated.

5.1 Chi- Square Test :

Chi- Square Test (χ^2 test) is a widely used non-parametric test for testing of hypothesis concerning qualitative or discrete data. Such test can be used to know whether a given difference between actual and expectation has been caused due to chance or whether it has resulted due to inadequacy of the theory to fit the observed data. Such tests have been applied for testing the hypothesis formulated in the study. χ^2 test is calculated using the formula :

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where, O = Observed frequency, E = Expected frequency.

χ^2 test has been conducted to test the three null hypotheses comparing their calculated and tabulated values at 5% level of significance for the concerned degrees of freedoms. This enables the researchers to accept or reject the same at the appropriate critical regions corresponding to the assumed significance level.

The observed values used in the χ^2 test have been calculated assuming the 3-point scale value such as: To a great extent =1, To some extent =1/2=0.5 and Not at all =1/3=0.33. In case of 4 point scale values are assumed similarly such as: Excellent=1, Very good=1/2=0.5, Good= 1/3=0.33 and Poor =1/4 =0.25. On the other hand, the expected frequencies are assumed as the average values of the total observed frequency values because of the nature of data for the study.

6. Hypotheses Formulation :

The study has formulated the following three hypotheses to test their validity. All of

them are null hypotheses as they are stated negatively :

6.1. Null Hypothesis-I : Not much difference is observed among the library and information channels by the users

6.2. Null Hypothesis-II : Type of library services does not influence the users to meet their needs.

6.3. Null Hypothesis-III : There is no difference of the library facilities as rendered by the colleges.

7. Data Analysis and Data Interpretation

7.1: Sample Matrix of Users

The sample matrix of the users covered in the present study is shown under table-1 below:

Table-1: Sample matrix

Sl. No.	User Category	Questionnaire Distributed	Questionnaire Received	Response Rate (Percentage)
1	PG Student	36	24	66.67
2	UG student	210	170	80.95
3	Scholar	28	18	64.28
4	Working Staff	12	8	66.67
5	Faculty Member	12	5	41.66
Total		298	225	75.50

Of the total 298 questionnaires administered to 298 users, 225 questionnaires duly filled in were returned making the response rate of 75.5%. The response rates of various groups of users are 80.95% under graduate followed by post graduate and working staff with 66.67% each, scholar 64.28% and faculty member 41.67% respectively.

Gender and community of the users under study can be understood from table-2 below :

Table-2: Sample characteristics

N = 225

Sl. No.	User Category	Gender			Community				
		Male (%)	Female (%)	Total (%)	SC (%)	ST (%)	UR (%)	OBC (%)	Total (%)
1	PG Student	8(33.33%)	16(66.67%)	24(100%)	4(16.67%)	7(29.16%)	5(20.83%)	8(33.33%)	24(100%)
2	UG student	78(45.88%)	92(54.11%)	170(100%)	18(10.58%)	44(25.88%)	38(22.35%)	70(41.17%)	170(100%)
3	Scholar	7(38.89%)	11(61.11%)	18(100%)	1(5.55%)	6(33.33%)	3(16.66%)	8(44.44%)	18(100%)
4	Working Staff	5(62.50%)	3(37.50%)	8(100%)	0(0%)	3(37.50%)	2(25.00%)	3(37.50%)	8(100%)
5	Faculty Member	4(80%)	1(20%)	5(100%)	0(0%)	4(80%)	0(0%)	1(20%)	5(100%)
Total		102(45.33%)	123(54.66%)	225(100%)	23(10.22%)	64(28.44%)	48(21.33%)	90(40%)	225(100%)

Of the total 225 users under study, 54.67% are female users while 45.33 are male. Again, 40 %of them belong to Economically Backward Classes (OBC), while 28.44% belongs to Scheduled Tribe (ST), 21.33% to Un-Reserved (UR) and 10.22% to Scheduled Caste (SC) categories respectively. When assessing the skills of the users it is found that while maximum users (74.66%) have knowledge of library literacy, 35.11% of them have skills of ICT.

7.2 : Library and Information Channels

Access to different library and information channels by the users under study is shown under table -3 below :

Table - 3: Users on library and information channels **N = 225**

Sl No	Channels	Score (O)	E	(O-E) ² /E
1	Internet Surfing	161	146.25	1.49
2	Social Media	147	146.25	0.00
3	Mobile Phone	158	146.25	0.94
4	Newspaper	145	146.25	0.01
5	Library	155	146.25	0.52
6	Information Centre	126	146.25	2.80
7	Media	139	146.25	0.36
8	Personal Collection	139	146.25	0.36
Total		1170		6.48

$\bar{x} = 146.25$

$\chi^2 = 6.48$

On examining the access to different library and information channels using 3 point Likert Scale “to a great extent”, “to some extent” and “not at all”, the score values are observed for different channels. Considering the mean values as the expected values for each of the channel considered, the χ^2 test is performed giving its result as 6.48. While comparing this value with its tabulated value at 5% level of significance with 7 degrees of freedom, it is found to be 14.07 which is greater than the calculated value of the same. This gives us a strong indication that access to different library and information channels by the college library users are highly significant to meet their complex information needs. There is no difference among the library and information channels to meet the information needs of the users. Hence, the Null Hypothesis-I is accepted. As such, in the process of seeking information for various purposes, the users access to different such channels extensively.

7.3 : College Library Services :

Through different in the observed score values of the library services the same are found to be significant for the users community being served by the libraries, as understood from the given table-4.

**Table - 4 : Use of library services**

N=225

Sl. No.	Library Service	Score (O)	E	(O-E) ² /E
1	Reference Service	101	92.5	0.78
2	Current Awareness service	99	92.5	0.47
3	OPAC	80	92.5	1.69
4	Inter-Library loan	87	92.5	0.33
5	N-LIST	86	92.5	0.46
6	Selective Dissemination of Information	102	92.5	0.97
Total		555		4.7

$$\bar{x} = 92.5$$

$$\chi^2 = 4.7$$

The table - 4 throws light that the χ^2 - test result of the six different types of services i.e. 4.7 is smaller than that of its tabulated value at 5% level of significance with 5 degrees of freedom i.e., 11.07. Therefore, the services rendered by the libraries of the colleges are significant for the users and does not influence them also. The null hypotheses-I formulated in the study is found to be valid and hence accepted.

7.4 : Using Internet Services :

In order to know if the college libraries provide internet services and the reasons for using the same by the users an assessment has been made, the result of which is shown in table -5 below.

Table-5:Reasons for using library internet services N = 225

Sl No.	Reasons	Total	Percentage
1	Academic Purpose	216	96.00
2	Entertainment	135	60.00
3	Surfing the Internet	27	12.00
4	Self Education	116	51.55
5	Job Search	35	15.55

As the table-5 shows “Academic purpose” is found to be the main reason for using the service (96.00%) followed by “Entertainment” (60%) and “Self Education” (51.55%) respectively. However rate of use of the service by them for “Job search” and “Surfing the internet” are comparatively less.

7.5 : Library Facility :

As the table-6 shows, the different facilities provided by the libraries are not up to the level of satisfaction.

Table- 6: Rate of library facility

Sl No	Library Facility	Score (O)	E	(O-E) ² /E
1	Notice Board Display	103	89.43	2.06
2	Washroom	77	89.43	1.72
3	Drinking water	83	89.43	1.72
4	Newly Arrival Display	79	89.43	1.21
5	DropBox Services	73	89.43	3.01
6	Reading Room	104	89.43	2.37
7	Furniture and Lightening System	107	89.43	3.45
Total		626.01		15.54

$$\bar{x} = 89.42$$

$$\chi^2 = 15.54$$

The χ^2 test performed on various facilities of the libraries gives 15.54 as its result which is greater than that of its tabulated value at 5% level of significance with 6 degrees of freedom (12.592). Thus, it can be concluded that the library facilities available in the government colleges of Manipur are not significant for the users being served by them. As such, there are differences of the facility rendered by the college libraries as observed by the users under study. Therefore, the null hypothesis that there is no difference of the library facilities rendered by the libraries is rejected.

7.6 : Towards enhancing accessibility :

When assessing the users's views towards enhancement of access to the library services, majority of them are found not to be aware of the mechanisms to be vibrant in this regard.

Table-7: Ways to enhance accessibility**N = 225**

Sl No.	Accessibility Mechanism	Response Rate	Percentage
1	Manning with professionally trained staff	31	13.77
2	Enriching with new publication	63	28.00
3	Introducing innovative practices	47	20.88
4	Conducting user education regularly	36	16.00
5	Making library services accessible	48	21.33

However, 28% of them feel the need for enriching the library with new publications, which is highest, followed by making library services accessible (21.33%), introducing innovative practices (20.88%) and so on. But the scenario in this regard is not satisfactory and far below the desired expectation.

7.7: Problems encountered :

Some common problems as encountered by the users community are shown under table-8 below.

Table- 8 Problem encountered by the users**N = 225**

Sl No.	Problems	Total	Percentage
1	Library staff are not cooperative	156	69.33
2	Lack of Resources	189	84.00
3	ICT technology is poor	195	86.67
4	Lack of Modernization	125	55.56
5	Opening time is not suitable	177	78.67

As observed by the user community most of the college libraries are poor in ICT integration (86.67%) which is highest, followed by problems associated with lack of resources (84%), non-suitability of library opening hours (78.67%), non-cooperative attitude of library staff (69.33%) and lack of modernization (55.56%) respectively.

8. Findings and discussion :

Performance of library services, facilities, etc. can be assessed through user's points of view. Literature review has shown us the truth of the science. There are different libraries providing services to the users. While analyzing the views of the users in the context of Manipur different clues can be drawn on the college libraries of the state. Government college libraries in Manipur are found to render different services which are significant for their users to meet their needs. The user community of such libraries comprise of faculty members, Scholars, PG and UG students and working staff who belong to General, OBC, ST and SC communities. The sample characteristics of the users comprise of 54.67% female, 45.33% male, while 40 % of them belonging to OBC, 28.44% belongs to ST, 21.33% to UR and 10.22% to SC categories respectively. Again while maximum users (74.66%) have knowledge of library literacy, 35.11% of them have ICT skills. They use internet for different purposes giving preference on academic and entertainment. They are also very fond of different library and information channels, the use of which is significant indeed to meet their needs. The type of services however does not influence them to meet the needs. Use of internet for academic purpose is prevalent among them for academic purpose. But, they are not satisfied with the library facilities of the colleges, which need to introspect. While majority of them are ignorant about the mechanisms needed for enhancing access to the library services and facilities, they also face a number of problems in the system. On the basis of these facts, there are certain aspects on which libraries need to introspect their way of functioning, mode of delivery of services and facilities they made available. It is thus suggested that the library services and facilities should be enhanced and improved upon as per the demand of the users with the inclusion of trained and skilled professionals, user awareness programme and integration of ICT gadgets in the library.

It is also imperative, as the findings show, to chalk out some key areas on which future researchers can think of to study, which is the scope for further study, as noted below :

- Role of authority to enhance library service;
- Influence of professionals towards improving library system and services; and
- Impact of ICT on transforming library system.



9. Conclusion :

The performance of any existing service library can be assessed through conducting a study of their users in different perspectives. When assessed through conducting a survey of 225 samples of users, different aspects of services of 41 government colleges of Manipur have been ascertained. As the findings show, while library and information channels play a crucial role in meeting the needs of the user, types of service do not matter but the facilities rendered by them are not up to the satisfactory level of the users. The same also have given us indication to make certain suggestions as mentioned. If implemented, in due course of time, the service condition of the libraries could be improved upon in many ways to serve the users in the most effective way. At the same time, researchers can give thrust on the highlighted scope of research in future in the context of college libraries of the state.

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Scientific Research on Cutting-Edge Technology : a scientometric approach on IEEE Xplore Digital Library

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Abstract :

The influx of new technologies in the current scenario, it is becoming very difficult to identify the right kind of technologies as it has a high level of complexity. Asserting of right Information Communication Technology (ICT) enabled technologies leads the country's economic growth to new momentum. The current study is to identify the research made on cutting-edge based converging technology during the period from 2010 to 2019. For that purposes, the "IEEE Xplore Digital Library" database has been used to retrieve the data. Ten latest topics have been chosen to analyze for this purpose, i.e. Business Intelligence, Data Science, Data Repositories, Internet of Things, Cloud computing, Big Data, Machine Learning, Blockchain, Artificial Intelligence and Information Visualization. A scientometric approach has been applied to analyse the total number of 3900 papers published in different IEEE associated journals. A comprehensive analysis made in this connection to recognise the high cited article, top author publication, top-ranked journal, topmost productive country, topmost productive institution and topmost author keyword.

Keywords :

Cutting-edge Technology, IEEE Xplore Digital Library, Most productive institution, Most Productive author, Leading article, Authorship.

1. Introduction :

The recent trend of the innovation in ICT sectors are the cutting-edge or convergence technologies results are as mobile IPTV, Alexa, Virtual Reality, and other smart devices and services based on information communication technology. Cutting-edge technology is a broad concept and there are several

technologies are associated with it. The term cutting-edge technology denotes to various tools, techniques, or achievement utilised for most of the high level IT development. To assess the study, scientometric approach has been used to examine the key and indispensable trends in research into cutting-edge technology and related to the related study on this converging technology. In this study the IEEE-Xplore Digital Library e-journal database is used to extract the bibliographic information on ten broad ranges of author keywords related to this converging technology.

2. Literature review :

Various studies are being carried out to analyse the perception of converging technology around the globe. Kim and Huang (2012) conducted a study to find out, categorize and examines prevailing literature related to “Cutting-Edge Technology”. His survey was based on the patent published in the USA on cutting-edge technology. Pritchard (1969) defined three metrics mostly utilized are Bibliometrics, Scientometrics, and Informetrics. Fuentes et.al (2019) deployed bibliometric approach on the topic International Entrepreneurship by using VOS viewer tools. Journals, articles, writers, organisations, and countries are the main subject of the research. Chiu and Ho (2007) investigated Tsunami analysis using the bibliometric analytical technique. To carry out the study SCI data base have been used. Further, the author used simulation model for describing the relationship with authors and number of papers. Gogoi and Barooah (2016) analysed the journal “Indian Journal of Chemistry Section B, Vol. 52B” using bibliometric analysis of articles, it was discovered that the authorship pattern is towards collaborative work instead of solo work. Kalantari et.al, (2016) identified global Big Data research patterns and the key fields through bibliometric studies. Koseoglu et.al, (2014) critically reviewed the paper related to Hospitality and Tourism Journals by applying bibliometric study. Thavamani (2014) conducted bibliometric analysis to assess the academic paper publishing patterns of Journal “Pearl: A Journal of Library and information Science”.

3. Objectives of the study :

The following are the key objectives:

1. To recognize the kind of document and distribution of language.



2. To understand the article's growth and its citation per annum from 2010-June, 2019.
3. To find out the highest-ranked journal published in IEEE-Explore Digital Library.
4. To find out the leading countries, Institutions responsibility for publication.
5. To recognize an author based on a total publication.
6. To find out the highest cited article.
7. To analyse the author keywords.

4. Methodology :

To analyse the study, IEEE-Xplore Digital Library has been used to extract the bibliographic information from 2010 to June 2019. Boolean searches a command based search term was used as keywords to find out the relevant bibliographic information related topic to cutting-edge technology. Ten recent keywords related to cutting-edge technology are identified, i.e Data Science, Machine Learning, Big Data, Artificial Intelligence, Business Intelligence, Information Visualization, Internet of Things, Data Repositories, Block chain, Cloud computing. In total 5918 documents are published related to the above area from 2010 to June 2019. Out of 5918 documents, 529 from conference proceedings, 3900 from the journal, 1477, from Magazine, 213, from Book, 26, from coursework and 16 from the standard. Microsoft Excel is the most relevant spread sheet tools used to analyse individual data. Only journal publications are considered in this study. The impact factor is downloaded from the Scopus database of 2018. Various keywords, such as TP, TC, CPP, TNau, etc., are used to define the table comprehensively mentioned under each table.

5. Data analysis :

5.1. Type of document :

A total of 5918 bibliographic data has been retrieved from the IEEE-Xplore E-journal database from 2010 to June 2019. Further, it is classified into seven categories according to their nature. Table-1 clearly depicts that apart from 5918

documents, highest 3274 (55.32%) are from the journal, conference proceedings (529, 8.93%), Magazine (1234, 20.85%) ; early access article (626, 10.57%) Book (213, 3.59%), Course (26, 0.43%) and very least with 16, 0.27% are from standards.

Table -1 Type of document

Sl. No.	Document	TP	P	TC2018	CPP	TNAu	ANAU PP
1	Journal	3274	55.32	61571	18.80	15758	4.81
2	Conference Proceedings	529	8.93	342	0.64	1851	3.50
3	Magazine	1234	20.85	25011	20.26	1851	2.27
4	Early Access Article	626	10.57	499	0.79	2744	4.38
5	Book	213	3.59	611	2.86	648	3.04
6	Course	26	0.43	0	0	0	0
7	Standards	16	0.27	0	0	0	0
	Total	5918	100	65,524	11.07	22852	6.89

It was also evident from the above table, out of 65.524 citations, the majority of the citation calculated from Journal (65571) with 18.80 citations per publication. There was 15758 authors associated with this publication with 4.81 articles per authors are calculated. Followed by, 25011 with CPP of 20.26 found from Magazine and 1851 author are associated with 2.27 of ANAU PP, 611, with CPP of 2.86 from the Book with 648 authors has contributed with ANAU PP is 3.04, 342 with CPP of 0.64 and 1851 authors with ANAU PP of 3.50 are contributed to Conference preceding and rest of them has no citation and no author affiliation has recorded.

5.2 IEEE-Xplore Digital Library categories of journal :

The IEEE Xplore digital library is the most well-known resource for accessing the Institute of Electrical and Electronics Engineers' scientific and technical material. It



has around 195 journals, 1400 conference proceedings, 5100 technical standards, and approximately around 2000 books and 400 plus educational course are available. Out of 5819 documents, Journal and Early access articles were taken for further study. There are 3900 articles were found from both the Journal and Early access article, which was associated with total 195 IEEE Xplore Digital Library journal.

Table - 2 Top ten most productive journals

SL No	Title	TC-2018	IF-2018	Eigen factor	Article Influence	IEEE - Subject	Country
1	IEEE Transactions on Systems, Man, and Cybernetics, Part B (Cybernetics)	2278	6.2	0.0183	2.154	Machine Learning	USA
2	IEEE Communications Surveys & Tutorials	1657	22.973	0.03965	5.784	IOT	Taiwan
3	IEEE Internet of Things Journal	1538	9.515	0.01069	1.844	IOT	China
4	IEEE Transactions on Industrial Informatics	1132	7.377	0.02879	1.886	IOT	Taiwan
5	IEEE Transactions on Knowledge and Data Engineering	874	3.857	0.01865	1.266	Big Data	Australia
6	Computer	801	3.564	0.00538	0.689	Cloud Computing	USA
7	IEEE Transactions on Pattern Analysis and Machine Intelligence	796	17.730	0.06882	5.315	Machine Learning	Canada
8	IEEE Internet Computing	690	2.891	0.00239	0.606	IOT	Greece
9	IEEE Internet of Things Journal	578	9.515	0.01069	1.844	IOT	Canada
10	IEEE Security & Privacy	552	1.596	0.00177	0.474	Cloud Computing	USA



Table - 2 illustrated the top 10 most productive journal associated with IEEE Xplore Digital Library as per citation received in 2018. It is noted that "IEEE Transactions on system, Man and Cybernetics, Part B" found the most productive journal among the top ten journals as it received the highest citation with 2278, followed by IEEE communications Surveys & Tutorials with 1657 citation, IEEE Internet of Things Journal with 1538 and IEEE transaction on knowledge and data engineering received 1132 citation in 2018. Rest of the journals received below 1000 citation as counted. In regards to the Impact of the journal in terms of their IF, EF and AI, IEEE Communications Surveys and Tutorials noted highest with (IF2018 =22.973, EF2018 =0.03965 , AI=5.78) among the topmost productive journal.

5. 3. Most productive Country :

Various countries have been contributed their research output to IEEE publication in the field of cutting-edge technology. To recognize their contribution, six indicators have been applied i.e TP,IP, CP, FP,RP &SP. Out of 3900 articles, 195 articles were found without author affiliation. Hence the analysis was done with 3705 articles contributed to 77 countries. Table-4 reflects top tenmost productive countries; China stood number one position among them, followed by USA & UK.

Table - 3 Most productive country

SL.No	Country	TP	TPR(P)	IPR(P)	CPR (P)	FPR (P)	RPR(P)
1	China	1539	1 (41.50)	1(39.65)	1 (29.65)	1 (31.20)	1 (40.45)
2	USA	839	2 {22.65}	2(21.22)	2 (20.14)	2 (22.65)	2 (26.38)
3	Germany	487	3 (13.14)	3(19.80)	3 (18.54)	3 (19.66)	3 (14.40)
4	Canada	477	4 (12.87)	10(6.51)	6 (10.52)	6{14.24}	4 (10.25)
5	Taiwan	463	5 (12.50)	4(18.60)	7 (12.82)	5 (16.75)	7 (7.56)
6	Australia	433	6 (11.69)	6(17.15)	5 (12.65)	7 (12.28)	6 (5.50)
7	Singapore	415	7 (11.20)	5(16.80)	4 (16.33)	4 (18.52)	5 (8.66)
8	Saudi	252	8 (6.80)	7(12.56)	10 (6.82)	10 (6.86)	10 (2.44)
9	India	245	9 (6.61)	8(12.42)	9 (7.80)	8 (10.66)	9 (3.25)
10	Greece	172	10 (4.64)	9 (8.65)	8 (9.60)	9 (7.28)	8 (3.86)



5.4 Most productive institution

In connection with author affiliation of most productive institutions, five indicators have been applied i.e; total paper (TP), single-institution article (IPR), international collaboration article (ICPR), Frist author article (FPR) and the corresponding author publication (RPR).

Table- 4 Fifteen topmost productive institutions (TP \geq 8)

Sl. No.	Institution	TP	TPR(P)	IPR(P)	ICPR(P)	FPR(P)	RPR(P)
1	School of Computer Science and Technology, Huazhong University of Science and Technology, Wuhan, China	92	1(2.48)	3(2.73)	3(3.18)	5(1.06)	5(1.26)
2	School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore	88	2(2.38)	4(2.55)	2(3.30)	3(1.27)	3(1.57)
3	School of Computer and Communication Engineering, University of Science and Technology Beijing, Beijing, China	83	3(2.24)	2(2.91)	5(2.97)	2(1.32)	2(1.68)
4	Institute of Computing Technology, Chinese Academy of Sciences, Beijing, China	79	4	5(2.46)	6(2.84)	4(1.16)	4(1.47)
5	School of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, GA, USA	76	5	1(3.00)	15(1.88)	3(1.27)	2(1.68)



6	School of Computer Science and Engineering, Nanyang Technological University, Singapore	76	5	6(2.38)	9(2.30)	1(1.37)	1(2.52)
7	Department of Electrical and Computer Engineering, The University of British Columbia, Vancouver, BC, Canada	64	6	7(2.29)	34(3.09)	14(0.63)	4(1.47)
8	State Key Laboratory of Networking and Switching Technology, Beijing University of Posts and Telecommunications, Beijing, China	54	7	7(2.29)	1(3.51)	9(0.74)	9(0.84)
9	School of Software, Dalian University of Technology, Dalian, China	48	8	8(2.12)	8(2.43)	8(0.85)	7(0.94)
10	Department of Electrical and Computer Engineering, University of Florida, Gainesville, FL, USA	32	9	6(2.38)	7(2.55)	7(0.95)	17(0.42)
11	Department of Electronic Engineering, Tsinghua University, Beijing, China	28	10	10(1.94)	12(2.05)	8(0.85)	19(0.25)
12	Department of Electrical and Computer Engineering, University of Waterloo, Waterloo, ON, Canada	28	10	8(2.12)	10(2.26)	9(0.74)	10(0.73)



13	Department of Systems and Computer Engineering, Carleton University, Ottawa, ON Canada 16	17	11	9(2.02)	8(2.43)	12(0.69)	15(0.63)
14	Department of Electrical Engineering, Princeton University, Princeton, NJ, USA	24	12	11(1.76)	14(1.97)	16(0.53)	16(0.52)
15	Department of Software Engineering, College of Computer and Information Sciences, King Saud University, Riyadh, Saudi Arabia	22	13	12(1.59)	8(2.43)	16(0.53)	17(0.42)

Table-4 clearly reflect 15 most productive institution in terms of their total publications, School of Computer Science and Technology, Huazhong University of Science and Technology, Wuhan, China was occupied number one rank with TP=92 (2.48%), followed by School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore (84,2.38) and School of Computer and Communication Engineering, University of Science and Technology Beijing, Beijing, China (83, 2.24%) occupied 2nd and 3rd rank respectively. Similarly, in terms of independent article publication, School of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, GA, USA occupies rank first, Beijing University of Posts and Telecommunications, Beijing, China ranked number one in terms of international collaboration, and Nanyang Technological University, Singapore stood number one position in both the first and corresponding author affiliation.

5.5. Leading articles

Highest citation of an article provides a unique vision of particular research of a particular domain in a specific period. TC2018 indicates the insight of the

article since its publication, whereas C2018 gives insight into the current research in a specific domain.

Table - 5 Ten most frequently cited articles in 2019

Sl, No.	Title	Authors	R (C2019)	R TC2019)
1	Internet of Things : A Survey on Enabling Technologies, Protocols, and Applications	A. Al-Fuqaha; M. Guizani; M. Mohammadi; M. Aledhari; M. Ayyash	441(1)	1668(2)
2	Internet of Things for Smart Cities	A. Zanella; N. Bui; A. Castellani; L. Vangelista; M. Zorzi	368(2)	1538(3)
3	Extreme Learning Machine for Regression and Multiclass Classification	G. Huang; H. Zhou; X. Ding; R. Zhang	366(3)	2278(1)
4	Internet of Things in Industries: A Survey	L. D. Xu; W. He; S. Li	269(4)	1147(4)
5	ContextAware Computing for The Internet of Things: A Survey	C. Perera; A. Zaslavsky; P. Christen; D. Georgakopoulos	165(5)	977(5)
6	Data mining with big data	X. Wu; X. Zhu; G. Wu; W. Ding	151(6)	977(5)
7	Research Directions for the Internet of Things	J. A. Stankovic	127(7)	583(10)
8	Faster and Better: A Machine Learning Approach to Corner Detection	E. Rosten; R. Porter; T. Drummond	71(8)	796(8)



Sl, No.	Title	Authors	R (C2019)	R TC2019)
9	Cloud Computing for Mobile Users: Can Offloading Computation Save Energy?	K. Kumar; Y. Lu	64(9)	801(7)
10	Smart objects as building blocks for the Internet of things	G. Kortuem; F. Kawsar; V. Sundramoorthy; D. Fitton	62(10)	691(9)

Table-5 shows that ten articles were found C2019=60, which were associated in different journals. It was reflected that IEEE Transactions on Systems, Man, and Cybernetics, Part B (Cybernetics) a leading journal, contributed one article amongst the group of high impact article and it occupies third rank with 366 citations in recent year. The article Internet of Things: A Survey on Enabling Technologies, Protocols, and Application by Fuqaha et al..published in IEEE Communications Surveys and Tutorials(IF2019=22.973) were ranked no one in terms of C2019 and second in terms of TC2019.

5.6. Authorship :

To analysis the author publication, there are four indicators has been used i.e. TP,TRP(P), RP(P)and SPR(P).

Table- 6 Top ten most productive authors

SL No	Author	TP	TRP(P)	FRP(P)	SPR (P)
1	Laurence T.Yang	37	1 (0.95)	25	1
2	Kim-Kwang Raymond Choo	26	2 (0.67)	1	NA
3	Song Guo	24	3 (0.62)	2	NA
4	Keqin Li	22	4 (0.56)	3	1

5	Athanasios V. Vasilakos	21	5 (0.54)	NA	NA
6	DusitNiyato	21	5 (0.54)	NA	NA
7	Houbing Song	21	5 (0.54)	1	NA
8	Kun Wang	33	5 (0.54)	5	NA
9	Albert Y. Zomaya	20	6 (0.51)	NA	NA
10	Peng Li	20	6 (0.51)	5	NA
11	Mohsen Guizani	20	6 (0.51)	NA	NA
12	Yan Zhang	19	7 (0.49)	NA	NA
13	Victor C. M. Leung	19	7 (0.49)	NA	NA
14	Neeraj Kumar	18	8 (0.49)	1	NA
15	Li Da Xu	17	9 (0.44)	2	1
16	Joel J. P. C. Rodrigues	16	10 (0.41)	2	NA
17	Wei Wang	16	10 (0.41)	5	NA
18	Guang-Bin Huang	16	10 (0.41)	2	NA

Table-6 revealed that 18 most productive author, who contributed 16 or more article in the field of cutting-edge technology. Laurence T. Yang ranked top one as he has published 37 articles in the field of this converging technology. Followed by Kim-Kwang Raymond Choo and Song Guo occupies the second and third position with 26 and 24 publication respectively in their name.

5.7 Author Index :

Author index of a publication can describe the whole article. The statistical analysis of the author index helps the author to find out the interest of a specific subject domain. Also, it helps to discover research and future direction to the domain knowledge.

**Table -7 Ten most productive author index**

SL.No	Author Index	TP
1	learning artificial intelligence	881
2	Internet of Things	864
3	Cloud computing	663
	Big Data	526
5	Mobile computing	221
6	Data analysis	187
7	Data privacy	179
8	Resource allocation	169
9	Optimisation	166
10	Internet	159

TP = Total Publication

Table -7 revealed that, there were 9761 author indexes have been used in the term of cutting-edge technology. 4783 (49%) author index were used only once, and remains (4978, 51%) were used twice. Further, it reflected the top ten most author index tabulated. Learning artificial Intelligence (881) found the highest frequency then other, followed by Internet of Thing and Cloud computing found slight lower with 864 and 663 respectively.

6. Finding and Conclusion :

In modern society, Bibliometric and Scientometric metrics are most imperative to assessing research and development. Generally, these metrics assist to find out the fundamental of scholarly work related to scientific field despite concerning on particular work. Scientometric analysis of the cutting-edge technology-related article in the IEEE-Xplore Digital library from 2010 to June 2019 has been conducted in this study. A total number of 3900 publications were analysed. Various indicators such as TP, TC , CPP, TNAu, , TRP, FPR, have been used to analyze the study. It was found that “IEEE Transactions on Systems, Man, and Cybernetics, Part B (Cy-

bernetics)” counted ranked no-1 in terms of the highest document citation. It also found that China was the most publication country followed by Singapore, Canada, and the USA.

However, the limitation of this study ascends from metric aspect as it related to numbers of papers and citations. Though the number signifies the 'quantity' citations do not signify 'quality' unequivocally because to who's paper had been cited more, the more citation had been allocated to that paper. The second limitation of this paper is the duration of the study, if a paper does not cite during the study period it is likely to be omitted from citation and the last limitation of the study is the journal profile considered in this paper, not the subject it covers, which may be occupied by various institutions, organisation, author etc. In general, this study nurtures the publications of the IEEE Xplore digital library published between 2010 to 2019. IEEE Xplore digital library made a significant contribution towards the academic scientific publishing especially in cutting edge technology.

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Information Needs and Information Seeking Behaviour of Floriculturists of Kalimpong District : a study

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Abstract :

To identify the information needs and information seeking behavior of floriculturists of Kalimpong District, West Bengal this study used survey method and an interview schedule for data collection. The research design is descriptive. It is found that there is a need for information including both the print and electronic information in form of journals, magazines, books, videos, and web resources among the floriculturists. Online marketing is growing among the floriculturists with the use of social media. The information seeking patterns of floriculturists are not systematic and need information literacy education on information sources and gathering. Information avoidance as non-seeking behavior is observed from government offices, libraries, and research institutes. This study would be valuable in the field of information science, Economic Botany, and Horticulture sector.

Keywords :

Floriculturists, Information Needs, Information Seeking behavior, Kalimpong.

1. Introduction :

Floriculture in the hill district of Kalimpong is an important means of sustainability. Floriculture has its impact on the tourism industry and it is one of the important aspects of income generations among the house wives, and college going students. Floriculture in Kalimpong has evolved as the important means of self-employment and entrepreneurship.



Considering the pivotal role of information and its role in production and training and the use of information sources, system, and services at the public level among floriculturists the researcher intended to take up the current study entitled 'Information Needs and Information Seeking Behaviour of Floriculturists of Kalimpong District: a study'.

2. Literature Review :

Information is such an indispensable entity which is required everywhere and anywhere. The need for people varies according to the profession and to satisfy the needs they need information according to their professed area. (Vickery, 2004). Menzel (1966) stated that the user study involves the studies of user study, user behaviour study, and information flow study. Studies like Five Laws of Library Science (1931) have used the concept of Reader or user and their information need while stating the second law 'Every reader his or her books' (Reddy et.al, 2018). Taylor (1968) first suggested the process of negotiation as a four-level process from query to verbal to make a formalized statement to satisfy one's information needs through the Library and Information system through search strategies to find out actual needs. Faibisoff and Ely (1974), defined information need is an umbrella term under which a variety of interpretations fall such as information demands (or requirements) and information wants (or desires). The information needs in the theoretical model have been expressed during the users' behaviour and information seeking study in the 1980s. Wilson (1981) suggested that information seeking behaviour arises as a consequence of a need perceived by a user. There is no specific study is found to analyse the information needs of floriculturists in India, thus the literature study in the allied sector was reviewed.

3. Research questions :

To set the objectives of research before conducting the study the following research questions struck the researcher.

RQ1 : Do the floriculturists of Kalimpong and Darjeeling district needs information for floriculture activity?

RQ 2 : Which mode of information do the floriculturists of Kalimpong prefer to get information?

RQ 3: Are floriculturists aware of the information sources and services available in both electronic and print resources?

RQ 4 : What are the constraints in obtaining information from various sources?

RQ 5 : How satisfied are floriculturists with resources, services, and facilities offered by the different organisations, institutions and Libraries?

4. Objectives of the study :

To find the answers of the research questions the objectives of this study set forth as:

1. To find out the information needs of Floriculturists;
2. To reveal and identify the sources of information used in the operation of Floriculture activity;
3. To identify the information seeking pattern of floriculturists of Kalimpong district;
4. To know the use of Library and Information centers by the floriculturists to satisfy their information needs;

5. Method and material :

The survey method is used for the research with an interview schedule to collect the data of 336 floriculturists of Kalimpong district. The research design is descriptive research. The data result is calculated in percentage. The research work is limited to the district of Kalimpong, West Bengal. The whole population of floriculturists of Kalimpong district is taken for the study. Six nurseries with 10 floriculturists denied giving data.

Table 1: Population of floriculturists

Sl.	Preliminaries	Number
1	Total Nurseries Visited	146
2	Total Nurseries Provided data	140
3	Total number of floriculturists interviewed	336 (Female 152 and Male 184)
4	Total number (Sample) of floriculturists taken for study	Whole Population of Kalimpong i.e. 140 nurseries having 336 Floriculturists surveyed and Interviewed

**6. Major Research Finding :****6.1. Information Needs :****Table 2 : Reply on the purpose of information**

Sl. No.	Information need expressing to fulfill the purpose	No. of Respondents	Percentage
a.	To keep abreast with development	298	89%
b.	To gain knowledge about nursery	164	48%
c.	Verification on certain matters	80	24%
d.	Others (Nursery Improvement with a new method Online Marketing, New varieties)	26	8%

Source : Field Study

Table 3 : Information need felt by floriculturists of Kalimpong to carry out the nursery Works

Sl. No.	Information need	Female		Male		Total	
1.	No	00	0%	00	0%	00	0%
2	Hesitation/Implicit	21	(6.25%) 6%	34	(10.12%) 10%	55	16%
3	Yes Explicit	21	(38.99%) 39%	150	(44.64%) 45%	281	84%
	Total	152	(45.24%) 45%	184	(54.76%) 55%	336	100%

Source : Field Study

Floriculturists of Kalimpong need the information to keep abreast of the latest developments in the field of floriculture, to gain knowledge in new areas of floriculture, and to verify in certain matters concerning propagation and marketing. (Table 2)

It is observed that education plays a greater role to express the need. The 16% floriculturists were in hesitation while replying for the information need and their educational background was class x or below. (Table 3)

The top five priority areas of information needs of floriculturists of Kalimpong district are Marketing (53%), Information gathering on floriculture (48%), availability of raw material and credits (47%), training on latest cultivation pattern (47%) and use of insecticides. (Table 4)


Table 4 : Response on the Information needs on related fields

Sl. No	Information needs field of floriculturists	No. of Respondents	Percentage
a.	Raw Materials	162	48%
b.	Training	158	47%
c.	Cultivation pattern	174	52%
d.	Use and handing of Insecticides	154	46%
e.	Weather and Climate	98	29%
f.	Marketing	178	53%
g.	Pest Control	130	39%
h.	Credits and cooperatives	154	46%
i.	Organizing the floriculture Organization	104	31%
j.	Information gathering	162	48%
k.	Others (Water, Information on new variety, Foreign export etc.	18	5%

Source : A Field Study

Table 5 : Level of urgency on Information needs felt by the floriculturists

Sl. No	Level of urgency on Information needs	No. of Respondents	Percentage
a.	One day	20	6%
b.	In a week	40	12%
c.	In 15 days	84	25%
d.	In a month	166	49%
e.	Within 6 months	26	08%
f.	More than six months	00	00%
	Total	336	100%

Source : A Field Study



The urgency of information need as per the findings seems that 49% floriculturists' needs information monthly and 29% opined about the bi-monthly basis. (Table 5)

6.2 Information seeking behaviour :

Table 6 : Information seeking sources and behaviour of floriculturists to satisfy the need

Sl.	Information seeking sources and behaviour of floriculturists to satisfy the need	Frequency of Visit							
		Never	Percent-age	Occasionally	Per cent-age	Often	Percent-age	Total Visit	Visit %
A	Human and Institutional Sources								
1	Agriculture office/Officers	321	95.5%	11	3.3%	04	1.2%	15	4.5%
2	Horticulture Office/Officers	319	94.9%	10	3.0%	07	2.1%	17	5.1%
3	Research centers and Scientists	331	98.5%	05	1.5%	00	00	05	1.5%
4	NGO Office/Member	334	99.5%	02	0.5	00	00	02	0.5%
B	Informal sources								
1	Discussion among floriculturists	39	11.6%	48	14.3%	249	74.1%	297	88.4%
2	Through training	306	91%	15	4.5%	15	4.5%	30	09%
3	Flower shows/ Exhibitions	264	78.6%	72	21.4%	00	00	72	21.4%
4	Tour/visit	266	79.2%	49	14.5%	21	6.3%	70	20.8%
C	Formal sources and Mass media								
1	Books (Text type)	231	68.8%	21	6.3%	84	25%	105	31.3%
2	Encyclopedias and Dictionaries	297	88.4%	00	00	39	11.6%	39	11.6%
3	Newspaper	66	19.6%	90	26.8%	180	53.6%	270	80.4%
4	Journals	326	97%	04	1.2%	06	1.8%	10	03%
5	Magazines	250	74.4%	18	5.4%	68	20.2%	86	25.6%
6	Television	279	83%	30	9%	27	08%	57	17%



D	Websites and other Internet resources								
1	Online E-Books (Text & Reference)	330	98.2%	06	1.8%	00	00	06	1.8%
2	APEDA	306	91%	15	4.5%	15	4.5%	30	09%
3	Agri-horticulture society of India	309	92%	27	08%	00	00	27	08%
4	Floriculture Today E-Journal	300	89.3%	18	5.35%	18	5.35%	36	10.7%
5	Others (Internet source not known)	228	67.9%	00	00	108	32.1%	108	32.1%

Source : Field Study

Floriculturists of Kalimpong district expressed the need for various modes of information. The information seeking and receiving pattern mode of 61% floriculturists are from electronic medium through websites and the internet. The information seeking and receiving pattern mode of 54% floriculturists are from printed journals and magazines and 35% floriculturists are from printed books and Television. (Table 6)

The expectations of information among floriculturists of Kalimpong district are from both print and electronic mediums. It is found that information seeking behaviour of floriculturists of Kalimpong district through training is 4%. Uttar Banga Krishi Viswavidyalaya, Kalimpong Horticultural Society, and Nurseryman's Association are the training providers for the Floriculturists. (Table 6)

However in this research, the reason is not analyzed but the study finds the information avoidance of information by Floriculturists of Kalimpong district from the government offices, Research Centers, and Libraries.

The discussion among the relatives, friends, and nurserymen who are involved in the field of floriculture is another kind of information-seeking behavior is exhibited by 297 (88.4%) floriculturists. The practical information seeking behaviour consists of training, flower shows, and exhibition and visits the nurseries of local and outside regions. (Table 6)


Table 7: Use of library by the floriculturists

Use of Library by the floriculturists	Yes	No	Types of Library Visited				
	08	328	School Library	College Library	Univ. Library	Rural Library	Town Library
	2.4%	97.6%	00	00	00	06	02
Total	08	328	00	00	00	06	02

Source : A Field Study

The visit to use the library resources is done through only Public Library through in rural and town library by 8 (2.4%) floriculturists. The distance of the library is one of the major constraints to use the library as expressed by the 102 (30.4%) floriculturists of Kalimpong district. (Table 9)

Table 8 : Level of Satisfaction on information seeking and use

Sl	Information seeking sources and Information seeking behaviour	Level of Satisfaction						
		Total person visited	Not Satis fied	Percent -age	Moderat ely Satisfied	Percent -age	Satisfie d	Percent -age
A	Human and Institutional Sources							
1	Agriculture Office/Officers	15	00	00	11	73.3 %	04	26.7 %
2	Horticulture Office/Officers	17	04	23.6 %	08	47%	05	29.4 %
3	Research centers and Scientists	05	00	00	00	00	05	100%
4	NGO Member	02	00	00	02	100%	00	00

B		Informal sources						
1	Discussion among floriculturists	297	00	00	72	24.2 %	225	75.8 %
2	Through training	30	00	00	15	50%	15	50%
3	Flower shows /Exhibitions	72	06	8.3%	48	66.7 %	18	25%
4	Tour / Visit	70	00	00	54	77.1 %	16	22.9 %
C		Formal sources and Mass media						
1	Books (Dictionary, Encyclopedia etc)	105	00	00	24	22.9 %	81	77.1 %
2	Encyclopedias	39	00	00	09	23%	30	77%
3	Newspaper	270	270	100%	00	00	00	00
4	Journals	10	02	20%	04	40%	04	40%
5	Magazines	86	00	00	40	46.5 %	46	53.5 %
6	Television	57	09	15.8 %	30	52.6 %	18	31.6 %
D		Websites and other Internet resources						
1	Online E-Books (Text & Reference)	06	00	00	00	00	06	100%
2	APEDA website	30	00	00	18	60%	12	40%
3	Agriculture-horticulture society of India	27	00	00	27	100%	00	00
4	Floriculture Today E-Journal	36	00	00	30	83.3 %	06	16.7 %
5	Others (Internet source not known	108	00	00	78	72.2 %	30	27.8 %

Source : A Field Study



6.3 Satisfaction on the use of Information Sources :

The sources which satisfied the floriculturists in terms of use and applicability to their floriculture activity are mentioned below: (Table 8)

1. Institution source in form of research centers and scientist and online books are visited and used by 5 (1.5%) and 6 (1.8%) floriculturists with 100% satisfaction.
2. Formal sources in form of books are using by 105 (31.3%) floriculturists with 77.1 % fully and 22.9% moderate satisfaction. The encyclopedias are using by 39 (11.6%) floriculturists with 77% full and 23% moderate satisfaction level.
3. The informal sources in form of discussion among floriculturists are found the most important source using by 297 (88.4%) floriculturists with 75.8% fully satisfied and 24.2% are moderately satisfied users.

6.4 Barriers to information seeking :

The study reflects that the 234 (69.6%) floriculturists of Kalimpong replied that the lack of time is the main constraint that brings information gaps. The 207 (61.6%) floriculturists viewed that lack of awareness of better use of the internet, websites, social media, and hardware technologies are the second most constraints in obtaining information. It is analyzed that 238 (70.8%) floriculturists are using the internet through computers and smart phones but in later interview questions the floriculturists replied that the lack of awareness on new information and technology is one of the main constraints in obtaining information. (Table 9) The finding suggests that the floriculturists need better orientations in using internet and web resources in the field of floriculture.

Table 9 : Constraints felt by floriculturists while obtaining information from various sources

Sl. No	Constraints felt by floriculturists while obtaining information from various sources		
A	Lack of time	234	69.6%
B	Lack of awareness of new information and technology	207	61.6%
C	Long-distance of Library and Information center	102	30.4%
D	Lack of guidance	12	3.6%
E	Information overload	21	6.3%

Source : A Field Study

In reply to overall satisfaction from various sources reflects that 27 (8%) floriculturists are dissatisfied with the sources and services and 255 (75.9%) are moderately satisfied. The 54 (16.1%) floriculturists out of total 336 are expressed satisfaction in terms of getting information from various information sources. The findings suggest that the literatures in the field of floriculture in online and print format for floriculturists are inadequate.

7. Conclusion :

The educational qualification of respondents plays a great role in expressing the need and in communicating information. Floriculturists are found interested in using web information on the internet. The reading habits of floriculturists are good but unaware of the floriculture information resources. Both print and electronic media are sought by the floriculturists. The information searching behaviour of floriculturists is not systematic. Human, formal, information, and web and internet information sources are used by the floriculturists of Kalimpong district. The information seeking behaviour of floriculturists is majorly depending upon the informal source by exchanging of views among the floriculturists. The floriculturists do use the internet but very few know about the good and authentic internet resources. The floriculturists are satisfied in reading printed books and encyclopedias apart from electronic media. Apart from the theoretical information, the floriculturists do need practical hands-on experience in form of training.

The government offices of agriculture and the horticulture department of Kalimpong are used rarely by floriculturists for information gathering purposes. Side by side the concerned Government departments have to look at the information need of the floriculturists which should include the hands-on training. Only 8 (2.4%) floriculturists of rural area (6) and town area (2) have visited the rural and town Public library. The role of the library is not known to the majority of floriculturists of Kalimpong district.

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