

**Changing Dimensions of Education and
Librarianship during
COVID-19**

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COVID-19**

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FOREWORD

It's a transformative moment for higher education. But the trends driving the disruption are not new or unexpected.

The corona virus pandemic is changing the era of higher education. The disruption has been slow, making it too easy for many in higher education to argue that it wasn't happening. Now, COVID-19 is accelerating the change at breath taking speed. The trends are speeding up rapidly and will cut deep and in unexpected ways. Today's prospective students are not confined by what we have historically offered or how we have offered it. They want education, when they want it and delivered how they want it. They are much more open to online and in-person hybrid formats, blended learning, accelerated programs, e- learning and e- libraries and much more. Pressure will grow to bend the model and to offer things like micro-credentials focused on narrow career goals and academic programs that are much more tailored to specific interests. Students will be much more vocal about the terms under which they are willing to invest the time and financial resources. The Covid-19 crisis will force and is forcing education a decade into the future. While there will be benefits to this "leapfrogging," borrowing a phrase from the institutions, in the way we educate, how we educate, where we educate, and most importantly why we educate; there will also be casualties of this leap into the future and many of these will be as a result of existing inequity. To fill the void of circulating the knowledge in COVID-19 education crises, Transfer of knowledge in the appropriate way with appropriate resources is fundamental key. As, knowledge is ever-growing right from the origination of human civilization its circulation is essential for the social change and to increase awareness among people in every slope of life.

The root paramount need in this transfer of knowledge requires effective knowledge management. Knowledge management is a feasible means in which libraries could improve their services in the knowledge economy. The administration of spreading information has long been regarded as the domain of librarians and libraries. Librarians and information professionals are trained to be experts in information searching, selecting, acquiring, organizing, preserving, repackaging, disseminating, and serving. However, professionals in information technology and systems have also regarded information management as their domain because of the recent advances in information technology and systems which drive and underpin information management. As, ICT has become dynamic in the essence of its nature, and its basic need is craving for effective management of storing data and providing services. Library here, acts as the crucial storehouse of human knowledge. The growing need and use of modern technology, telecommunication, and networking in this era of e- learning has been effectively managed and enhanced by the dedicated work of librarians, where pandemic like COVID-19 has consistently hampered the basic necessity of education. The digitalization of library is efficiently uplifting the connectivity through World Wide Web networking. Hence providing value added knowledge which is the

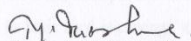
key consideration of librarians for building connectivity, competitiveness and to unroll the existing knowledge by transferring to increase its potential in the modern era by digitalization.

In the business world, knowledge management has been regarded as strategically important for organizations to gain a spirited advantage over their competitors, to add value to their products, and to win greater satisfaction from their customers. Knowledge management is as imperative for libraries as for the businesses minus the competitive, proprietary, and moneymaking concerns. As libraries enter the knowledge age of the 21st century, they should not take a back seat in the development of knowledge management. Instead, armed with professional knowledge and experiences, should be in the driver's seat.

Furthermore, COVID-19 has made us learned that knowledge management should never be viewed as a way to control the process of knowledge creation; knowledge management serves the flow of education in appropriate manner for its proper usage.

In this book, "**Changing Dimensions of Education and Librarianship during covid-19**", the authors have made a strong argument for supporting knowledge creation with knowledge management in the era of e-learning, with parallel connotation of librarians serving the society for the consistent flow of knowledge, in such a difficult time of pandemic COVID-19. The authors have scabbled deep into practical aspects and discussed countless challenges the library professionals are likely to face in fostering and managing knowledge. This initiative of the authors and editors will go a long way in keeping the professionals in the field of library sciences enlightened about the contemporary developments and increase of connectivity in the field of library sciences, even in difficult times like pandemic, while also intensifying their professional competence.

Lastly, All Editors and all authors of this book have done commendable job. I congratulate them for their challenging and inspiring publications. I am sure that readers will be enthralled, motivated and more knowledgeable by the interdisciplinary compilation of quality works. I am confident that the present book will be handy, informative, and immensely useful to the teachers, research scholars, as well as legal fraternity.



Justice Smt. Mridula Mishra
Vice – Chancellor

Chanakya National Law University, Patna

-:Preface:-

We live in a highly advanced informative society where the expansion of information technology and telecommunication system is accompanied by an equivalent increase in knowledge, with a swift flow of information. This new information atmosphere requires new brains working on skills in seeking, processing, and using information. The bases for individual ability to recognize, understand, and apply information in a qualitative, ongoing learning process. Learning and education are the central areas in the information society and the educational condition is shifting day by day due to advancement in its core idea of adaptability and applicability, which develop from the social, cultural, political, and economic changes in the society.

The new era librarians are becoming the guardian of digital information and are the vehicle to safeguard and preserve the democratic access to information. With this highly skilled advancement, the librarian will serve as an embodiment of digital information professional or digital knowledge worker, who will ensure that the digital libraries are used effectively and with ease. The objective of libraries is to organize and provide access to information, and it remains the same although the format and methods have changed drastically. New technology has provided great opportunities for the delivery of services within consortia. More and more libraries must unite, which of course requires a change in the attitudes, practices, and policies to get the maximum benefit. As there is exponential rises in the digital change and is reflected and outshined in all directions, thereby, requiring the new digital innovation solutions to library centers of special genesis and academics, hence leading to digital competition. Researches have to be carried out with the aid of technological advancement to compete with the fast-growing environment.

The library movement in India is rapidly increasing and the traditional libraries are now on their way to digitization in a phased manner. In a developing country like India; library professionals have to take careful and judicious decisions in

selecting library materials. Digital preservation is an accurate rendering of an authenticated content over time. For archives and the active management policies, strategies, and actions are taken to consolidate access to a newborn digital child. Challenges emerging out of library services and in management, technological advancements have to be updated regularly to meet the competitive requirements of the faster-growing environment. This book throws the light on a practical approach to innovation of emerging technologies in libraries and defining the technologies in the context of their use in real situations. The book serves as a guide for those who are interested in learning and implementing the emerging and available technologies for the enhancement in library services.

Editors

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Chapter-1

Exploring the Relationships between Emotional Intelligence and the use of Knowledge Transfer Methods in times of COVID – 19

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Abstract

This exploratory investigation contributes analytical findings on the relationship between emotional intelligence and the use of knowledge transfer methods used in the social media platforms by content creators. Emotional intelligence has been defined as “the ability to monitor one's own and other people's emotions, to discriminate between different emotions and label them appropriately, and to use emotional information to guide thinking and behavior”. Knowledge transfer refers to sharing or disseminating of knowledge and providing inputs to problem solving. People around the world went into lockdown, restricting movement and encouraging social distancing in an attempt to combat the COVID-19 pandemic. This is the time period that researcher is reviewing some of the contents in social media on Corona Virus Disease, and also presenting some examples from the past. The primary objective looks at how people from differing cultural backgrounds communicate, in similar and different ways among themselves, and how they endeavor to communicate across cultures, followed by the visual framing of COVID-19 pandemic in social media. The initiatives taken up to create social awareness by content creators are also analyzed by the researcher. The findings of this study suggest that there are noteworthy relationships between emotional intelligence factors and the use of specific methods to transfer knowledge by understanding the audience is effective while watching the

reach. The results of this investigation can be used by knowledge management researchers and information scientist as a foundation for further research and development in the area of knowledge transfer and sharing in the project environment.

“When awareness is brought to an emotion, Power is brought to your life.” Tara Meyer Robson

Introduction

In demographics, the world population was estimated to have reached 7.8 billion people as of March 2020. Among, an estimated 2.95 billion people were using social media worldwide, a number projected to increase to almost 3.43 billion in 2023. Social network penetration is constantly increasing worldwide and as of January 2020 stood at 49 percent. It is evident that social media has a more negative effect on the well-being of those who are more socially isolated. In March 2020, many cities and countries around the world went into lockdown, restricting movement and encouraging social distancing in an attempt to combat the COVID-19 pandemic. This is the time period that researcher is reviewing some of the contents in social media on Corona Virus Disease, and also presenting some examples from the dim and distant past. The researcher focuses on analyzing two or more cultures to perceive cross-cultural validity and generalizability, known as Cross cultural approach, one of the perspective on intercultural communication.

Objectives of the Study:

To investigate the application of cross cultural communication apprehension and emotional intelligence in social media.

- To examine the visual framing of COVID-19 pandemic in social media.
- To study and compare initiatives taken up to create social awareness through social media.
- To analyze the extent usage of various portals of social networking by content creators.

Online Social Networks and COVID – 19

Online Social Networks (OSNs) are one of the biggest advancements that have happened in the past decade. From its inception OSNs have attracted the attention of millions of users. Some of the popular OSNs are Facebook, Twitter, LinkedIn, Pinterst, MySpace etc. OSNs have gained tremendous popularity as it supports varying interests and practices of the users (Michalis F., Thomas K. & Seung-Hyun Moon, 2010). In today's rapidly evolving digital age, the exchange of personal information in the virtual world is ubiquitous. With the influx of social networking sites (SNSs) that encourage users to create personal profiles and networks with close and distant others (Boyd and Ellison, 2007), the theme of *self-disclosure* is distinctly prevalent in the social media landscape. Being immersed in a virtual environment where personal information (e.g. names, addresses, opinions, and values) is easily shared may have implications for more relaxed privacy boundary management, perhaps leading users to see the world as less regulated by privacy concerns. This study uniquely applies a cultivation perspective to examine the effects of SNSs on privacy attitudes and self-disclosure behaviors. Initially established in the context of television (Gerbner, 1969).

The novel coronavirus as a pandemic was a call to arms for governments to take urgent and immediate action. Social platforms go much deeper than the technology. They have enabled a shift in the way we communicate with each other: to be faster; more seamless; and with greater reach than anything that has come before. Platforms such as Facebook and WhatsApp enable rapid proliferation of filtered news, advice, task requests and real-world support that a centralized organization is not capable of on this scale (Jon Chamberlain, 2020).

Social media applications saw a 46.28 per cent increase in time spent during the lockdown, with a 49.23 per cent increase in engagement and a 29.55 per cent increase in daily active users. Platforms are capitalizing on this uptick to help people in

need and to create awareness. Facebook, for instance, has introduced a 'Coronavirus (Covid-19) Information Centre' feature on its platform now, which provides news and updates from the Ministry of Health & Family Welfare and global health organizations (Annapurani, 2020).

Illuminations from the past to present

Art is one of the many ways people express themselves. There are evidences proving our forefathers who fought against so many evils. Through arts and literature, they tried to communicate their feelings and emotions towards contemporary issues and made aware of the mass. It is through art that they develop their fine motor skills. In this unprecedented time, social media provide varied platforms for content creators to explore and use their creativity. Evolutionary ancestry has hard-wired humans to have affective responses for certain patterns and traits (Barry, 2006). Fyodor Dostoevsky is regarded as one of the greatest and most influential novelists of the Golden Age of Russian literature (Lauer, 2000), which encompass novels, novellas, short stories, essays, epistolary novels, poetry, spy fiction and suspense, include suicide, poverty, human manipulation and morality (Lantz, 2004). Religious themes are found throughout his works, especially after his release from prison in 1854. His early works emphasized realism and naturalism, as well as social issues such as the differences between the poor and the rich. Elements of gothic fiction, romanticism and satire can be found in his writings. Dostoyevsky was "an explorer of ideas", greatly affected by the sociopolitical events occurring during his lifetime (Terras, 1998).

Also, in late 1940, producer-director-star Charlie Chaplin released "The Great Dictator", the creation was virtually inevitable. Over a decade after the rest of the film industry had accepted talking pictures, the greatest star of the silent-film era began his first full dialogue film. His subject was Adolf Hitler and his theme, the dangerous rise of European fascism. Despite death threats once his project was announced, Chaplin forged ahead with his satire. The idea of a film satirizing Hitler was one

Chaplin had been working on for years. Chaplin was a dedicated antifascist, and was alarmed at Hitler's ability to captivate the German people. He warned members of the Hollywood community not to underestimate Hitler merely because they found him comical, an effect magnified by Hitler's unfathomable decision to apparently borrow the most famous mustache in the world – Chaplin's little black toothbrush – as his own trademark. The film survives as cinema's supreme satire and one of Chaplin's most important and enduring work (Vance, 2003).

India has always been a paradise for art lovers, be it music, dance or drama. Emotional responses are often regarded as the keystone to experiencing art, and the creation of an emotional experience has been argued as the purpose of artistic expression (Fellous, 2006). In the same fashion, a traditional satirical performing art form wildly popular among the masses of Kerala, Ottamthullal combines song, dance and humor. Legendary Malayalam poet Kunchan Nambiar created this dance form in the 18th century, it strictly follows the principles in the Natya Shastra (a treatise in art). In Malayalam, Thullal means 'to jump' or 'to leap about'. Performed by a solo artist, Thullal is conducted during temple festivals from the temple premises to themes from the Indian epics and contains a lot of satire. He raised prevalent socio-political issues and prejudices through his art (Kerala's Ottamthullal, 2018).

Deviating from the usual stories, exponents of Kerala's traditional dance forms are now using their art to spread important messages among the audience in the wake of the COVID-19 scare. The idea took shape in Kalamandalam Vishnu M. Gupta's mind after he came across the state governments' guidelines on COVID-19 ("Kerala dance exponent spreads", 2020).

Drama occupies a significant place in Indian culture. A strong impact in theatre across the world influenced Malayalam drama also significantly. It was an era of change across the world, caused by the rise of worldviews like Marxism, Socialism, and Humanism, which attracted large sections of

people in many countries. Identically, Kerala People's Arts Club, popularly known as KPAC, a theatre movement that arose as part of the activities of the Communist Party of Kerala. The contributions of KPAC enriched Malayalam drama beyond measure (Kerala Government Department of Cultural Affairs, 2020). Since 1952, *You made me a Communist* has been performed well over 2000 times and continues to be a part of KPAC's active repertory of social dramas, written by Thoppil Bhasi, turned out to be a historic event (Namboodiripad, 1976).

Throughout history, political cartoons have played a significant role in the shaping of this great nation. With just a few strokes of a pen, the cartoonist sums up a complex situation in a single powerful image that explains everything. Thus, the humble cartoon brings about change peace and togetherness, understanding progress and happiness (Steed, 2017). Indian cartoonists have held a caustic mirror to society. Their sharp-edged pens have brought to the fore swept-under-the-carpet issues that society refuses to confront. In the process, satire in print has also become an important tool of social awareness. Now it is going online, too. In the grim age of COVID-19, Kerala's cartoonists are spreading a pandemic of optimism. Nipin Narayanan is one such exponent of irony. He is a versatile conscience-keeper, focusing on the importance of hygiene for coronavirus awareness. His Facebook page is getting a lot of hits thanks to his 'Corona toonz' ('Activists of satire', 2020).

Meanwhile, multilingual illustrator-cartoonist Sameera Maruda is famous for her Instagram handle @saltandsambar is a very un-cartoonish graduate in Electronics and Communication Engineering, which she plays down on Facebook, and engages social issues through drawings. Like many woke millennials, she sells her work online. A YouTube influencer, Sameera has taken on the onerous task of busting myths around coronavirus through cartoons since she believes "unverified forwards are spreading faster than COVID-19" (Activists of satire, 2020).

The Union Ministry of Health and Family Welfare recently published a book of cartoons 'Vaayu' to spread

awareness on coronavirus. The story of the comic series revolves around a Superhero 'Vaayu' who works for better public health and environment. In the cover page, there are three kids who seem to be scared of coronavirus. The kids are guarded by Vaayu. He fights with the coronavirus. The creature coronavirus is of black colour on the cover page. It has been described as a virus which is spreading fast globally and causing COVID-19 disease. The populations of all ages are making use of available media such as newspapers, social media and television to make themselves aware and from adults to children most of the discussions are around the coronavirus, the comic aims at educating children, especially those below the age of 12 years in most comprehensive manner.

There is so much fake news circulating on social media creating unnecessary panic. As part of creating awareness against COVID-19 and to spread the importance of social distancing among the public, the Kerala Social Security Mission and Kerala Cartoon Academy (KCA) joined hands to turn the walls of all district administrative centres in the state into a canvas against the virus. For Kochi-based stand-up comic Sabareesh Narayanan and graphic designer Anna Jovitha from Alappuzha, the surgical mask is "a symbol" of the current times. When the duo from Kerala decided to collaborate on a series of cartoons to highlight the importance of adopting precautionary measures and also reflect the prevalent mood, they looked to mythology (Azad, 2020).

Sabari Venu's '@meancurry', a comic strip on Instagram with a following of more than 21.2 K, uses a mix of Malayalam and English to come up with sharp but humour-laced observations on current affairs and society. Since the COVID-19 outbreak, his followers were keenly waiting to see what the Bengaluru-based designer would come up with: he opened with a cheeky panel on his Facebook page, 'Mean Curry' on March 20's Janata curfew and banging of vessels (Azad, 2020).

A short Malayalam film, *Memoirs of Devaki – Oru Amoomakaalam*, made by Vinu Janardanan, has recently gained

attention on social media. Vinu, a Kollam native, is a known name in the Malayalam Film industry. This documentary gives us candid moments from a day in the life of Devaki. She recollects her childhood memories of outbreaks of diseases like cholera and smallpox in Kerala. Near the end of the five-minute-long documentary, Devaki adds that people have overcome disease outbreaks in the past. “We have seen all these, and I hope and believe that we will overcome this too,” the 91-year-old grandmother.closing the short film on a hopeful note. the short film was released through the YouTube channel Leafy Stories (Dyudi, 2020). Another short film titled ‘Oppam: An unconditional service’ directed by Sreevarun released through the official page of actor Mohanlal. It shows the predicament of many healthcare workers who sacrifice many personal things to serve on Covid – 19 treatment in corona isolation wards (Deepa, 2020).

From making short films to wall paintings, artists in Kerala have been actively involved in creating awareness on COVID -19. But when a cultural organization joined the bandwagon, they did so, with Kerala’s classical dance form Kathakali. This has gone on to become a special experience for the public. ‘Margi’ a Trivandrum based organization dedicated to reviving traditional art forms, has made a five minutes video of Kathakali performance. This performance titled ‘Jagratha’ shows how a person overcomes the fear of corona virus, by simply following all necessary precautions like social distancing, wearing masks, using sanitizers and washing hands with soap. The video features three characters; one personified as the virus, second as a common man and the third as God, asking the man to follow all safety measures. The performance will be conducted at the Natyakala centre at Kalarcode and uploaded on Natyakala’s YouTube channel (Sajimon, 2020).

Emotional Intelligence used for Knowledge Transfer

Emotional intelligence has been defined, by Peter Salovey and John Mayer, as “the ability to monitor one's own and other people's emotions, to discriminate between different

emotions and label them appropriately, and to use emotional information to guide thinking and behavior”. This definition was later broken down and refined into four proposed abilities: perceiving, using, understanding, and managing emotions. All of the above mentioned persons are using higher emotional intelligence to attract the attention of a wide community. There are many different types of emotions that have an influence on how we live and interact with others. At times, it may seem like we are ruled by these emotions. Here awareness is twisted with humor, sadness, disgust, fear, surprise, and anger. Of all the different types of emotions, happiness tends to be the one that people strive for the most and is often defined as a pleasant emotional state. This may be the reason that most of the content creators are focusing humor and satirical presentation of a serious issue. The uncertainty during a pandemic is quite stressful, which in turn cultivates the need for an emotional dependence.

Conclusion

Recapitulating, we cannot ignore the gap that exists between individuals who have access to modern information and communication technology and those who lack access. But still the contents related to COVID-19 and its awareness campaigning is going well at grass root level. The most common emotion faced by all is fear. It makes us anxious, panicky and can even possibly make us think negatively. At the time when the entire government machinery is busy fighting the pandemic, social media, especially WhatsApp, is playing a crucial role in the dissemination of important information to the public. Interesting and catchy slogans including trolls and memes to inform, educate and communicate are being shared via the groups to draw the attention of the residents.

References

1. Annapurani V. (2020, April 13). Coronavirus impact: Social networking platforms see a surge in usage. *The Hindu:BusinessLine*.

- Retrieved from <https://www.thehindubusinessline.com/info-tech/coronavirus-impact-social-networking-platforms-see-a-surge-in-usage/article31328658.ece>
2. Azad Baboof A. (2020, June) The Davinchi behind Kerala's COVID-19 awareness campaign. *Mathrubhumi*. Retrieved from <https://english.mathrubhumi.com/features/web-exclusive/the-davinchi-behind-kerala-s-covid-19-awareness-campaign-1.4823110>
 3. Barry, A. (2006). "Perceptual Aesthetics: Transcendent Emotion, Neurological Image". *Visual Communication Quarterly*. 13 (3).
 4. Boyd, D. & Ellison, N. B. (2007). Social network sites: definition, history, and scholarship. *Journal of Computer-Mediated Communication* 13 (1): 210– 230.
 5. Colman, Andrew (2008). *A Dictionary of Psychology* (3 ed.). Oxford University Press.
 6. Deepa Soman (2020, July 10). Mohanlal releases the short film 'Oppam'. *The Times of India*. Retrieved from <https://timesofindia.indiatimes.com/entertainment/malayalam/movies/new-s/mohanlal-releases-the-short-film-oppam/articleshow/76888418.cms>
 7. Dyuti Gupta (2020, June 12). We Will Overcome This Too: This Short Film with a 91-Year-Old's Take on COVID-19 Will Win Your Heart. *She the People: The women's channel*. Retrieved from <https://www.shethepeople.tv/top-stories/opinion/kerala-grandma-short-film-covid-19/>
 8. Fellous, Jean-Marc (2006). "A mechanistic view of the expression and experience of emotion in the arts. Deeper that reason: Emotion and its role in literature, music and art by Jenefer Robinson". *The American Journal of Psychology*. 119 (4): 668–674.
 9. Gerbner, G (1969). Toward cultural indicators: analysis of mass mediated public message systems. *AV Communication Review* 17: 137–148.
 10. Jon Chamberlain (2020, May 12). Coronavirus has revealed the power of social networks in a crisis. *The Conversation*. Retrieved from <https://theconversation.com/coronavirus-has->

revealed-the-power-of- social-networks-in-a-crisis
136431

11. Kerala dance exponent spreads COVID – 19 awareness through Ottamthullal. (2020, April 03) *The New Indian Express*. Retrieved from <http://newindianexpress.com>.
12. Kerala Government Department of Cultural Affairs (2020, July 5), *The Heyday of Malayalam Drama*. <http://www.keralaculture.org/goldenage-drama/279>.
13. Kerala's Ottamthullal (2018, December 10). Kerala's Ottamthullal : A Traditional Satirical Performing Art Form [Video] YouTube <https://youtu.be/Wu22bYdYTIE>
14. Lantz, Kenneth A. (2004). *The Dostoevsky Encyclopedia*. Westport, Connecticut: Greenwood Publishing Group.
15. Lauer, Reinhard (2000). *Geschichte der Russischen Literatur: von 1700 bis zur Gegenwart* (in German). Verlag C.H. Beck.
16. Mayer, John D (2008). "Human Abilities: Emotional Intelligence". *Annual Review of Psychology*. 59, 507–536.
17. Michalis F., Thomas K. & Seung-Hyun Moon. (2010), Online social networks. *Network, IEEE*, 24 (5):4–5.
18. Namboodiripad, E. M. S. (1976). *How I Became a Communist*, Trivandrum: Chinta Publications.
19. Sajimon P. S. (2020, June 24). Kathakali Covid drama set for YouTube release. *The Times of India*. Retrieved from <https://timesofindia.indiatimes.com/pcpaathshala/parents/parentsarticles/how-digital-classrooms-are-schooling-both-teachers-andstudents/articleshow/76710852.cms>
20. Salovey, P., Mayer & Caruso, D. (2004), "Emotional Intelligence: Theory, Findings, and Implications", *Psychological Inquiry*, pp. 197–215
21. Steed, E. (2017, May) Satirical Cartoons. *The New Yorker*. Retrieved from <http://www.newyorker.com/humor/daily-shouts/satirical-cartoons>.
22. Terras, Victor (1998). *Reading Dostoevsky*. University of Wisconsin Press.
23. Vance, J. (2003), *Chaplin: Genius of the cinema*, Harry N. Abrams

24. Vishnu, M. Gupta (2020, March 23). *Corona Awareness Campaign (Ottamthullal) On Stage – Kalamandalam Vishnu Kerala* [Video] YouTube
<https://youtu.be/wwnuDhL8xDo>

Chapter-2

Meme Ban and Link Tax in European Union Copy Right Law

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Abstract:

The paper discusses brief introduction of European Union. The paper highlights European Union Copy Right Law with special reference to article 11 and 13 Meme Ban and Upload Filter. Also gives brief on Link Tax. Discusses its impact on Copy Right Law specially in India.

Keywords: European Union Copy Right Law, Meme Ban, Link Tax, Upload Filters

1. Introduction:-

Every country has its own copy right law which are applicable in its territory. These are different from country to country though they may be similar, to some extent, in some countries. In digital environment the copy right laws are amended from time to time to include new inventions e.g. in the beginning many countries included microfilms, micro cards, etc. in the 1950's and 1960's. But later copy right laws also included digital material like floppies and CD's, etc. In internet era copy right laws have included many other digital forms now available on internet in digital form.

The problem arose with the free use of information on social media like face book and YouTube, etc. where copy right laws are not followed to great extent. Some countries have started to take many steps in regularising copy right laws on social media contents. European Union Copy Right Law has adopted steps to control use of copy right material without permission and payment. This has been discussed in this paper.

2. European Union: -

Since the law is applicable to member states of Europe, we will first discuss European Union. It is a political and economic union of member states of Europe. It is an internal single market having a standardised system applicable to all member states for the free movement of people, goods, services and capital. European Union started with 6 founder countries which continuously grown to current 27 which have to follow certain norms such as democracy and functioning market economy, etc. Four others countries follow rules forming European Free Trade Associations, though formally they are not member of European Union. European Union has its own currency Euro. It covers 4.47 carore (447 Million) population 5.8% of world population. It has 24 official languages. But in January 2020 United Kingdom finally decided to leave the European Union. (1)

European Union has seven principal decision making bodies. The European Parliament, European Council, Council of the European Union, European Commission, Court of Justice of the European Union, European Central bank and European Court of Auditors. (2). Monetary policy is hold by European Central Bank. The European Union Parliament consists of 705 legislators by direct election. Each institution has its own system of decision making .This is a short description of European Union in nut shall to understand its basics. Its details are available on Wikipedia, etc. and can be consulted by those who are interested to know more. (3)

3. European Union Copy right Legislation:-

This right is one of the human rights such as right to live, right to shelter, right eat and right to freedom of speech, religion and clothing, etc. This right prohibit others to copy work of others. It ensures authors, composers, artists and others creators to receive recognition, payment and protection .Copy right laws ensure to receive recognitions, payment for creators,, be an author, composer, artist, etc. It rewards creativity. It also stimulates investors for the investments in creativity sectors such as film production, music and book industry, etc. It ensures countless jobs in creativity sectors. In European Union thirty three sectors are under the umbrella of the cop yright law.

Copy right laws are granted to authors, creators, producers and broadcasters. The copyright laws include two rights:

A. Economic Right: - This right includes to control use of their works. The users will have to pay for use as remuneration. These are exclusive rights. The prohibit making copies and distribute. It also prohibits communication to public.

B .Moral Right:-The moral right is a right to claim authorship of the work and right to object to category action. (4)

The inception of copy right in European Union can be seen on 9 Dec. 2015 with a communication on modern and more European copy right framework. The second proposal came in 2016 to modernise copy right framework. First legislative proposal was adopted on 14 Jan 2017. A Directive and a regulation implementing the Marrakech Treaty in European Union were adopted on 13 Sept. 2017. (5) The new Directives on copy right in the digital single market were agreed between the Council of the European Union, the European Parliament and the Commission on 13 Feb 2019. After word it was approved by the European Parliament on 26 March 2019 and endorsed by the Council on 15 April 2019. The Directive was published in the official journal of the European Union on 17 May. 2019. (6)

It has set of 11 directives and 2 regulations. Its aim is to harmonise rights of authors and performers, producing and

broadcasters, by reducing national discrepancies. The regulatory framework for copy rights and neighbouring rights core collectively called Acquis. These sets are :

- Satellite and Cable Directive, 27 September 1993
- Database Directive, 11 March 1996
- InfoSoc Directive, 22 May 2001
- Resale Right Directive, 27 September 2001
- IPRED, 29 April 2004
- Rental and Lending Directive, 12 December 2006
- Software Directive, 23 April 2009
- previous 2006 Directive (“Term Directive, 27 September 2011
- Orphan Works Directive, 25 October 2012
- CRM Directive, 26 February 2014
- Portability Regulation, 14 June 2017
- Directive implementing the Marrakech Treaty in the EU, 13 September 2017
- Regulation implementing the Marrakech Treaty in the EU, 13 September 2017 (7)

5. You Tube and Copy Right:-

The main concern of European Union Copy Right Law is over contents on You tube. The contents on You Tube are claimed to the use the content of others. The copy right issues are mainly criticized because of its two clauses known as Meme Ban and Upload Filter, Article 11 and Article 13 of European Copy Right Law, which are now, number 15 and 17 in new version.

The most controversial element of the new law-formerly known as Article 13,(17) hold online platform responsible for material posted without copy right permission. So online platforms and publishers are legally obliged to filter or remove users’ contents that break copy right laws. It ensures the original creator receive payment for the use of their contents. Meme Ban force major platforms like You Tube to filter every single upload to present copy right infringement. That could end

up severely linsining the freedom of expression and could end up force big corporation to install monitoring and surveillance technology. (8)

Another controversial point is Article 11, now Article 15, requires search engines and social media platforms to hold licenses for linking to publishers. This effectively mean content creator can charge platforms, like Google, if they show small snippets of their contents, such as an article summary Google News forms.(9)This Link Tax would force news aggregators to get licences from news publishers and remunerate them for linking to their articles.

The impacts of European Union Copy Right Law are large. For authors ,producers, creators and distributors they are positive but largely negative for users and broad casters. It has great impact on social media who are using others' creations without bothering copy right. Now they will have to use filters to find violations of copy rights and removing them at earliest or apply pay and use which will be a costly affair. At present it will be applicable in member countries of Europe which have large percentage of population. It will set an example to follow by other countries too. Content producers of other countries too will, sooner or later, demand for such a similar copy right laws. Many critiques have written that is beginning of death of internet, a few have commented RIP INTERNET. It is a big question. Will internet Di? Will it be a big blow to internet?

Though in India, voice have not arisen so far and we can see violation of copy right on social media to large extent but days are not far when such demand will crop up from producers and creators, etc. .

The authors of this article very long back wrote articles that copy right law will have to be amended in digital environment. It was published in ICDL 2004 (10). Another one was published on this subject in Library and Information Profession Summit (LIPS), 2015 (11) and another was published

on this subject in 40th ILA Conference (12)..Now during last few years Internet has become mature enough and used widely due to availability of high speed 4G and 5G technology in almost all mobiles available at low price to large number of population. It has reduced digital divide. The low price of data during tug of war between giants like Reliance, Voda and Idea has encouraged use of more social media by almost everybody at all times during the day. This has increased more violations of copy night. Excess of everything is bad. Zenith has reached to call for new amended copyright law in digital environment in India too.

References:-

- <https://en.wikipedia.org/wiki/EuropeanUnion> visited on 21.7.2020
- <https://en.wikipedia.org/wiki/EuropeanUnion> visited on 21.7.2020
- <https://en.wikipedia.org/wiki/EuropeanUnion> visited on 21.7.2020
- <https://ec.europa.eu/digital-single-market/en/copyrightsee> visited 21-7-2020
- <https://ec.europa.eu/digital-single-market/en/copyrightsee> visited 21-7-2020
- <https://ec.europa.eu/digital-single-market/en/copyrightsee> visited 21-7-2020
- <https://ec.europa.eu/digital-single-market/en/copyrightsee> visited 21-7-2020
- <http://futurism.com/this.rebot.took-over-as-director-> for a new-documantory visited 25.7.2020
- <https://www.iflscience.com/technology/the-eu-just-passed-the-meme-ban-heres-everything-you-need-to-know/> visited 25.7.2020

Chapter-3

Plagiarism and How to Avoid it in Higher Education Institutions of India

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ABSTRACT

The whole world is fond of knowledge and information. One who has information and knowledge on demanded situation, he/she can perform any task efficiently and effectively. In contrast of that, the lacking or false information may result in some degree of loss. The paper discussed about the various unhealthy activities in scholarly world, the reason that leads to do them and why it is recommended avoid all these kinds of activities, especially in HEI where activities are carried out for the generation of knowledge.

Keywords: *Plagiarism, types, how to avoid it, plagiarism in HEI, role of librarian.*

INTRODUCTION

Once Narayan Murthy said, ‘in around 1980s, India was known as one of the top ten nations in the world that was contributing original research. But from 1990s its position is continuously slipping to 12 then 20.’

The one of the main reasons of decrease in quality of any intellectual work is theft from other. The technical term defined for this is commonly known as 'Plagiarism'. It is basically taking over the ideas and thought of someone and presenting it as own. This act is theft of intellectual property. Sometimes it is done by unknowingly. In some case, it is done by intentionally, which is act of using someone's thoughts, theories or outcomes often without referencing the origin, rather than using quotations, even if he / she include in the source in references. It got rise in era of technology driven society with the increase in copy paste culture. This cut- copy practice leads to hollowness in scholarly work. That should be avoided.

PLAGIARISM

As defined by University Grants Commission (Promotion of Academic Integrity and Prevention of Plagiarism in Higher Education Institutions) Regulations- 2017, "it is an act of academic dishonesty and a breach of ethics. It involves using someone else's work as one's own. It also includes data plagiarism and self-plagiarism."

That is, the use of ideas, concepts, terms or architectures and not giving proper consideration of the real source to get benefited in a context where true essence is required.

PLAGIARISM: FORM

There are various ways by which one can plagiarize. Agencies and researchers have classified it on basis of the nature.

A survey was conducted by the Turnitin in 2015 on HEI & secondary education by taking their professors and teachers for the study. The study reveals ten forms of plagiarism as:

1. Clone: Here the person uses each word-by-word from someone's work as their own.
2. Ctrl-C: This incorporates large section of content without modifications from a particular source.
3. Find- replace: It is the practice of altering core terms and expressions while maintaining the vital facts of the source in a document.

4. Remix: In this the tactic of paraphrasing is utilized. Contents from many sources are used and fit together in an appropriate manner.
5. Recycle: The practice of making use of own previous work without recognition.
6. Hybrid: In this kind of plagiarism, properly cited sources with copied content without citation are seamlessly clubbed in a single document.
7. Mashup: This is the mixing up of copied contents from several source without appropriate acknowledgement.
8. 404 Error: This is act of making an document with misleading citation i.e. it involves citation to false information about source, which may non- existing actually.
9. Aggregator: The work contains proper citation and acknowledgement to resource but there is hardly any original job in the paper.
10. Re-tweet: It is half as per rule and half not. As in one side there is existence of proper citation and on other side it utilizes the language and/or composition, design of the text too similar to original.

Inspiring form the work of Maurer et al. (2006) which was further taken into consideration by Kakkonen and Mozgovoy (2010), they identified plagiarism of 5 type, as:

Type 1 (Verbatim copying): It is the most common type. This refers to overriding other's work and representing as own.

Type 2 (Paraphrasing): This is the act of triggering grammatical and stylistic changes by using synonymous, replacement of word and structuring the content.

Type 3 (Technical tricks): It includes misleading to the current automatic plagiarism detection softwares by utilizing the foreign language characters with similar look. Like use of '0' zero at place of 'O', and similarly use of white characters in between.

Type 4 (Deliberate inaccurate use of references): This is reported to those places where it is become difficult to identify the cited work because of fake referencing. Use of expired links of the source also leads to this.

Type 5 (Tough Plagiarism): In many cases there is use of similar ideas that may be result of common knowledge, use of translated

work, ghost writing, transformation of the work from one medium to another are acknowledged as tough plagiarism. Detection of these is much difficult for the computer as well as human expert too.

SOME COMMON ACT OF PLAGIARISM

- Refusal to recognize assistance and support
- Repetitive study
- Re-publication without consent & acknowledgment in after translation
- To give authorship credit for a work to a person who did not contributed in it

WHY PEOPLE PLAGIARIZE

There are many possible reasons that leads to this kind of practice. These can be as following:

- There are sometime the mis-management that result in shortage of timing and consequently decrease in the deadline, so in that case it appears as a solution to make them up to date.
- The people also involved in these to influence the other as they are superior one.
- Pressure of work place also is one of the major reason for this.
- There is some situation which is very much different. As some people are involved in this just because of their careless attitude and laziness.
- It is observed that the people are doing this unknowingly in lack of knowledge.
- For the upliftment in the carrier by increase in their number of publications, people are practicing it as a tool.

These are the major reason that's why the act of plagiarism is growing day by day.

PLAGIARISM IN HEI & WHY TO AVOID IT

The Higher Educational Institutions (HEI) are working hardly for the spread of knowledge among the society by promotion of research and development. As these are the responsible bodies

for the generation of knowledge so in that case it is their responsibility to generate the current and relevant information. The plagiarism is acting like dark circle for these activities which leads to decrease in generation of value information and value research too. The more the value of research output, more the value of the country. Therefore, it is very important to curb it.

HOW TO AVOID IT

Experts think that to combat with challenge of academic plagiarism requires a holistic approach, that may be further categories into the three i.e.,

1. National approach: In this, the various measures are taken at the national level. Each institute should have to follow guidelines duly authorized by state officials. In India, University Grant Commission is apex that look after the higher education system. It has designed various regulations time to time to combat with them it. It's latest contribution was in the form of a public notice to stop the practice for Self- plagiarism dated on 20 April, 2020.
2. Institutional approach: The higher educational institutions should design policies to prevent it and should must be implemented properly with fulfilment of legal aspect too. The faculty should also help to the researcher and student in getting them aware about the various activities that leads to plagiarism. Also, creation of barrier will be a positive approach to avoid it.
3. Individual approach: This approach is mainly based on one's commitment level. They must be clear in themselves that they are not going to copying any other's thought, they will cite to each and every source that are utilized in any manner for the completion of the task. Individual who are involved in scholarly work can combat with the plagiarism by obeying the guidelines that are recommended to be followed. Simply be honest.

OTHER MEASURES TO AVOID IT

- Doing our work by ourselves
- Use of quotation mark whenever it is needed

- After reading and understanding the content should be written in our own language using own words
- Proper citation to the source
- Use of plagiarism detection tool and make improvement to the work
- Taking help from the seniors, faculty members, etc.

ROLE OF LIBRARIAN

The librarians are the one who deals with the collection and distribution of information whenever and whatever is demanded by the user. As their work is to exchange the information so it becomes their responsibility too for making the users aware regarding various aspects to use an piece of knowledge, legally and ethically. They also play a vital role in fighting with the plagiarism. It can be done in following manner:

- They may design pages on internet, blogs to guide the users of the library assisting them in creating proper citation
- To making their user aware regarding various policies
- Educating the user community, either student or faculty member through training programme
- Offering plagiarism checking service to its user

CONCLUSION

Emergence of excess use of internet has increases the possible chance to plagiarize. The heigher educational institutions are also facing this situation as it has been continuously affecting the value as well quality of research work. It is responsibility of the nation, institute, faculty and the researcher to be committed for removing this from practice.

Being the centre source for exchange of information, it is responsibility of the librarians to make their user aware for ethical and legal use of information and hence contribute in combating with plagiarism. This will result in value to the research work conducted in HEIs.

REFERENCES

- Ahmad, W. (2020). Plagiarism in Higher Education: Challenges and Concerns. *Journal of Disability Management and Rehabilitation*, 5(2), 55-56.
- Born, A. D. (2003). Teaching tip: How to reduce plagiarism. *Journal of information systems education*, 14(3), 223.
- Brown, N. (2016). Against Plagiarism: a Guide for Editors and Authors. *Journal of Perspectives in Applied Academic Practice*, 4(3), 38-39.
- Gaur, R. C. (N.D.). *Anti-Plagiarism Strategies For Maximizing Research Impact: What Is Plagiarism And How To Detect & Avoid It* [Ppt]. New Delhi.
- Mozgovoy, M., Kakkonen, T., & Cosma, G. (2010). Automatic student plagiarism detection: future perspectives. *Journal of Educational Computing Research*, 43(4), 511-531.
- Muthanna, A. (2016). Plagiarism: a shared responsibility of all, current situation, and future actions in Yemen. *Accountability in Research*, 23(5), 280-287.
- Pandita, R., & Singh, S. (2019). Regulations to Prevent Plagiarism in Higher Education in India: A Critical Appraisal. *DESIDOC Journal of Library & Information Technology*, 39(2).
- Singh, G. (2019). Awareness and Understanding about Plagiarism among Higher Education Teachers in India. *the NCERT and no matter may be reproduced in any form without the prior permission of the NCERT.*, 45(1), 95.
- Singh, H. P., & Guram, N. (2014). Knowledge and attitude of dental professionals of North India toward plagiarism. *North American journal of medical sciences*, 6(1), 6.
- University Grants Commission. (2017). *University Grants Commission (Promotion of Academic Integrity and Prevention of Plagiarism in Higher Education Institutions) Regulations –2017*. Retrieved on July 13, 2020 from https://www.ugc.ac.in/pdfnews/8864815_UGC-Public-Notice-on-Draft-UGC-Regulations,-2017.pdf

Chapter-4

Digital Divide in Library and Measures to Bridge the Divide During Covid-19

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Abstract

The purpose of this paper is to present how the digital divide has become a common figure of speech originating from “information rich and information poor” and “information have and have not’s”. The article aims to focus on concept of Digital Divide, several extent of the digital divide in library, ways in bridging the digital Divide in library and benefits of bridging the digital divide in libraries in general and academic libraries in particular.

Keywords: Digital Divide, ICT, Library services, Information literacy

1. Introduction

Information and communication technologies (ICT) in general, and the World Wide Web and Internet in particular, have facilitated effortless communication with almost everyone, and trouble-free access to information located online anyplace in the world. At the same time they have also increased the gap between the rich and the poor, the ‘have’ and the ‘have not’s’. In other words although new technologies provided many opportunities for us, have also created ‘digital divide’. This term ‘Digital Divide’, is used to describe the “discrepancy between people who have access to and the resources to use new information and communication tools, such as the Internet, and people who do not have the resources and access to the technology. The term also describes the discrepancy between those who have the skills, knowledge and abilities to use the

technologies and those who do not” (Webopedia). The digital divide can exist between those staying in rural areas and those staying in urban areas, between the qualified, and unqualified, between techno savvy people and technology fearing people etc.

Libraries also suffer with this divide. There are differences of access to ICT among libraries and these imbalances have implications for evenhanded access to quality information service disseminating in libraries. Digital divide confines the several benefits, uses and advantages that ICT brings to libraries that are ICT compliant. So there must be some initiatives to bridge this divide for getting maximum benefits and advantages that ICT brings to libraries.

2. Why Digital Divide?

There are several contributors to the digital divide in society including differences in income, literacy, infrastructure, etc. In countries where people worry for getting their food, use of technology and internet access is less concern for them. At some places people those having income for using those technologies are not getting facilities to access those sophisticated technologies. Again people having those facilities are also not able to take advantage out of this because of less or no knowledge and skill in using those technologies. Change in technology is the major reason for the development of the information society. Day to day our society is changing and Information communication technology (ICT) is also developing but few people accept this change and go with ICT but few others are not comfortable with it. There are some other causes for digital divide like Linguistic diversity, age, disability, gender, geographical differences etc.

3. Digital Divide in library

Digital divide in libraries refers to the wider differences of access to ICTs in libraries. There is inequitable use and access of ICTs linked with the condition and use of information services in libraries. These inequitable use and access have created

obstacle for evenhanded access to information service being delivered in libraries. Hence the phenomenon of 'Digital divide' limits the several uses and advantages that ICT brings to libraries. There are several reasons for this divide in libraries, out of those few major reasons are listed below.

3.1. Information Literacy

Digital divide is also observed among library professionals those are working in the digital environment too. Along with the quick development of the ICTs the gap is also developing wider as the technology is growing faster. Few professionals are growing their capabilities to use the modern technology, whereas few people fear for this change in the method of library operation in library. So Libraries are unable to use the full potentialities of their staffs because of lack of ICT literacy of the staffs. As advanced machines and many advanced featured software are being developed more capable library professionals are required to use those technologies in library operations.

3.2. Budget

Reduction of budget for library forces the library management to continue a minimum standard of services. Library should get appropriate budget to meet the expenditure for ICT connectivity, library automation, Digitization, staff training, recruiting adequate number of staffs, making user awareness program me etc.

3.3. Proper connectivity

Poor services for access to ICT, especially the Internet are also one of the main reasons of digital divide in library. Not only computer should be with library staffs and patrons, high speed internet connectivity must there for continuous and easy access to information in library.

3.4. Unskilled library staff and library users

The generation gap is the most important reason in digital divide. Change is the law of nature. As society is changing to information society, libraries are also changing from traditional mode of working to modern mode of working with new technologies. But some people have not accepted it. They feel uncomfortable to use the technology. The knowledge and skills to use information technology effectively in library are highly essential. Every One (both staff and user) must have the interest

to learn and use the technology. Now huge number of information sources is being published in electronic form and sophisticated technologies are coming to manage those information sources in library. Skilled library staff can provide effective and timely service to the users by using those sophisticated technologies. If staffs are unskilled in using technology, they can't provide proper service to the users and can't meet the changing need of the techno savvy users. Similarly some unskilled users, without having the knowledge in using the technology can't effectively use the information services provided by the library. Hence there is a gap between those having skill to use computer, internet and online information and those are not having skill to use.

4. Measures in bridging the Digital Divide in Library

One of the common obstacles to the utilization of ICTs in the electronic age is connected with information literacy or digital literacy. Information literacy is the ability to access, evaluate and use information. Again Digital literacy is the skill to use computers and ICT to access information. The digital age is involved with huge challenges as new developments in ICTs are up coming. Now the traditional methods of processing, organising, retrieving, delivering and access of information in libraries are being changed with the modern methods. But there is a gap that exists between two categories of people working in libraries. Some library professionals are technically sound and some others fear for the modern methods of processing, storing, retrieving and delivering information. Again there is a huge gap between the user communities of the libraries. Some of them are comfortable to access information via ICT and some others are comfortable with the traditional methods. To acquire the skills for working with ICTs, both library professionals and users need education and training. This type of education and training will help them to Understand the purpose why libraries must be automated and digitize their materials. It also can make the professionals aware about the expected role of information professionals in the present digital era. The key to successfully building collection in the digital era is also training of library professional because if they learn for effective use of technology, the other people will automatically follow their work culture.

Again they will also help to bridge the digital divide by training the information users.

Along with education and training additional strategies required to be followed by all stakeholders and governments. The strategies are like below:

- Development of connectivity in libraries.
- Providing sufficient budget for Library automation and digitization.
- Making public awareness on the benefits of ICTs.
- Making universal access of information and information sources to users by use of affordable ICTs.

5. Bridging the Digital Divide among user community during COVID19

COVID-19 has made the internet more integral than before. Internet enable people to work from home, take online classes, use of virtual Libraries by and access other essential facilities.

There must be high speed network connectivity with all essential devices with the user communities to effectively use the library. At the same time library staffs must be well aware with the latest tools and techniques for providing information services to the users via internet.

However limited access to Internet in libraries; Lack of broadband Internet availability among users; inconsistent or unavailable education regarding changes in technology; varying degrees of digital literacy; Inability to purchase devices or upgrades etc are the reason behind digital divide among the users and libraries.

According to the Telecom Regulatory Authority of India (“TRAI”), Number of active wireless subscribers in April, 2020 was 957.87 million (<https://traai.gov.in/>). But each subscription is not linked to distinct individual. Around half of India’s population does not have access to an internet subscription. Hence these numbers convey a complete picture of the digital divide.

The pandemic has made a challenge for learners, if it is not resolved widely, will jeopardise the future of crores of learners from the most vulnerable sections of the population. Long periods of closures of classroom teaching because of Covid-19,

affect students' learning. In this situation academic libraries and publishers must play a great role in enhancing learning by delivering suitable content spontaneously to the learners to bridge the digital divide. Hence authority of the institution should take necessary action to make the library self sufficient with all the advanced tools, techniques, high speed network connectivity etc. to provide continuous information services to the user community. At the same time government should take initiative to bridge the digital divide among the user community by providing financial assistance for purchasing the information and communication tool.

6. Conclusion

Both patrons and library staffs should make strong effort in building their skill for effectively using ICTs. If libraries are really keen to provide effective and timely service to the users, they must work for bridging the digital divide in library. Along with this responsibility of libraries to bridge the digital divide library staffs and library users, libraries have another responsibility to bridge the digital divide in society. An example of attempt of library to bridge the digital divide in society is the development of "online indigenous digital library as part of public library services" in Durban, South Africa. "This project is a prospective one to narrow the digital divide by not only giving the people of the Durban area access to this digital resource, but also by incorporating the community members into the process of creating it" (Greyling E. 2010). The national knowledge commission (2007) has made a recommendation that "all academic institutions must set up an international repository of ETD. So the libraries should make continuous effort for creation of effective resource sharing network at regional, national and international level". So libraries should adopt appropriate infrastructure and other innovative measures for bridging the digital divide in library as well as in society, otherwise we will be lagging behind.

References:

- Block, J. (2015). *Distance Education and the Digital Divide: An Academic Perspective*, (pp.1–5). Retrieved

From <http://www.westga.edu/~distance/ojdla/spring131/block131.html>

- Chowdhury, G. G. (n.d.). *Digital Divide : How can digital libraries bridge the gap ?*, (pp. 1–10). Retrieved From <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.95.6213&rep=rep1&type=pdf>
- Emezie, N., Nwaohir, N., & James N. (2009). *The impact of digital divide on skills development amongst academic librarians in Imo State*, 6(2) (pp. 1). Retrieved From <http://www.ajol.info/index.php/ict/article/view/52713>
- Gautam, D. K. (2014). Impact of Digital Divide and Public Libraries, 19(12), (pp.59–63). Retrieved From <http://iosrjournals.org/iosr-jhss/papers/Vol19-issue12/Version-4/J0191245963.pdf>
- Greyling, E and Zulu, S (2010) “Content development in an indigenous digital library: A case study in community participation”. IFLA Journal, 36(1)
- Marrall, R. M. (2014). “Teaching the Digital Divide: Connecting Students to Community, Knowledge, and Service Learning.” *Library Philosophy and Practice*
- Nkanu, W. O. (2015). *Digital Divide : Bridging the Gap through ICT in Nigerian Libraries*, (pp. 1–13). Retrieved From <http://www.webpages.uidaho.edu/~mbolin/nkanu-okon.htm>
- Panda, I., Chhatar, D. C., & Mharana, B. (2013). *A Brief View to Digital Divide in Indian Scenario*, 3(12), (pp.1–7). Retrieved From <http://www.ijsrp.org/research-paper-1213/ijsrp-p2471.pdf>
- Sharma, P. (n.d.). *Approach To ICT in Library Training , Education and Technology : Issues and Challenges*. Retrieved From http://crl.du.ac.in/ical09/papers/index_files/ical-116_104_236_2_RV.pdf
- Talab, Seyed Mohammad Ghaemi, & Tajafari, M. (2012). *Impact of information and communication technology (ICT) on library staff training : A comparative study*, 59, (pp.7–15). Retrieved From <http://op.niscair.res.in/index.php/ALIS/article/view/127/5>

Chapter-5
**Knowledge and Practices of Plagiarism
amongst Research Scholars and Postgraduate
Student of Punjab Agricultural University:
a case study**

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Abstract:

Plagiarism, falsification, fabrication are the area of concern for the academicians. Nowadays, avoiding plagiarism and reducing unethical practices in research is given priority by the administrators, project in charges, guides. The present study aimed at knowing the knowledge of the university students towards plagiarism. The questionnaire based study was conducted amongst the researchers and postgraduate students of Punjab Agricultural University. The study revealed that there is a need to conduct awareness programmes, workshops to educate the students about plagiarism, anti-plagiarism tools and related rules and regulations.

Keywords: Plagiarism, Academic misconduct, Antiplagiarism software, Publication ethics

The academicians throughout the world are engaged in research and are making use of the resources and information already available in manuscripts, print formats and digital format. Research enhances the present knowledge and is based on the previous information available. The researchers can use the previously generated information to bring out better and advanced results. But, using the content of some person without giving due recognition is not only

unethical, immoral but results into the unpleasant consequences for the researchers, academicians, as well as the integrity of the institutions.

Plagiarism is a serious problem amongst the research community. It is the act of misappropriation of others' intellectual property, including but not only limited to scholarly text, ideas, concepts, graphics (Roig, 2012). Substantial amount of unattributed copying lead to dispute and copyright infringements which lead to legal consequences. Not only young researchers but faculty members, senior scientists, also indulge in plagiarism knowingly or unknowingly. To attain academic excellence it is mandatory to conduct genuine research. Avoiding plagiarism and undertaking research activities ethically is the need of an hour. Creating awareness among the researchers about plagiarism and its consequences in the early stage of research will help them in avoiding plagiarism throughout their career.

Objectives of the study:

1. To know the knowledge, awareness of Researchers and Post graduate students about plagiarism.
2. To know common practices of plagiarism and reasons of plagiarism.

Scope and Limitation: The present study is limited to postgraduate and Research scholars of Basic sciences and agricultural engineering disciplines of Punjab Agricultural University.

Methodology:

The survey was conducted taking data from 100 students including post graduate students and PhD students of Engineering and Basic Sciences. The questionnaires were distributed. The data collected was tabulated and analysed using Ms-excel.

Result and Discussion:

Demographic Details: Demographic details of the respondents are shown in Table 1:

Table 1

Variables		Frequency
Age	20-25	82
	26-30	12
	above 30	4

Gender	Female	64
	Male	34
Educational Stream	Basic Sciences & Humanities	55
	Agricultural Engineering & Technology	43
Educational Status	Post-Graduation	82
	PhD	16

Knowledge About Plagiarism

Self Appraisal: The respondents were asked to evaluate their knowledge about plagiarism .79 % respondents are of the view they have good knowledge about plagiarism whereas 10% can't say ,only 8% presume they are having very good knowledge and 3% have poor knowledge as depicted in figure 1.

Self Appraisal of Knowledge About Plagiarism of Respondents

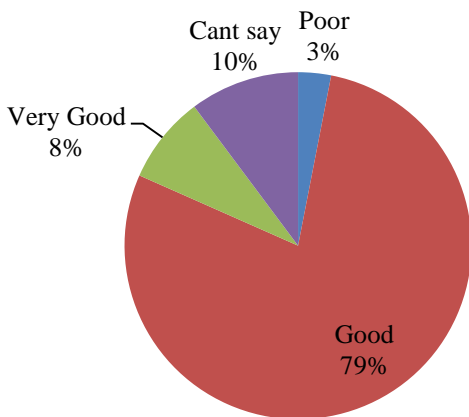


Figure 1

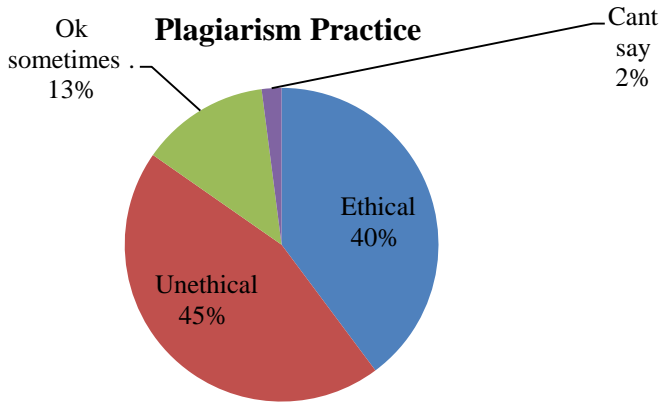


Figure 2

In self appraisal though 79%, 8% respondents rate their knowledge about plagiarism as good and very good but only 45% of the respondents consider and are aware that plagiarism as unethical practice.

Plagiarism Practices and the Reason of Plagiarism:

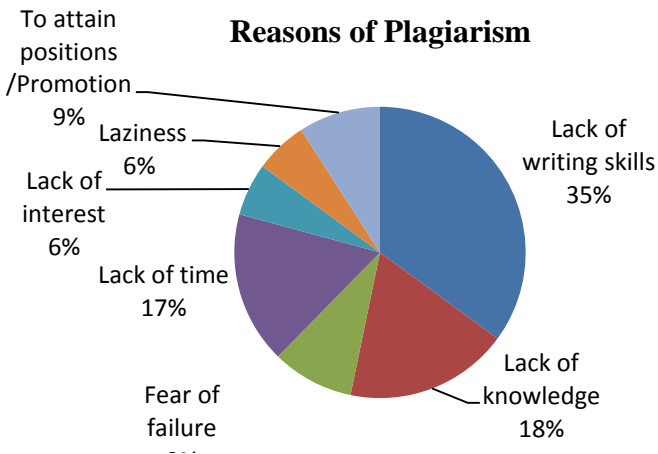


Figure 3

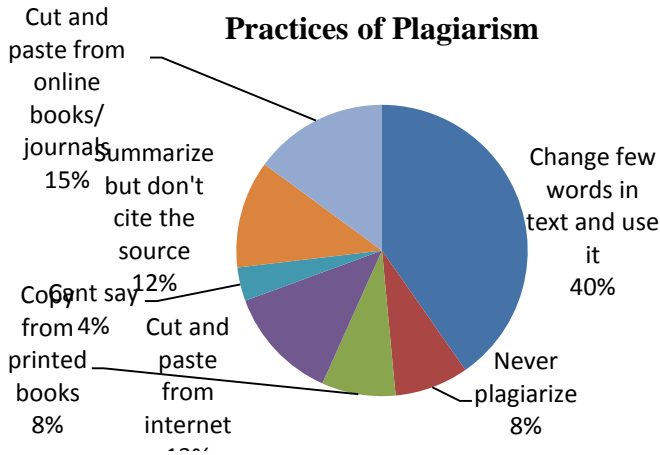


Figure 4

As depicted in figure 3 and figure 4 Lack of writing skills is the major reason of plagiarism followed by lack of knowledge and lack of time. 40% of the respondents make changes of few words and use the text followed by cut and paste from online resources and Internet. So it is necessary to provide necessary guidance in order to improve their writing skills. Language teachers can identify such students and can help them to improve. Library staff can help them by providing print and online resources to improve their writing skills.

Anti-Plagiarism Tools Awareness and Usage:

Anti- Plagiarism Software Awareness

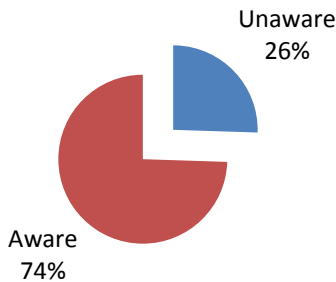


Figure 5

Figure 5 and figure 6 shows 26% of the respondents are not aware of anti-plagiarism software and 36% of the respondents have never used anti-plagiarism software to check plagiarism. This reflects 10% of respondents though aware still never used anti-plagiarism software.

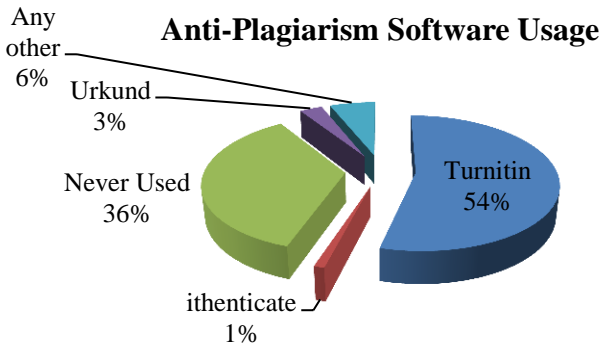


Figure 6

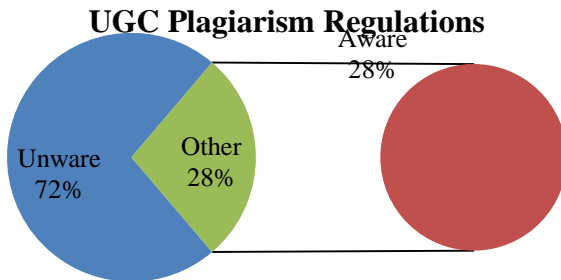


Figure 7

72% respondents are not aware of the UGC Plagiarism Regulations and the penalties imposed thereof, against plagiarism.

It is suggested to make the users aware about the existing plagiarism rule and regulations. Teachers and library faculty can play active role in creating awareness through discussions and seminars. Users can be made aware about the penalties and punishments

Conclusion

The findings clearly indicate that the knowledge of respondents about plagiarism, anti-plagiarism tools and the UGC Plagiarism regulations is poor. There is a dire need to make the students and researchers aware about as how to avoid plagiarism and informing them about the existing legal frame work as well as penalties for it. Teachers and library faculty through collaborative teaching learning program can spread the awareness through lectures, discussions and workshops. Great responsibility lies on the academic institutions as they can nip this evil in bud by making a committee to check the plagiarism of the work done and not forwarding the plagiarized material for publication. It is necessary to make it as a part of curriculum that will help in creating more awareness about plagiarism issues among the researcher community. In this directions University Grant Commission (UGC) has approved and issued guidelines to all the academic institutions of higher learning to teach course on“ Research and Publication Ethics” to all PhD students during pre-registration course work so that they are made aware in the beginning of research about plagiarism and consequences of plagiarism. By adopting above mentioned methods the substantial reduction in cases of plagiarism can be achieved.

References:

- Roig, M. (2012). Avoiding unethical writing practices. *Food Chem Toxicol* ,50 (10):3385–3387. DOI: 10.1016/j.fct.2012.06.043. Accessed on 31/07/20
- https://www.ugc.ac.in/pdfnews/7771545_academic-integrity-Regulation2018.pdf (Accessed on 31/07/20)

Chapter-6

Role of Educators in Imparting Desired Education among the Students during COVID-19 Disaster through E-Learning: A Survey

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Abstract

With the speedy growth of Information and Communication Technology in everyday life, the way of living and working has changed. The use of ICT in the education sector has played a crucial role in the present scenario. The mainly modern influence of ICT in the field of teaching is e-learning. E-Learning plays a vital role in facilitating the teaching and learning process through a digital medium. This survey analyzed the role of teaching faculty of various schools of Jammu division in e-learning throughout this COVID-19 pandemic period.

Keyword: E-Learning

Introduction

Due to the COVID-19 Pandemic, the education sector has been affected worldwide, with most governments around the world temporarily closed educational institutions. This nationwide closure is impacting almost 70% of the world's student population. As of May 25, 2020, approximately 1.186 billion learners, 67.7% of enrolled learners, are presently affected by school closure in response to the epidemic, and 146 countries are implementing nationwide cessation. UNESCO suggested the use of e-learning and open education applications and platforms that help parents, schools, and teachers to facilitate student learning (UNESCO, 2020). The purpose of using e-learning is to generate a learning platform with a combination of attainable knowledge and Information and Communication

Technology (ICT). It helps students in their studies, anytime and anywhere.

Concepts of E-Learning

E-Learning is an acronym of the word electronic learning. A learning structure based on formal education but with the help of electronic assets is known as E-Learning. E-learning is the delivery of online learning resources such as e-books, e-journals, e-repositories, Online Open Access resources, Online Open Education resources, Digital Libraries, e-portals, and websites. Although e-learning based on education provided through electronic devices such as computers, tablets, and even Android phones connected to the internet.

E-Learning Initiatives

Technology improvement and the internet have changed people's lives on different scales, including instance education. The network has become one of the channels of learning that opens the doors for people around the world to access open education. E-learning is just the way that can build India, a Knowledge and Digital based, society. Encouraging electronic learning and making students aware of a variety of digital learning platforms initiated by the MHRD for online educations are SHAGUN (DIKSHA, E-PATHSHALA, and NREOE), SAKSHAT, SWAYAM, SWAYAM PRABHA, National Institute of Open Schooling (NIOS), FOSSEE (Free/Libre Open Source Software for Education), National Digital Library, Spoken Tutorial, NISHTHA, Virtual Lab, National Academic Depository, E-Books-NCERT, and E-CBSE^{5,6}.

Likewise, Government of UT of Jammu & Kashmir has also taken the initiative under its Samagra Shiksha Programme to assist students with complete access to education through technological interventions are Jammu and Kashmir Knowledge Network Portal (JKKNP), Manzilein– Career Guidance Programme (jkcareerportal.org) and Career Information Portal-CIP (jkkn.co.in/career)⁸. Some of the initiatives by Directorate of School Education, Jammu (DSEJ) are Jammu Educators, Aao Baat Karein (Tele Counselling Helpline), and Class Wise Home Assignments Weekly Programme. DSEJ also organized online

competitions in various activities for children between age group 03-15 under the theme “Celebrating Mother Heroes”, “Activity Karo Na”, and conducted Online Quiz Competition for the students of class 6th to 12th (DSEJ, 2020).

Research Methodology

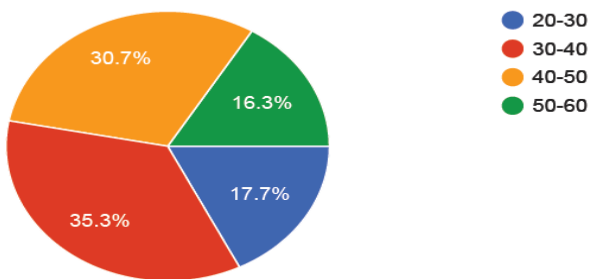
The information’s collected from numerous primary and secondary sources such as e-journals, information brochures, newspapers, websites, etc. A structured questionnaire is framed for data collection through Google form link shared via Gmail, Whatsapp to the teaching faculty of various schools of Jammu.

Data Analysis and Interpretation

The data composed through questionnaires were organized and interpreted by using a simple statistical manner. It deals with the scrutiny and interpretation of data collected through the Google Form method. A total of 215 responses received from both the teaching faculty of Govt. and Private Schools of Jammu, which were analyzed.

Response and Finding

215 responses received, of which 114 (53%) Females and 101 (47%) Males participated in the survey. In response to data, most faculty members belong to the Government school with 88.4% while 11.6% to Private School. The type of region of the school was 56.3% Rural and 43.7% Urban area. It has been found the respondents fall under different age group which shown through the fig as below:



An in-depth analysis of each one of the variables selected for an intensive study done as under:

- 1. Do you use e-learning in your teaching during this COVID-19 Pandemic?**

The response is indicating in fig presentation as:

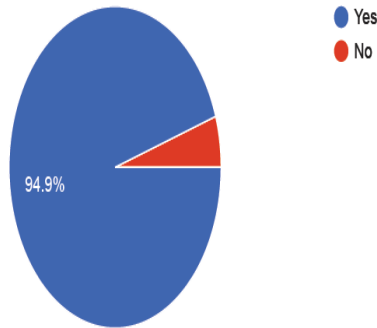


Fig 1

From fig 1, it noted that 94.9% of teaching faculty use e-learning in his/her teaching during this pandemic, and the remaining 5.1% didn't use e-learning.

2. What are the ways do you adopt to communicate with your students in e-learning.

The response from the respondents shown in graphic presentation as:

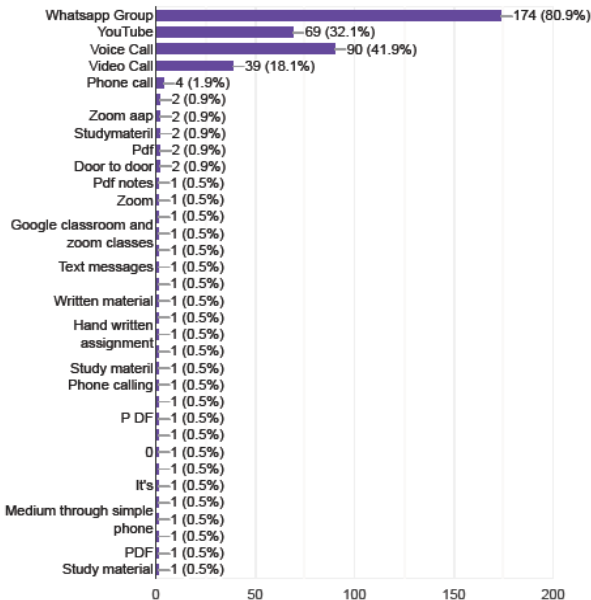


Fig 2

From fig 2, the various communicating medium use are Whatsapp (80.9%), Voice Call (41.9%), YouTube (32.1%), and Video Call (18.1%) instead of these the other medium uses are Zoom App, Google Classroom, Text Message, etc.

3. Percentage of Students who joined online classes.

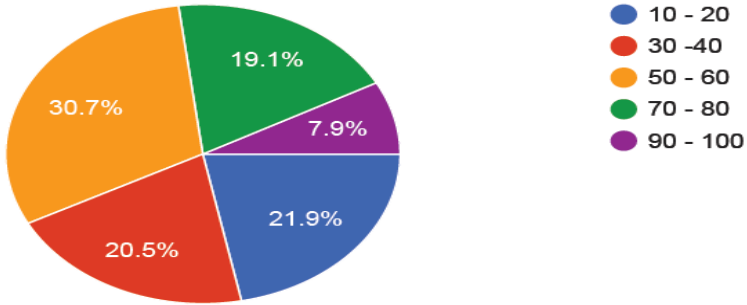


Fig 3

From fig 3, it has found that 30.7% of respondents responded that (50-60%) of students joined online classes followed by 21.9% agree with (10-20%) of students, 20.5% response that (30-40%) of students, 19.1% faculty response (70-80%) of students and only 7.9% response fall in (90-100%) of students

4. In which form you provide study material to your students.

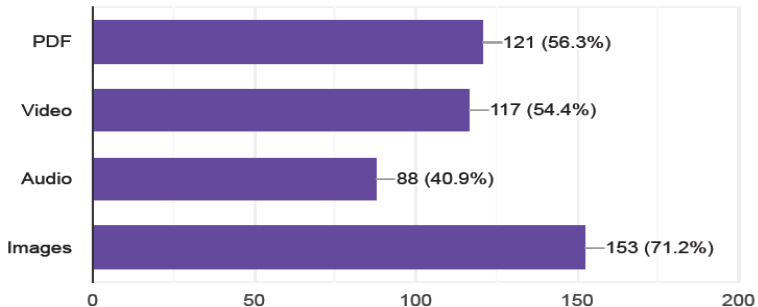


Fig 4

In fig 4, 71.2% of respondents provide study material in the form of images followed by 56.3% of giving PDF materials, and 54.4% of providing content in video form. In contrast, only 40.9% of respondents provide in audio form.

5. Problems faced in e-learning.

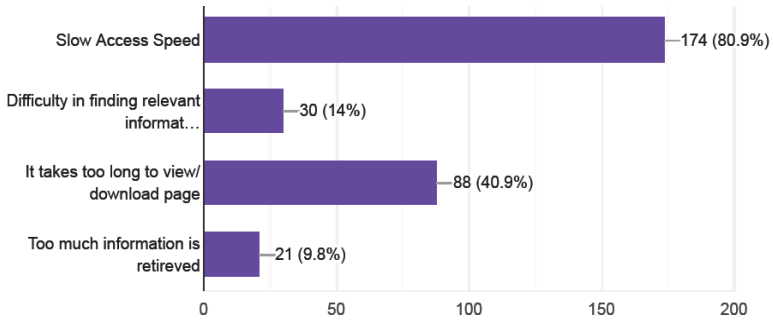


Fig5

From fig 5, it observes that 80.9% of faculty members faced Slow Access Speed due to a ban on 4G network in J&K, 40.9% of it takes too long to view download page, 14% of Difficulty in finding relevant information, and 9.8% of retrieved too much information.

6. Activities other than daily online classes to engage students.

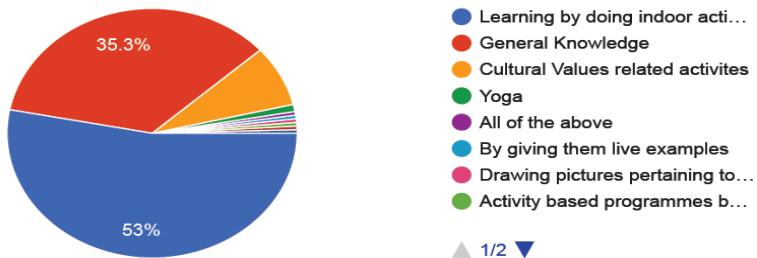


Fig6

In fig 6, we found that 53% of respondents engage students with Learning by doing indoor activities, whereas 35.3% students engaged by General Knowledge and other activities to join the students are Yoga, Drawing Pictures, etc.

7. Access student's performance in e-learning.

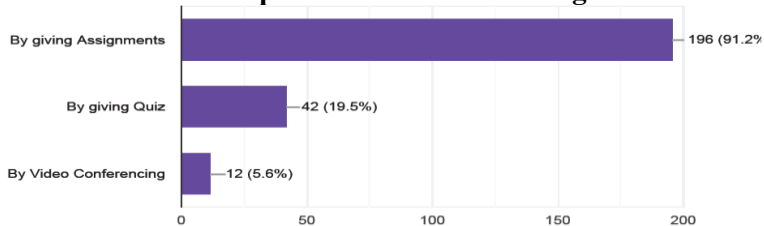


Fig 7

From fig 7, 91.2% of faculty members access student's performance By Giving Assignments, 19.5% of teachers access By Giving Quiz, and 5.6% By Video Conferencing.

8. DSEJ took the Initiative regarding e-learning

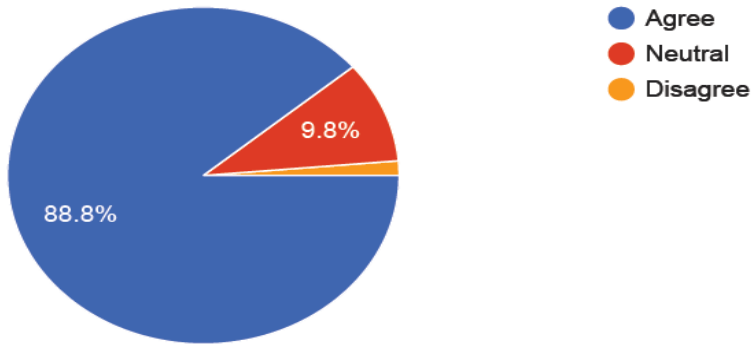


Fig 8

Fig 8, 88.8% of respondents agree with the Directorate of School Education initiated, whereas 9.8% neutral and 1.4% of respondents disagree with the statement.

Conclusion

According to India's Constitution, it is a fundamental right to provide free and compulsory education to all the children between the ages group of 6 to 14 yrs. Due to the shutting down of educational institutions because of the COVID-19 pandemic, students need to carry on their studies by making full use of digital wealth. Due to the changing concept of teaching and learning, teachers are playing an important role in education through e-learning. E-learning has become an accessible and adequate way to study due to its elasticity and better innovativeness about the introduction of new programs as compared to traditional faculty.

Reference

1. Jamlan, Muain. (2004). Faculty Opinion towards Introducing e-learning at the University of Bahrain. International Review of Research in Open and Distance Learning,5(2),1492-3831.<http://www.irrodl.org/index.php/irrodl/article/view/185/802>

2. UNESCO. (2020). Education: From Disruption to Recovery. Retrieved June 02, 2020, from <https://en.unesco.org/covid19/educationresponse>
3. Sharma, Bandana & Singh, Pramod K. (2016). "E-learning Initiatives in LIS Education: An Indian Perspective." *Future of Libraries: Trends, Issue and Challenges* (2016, pp. 164-173), 978-93-84556-02-0. Jammu: DLIS, University of Jammu.
4. Education (2020, June 05). E-Learning. *The Economic Times*. Retrieved from <https://economictimes.indiatimes.com/definition/e%20learning>
5. ETGovernment (2020, March 29). Lockdown Impact: Government's e-learning platforms witness surge in subscribers. *ETGovernment*. Retrieved from <https://government.economictimes.indiatimes.com/news/education/lockdown-impact-governments-e-learning-platforms-witness-surge-in-subscribers/74870839>
6. Gupta, Nidhi (2020, April, 14). Government facilitates e-learning platforms for students amid COVID-19 outbreak. *Jagran Josh*. Retrieved from <https://www.jagranjosh.com/articles/list-of-digital-learning-platforms-for-the-students-by-mhrd-and-government-of-india-1584947155-1>
7. Students Corner (2020). Directorate of School Education Jammu. Retrieved from <http://schedujammu.nic.in/#Students>
8. Information desk (2020). JK-Knowledge Network. Retrieved from <https://jkkn.co.in/>

Chapter-7

Research Productivity of NIRF 2020 Top Indian Law Institutions

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Abstract

The India Rankings (IR), known as National Institutional Ranking Framework (NIRF), is the first most famous positioning framework in Quite a while started by Government of India for benchmarking of Indian Institutions based on various boundaries. One of the center/significant boundaries of this positioning framework are research results. This paper concentrated effect of NIRF on research results. Besides, it likewise assesses patterns of distributions by the Indian Universities. The examination researches the development of

distribution in the diverse subject classification just as effect of development when NIRF. The example information is considered for 10 law foundations from the top beneficial institutors positioned most recent three years in NIRF. The information for this investigation has been gathered from the Elsevier Scopus bibliographic database throughout the previous nineteen years.

Keywords: *Research Productivity, NIRF Ranking, Law Institutions, Scopus, India.*

1. Introduction

In the contemporary scenario, National Institutional Ranking Framework (NIRF) is the latest topic among the academic community of Indian higher education institutions because there will be funding cuts and penalties for those who are not part of this national level ranking framework. The NIRF ranking will lead to competition among the institutions and it may help to get better ranking and improve their quality and standards in education and research. Further, it leads to competing with international educational institutions across the globe.

The latest NIRF ranking (NIRF, 2020) presents the list of top 100 academic institutions under the three major headings: overall, discipline-specific (Engineering, Management, Pharmacy, Medical, Architecture, and Law) and category-specific (universities and colleges). NIRF ranking of academic institutions is based on the five major parameters: (1) Teaching, Learning & Resources its sub categorised Student Strength including Doctoral Students (SS), Faculty-student ratio with emphasis on permanent faculty (FSR), Combined metric for Faculty with PhD (or equivalent) and Experience (FQE), Financial Resources and their Utilisation (FRU). (2) Research & Professional Practice and subcategorised Combined metric for Publications (PU), Combined metric for Quality of Publications (QP), IPR and Patents: Published and Granted (IPR), Footprint

of Projects and Professional Practice (FPPP). (3) Graduation Outcome and subcategorised Metric for University Examinations (GUE) & Metric for Number of Ph.D. Students Graduated (GPHD). (4) Outreach Inclusivity and its sub categories are Percentage of Students from Other States/Countries (Region Diversity RD), Percentage of Women (Women Diversity WD), Economically and Socially Challenged Students (ESCS), Facilities for Physically Challenged Students (PCS), Perception (PR) Ranking and (5) Perception and its sub category Academic Peers and Employers (PR). There are four sub-parameters also under the major parameters. The present study is an attempt to analyze the ranking performance of self-financing engineering and technology institutes in India in comparison with selected institutions of national importance in the engineering and technology field.

2. Literature review

The available literature was reviewed on NIRF ranked to 10 research productive law institutions.

(Kumar1, n.d.) Has studied that publication pattern of National Institute for Research in Tuberculosis (NIRT) from 2009 to 2018. Five hundred ninety-one documents were published during the study period. Most of them are articles (477) and the maximum number of research publications found in the category of 'Immunology' with 225 (38.07%).

(Das & Ghosh, 2020) has analysed that qualitative and quantitative analysis of scholarly research publications for mapping the research productivity of University of Petroleum and Energy Studies, over a 15 year period (2004-2018). This study is based on SCOPUS database, and a total of 1319 publications were retrieved in order to examine the growth of publication, access type, type of documents of publication, authorship pattern, international collaboration, highly productive subject, author and their citation count etc.

(Alma et al., 2016) has analysed conceptual and methodological differences in university ranking systems and concentrates on the situation in Turkey. Literature review

demonstrates that there is a larger than expected need for a national ranking system for Turkey so as to identify the position of a specific university compared to others.

(Reddy et al., 2016) has confirmed that probably the first to compare Indian and Chinese universities on educational performance metrics such as high-impact research and world university rankings. The study, therefore, examines the current state of higher education, high-impact research metrics, and world university rankings in an emerging market of India.

(N.K et al., 2018) have conducted compare the parameters of NIRF with those of leading world ranking university rankings. Design/methodology/approach: The data for the study were collected through Web content analysis.

(R & G, 2017) have discusses about the published research articles and its citation available in the Indian Citation Index by the authors from SRM University. The relevant data are collected from Indian Citation Index and it was analysed. It shows among the 510 articles, the maximum of 157(30.78%) articles published in 2015 and minimum of 1 (0.20%) articles published in 2005.

(Prathap, 2019) prepare the construct validity maps from the National Institutional Ranking Framework (NIRF) 2019 data for the top 100 colleges in India. Tamil Nadu, Delhi and Kerala together have a disproportionate 82% share of the top-ranking colleges in the country that participated in the 2019 exercise.

(Kumar & Senthilkumar, 2019) have investigate the scientific research productivity of India's NIRF first ranked higher academic & research institute, Indian Institute of Science (IISc), Bangalore for a period of 05 years during 2014-2018. A total of 12,130 research papers were retrieved as SCIE publication from WoS bibliographical database and analysed.

3. Methodology

For this study the data were collected from Scopus on 06 July 2020. For data retrieving the "documents search" section in Scopus advanced search section was used for searching for the scientific publications of Law Institutions of India until 2020. The following search string used in advanced search section of Scopus was applied: AFFILCOUNTRY(India) AND AFFILORG("National Law School of India University" OR "National Law University" OR "Nalsar University of Law" OR "National Law University" OR "West Bengal National University of Juridicial Sciences" OR "Gujarat National Law University" OR "Symbiosis Law School" OR "Rajiv Gandhi National University of Law" OR "Dr. Ram Manohar Lohiya National Law University").

These are NIRF Raking 2020 Top most Law Institutions. In the above search, we got 524 results and their bibliographic data extracted. Then, as per our objectives, we studied and analysed the same. Lastly, Excel, Biblioshiny, and VOSviewer were used for data analysis. VOSviewer and Biblioshiny aim at facilitating bibliometric analyses and helpful in visualizing and mapping various patterns.

4. Objectives of the Study

The study aimed to:

- To identify top most productive law institutions;
- Study on year-wise research productivity by the law institutions;
- To identify the top productive authors ;
- To analysing document type of research productivity ;
- To identify the most relevant sources;
- To study on to sources and its growth rate;
- To identify the most used keywords and
- To comparing the international collaboration

5. Results and Discussions

Results and discussions reports the data of NIRF ranked top productive law institutions research output and we are collected from Scopus on 06 July 2020. For data retrieving the "documents search" section in Scopus advanced search section

was used for searching for the scientific publications of Law Institutions of India until 2020. Excel, Biblioshiny, and VOSviewer were used for data analysis for visualizing and mapping various patterns.

5.1. Top 12 Universities status in Indian NIRF Rankings 1991 to 2019

Table1. Top 12 Universities status in Indian NIRF Rankings 1991 to 2019

Institute/ University	State	City	NP	% of 524	Rank
National Law School of India University	Karnataka	Bengaluru	99	5.293	1
National Law University	Delhi	New Delhi	51	10.275	2
NALSAR University of Law	Telangana	Hyderabad	66	7.939	3
National Law University	Rajasthan	Jodhpur	106	4.943	5
Gujarat National Law University	West Bengal	Kolkata	19	27.579	6
Gujarat National Law University	Gujarat	Gandhinagar	25	20.960	7
Symbiosis Law School	Maharashtra	Pune	56	9.357	8
Rajiv Gandhi National University of Law	Punjab	Patiala	11	47.636	10
Symbiosis International Deemed University	Maharashtra	Pune	45	11.644	73

Hidayatullah National Law University	Chhattisgarh	Raipur	17	30.824	#
Jai Narain Vyas University	Rajasthan	Jodhpur	14	37.429	#
National Law University	Odisha	Cuttack	12	43.667	14

NP=Number of Publications

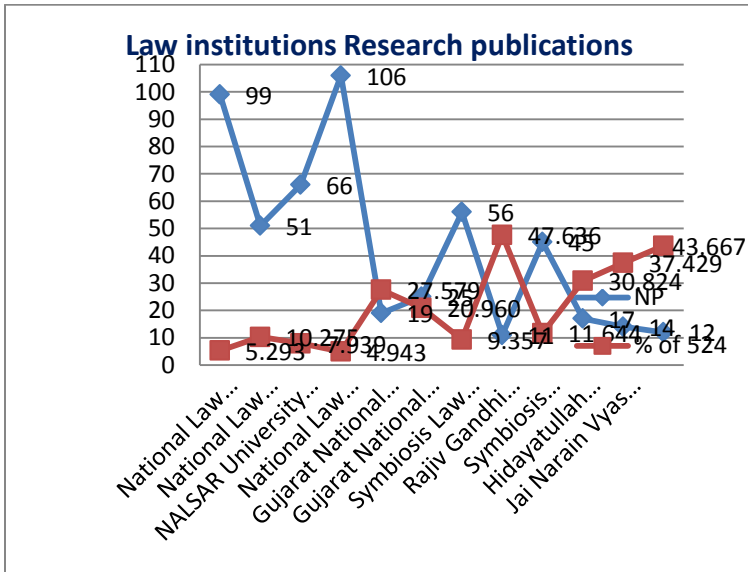


Fig. 1: Most Productive Law institutions

Table no. 1 and Figure.1 shows list of the high productive law institutions research publications of the last 19 years (from 1991 to 2019). National Law School of India University, Karnataka NIRF 1st ranked and published 99 total publications with 5.293% followed by National Law University, New Delhi NIRF 2nd ranked institution are produced 51 publications with 10.275%, NIRF 3rd ranked institution NALSAR University of Law; Telangana published 66 publications with 7.939%,

5.2. NIRF Law Institutions Research Publications Year-Wise (1991-2019)

Table 2: Universities Research Publications Year-Wise (1991-2019)



Year	NP	% of 524	Mean TCper Art	Mean TC perYear
1991	1	0.002	0	0
2003	3	0.006	12.667	0.745
2004	6	0.011	7.000	0.438
2005	6	0.011	6.833	0.456
2006	10	0.019	13.100	0.936
2007	10	0.019	3.300	0.254
2008	28	0.053	1.357	0.113
2009	26	0.050	6.269	0.570
2010	24	0.046	1.542	0.154

2011	25	0.048	2.000	0.222
2012	11	0.021	2.182	0.273
2013	37	0.071	2.270	0.324
2014	30	0.057	1.600	0.267
2015	50	0.095	2.160	0.432
2016	58	0.111	0.431	0.108
2017	71	0.135	0.493	0.164
2018	49	0.094	0.531	0.265
2019	60	0.115	0.150	0.150

Fig 2: Law institutions Research Publications Year-Wise

Table no. 2 shows an year wise list of the top 12 ranked universities research publications of the last 19 years (from 1991 to 2019). The research publication output of these universities growing every year as per the data. Scholarly research publication is one of the parameters for running and therefore, it is essential to get more articles published to get weightage every year in accreditation and ranking systems. The data shows that the NIRF top-ranked institutions are publishing good amount of research publications every year.

5.3. Most Prolific Author and Impact & Co-citation Network

Table 3: Most Prolific Author and Impact & Co-citation Network

Author	h_index	g_index	m_index	TC	NP
Das R	2	2	0.2	9	22
Banerji KK	6	9	0.353	92	21
Lilienthal G	1	1	0.167	1	12
Pellissery S	3	6	0.375	45	12
Jayaram N	0	0	0	0	10
Sharma PK	4	6	0.235	49	10
Ahmad N	1	1	0.2	1	9

Pandey SC	3	4	0.429	20	8
Abhijeet K	1	1	0.2	1	7
Kumar A	1	2	0.1	5	7
Rawat SR	2	2	0.25	7	7
Banerji J	2	3	0.143	13	6
Gurpur S	0	0	0	0	6
Pattnaik PN	1	2	0.25	5	6
Elizabeth VS	1	1	0.059	1	5
Jain DM	4	5	0.5	26	5
Kannabiran K	3	5	0.2	114	5
Majumdar A	1	1	0.091	3	5
Mathew T	2	3	0.167	13	5
Reddy VB	3	4	0.214	23	5

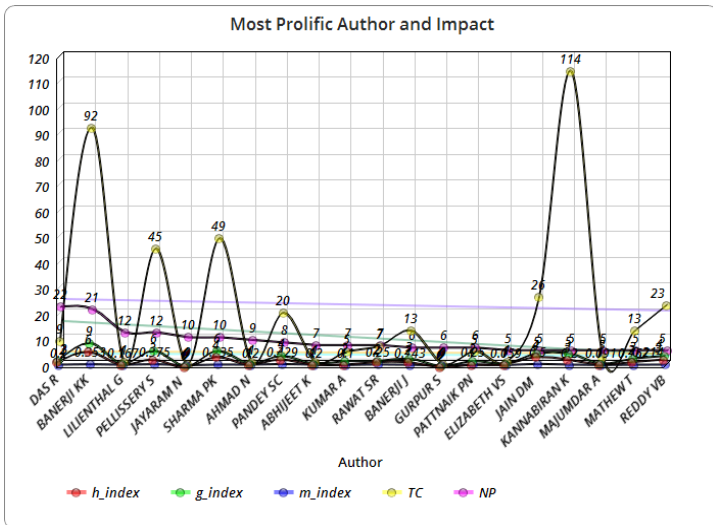


Fig 3: Most Prolific authors and Impact.

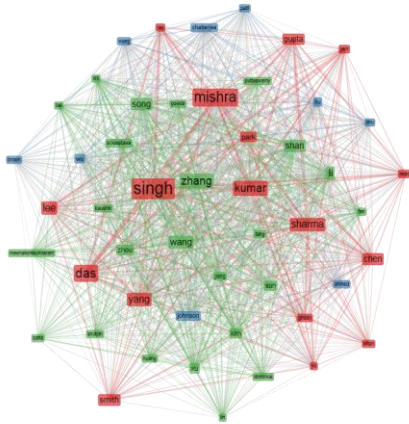


Fig 4: Most Prolific Authors Co-citation Network.

Table 3 and Fig 3 & 4 Shows the highly productive authors from top Indian law institutions output during the study period. Their highest papers, irrespective of their subjects in the Period of 1991 – 2019 as reflected in Scopus Database. The highly productive authors, are listed in below table, Das R contributed 22 publications with 9 citations, 2- h index, 2 – g index and 0.2 M index respectively, followed by Banerji KK contributed 21 publications with 92 citations, 6 – h index, 9 – g index and 0.353 m index, Lilienthal G contributed 12 publications with 1 citation, 1– h index, 1 – g index and 0.167 m index, , Pellissery S contributed 12 publications with 45 citations, 3 – h index, 6- g index and 0.375 m index, Jayaram N Contributed 10 publications, Sharma PK contributed 10 publications with 49 citations, 4- h index, 6-gindex, 0.235 – m index, end etc.

5.4. Forms Used For Communicating Law Institutions Research

Table 4: Forms Used For Communicating Law Institutions Research

Forms Type	NP
Article	298
Book Chapter	117
Review	50
Conference Paper	34
Book	9
Editorial	8
Note	4
Letter	2
Erratum	1
Short Survey	1

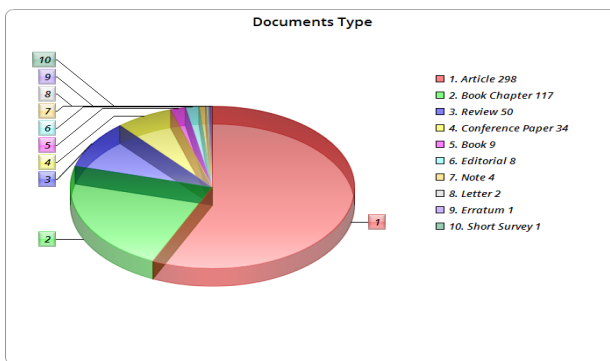


Fig. 5 Forms used for communicating

Table 4 & Figure 5 illustrates the forms used for communicating of agriculture research, these includes articles published in the scholarly journals, conferences and seminars proceedings, reviews, editorial materials, book chapters, meeting abstracts etc.. The study observed that a total of 524 publications in law institutions research output from India it has been observed from table ten are many communicating channels are used by authors to publish their research articles are used by Indian law institutions research literature. The majority of

publications are published in Journal Articles i.e. 298 (56.87%) followed by Book chapter 751 (23.32%) publications, 50 (9.54%) publications published in Reviews Papers, 34 (6.48%) publications are published as Conference papers, 09 (1.71%) publications are published as Book, 08 (1.52%) publications are published as Editorial, 04 (0.76%) publications published as Note, 02 (0.381%) publications published as Letter, 1 (0.190%) publications are published as Erratum and Short Survey articles are published.

5.4. Major 20 Relevant Sources Of Indian Law Institutions Publications

Table 5: Major 20 Relevant Sources of Indian Law Institutions Publications

Sources	Articles	% of 524
Journal Of Intellectual Property Rights	46	0.0878
Economic And Political Weekly	37	0.0706
Journal Of Critical Reviews	16	0.0305
Indian Journal Of Public Health Research And Development	10	0.0191
Law And Economics In India: Understanding And Practice	10	0.0191
Commonwealth Law Bulletin	9	0.0172
Journal Of International Commercial Law And Technology	9	0.0172
Arbitration International	7	0.0134
Statute Law Review	7	0.0134
Indian Journal Of Chemistry - Section A Inorganic Physical Theoretical And Analytical Chemistry	6	0.0115
Indian Ocean And Maritime Security: Competition Cooperation And Threat	6	0.0115
International Journal Of Law And Management	6	0.0115
Recent Developments In Space Law: Opportunities & Challenges	6	0.0115
Journal Of Financial Crime	5	0.0095
Unveiling Women's Leadership: Identity	5	0.0095

And Meaning Of Leadership In India		
Astropolitics	4	0.0076
Desidoc Journal Of Library And Information Technology	4	0.0076
India And International Law: Volume 2	4	0.0076
International Journal Of Private Law	4	0.0076
Journal Of International Wildlife Law And Policy	4	0.0076

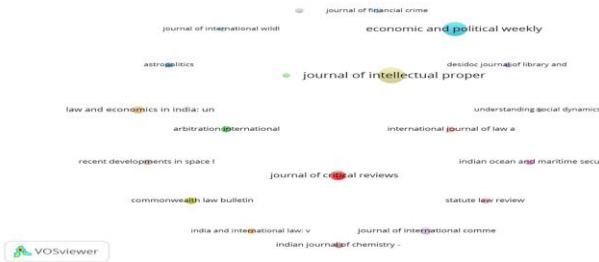


Fig. 6: Major 20 Relevant Sources of Indian law institutions publications

Table 5 reveals the top productive sources preferred by the authors of India in the Indian Law institutions research output. *Journal Of Intellectual Property Rights* first in terms of publications i.e. 46 publications with 0.0878% of total publications and followed by *Economic And Political Weekly 37 publications with 0.0706%* *Journal Of Critical Reviews* which are contributed 16 publications with 0.0305%, *Indian Journal Of Public Health Research And Development and Law And Economics In India: Understanding And Practice* produced 10 with 0.0191% publications, *Commonwealth Law Bulletin* and *Journal Of International Commercial Law And Technology* contributed 09 with 0.0172% publications, *Arbitration International* and *Statute Law Review* produced 7 with 0.0134% publications, *Indian Journal Of Chemistry - Section A Inorganic Physical Theoretical And Analytical Chemistry*, *Indian Ocean And Maritime Security: Competition Cooperation And Threat*,

Recent Developments In Space Law: Opportunities & Challenges produced 6 with 0.0115% publications published respectively. Figure 6 displays the Relevant Sources of Indian law institutions publications VOSviewer network.

5.5. Source Growth and Impact of Indian Law Institutions Publications

Table 6: Source Growth and Impact of Indian Law Institutions Publications

Source	h_index	g_index	m_index	TC	NP
Journal Of Intellectual Property Rights	4	5	0.308	51	46
Economic And Political Weekly	4	5	0.308	40	37
Journal Of Critical Reviews	1	1	0.500	1	16
Indian Journal Of Public Health Research And Development	1	1	0.143	2	10
Law And Economics In India: Understanding And Practice	0	0	0.000	0	10
Commonwealth Law Bulletin	0	0	0.000	0	9
Journal Of International Commercial Law And Technology	3	3	0.231	13	9
Arbitration International	1	1	0.125	3	7
Statute Law Review	0	0	0.000	0	7
Indian Journal Of Chemistry - Section A Inorganic, Physical, Theoretical And Analytical Chemistry	3	6	0.176	39	6
Indian Ocean And Maritime Security: Competition, Cooperation And Threat	0	0	0.000	0	6
International Journal Of Law And Management	2	2	0.333	8	6
Recent Developments In Space Law: Opportunities &	1	1	0.250	3	6

Challenges					
Journal Of Financial Crime	1	1	0.100	4	5
Unveiling Women's Leadership: Identity And Meaning Of Leadership In India	0	0	0.000	0	5
Astropolitics	0	0	0.000	0	4
Desidoc Journal Of Library And Information Technology	1	1	0.143	4	4
India And International Law: Volume 2	0	0	0.000	0	4
International Journal Of Private Law	1	1	0.083	1	4
Journal Of International Wildlife Law And Policy	1	1	0.333	1	4

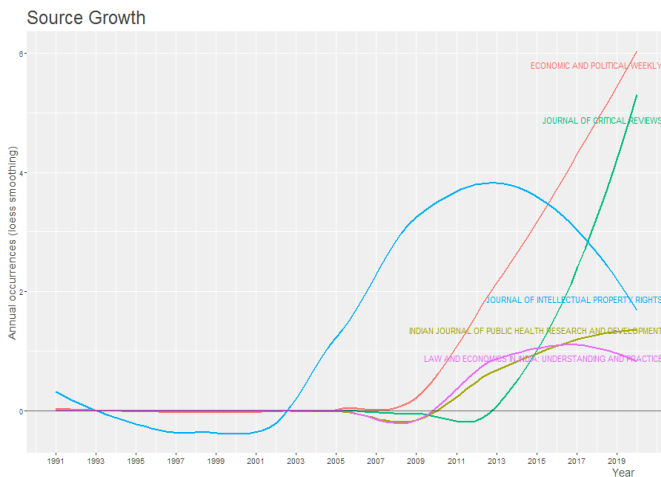


Fig. 7: Source Growth and Impact of Indian law institutions publications

Table 5 reveals the source growth and impact of Indian law journals *Journal Of Intellectual Property Rights* first in terms of publications i.e. 46 publications with 51 citations of total publications and followed by *Economic And Political Weekly* 37 publications with 40 citations, *Journal Of Critical*

Reviews which are contributed 16 publications with 1 citation, *Indian Journal Of Public Health Research And Development and Law And Economics In India: Understanding And Practice* produced 10 with 2 citations, *Commonwealth Law Bulletin* 9 publications with 0 citation, and *Journal Of International Commercial Law And Technology* contributed 09 with 13 citations, *Arbitration International* published 7 publications with 3 citations, *Indian Journal Of Chemistry - Section A Inorganic, Physical, Theoretical And Analytical Chemistry* produced 6 publications with highest citations.(39 citations). Figure 7 shows the source growth by annual occurrences.

5.6. Highly Prolific Keywords

Table 7: Highly Prolific Keywords

Words	Occurrences
India	29
human	20
article	16
oxidation	14
laws and legislation	9
government	6
chemical reaction kinetics	5
human rights	5
metal ions	5
metals	5
reaction analysis	5
space activities	5
[bis(trifluoroacetoxy)iodo]benzene	4
acetic acid	4

Table 7 and Fig. 8 & 9 shows that the maximum number of contributions used keywords like India with 29 papers, followed by human 20 papers, article 16 papers, oxidation 14 papers, laws and legislation 9 papers, government 9 papers, chemical reaction kinetics, human rights, metal ions, metals, reaction analysis and space activities 5 papers, [bis(trifluoroacetoxy)iodo]benzene, acetic acid, court, developing countries, economics, environmental protection and ethics 4 papers

5.7. Geographical distribution of research publications.

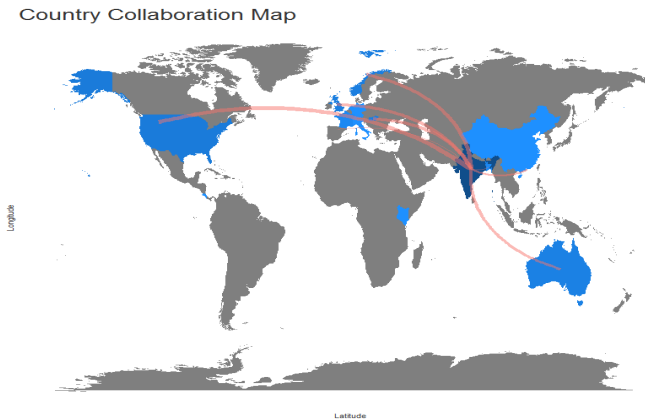


Fig. 10: Country collaboration map

Figure 10 Illustrated to reflect the geographical distribution of contributions and contributors in the Journal. Since India is the host country as such, maximum publications made to the particular journal from the host nation. Total of 524 research papers contributed to the NIRF ranked Indian law institutions.

Conclusion

The study analysed the role of scholarly communication in Institutional ranking. It was found that scholarly

communication is an important factor that influences the overall ranking of an institution. All ranking agencies give importance to the number of documents as well as number of citations received. Library and information science professionals can contribute their service to increase the research output of the members of their institution by several means. Workshops and seminars can be offered on research tools and scholarly writing. Author workshops can be arranged in association with publishers. Tutorials on databases and e-journals can be given to introduce electronic resources to users. Furthermore, this ranking system can be a basis for the development of a multi-ranking approach that considers all fields of study and ranks universities in a multi-dimensional manner in the future.

References

- Alma, B., Coşkun, E., & Övendireli, E. (2016). University Ranking Systems and Proposal of a Theoretical Framework for Ranking of Turkish Universities: A Case of Management Departments. *Procedia - Social and Behavioral Sciences*, 235(October), 128–138. <https://doi.org/10.1016/j.sbspro.2016.11.008>
- Das, S., & Ghosh, A. (2020). *Research Productivity of University of Petroleum and Energy Studies during 2004-2018: A Scientometric Analysis DigitalCommons @ University of Nebraska - Lincoln Library Philosophy and Practice (e-journal) Research Productivity of University of Petroleu. February.*
- Kumar, S., & Senthilkumar, R. (2019). Scientometric mapping of research output of NIRF first ranked institute of India: IISc, Bangalore. *Library Philosophy and Practice*, 2019.
- Kumar1, N. S. & N. R. (n.d.). *NIRT_21Apr2020_SRELS* (pp. 1–29).
- N.K, S., Mathew K, S., & Cherukodan, S. (2018). Impact of scholarly output on university ranking. *Global Knowledge, Memory and Communication*, 67(3), 154–165. <https://doi.org/10.1108/GKMC-11-2017-0087>
- Prathap, G. (2019). Construct validity maps and the NIRF 2019 ranking of colleges. *Current Science*, 117(6), 1079–1083. <https://doi.org/10.18520/cs/v117/i6/1079-1083>

- R, S., & G, U. (2017). Mapping of Research Productivity in Srm University: a Scientometric Study. *Kongunadu Research Journal*, 4(3), 103–107.
<https://doi.org/10.26524/krj241>
- Reddy, K. S., Xie, E., & Tang, Q. (2016). Higher education, high-impact research, and world university rankings *B: Humanities and Social Sciences*, 2(1), 1–21.
<https://doi.org/10.1016/j.psrb.2016.09.004>

Chapter-8

Knowledge and Attitude towards Plagiarism among Research Scholars in the Select Department of National Dairy Research Institute (NDRI), Karnal

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Abstract:

This study explores the knowledge perception and attitude of Research Scholars towards plagiarism at the National Dairy Research Institute. The tool used for the data collection was a structured questionnaire which was self-administered by the investigators to the respondents. The respondents were 54 Researchers from NDRI campus, Karnal. The collected data has analyzed with frequency and percentage method. The key findings show that the majority of Research Scholars are aware of plagiarism issues in academia and the main source of awareness are supervisors. The study brings out the reason for plagiarism include: inexperienced in the writing of the research

article, ignore the rule of academic research writing and less interest in-depth research.

Key Words: Plagiarism, Knowledge, Perception, Attitude, Research Scholars, NDRI, Karnal.

Introduction:

The most common problem that researchers face is known as ‘Plagiarism’, that is well known in any academic world. The researchers develop several misconceptions about ‘Plagiarism’. It is the call of the hour to create awareness among the researchers to avoid plagiarism in their work. There is several ways to overcome the problem of plagiarism. New technology has invented numbers of software to avoid this literary theft which a scholar unknowing commit and lands on the ground of plagiarism. Because of the availability of the material and source on the internet has created the problem of plagiarism. That is the biggest problem of the availability of the material. Instead to understand the conceptual idea of the work and just to save their time scholars copied the idea. But with the help of the number of tools/software’s researchers can freely check on the web about the plagiarism in their paper and made themselves free from plagiarism.

Plagiarism is the crucial growing concern for nearly all higher educational institutions and restrictive bodies. For any university or research institution, the research attribute is very important in magnitude to secured good ranking among worldwide peers. Research quality straight effects the reputation of research institutions. Academic attribute and its research output becomes an impression and have attracted the attention of governments, ranking agencies, institutions and funding bodies. Plagiarism origins a menace to original research work and has grown as a large problem in the research institution. In institution, research scholars are the creator of new ideas and cultivatable research carried by them is one of the leading semiprecious assets to a higher educational institution and finally impart towards nation’s process. Therefore, they must have awareness and understanding of plagiarism and related cognitive issues.

About NDRI (National Dairy Research Institute, Karnal)

In 1923, National Dairy Research Institute, Karnal was originally started as Imperial Institute of Animal Husbandry and

Dairying, Bangalore. It was expanded in 1936 and renamed as Imperial Dairy Institute. In 1947, after independence it was known as National Dairy Research Institute (NDRI). In 1955, headquarter of NDRI was shifted to Karnal. The NDRI commences teaching, research, and addition work regarding development of dairy in India. Being the research institute of National importance, NDRI carries out basic as well as applied research with the impartial to grow cost effective technologies and also to boost animal productivity for the enrichments of the teeming millions. Facilities were retained to function as a Regional Station to serve the Southern States at Bangalore. The Institute offers well-structured comprehensive courses. Students are in high demand also in Non-Dairying Organizations such as pharmaceutical industry, medical institutions, finance sector etc. Dairy Training Centre (DTC) and Krishi Vigyan Kendra (KVK) conduct training programmes regularly in order to makes rural women and farmers aware with modern dairy farming practices at NDRI. For all the queries related to technologies available at the Institute, Agricultural Technology Information Center (ATIC) works as a single window delivery system.

NDRI, Library

The Institute has a national library on Dairying, in there is a huge amount of the literature on the concerned subject. The library has an access on the national and foreign periodicals and the technical and scientific development. Apart from this, the library has a great number of books and journals, these, CD-ROMs and reprints. Moreover, it provides old documents, reference literature, printing and scanning facility to the students, and it also provides a helping hand to other scientists, research workers of NDRI, and other sister institute.

Review of literature

Madaan and Chakravarty (2017) investigated a study on awareness towards plagiarism among postgraduate students of DAV college Chandigarh. The study revealed that majority of the students have basic knowledge about plagiarism and also cogitate copying and pasting as an unethical practice. The study recommended spreading wide awareness regarding various

aspects of plagiarism such as training and conferences in forming the students about various anti-plagiarism tools and the right methods to quote and cite the original author should be held on frequent basis. **Singh (2017)** carried out a study on level of awareness of plagiarism among veterinary students of GADVASU, Ludhiana. Study explored that electronic information gradually used by the students for their learning and research. Study examined that the internet has initiated a major increase in the plagiarism level of Guru Angad Dev Veterinary and Animal Sciences University (GADVASU) students associated to print sources. While majority of students knew about the different acts of plagiarism and still a dearth of a clear understanding of plagiarism. **Kumar and Singh (2014)** investigated a study on awareness and attitude towards plagiarism among Research Scholars of Kurukshetra University Kurukshetra. The study revealed that majority of respondents believed that slothfulness is the utmost frequent cause of plagiarism followed by lack of knowledge on how to write technically. **Honsy and Fatima (2014)** conducted a study on attitude towards cheating and plagiarism among students of King Saud University, Riyadh, Saudi Arabiya. The study explored that most of students believe that cheating is unethical despite the fact cheating is common among students. The study also highlighted on most prevalent practices the reasons for doing them the awareness of the students the ethicalness about of such acts. **Dias and bastos (2014)** conducted a study on Plagiarism phenomenon in European countries among Teachers and Students from seven European countries. The study found that teachers and students thought that plagiarism is illegal and lack of skills, students to pressure to get good grades and laziness is the main causes for plagiarism among students.

Objectives

1. To know Research Scholars awareness towards Plagiarism.
2. To know about Research Scholars Knowledge towards Plagiarism.
3. To know Research Scholars Attitude towards Plagiarism.

4. To understand Research Scholars views of reasons of Plagiarism.
5. To know Research Scholars views on methods of reducing Plagiarism.

Methodology

The data was gathered using the questionnaire technique in the NDRI, Karnal from different departments i.e. Animal Bio-Chemistry, Animal Bio-Technology Centre, Livestock Production and Management, Diary Extension Division. Questionnaire were disseminated among the 56 research scholars in various departments categorized under for major department of NDRI, Karnal over a period of 4 weeks during month of July 2019. Appropriate time was given to the users to provide the information. A detail conversation was also made with the research scholars on diverse questions inquired in the questionnaire. 55 filled questionnaires were received back and 54 questionnaires were found in order for analysis. Suggestions given by the Research Scholars were noted and incorporated in the analysis.

Data Analysis and Interpretation

Table-1: Department-Wise Distribution

Departments	Respondents N(%age)
ABC	13(24.07)
ABTC	14(25.92)
LPM	12(22.22)
D.EXT.	15(27.77)
Total	54(100.00)

Abbreviation ABC-Animal Bio-Chemistry, ABTC-Animal Bio-Technology Centre, LPM-Livestock Production and Management, D-EXT-Dairy Extension Division

Table 1 shows that out of total 54(100%) respondents, 13(24.07%) respondents of ABC department, 14(25.92%) respondents of ABT department, 12(22.22%) respondents of LPM department and 15(27.77%) respondents of D.EXT department.

Table-2: Awareness of Plagiarism

Awareness	Yes N (%age)	No N(%age)
Animal Bio-Chemistry	13(100.00)	--
Animal Bio-Technology Centre	14(100.00)	--
Livestock Production and Management	12(100.00)	--
D-EXT-Diary Extension Division	14(93.33)	1(6.66)
Total	53(98.14)	1(1.85)

Table 2 shows that out of total 54(100%), 13(100%) respondents of ABC department, 14(100%) respondents of ABT department, 12(100%) respondents of LPM department and 14(93.33%) respondents of D.EXT departments were aware of plagiarism.

Table-3: Sources of Plagiarism Awareness

Sources	Animal Bio- Chemistr	Animal Bio- Technolog	Livestock Production and	D-EXT- Diary Extensio

	y (N=13) N(%age)	y Centre (N=14) N(%age)	Managemen t (N=12) N(%age)	n Division (N=14) N(%age)
Through Supervisors	6(46.15)	10(71.42)	8(66.66)	9(64.28)
In Discussion With Colleagues	6(46.15)	3(21.42)	4(33.33)	2(14.28)
Through Seminar and Workshop	1(7.69)	1(7.14)	-	2(14.28)
Through Mass Media such as Radio, T.V.	-	-	-	1(7.14)

Table 3 shows that 6(46.15%) respondents of ABC department, 10(71.42%) respondents of ABT department, 8(66.66%) respondents of LPM department, and 9(64.28%) respondents of D.EXT. department came to know the word plagiarism through supervisors. 6(46.15%) respondents of ABC department, 3(21.42%) respondents of ABT department, 4(33.33%) respondents of LPM department and 2(14.28%) respondents of D.EXT. department came to know the word plagiarism in discussion with colleagues. The table also shows that 1(7.69%) respondents of ABC department, 1(7.14%) respondents of ABT

department, 2(14.28%) respondents of D.EXT. department opined that they came to know of plagiarism through seminar and workshop. Only 1(7.14%) respondents of D.EXT. department was aware of word plagiarism through mass media such radio, T.V. The table further indicates that most of the respondents of all the four departments came to know the word plagiarism in the present university.

Table-4: Period of Awareness of Word Plagiarism

Period of Awareness	Animal Bio-Chemistry (N=13) N(% age)	Animal Bio-Technology Centre (N=14) N(% age)	Livestock Production and Management (N=12) N(% age)	D-EXT-Diary Extension Division (N=14) N(% age)
During last one year	1(7.69)	2(14.28)	-	1(7.14)
During last two year	5(38.46)	2(14.28)	3(25.00)	3(21.42)
During last three year	7(53.84)	9(64.28)	7(58.33)	10(71.42)
More than three year	-	1(7.14)	2(16.66)	-

Table 4 shows that 7(53.84%) respondents of ABC department, 9(64.28%) respondents of ABT department, 7(58.33%) respondents of LPM department and 10(71.42%) respondents of D.EXT. department were aware of word plagiarism during last three year. 5(38.46%) respondents of ABC department, 2(14.28%) respondents of ABT department, 3(25%) respondents of LPM department and 3(21.42%) respondents of D.EXT.

department were aware of word plagiarism during last two years. The table also shows that 1(7.69%) respondents of ABC department, 2(14.28) respondent of ABT department, and 1(7.14%) respondents of D.EXT. department came to know the word plagiarism during last one years. Only 1(7.14%) respondents of ABT department and 2(16.66%) respondents of LPM department were aware of plagiarism more than three years.

Table-5: Acts of Plagiarism

Statements	Animal Bio-Chemistry (N=13)			Animal Bio-Technology Centre (N=14)			Livestock Production and Management (N=12)			D-EXT-Diary Extension Division (N=14)		
	Agree N (%)	Disagree N (%)	Don't Know N (%)	Agree N (%)	Disagree N (%)	Don't Know N (%)	Agree N (%)	Disagree N (%)	Don't Know N (%)	Agree N (%)	Disagree N (%)	Don't Know N (%)
Summarizing someone else's ideas without crediting the source.	13(100.0)	-	-	12(85.71)	1(7.14)	1(7.14)	12(100.0)	-	-	14(100.0)	-	-
Copying from the internet and not crediting the source.	13(100.0)	-	-	13(92.85)	-	1(7.14)	12(100.0)	-	-	12(85.71)	1(7.14)	1(7.14)
Submitting an assignment/paper with passage copied from print/internet without acknowledgment	12(92.30)	1(7.69)	-	10(71.42)	3(21.42)	1(7.14)	10(83.33)	1(8.33)	1(8.33)	13(92.85)	1(7.14)	-

Translating a document from other language and submitting as your own.	9(69.23)	2(15.38)	2(15.38)	9(64.28)	4(28.57)	1(7.14)	8(66.66)	2(16.66)	2(16.66)	6(42.85)	2(14.28)	6(42.85)
Copying word, sentences without quotation marks (“...”) and providing references but no in-text citation.	8(61.53)	1(7.69)	4(30.76)	10(71.42)	3(21.42)	1(7.14)	9(75.00)	1(8.33)	2(16.66)	9(64.28)	2(14.28)	3(21.42)
Paraphrasing someone else’s words with no in-text citation but giving the source in the reference list.	9(69.23)	1(7.69)	3(23.07)	11(78.57)	2(14.28)	1(7.14)	10(83.33)	-	2(16.66)	8(57.14)	4(28.57)	2(14.28)

Table 5 shows the statements of the act of plagiarism according to the respondents of physics and chemistry departments of KUK University. 13(100%) respondents of ABC department, 12(85.71%) respondents of ABT department, 12(100%) respondents of LPM department and 14(100%) respondents of D.EXT. department with the statement “Summarizing someone else’s ideas without crediting the source” as an act of plagiarism. 13(100%) respondents of ABC department, 13(92.85%) respondent of ABT department, 12(100%) respondents of LPM department and 12(85.71%) respondents of D.EXT. department

with the statement “Copying from the internet and not crediting the source” as an act of plagiarism. 12(92.30%) respondents of ABC department, 10(71.42%) respondents of ABT department, 10(83.33%) respondents of LPM department and 13(92.85%) respondents of D.EXT. department with the statement “Submitting an assignment/paper with passage copied from print/internet without acknowledgment or citation” as an act of plagiarism.9(69.23%) respondents of ABC department, 9(64.28%) respondents of ABT department, 8(66.66%) respondents of LPM department and 6(42.85%) respondents of D.EXT. department with the statement “Translated a document from other language and submitting as your own” as an act of plagiarism. 8(61.53%) respondents of ABC department, 10(71.42%) respondents of ABT department, 9(75%) respondents of LPM department and 9(64.28%) respondents of D.EXT. department with the statement “Copying word, sentences without quotation marks (“...”) and providing references but no in- text citation” as an act of plagiarism. 9(69.23%) respondents of ABC department, 11(78.57%) respondents of ABT department, 10(83.33%) respondents of LPM department and 8(57.14%) respondents of D.EXT. department with the statement “Paraphrasing someone else’s words with no in-text citation but giving the source in the reference list” as an act of plagiarism.

Table-6: Attitude towards Plagiarism

State ment s	Animal Bio- Chemistry (N=13)			Animal Bio- Technology Centre (N=14)			Livestock Production and Management (12)			D-EXT-Diary Extension Division (14)		
	Ag ree N(%a ge)	Di sag ree N(%a ge)	Un dec ided N(%a ge)	Ag ree N(%a ge)	Di sag ree N(%a ge)	Un dec ided N(%a ge)	Ag ree N(%a ge)	Di sag ree N(%a ge)	Un dec ided N(%a ge)	Ag ree N(%a ge)	Di sag ree N(%a ge)	Un dec ided N(%a ge)

			ge)			ge)			ge)			ge)
Plagiarism is against my ethical values.	9(69.23)	1(7.69)	3(23.07)	13(92.85)	1(7.14)	-	8(66.66)	4(33.33)	-	11(78.57)	3(21.42)	-
If a student violates the plagiarism policy he/she should face its consequences.	10(76.92)	3(23.07)	-	9(64.28)	3(21.42)	2(14.28)	9(75.00)	3(25.00)	-	12(85.71)	2(14.28)	-
Plagiarism is ok, If professor gives too much work.	7(53.84)	6(46.15)	-	6(42.85)	8(57.14)	-	4(33.33)	8(66.66)	-	6(42.85)	8(57.14)	2(14.28)
Young researchers	6(46.15)	7(53.84)	-	5(35.71)	8(57.14)	1(7.14)	9(75.00)	3(25.00)	-	7(50.00)	5(35.71)	2(14.28)

who are just learning the rope should receive milder punishment for plagiarism.												
Plagiarized parts of a paper may be ignored, if the paper is of great scientific value.	8(61.53)	5(38.46)	-	6(42.85)	8(57.14)	-	9(75.00)	2(16.66)	1(8.33)	12(85.71)	2(14.28)	-

Table 6 shows the statements on attitude towards plagiarism among research scholars of both departments of KUK University. 9(69.23%) respondents of ABC department, 13(92.85%) respondents of ABT department, 8(66.66%) respondents of LPM department and 11(78.57%) respondents of D.EXT. department agreed with the statement “Plagiarism is

against my ethical values”. 10(76.92%) respondents of ABC department, 9(64.28%) respondents of ABT department, 9(75%) respondents of LPM department and 12(85.71%) respondents of D.EXT. department agreed with the statement “If a student violates the plagiarism policy he/she should face its consequences”. 7(53.84%) respondents of ABC department, 6(42.85%) respondents of ABT department, 4(33.33%) respondents of LPM department and 6(42.85%) respondents of D.EXT. department agreed with the statement “Plagiarism is ok, if professor gives you too much work”. 6(46.15%) respondents of ABC department, 5(35.71%) respondents of ABT department, 9(75%) respondents of LPM department and 7(50%) respondents of D.EXT. department agreed the statement “Young researchers who are just learning the rope should receive milder punishment for plagiarism”. 8(61.53%) respondents of ABC department, 6(42.85%) respondents of ABT department, 9(75%) respondents of LPM department and 12(85.71%) respondents of D.EXT. department agreed with the statement “Plagiarized parts of a paper may be ignored, if the paper is of great scientific value”.

Table-7: Reduction of Plagiarism

Statements	Animal Bio-Chemistry (N=13) N(%age)	Animal Bio-Technology Centre (N =14) N(%age)	Livestock Production and Management (N =12) N(%age)	Diary Extension Division (N=14) N(%age)
Conducting awareness programs on plagiarism	12(92.30)	13(92.85)	11(91.66)	14(100.00)
Introduce the plagiarism detection software and other mechanism	13(100.00)	11(78.57)	10(83.33)	12(85.71)
Definite university	11(84.61)	14(100.00)	12(100.00)	13(92.85)

policy on plagiarism				
Training and education on method of citation	12(92.30)	10(71.42)	6(50.00)	12(85.71)

The table 7 shows the statements on reduction of plagiarism. In this table majority of respondents i.e. 14(100%) respondents of D.EXT. department agreed that awareness programs on plagiarism can reduce plagiarism and 13(100%) respondents of ABC department agreed that “to introduce the plagiarism detection software and other mechanism” can reduce the plagiarism. 14(100%) respondents of ABT department agreed that “a definite policy on plagiarism” can reduce the plagiarism. 12(92.30%) respondents of ABC department and of physics department whereas 12(85.71%) respondents of D.EXT. department agreed that “training and education on method of citation” can reduce the plagiarism.

Findings of the study

- The majority i.e. 97% of Scholars were aware of plagiarism.
- The study found that more than 65% of the respondents come to know about plagiarism through their Supervisors.
- More than 60% of the Scholars were aware about plagiarism during last three year .
- The study found that more than 90% of the Scholars of different departments agreed with the statement “summarizing someone else’s ideas without crediting the source” as an act of plagiarism.
- The study shows that found that above 95% of the scholars agreed that “users ignore the rule of academic research” and “writing and instant success without efforts” is a reason of plagiarism
- The study shows the attitude of scholars towards plagiarism i.e most of the scholars agreed with the statements “plagiarism is against my ethical values” and “if a student

violates the plagiarism policy he/she should face its consequences”.

- Majority of scholars agreed with the statement “conducting awareness programs on plagiarism” and “definite university policy on plagiarism” for reducing plagiarism.

REFERENCES

- Bašić, Ž., Kružić, I., Jerković, I., Buljan, I., & Marušić, A. (2018). Attitudes and Knowledge about Plagiarism Among University Students: Cross-sectional Survey at the University of Split, Croatia. *Science and Engineering Ethics*, 1-17.
- Madaan, D., & Chakravarty, R. (2017). Awareness towards Plagiarism among Post Graduate Students: A Case study of DAV College Sector-10, Chandigarh. *Library of Progress - Library Science, Information Technology & Computer*, 37(2), 202-212.
- Singh, N. (2017). Level of Awareness Among Veterinary Students of GADVASU towards Plagiarism: A case study. *The Electronic Library*, 35(5), 899-915.
- Hosny, M., & Fatima, S. (2014). Attitude of Students towards Cheating and Plagiarism: University case study. *Journal of Applied Sciences*, 14(8), 748-757.
- Dias, P. C., & Bastos, A.S.C. (2014). Plagiarism Phenomenon in European Countries: Results from GENIUS Project. *Procedia-Social and Behavioral Sciences*, 116, 2526-2531.

Chapter-9

Trend Analysis of BRICS Countries Thin Film Literature using Time Series Analysis

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Abstract

This paper highlights the growth and development of the Web of Science database-based filed of “Thin-Film” publication over the period from 2001 to August, 2019, a total of 2,650 Brazil country, 41,369 China country, 16,023 Indian country, 4,820 Russian country and 879 South Africa country published papers and total BRICS country 65,741 and Global 2,10,690 records published. China country maximum number of contributing records 41,369. Time Series Analysis the trend of research Brazil, India and China positive global growth in the production of research and world Research Trend Analysis 2001 to 2019 but Russia and South Africa country time series Analysis doesn't fit.

Key words

Thin Film, Time Series Analysis, TSA, Trend Analysis, BRICS Countries, Scientometric, Web of Science (WoS).

Introduction

BRICS is the acronym coined for an association of five major emerging country economy like a Brazil, Russia, India, China, and South Africa countries. BRICS is one of the developing countries in the worldwide and its 4th ranked in the

stage of the world and it's also development purpose finically support government funding agencies. Formerly the first four were grouped as BRIC earlier than the proposal of South Africa in the year 2010. The BRICS Forum, an autonomous global association encourage commercial, the political and civilizing support between the BRICS country. Since in the year 2009 the heads of state and government of the groups get together annually. BRICS economic development for an inventive outlook, before the meeting of leaders, the Brazil country presidency will put in order some meetings that will have as priorities (a) increase help in digital economy, (b) In Science technology and improvement (c) encourage the rapprochement among the New Development Bank and the commerce committee.

Scientometrics is an important measure for the evaluation of scientific production. The most reliable ways to track science and technology activities is to study the scientific literature, Scientometric analysis over the past ten years has been increasingly used to evaluate the research performance of researchers and the development of different disciplines of science. This article highlights the growth and development of the trend of research in the area of Thin Film database from *Web of Science* (WoS) publication for the period from 2001 to 2019. This study reveals research publications in the field of thin film, Scientometrics outreach activities in the BRICS countries are estimated through the study, Research shows a lot of interest in publishing the articles in the field of thin film.

Methodology

The data of the basic unit of analysis study has been recovered from the *Web of Science* (WoS) databases that downloaded data from sixteen years from 2001 to August, 2019 field of the Thin Film Research study. A total of 2,650 Brazil country, 41,369 China country, 16,023 Indian country, 4,820 Russian country and 879 South Africa country published papers and total BRICS country 65,741 and Global 2, 10, 690 records published, The collected data is analyzed using the *HistCite* software and Microsoft Excel spreadsheet. Data sets were

analyzed using Scientometric indicators such as the Time Series Analysis (TSA) in BRICS Countries.

Objectives of the study

- To apply the Time Series Analysis the trend of research in the area of Thin Film

Review of Literature

Mangi, (2014). This article studied on BRIC output in LIC during the period of 1996 to 2012, Britain has shown mixed trends with a slight increase and decrease in study research publications as we move year by year. Taken together, in the different four years of 1997, 2001, 2004 and 2007, all Brick countries together recorded negative growth in the research publication, this is a bit of a concern for the emerging LIS research trend, But in no way is this considered a collapse of the overall research paradigm in LIS.

Sindagi & Anandhalli, (2018). This paper study on field of Lung Cancer Authorship Tends (TSA) during the period from 1997-2016 total twenty years, this paper observer that the single author saw growth of 11.61% in 2021, up from 32% in 2031, In the case of double authors, growth will be reduced by -2.63% and will gradually increase again by -1 in 2031. Year to 2021 but steadily increasing to -5.52% in 2031, but this is significantly higher than the 2037 figure of 5.37%. In the case of five percent authors, significant growth was recorded as 29% and the same growth rate 5.29% was observed for ten years to 2031.

Pattanashetti, (2018). This report study on Mechanical Engineering research on China, India, Japan and South Korea countries during the period of 2000 to 2014 fifteen years data analyzed and China, India and South Korea continue to show an upward trend, but although Japan has recently stabilized, the forecast is low, indicating that it needs observation, China is showing a higher percentage increase compared to other countries, which is a good indication that there will be no decline in publications soon.

Jamuna & Jeyachitra, (2016) This thesis research on field of productivity ultrasonic period from 2005 to 2015, the formula of time series analysis (TSA) and subsequently the research study obtained separately for the years 2025 and year 2040, it has been got that future growth trends in field of ultrasonic production may take an development trend over the years, it will be 18852 in the year 2025 and in the year 2040 it is estimated to be 34038, which has showing nearly doubled.

Time Series Analysis (TSA) Articles BRICS Countries and World

This is the best method to obtain the trend values, it provides a convenient basis for obtaining the best fit line in a series. The analysis of time series is one of the techniques used in statistics, the technique of multivariate analysis, specifically multiple regression, has been used in the study here. Such type of analysis by (Freedman, D.A, 2005), It uses statistical processes to estimate the relationships within the variables. The technique has been used to predict the number of papers in each country in the future period, i.e. 2020 to 2025. This period is considered an independent variable and the number of items is dependent variable, Data is taken into account during the study 2001 to 2019, direct line equation is applied to calculate future growth.

Regression equation is:-

$$Y_c = a + bX$$

Explanation formula-

Y_c = is the dependent variable (No. of publications)

X = is independent variable (the reference year),

a and b are the constants.

Trend Analysis of Brazil country

The field of Research Thin film Brazil country has shown that growth in Brazil has increased by 96 papers published in 2001 and contributed to 120 papers in 2019.

Examination of growth has been applied, and final values are used to predict publications from 2020 to 2025.

Table-1: Trend Research Analysis Brazil country

Year	Articles (Y)	X	X ²	XY	Year	Articles (Y)	X	X ²	XY
2001	96	-9	81	864	2014	195	4	16	780
2002	88	-8	64	704	2015	160	5	25	800
2003	100	-7	49	700	2016	198	6	36	1188
2004	134	-6	36	804	2017	171	7	49	1197
2005	104	-5	25	520	2018	194	8	64	1552
2006	126	-4	16	504	2019	120	9	81	1080
2007	131	-3	9	393	Total	2650		570	2587
2008	138	-2	4	276	2020	185	10	100	1849
2009	145	-1	1	145	2021	189	11	121	2084
2010	117	0	0	0	2022	194	12	144	2327
2011	129	1	1	129	2023	198	13	169	2580
2012	141	2	4	282	2024	203	14	196	2842
2013	163	3	9	489	2025	208	15	225	3114

Since $\Sigma X=0$, $a= \Sigma Y/N= 2650/19 =139.47$

$b=\Sigma XY/\Sigma X^2 = 2587/570= 4.54$

For 2020, $X=2020-2010=10$;

Applying the regression equation, $Y_c = a+bX = 139.47+ (4.54 X 10) = 185$

For 2025, $X=2025-2010=15$; $Y_c = a+bX = 139.47+ (4.54 X 15) = 208$

Time series analysis is calculated with the help of values in Table.1, Analysis assumes that Brazil researchers are estimates 185 in 2020 and 208 in 2025.

Trend Analysis of China Country

The field of Research Thin film China country has shown that growth in China has increased by 526 papers published in 2001 and contributed to 2395 papers in 2019. Examination of growth has been applied, and final values are used to predict publications from 2020 to 2025.

Table-2: Trend Research Analysis China country

Year	Articles (Y)	X	X ²	XY	Year	Articles (Y)	X	X ²	XY
2001	526	-	9	4734	2014	3202	4	16	12808
2002	582	-	8	4656	2015	3597	5	25	17985
2003	751	-	7	5257	2016	3739	6	36	22434
2004	987	-	6	5922	2017	3674	7	49	25718
2005	1267	-	5	6335	2018	3671	8	64	29368
2006	1486	-	4	5944	2019	2395	9	81	21555
2007	1681	-	3	5043	Total	41369		570	102005
2008	1929	-	2	3858	2020	3967	10	100	39669
2009	2052	-	1	2052	2021	4146	11	121	45605
2010	2062	0	0	0	2022	4325	12	144	51898
2011	2431	1	1	2431	2023	4504	13	169	58549
2012	2504	2	4	5008	2024	4683	14	196	65559
2013	2833	3	9	8499	2025	4862	15	225	72926

Since $\Sigma X=0$, $a= \Sigma Y/N= 41369/19 = 2177.32$

$b=\Sigma XY/\Sigma X^2 = 102005/570= 178.96$

For 2020, $X=2020-2010=10$;

Applying the regression equation, $Y_c = a+bX = 2177.32+$
 $(178.96 \times 10) = 3967$

For 2025, $X=2025-2010=15$; $Y_c = a+bX = 2177.32+ (178.96X 15) = 4862$

Time series analysis is calculated with the help of values in Table.2, Analysis assumes that China researchers are estimates 3967 in 2020 and 4862 in 2025.

Trend Analysis of India Country

The field of Research Thin film India country has shown that growth in India has increased by 185 papers published in 2001 and contributed to 1009 papers in 2019. Examination of growth has been applied, and final values are used to predict publications from 2020 to 2025.

Table-3: Trend Research Analysis India country

Year	Articles (Y)	X	X ²	XY	Year	Articles (Y)	X	X ²	XY
2001	185	-9	81	-1665	2014	1366	4	16	5464
2002	272	-8	64	-2176	2015	1442	5	25	7210
2003	308	-7	49	-2156	2016	1568	6	36	9408
2004	342	-6	36	-2052	2017	1444	7	49	10108
2005	378	-5	25	-1890	2018	1580	8	64	12640
2006	497	-4	16	-1988	2019	1009	9	81	9081
2007	581	-3	9	-1743	Total	16023		570	44079
2008	678	-2	4	-1356	2020	1617	10	100	16166
2009	747	-1	1	-747	2021	1694	11	121	18633
2010	776	0	0	0	2022	1771	12	144	21255
2011	850	1	1	850	2023	1849	13	169	24032
2012	909	2	4	1818	2024	1926	14	196	26963
2013	1091	3	9	3273	2025	2003	15	225	30049

Since $\Sigma X=0$, $a= \Sigma Y/N= 16023/19 = 843.32$

$b=\Sigma XY/\Sigma X^2 = 44079/570= 77.33$

For 2020, $X=2020-2010=10$;

Applying the regression equation, $Y_c = a+bX = 843.32+ (77.33X 10) = 6117$

For 2025, $X=2025-2010=15$; $Y_c = a+bX = 843.32+ (77.33X 15) = 2003$

Time series analysis is calculated with the help of values in Table.3, Analysis assumes that India researchers are estimates 1617 in 2020 and 2003 in 2025.

Trend Analysis Russia Country

The field of Research Thin film Russia country has shown that growth in Russia has increased by 229 papers published in 2001 and contributed to 240 papers in 2019. Examination of growth has been applied, and final values are used to predict publications from 2020 to 2025.

Table-4: Trend Research Analysis Russia country

Year	Articles (Y)	X	X ²	XY	Year	Articles (Y)	X	X ²	XY
2001	229	-9	81	-2061	2014	287	4	16	1148
2002	162	-8	64	-1296	2015	368	5	25	1840
2003	189	-7	49	-1323	2016	432	6	36	2592
2004	198	-6	36	-1188	2017	361	7	49	2527
2005	180	-5	25	-900	2018	393	8	64	3144
2006	199	-4	16	-796	2019	240	9	81	2160
2007	189	-3	9	-567	Total	4820		570	5985
2008	249	-2	4	-498	2020	<i>359</i>	<i>10</i>	<i>100</i>	<i>3587</i>
2009	223	-1	1	-223	2021	<i>369</i>	<i>11</i>	<i>121</i>	<i>4061</i>
2010	232	0	0	0	2022	<i>380</i>	<i>12</i>	<i>144</i>	<i>4556</i>
2011	202	1	1	202	2023	<i>390</i>	<i>13</i>	<i>169</i>	<i>5072</i>
2012	237	2	4	474	2024	<i>401</i>	<i>14</i>	<i>196</i>	<i>5610</i>
2013	250	3	9	750	2025	<i>411</i>	<i>15</i>	<i>225</i>	<i>6168</i>

Since $\Sigma X=0$, $a= \Sigma Y/N= 4820/19 = 253.68$

$b=\Sigma XY/\Sigma X^2 = 5985/570= 10.50$

For 2020, $X=2020-2010=10$;

Applying the regression equation, $Y_c = a+bX = 253.68+ (10.50X 10) = 359$

For 2025, $X=2025-2010=15$; $Y_c = a+bX = 253.68+ (10.50X 15) = 411$

Time series analysis is calculated with the help of values in Table.4, Analysis assumes that Russia researchers are estimates 359 in 2020 and 411 in 2025. This TSA Analysis does

not fit here the articles paper rise with 189 in the year 2007, and increase more than 70% in the year 2008.

Trend Analysis of South Africa Country

The field of Research Thin film South Africa country has shown that growth in South Africa has increased by 19 papers published in 2001 and contributed to 100 papers in 2019. Examination of growth has been applied, and final values are used to predict publications from 2020 to 2025.

Table-5: Trend Research Analysis South Africa country

Year	Articles (Y)	X	X ²	XY	Year	Articles (Y)	X	X ²	XY
2001	19	-9	81	-171	2014	70	4	16	280
2002	14	-8	64	-112	2015	63	5	25	315
2003	21	-7	49	-147	2016	110	6	36	660
2004	21	-6	36	-126	2017	93	7	49	651
2005	17	-5	25	-85	2018	116	8	64	928
2006	15	-4	16	-60	2019	100	9	81	900
2007	16	-3	9	-48	Total	879		570	3150
2008	13	-2	4	-26	2020	102	10	100	1016
2009	41	-1	1	-41	2021	107	11	121	1178
2010	36	0	0	0	2022	113	12	144	1351
2011	33	1	1	33	2023	118	13	169	1536
2012	44	2	4	88	2024	124	14	196	1732
2013	37	3	9	111	2025	129	15	225	1938

Since $\Sigma X=0$, $a= \Sigma Y/N= 879/19 = 46.26$

$b=\Sigma XY/\Sigma X^2 = 3150/570= 5.53$

For 2020, $X=2020-2010=10$;

Applying the regression equation, $Y_c = a+bX = 46.26+ (5.53X 10) = 102$

For 2025, $X=2025-2010=15$; $Y_c = a+bX = 46.26+ (5.53X 15) = 129$

Time series analysis is calculated with the help of values in Table.5, Analysis assumes that South Africa researchers are estimates 102 in 2020 and 129 in 2025. This Time series analysis does not fit here the articles paper rise with 63 in the year 2015, and increase more than 85% in the year 2016, it is a good indication that there is an increase.

Trend Analysis of World

The field of Research Thin film World country has shown that growth in World has increased by 6233 papers published in 2001 and contributed to 8893 papers in 2019. Examination of growth has been applied, and final values are used to predict publications from 2020 to 2025.

Table-6: Trend Research Analysis world

Year	Articles (Y)	X	X ²	XY	Year	Articles (Y)	X	X ²	XY
2001	6233	-9	81	-56097	2014	14409	4	16	57636
2002	6481	-8	64	-51848	2015	15780	5	25	78900
2003	7100	-7	49	-49700	2016	16021	6	36	96126
2004	7984	-6	36	-47904	2017	14422	7	49	100954
2005	8571	-5	25	-42855	2018	14087	8	64	112696
2006	9599	-4	16	-38396	2019	8893	9	81	80037
2007	9903	-3	9	-29709	Total	210690		570	255649
2008	10506	-2	4	-21012	2020	15574	10	100	155741
2009	11157	-1	1	-11157	2021	16023	11	121	176248
2010	11246	0	0	0	2022	16471	12	144	197653
2011	12205	1	1	12205	2023	16920	13	169	219955
2012	12506	2	4	25012	2024	17368	14	196	243153
2013	13587	3	9	40761	2025	17817	15	225	267249

Since $\Sigma X=0$, $a= \Sigma Y/N= 21069/19 = 11089$

$b=\Sigma XY/\Sigma X^2 = 255649/570= 448.51$

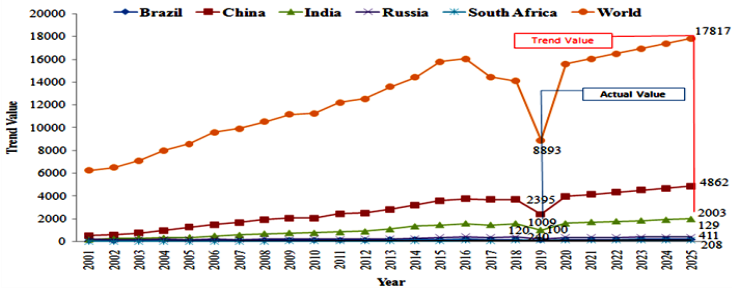
For 2020, $X=2020-2010=10$;

Applying the regression equation, $Y_c = a+bX = 11089+ (448.51X 10) = 15574$

For 2025, $X=2025-2010=15$; $Y_c = a+bX = 11089+ (448.51X 15) = 17817$

Time series analysis is calculated with the help of values in Table.6, Analysis assumes that World researchers are estimates 15574 in 2020 and 17817 in 2025. World trend analysis in the year 2006 papers 9599 and in the year 2007 increased 9903 papers it is a good indication that there is an increase.

Figure-1: Trend Research Analysis BRICS and World.



China and India are showing an ongoing trend, but even though Russia, Brazil and South Africa have been stable recently, China is showing a high percentage increase compared to other countries. This is a good indication that there is no drop in the publication of some time. The result of this section has provided research purpose to study the development of publications in Thin Film Field. Note that world high speed increased publication in the Thin Film Research Trend Analysis 2001 to 2016 increase, yet again 2017 to 2019 observing that decrease trend value as showing the Figure-1.

Conclusion

The data set of Brazil country Thin Film publications fit's TSA test and follows the trend of publications when compared with 2014, 2015 and 2016 articles published. Chinese country Thin Film publications data set fits with TSA test and follows the trend of publications The data set of Indian country Thin Film publications fits TSA test and follows the trend of publications when compared with 2015 and 2016 articles published Analysis assumes that Indian researchers are estimates 1717 in 2020 and 2003 in 2025.

The analysis predicts that the estimated articles by Russian researchers in 2020 would be 359 and 411 in 2025. TSA doesn't fit for Russian thin film output as the number of articles paper rise with 189 in the year 2007, and increase more than 70% in the year 2008. Analysis predicts that the estimated articles by South Africa researchers in 2020 would be 102 and 129 in 2025. TSA doesn't fit for South Africa thin film output as the number of articles paper rise with 623 in the year 2015, and

increase more than 85% in the year 2016, it is a good indication that there is an increase.

References:

- Dhanukumar, P. M. (2017). A scientometric Study of Mechanical Engineering Literature of Asia (Ph.D Thesis). Mysore: University of Mysore.
- Freedman, D. A. (2005). Statistical models: Theory and practice. Cambridge: Cambridge University Press.
- Jamuna, R. L., & Jeyachitra, S. (2016). Mapping of the Research output in Ultrasonics : A Scientometric Study (Ph.D Thesis). Pudukkottai: Ganesar College of Arts & Science Melasivapuri.
- Jayalaxmi, P. (2015). A Scientometric Study On “IEEE Transaction on Visualization & Computer Graphics: Published From 1995 To 2012” (Ph.D Thesis). Tamilunadu: Research and Development Centre, Bharathiar University.
- Kumbar, P., & Biradar, N. (2015). Research Trends In Forensic Science: A Study Of Scientometric Analysis. International Journal of Research in Library Science , 1 (2), 42-48.
- Lv, P. H., Wang, G. F., Y, W., Liu, J., Liu, Q., & Ma, F. C. (2011). Bibliometric trend analysis on global graphene research. Scientometrics , 88 (2), 399-419.
- Mangi, L. D. (2014). BRIC’s Research Output in Library & Information Science from 1996-2012 A Quantitative Analysis. Open Journal of Social Sciences , 2, 62-73.
- Ramiah, S. K. (2014). Mobile Technology Publications Research output as Indexed In Engineering Index: A Scientometric Analysis. Library Philosophy and Practice (e-journal) , 1159.
- Ramish, S. K. (2016). Publication Trends in Global Output of Spintronics: A Scientometric Profile. Library Philosophy and Practice (e-journal) , 1480.
- Savanur, K. P., & Pattanshetti, D. K. (2019). Trend Analysis of BRICS Economics Literature using Time Series Analysis. 9th KSCLA National Conference on Library in the Life of the user (pp. 597-603). Tumakuru: Tumakuru University.
- Sindagi, S. P., & Anandhalli, G. B. (2018). Authorship Trend and Collaborative Research in Lung Cancer: A Time Series Analysis Study. Library Philosophy and Practice (e-journal) 1622. , 1-21.

Chapter-10

Anti-Plagiarism Software and its use in Central Universities of India

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Abstract:

Plagiarism is the most sensitive and important issue of misconduct in research all over the world when there is a huge rush of research papers day by day. In result, it becomes very difficult to identify the original work. . In today's era, when internet is everywhere, cut and paste is very common in practice as everyone find it the easiest way to find and use the information. In this regard, practice of plagiarism is increasing day by day. Plagiarism means to steal someone's idea and show it as it is your own. But now, it is not that much easy with the introduction of anti-plagiarism software. Today lot of anti-plagiarism software is available in which many of them is open access and some is commercial. This paper focuses on the anti-plagiarism tool used in the central universities of India.

Keywords: Plagiarism, Anti-plagiarism, Plagiarism software, Central universities of India.

Introduction:

With the technological advancements, many advantages as well as disadvantages come into existence. Such as in the field of research, it becomes very easy to find the relevant information just with a click on the desktop or on a mobile or with any gadget. But sometimes, this easy access of information is misused by the researcher as it becomes easy for them to complete their work by using this information. In all this activity the real objective of research vanished. Research means to

investigate something new. But researcher sometimes shows this information as his/her own research work which is not ethical and also the violation of copyright law and also disgrace our moral responsibility towards society and towards our nation. This cut and copy process is also called plagiarism. Plagiarism is to steal someone's idea and show it as your own without giving any credit to the original author. It also leads to commit literary theft. As per UGC latest statistics in 2017, in India there are 789 universities, 37204 colleges and 11443 stand alone universities. Many initiatives are taken by the government of India to produce qualitative research. In India, to encourage the original work, UGC has taken initiatives to control plagiarism. In 2018, Govt. of India opened its research projects through INFLIBNET for all the university teacher and students and made available Turnitin software free of cost to them to check the plagiarism that is now switched to URKUND software which is also through INFLIBNET. Before that in 2014, under the project of Shodhganga that is a repository in which indexing, capturing, storing, disseminating and preserving the electronic submitted thesis and dissertation is done which can be accessed as open resources, INFLIBNET had also provided free access to the two anti-plagiarism software i.e. iThenticate and Turnitin for one year in the universities of India for the students and researcher.

Literature Review:

Babber and Jain in their study at Jawaharlal Lal Nehru University, New Delhi on confronting the Plagiarism described that from 2012 onwards it was mandatory for the researcher to check their thesis by using the anti-Plagiarism software Turnitin. The Main reason to implement this norm was to make aware the faculty members and student about the plagiarism. In a survey conducted on CAI (Centre of Academic Integrity's Assessment project) it was found that in 1999, there were only 10% students involved in plagiarism whereas in 2005 this percentage increased to 40%. Kumar and Arora conducted a study on 110 universities of India and focused on the use of Anti Plagiarism software. It was found that the similarity portion was above 75% in the submitted thesis/dissertation/reports/papers. Only 44% were the

original work from the students which were acceptable for the original work. Rutgers university professor conducted a survey in 2003, revealed that the new generation is more aware about the use of new technology as there were 38% students who were engaged in the online plagiarism. Kale in his study concluded that in the Indian Universities for Doctoral thesis, the most commonly used software were iThenticate and Turnitin which were replaced by the URKUND software or some other software. One of the main reasons to the plagiarism and mandate use of anti-plagiarism software is the pressure of getting PhD. degree as it is the basic eligibility criteria for appointment in university and colleges. As per Maurer, Kappe and Bilal Zaka in 2006, plagiarism is now not only limited to cut and paste but new practices such as changing of phrase is happening and translation technology is also becoming main reason to encourage plagiarism. Gupta in his comparative study between India and USA higher education described the impact of Plagiarism in countries is introductory plagiarism issues, adoption of Anti plagiarism software and its policies, and further implementation of anti plagiarism software. IEEE prohibited some authors to publish their papers in IEEE due to their involvement in plagiarism. On global level it was revealed that in prohibited authors, majority of authors were from India who were allegedly engaged in plagiarism or unfair means of research which also put country's reputation at stake which also showed the ongoing mal practices in India. In USA the Academic Integrity Code was introduced to deal with research misconduct and in India, on behalf of UGC, INFLIBNET took the initiative to check the plagiarism in submitted thesis on the university level by providing accessibility to anti-plagiarism software free of cost.

Objectives:

Plagiarism can be found in many academic areas such as conference papers, journals, seminars, book chapters, thesis/dissertations, project reports etc. Ongoing research practices need a strict vigilance to produce quality work in nation. In India there are 789 universities but this paper only

focuses on the anti-plagiarism software used in the Central Universities of India. The main objective of this paper is to find out the measures on which the unfair means of research can be controlled.

Research Methodology:

This study includes study on anti-plagiarism used in 40 central universities of India. For collection of data three types of medium was used i.e. telephonic medium, e-mail medium and the website of respective university. Due to Covid-19, it was not possible to visit personally to the universities.

Initiatives and use of Anti-Plagiarism software in Indian universities:

Due to technological advancements, it becomes very easy to access the large amount of information resources and for researcher it becomes quite easy to cut and paste which leads to encourage plagiarism. For this, it becomes necessary to control this unfair means of copy and paste and to produce quality work as skills also matters not only degree because practical knowledge can lead the quality work only. Anti plagiarism software check the submitted document with the original source and found the percentage of similarity check and document will be accepted only if the similarity check is less than 10%. Every university college or institution have their own policy for plagiarism check but mostly agreed with less than 10% similarity check. In every university, one or other software is used to check plagiarism. For this, many anti-plagiarism software are available these days to check the similarity check such as Copy Catch, Plagiarism Checker, Plagiarism, Viper, iThenticate, Turnitin, URKUND, Plag Tracker, Duplichecker, Anti-plagiarism, Plagiarism Checker X, EVE 2, GPSP, See Source etc. Most of these are open source software which is open for all and free to use. All the thesis/dissertation, papers, project reports can be checked by using anti plagiarism software. Now it becomes mandatory in India for every researcher/student to submit their plagiarism report before submission of their research work. On

behalf of UGC, INFLIBNET centre was providing free access to the anti plagiarism software such as iThenticate and Turnitin which is currently switched to Urkund software.

Reason for plagiarism:

There may be many reasons for the unfair means of doing research. Such as:

- Don't know the meaning of plagiarism. Many times the researcher is not aware of what plagiarism is or what comes under plagiarism. For this, plagiarism is when someone stole someone's idea and projected as his/her own without citing the original work or giving credit to the original source.
- Not having proper guidance to avoid plagiarism.
- Don't have knowledge about how to give references /citations and how to cite. When the information is not putting in quotation marks or by changing the language of someone's work or give the wrong information about the source comes under plagiarism.
- Lack of knowledge of plagiarism norms.
- Also copying the large amount of sentences and not give the credit to the source comes under plagiarism.
- Pressure on the researcher as in the universities and colleges, students has to submit the assignments, thesis/dissertation, research papers or reports on limited time to get the degree.
- Ease of Access of material over the internet
- Pressure on the teachers because they have to publish or present papers in seminars, conference etc.
- Sometimes lazy attitude becomes the reason to plagiarize.
- Everyone is not capable of doing research but then there is the necessity for them to get the next scale is the biggest reason to plagiarize which is also violation of copyright law.
- Poor skills or study habit is also one of the reasons.
- Above all no realization of moral responsibility is also there.

Central Universities of India:

In India, there are seven universities which are not under the purview of UGC namely Central Agricultural University, Imphal; Indira Gandhi National Open University, New Delhi; Indian Maritime University, Chennai; Nalanda University, Bihar; South Asian University, Delhi; Rajiv Gandhi National Aviation University; Uttar Pradesh, Rani Lakshmi Bai Central Agricultural University. For this reason and some limitations, this paper focuses on anti-plagiarism software used in the forty central universities of India. Table for the anti-plagiarism software used in these 40 central universities is as below:

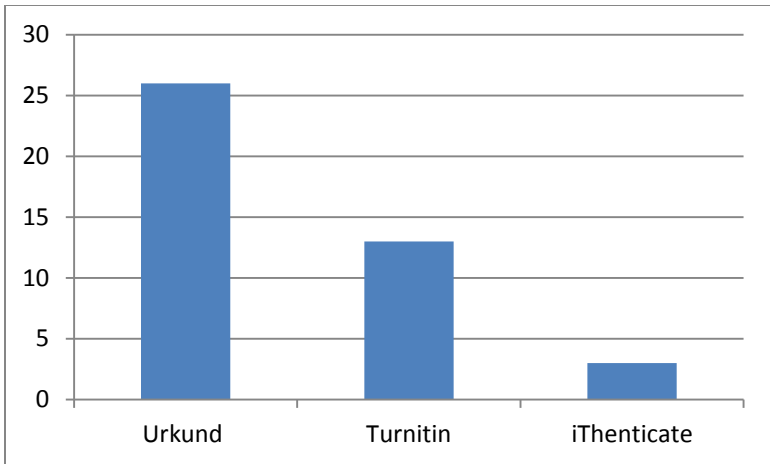
Sr. no.	Name of the Universities	Plagiarism Software used
1.	University Of Delhi	Urkund
2.	North Eastern Hill University	Urkund
3.	Assam University	Urkund
4.	Tezpur University	iThenticate
5.	Mizoram University	Turnitin
6.	Nagaland University	iThenticate & Urkund
7.	Manipur University	Urkund
8.	University Of Allahabad	Turnitin
9.	Rajiv Gandhi University	Urkund
10.	Tripura University	Urkund
11.	Sikkim University	Urkund
12.	The English And Foreign Languages University	Urkund
13.	Aligarh Muslim University	Turnitin

14.	Banaras Hindu University	Urkund
15.	Jawaharlal Nehru University	Turnitin
16.	Jamia Millia Islamia	Turnitin
17.	Visva Bharati	Urkund
18.	University Of Hyderabad	Turnitin
19.	Pondicherry University	Turnitin
20.	Babasaheb Bhimrao Ambedkar University, Lucknow	Urkund
21.	Maulana Azad National Urdu University	Urkund
22.	Mahatma Gandhi Antarrashtriya Hindi Vishwavidyalaya	Urkund
23.	Indira Gandhi National Tribal University	Urkund
24.	Central University Of Bihar	Urkund
25.	Guru Ghasidas Vishwavidyalaya	Urkund
26.	Central University Of Gujarat	Turnitin
27.	Central University Of Haryana	Urkund & Turnitin
28.	Central University Of Himachal Pradesh	Turnitin
29.	Central University Of Kashmir	Turnitin
30.	Central University Of Jharkhand	Urkund
31.	Central University Of Karnataka	Turnitin
32.	Central University Of Kerala	Urkund

33.	Dr. Harisingh Gour Vishwavidyalaya	Urkund
34.	Central University Of Orissa	Urkund
35.	Central University Of Punjab	Urkund
36.	Central University Of Rajasthan	Turnitin
37.	Central University Of Tamil Nadu	iThenticate
38.	Hemwati Nandan Bahuguna Garwal University	Urkund
39.	Central University Of Jammu	Urkund
40.	Mahatma Gandhi Central University	Urkund

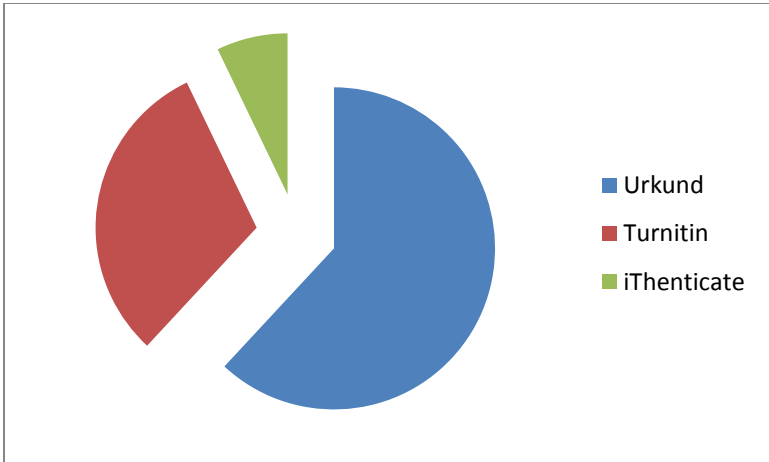
Interpretation of Data:

Study was done in the 40 central universities of India. In the study it was observed that most of the central universities of India are using URKUND software in their universities. Access to the plagiarism software Urkund is provided free of cost by the UGC to all the central universities of India but some universities prefer some other plagiarism software due to some reasons such as demand from the faculty members or some other features of another plagiarism software. Some universities are using two or more software at a time. It was observed that three anti-plagiarism software i.e. Urkund, Turnitin and iThenticate are used in these central universities. Chart is providing the information of how many central universities are using these anti-plagiarism software:



It was found that Urkund is used by 26 central universities in India whereas Turnitin software is used by 13 central universities from which one university is using both Urkund and Turnitin software simultaneously. iThenticate software is used in 03 central universities of India in which one university is also using iThenticate and Urkund software both. Percent wise use of plagiarism software table is as below:

Software	Used in no. of Universities	%age
Urkund	26	61.90
Turnitin	13	30.95
iThenticate	03	7.14



This chart depicts that Urkund software is widely used by the central universities. One of the main and major reasons for the use of Urkund software in most of the central universities is free access of this anti-plagiarism tool provided by Govt. of India through project of INFLIBNET under UGC. There are 61.9 % of central universities that are using Urkund software and with 30.95%, Turnitin software is used in these central universities and very less percentage of iThenticate software with 7.14% is used by central universities of India. Commercial software is somehow expensive in nature. Now it seems that most of the universities are heading towards subscription of the commercial software in future.

Conclusion:

Plagiarism is becoming big problem of today due to easy access to internet as almost everything is available and accessible over the internet such as students/researcher/faculty sometimes found it easy to cut and paste and by using this information easily prepare their paper and submit it for their degree or advancement in career. In India, steps are taken by govt. on institutional level by making it compulsory to check plagiarism before submission and also provide free access to the

anti plagiarism software URKUND by INFLIBNET on behalf of UGC. In the course work of PhD. students are provided with training or awareness program on the Plagiarism, problem associated with plagiarism, tools used to check plagiarism, how to avoid plagiarism and how to cite original source etc. Some universities in association with INFLIBNET are conducting workshop for awareness on the topic. Currently some universities have separate plagiarism policies and acts to control plagiarism such as how much percentage of plagiarism is allowed in research work, reports or thesis/dissertation etc. Many open source software are also available for the purpose. But it also becomes the moral responsibility of every student/researcher to avoid plagiarism and produce quality and original work for the development of nation only then the motive of the education can be fulfilled.

References:

- Kale, Surendra Tryambakrao (October 2017). Anti-Plagiarism tool in Indian Universities Conference Paper. <https://www.researchgate.net/publication/320471662>.
- Kale, Surendra Tryambakrao (March 2019). Anti-Plagiarism Software Check to the Doctoral Theses in Indian Universities and Institutions. <https://www.researchgate.net/publication/331638674>
- Singh, B.P. (2016). Preventing the plagiarism in digital age with special reference to Indian Universities. *International Journal of Information Dissemination and Technology*, 6(4), 281-287.

Chapter-11

Artificial Intelligence: Reshaping & Transforming the Libraries

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Abstract

This paper highlights on the different aspects of AI. The AI has become boon to the recent developments in IT sector which is applied in most of the areas of social, economic and educational development. The components of AI are discussed briefly in the paper. Here the applications of the components of AI in library activities are also explained. Integration of Expert System, Pattern Recognition, Natural Language Processing and Robotics are discussed in the paper. The modern day's libraries can upgrade their day to day activities through the application of different facilities of AI. Besides, the advantages and disadvantages of AI are also highlighted.

Keywords: Artificial Intelligence (AI), Robots, Robotics, Expert System, Pattern Recognition, Natural Language Processing (NLP)

1. Introduction

Human society is developed by the blessing of intelligence which is dedicated to our brain. Without intelligence “the best creation of God” would have not got the crown. The ability of reasoning, thinking, rethinking, visualizing, rationalizing and acting with a purpose is the power of being human. Today’s development in information technology sector has paved the way of development in every area of life. But the machine has no feelings or emotions. An attempt to replace human power with the machines was the creation of the first industrial revolution. If we are able to put some qualities into them it will developed parts of the world. Nowadays computers are programmed in such a way so that it can get the human-like intelligence. It is called Artificial Intelligence (AI) in simple language. If this technology is tried in different sectors it can help in reducing the workload and can perform better task in terms of quality too. The growing demand of information has increased the responsibilities of the information sectors. The libraries are playing the major roles in providing right information in right time. Make another revolution. And this revolution has started in some hence the impact of AI and advance computer technology on the nature of future libraries will be enormous and the quality differences will be different from what our current work expects.

2. Artificial Intelligence

The term Artificial Intelligence was first coined by John McCarthy in 1956 at Dartmouth conference. According to Stern (2010), “AI is the science and engineering of making intelligent smart machines and devices that are able to learn new concepts and tasks, reason and draw useful conclusion about the world around, understand a natural language, comprehend a visual scene and perform other types of feats that ordinarily require human types of intelligence”. AI makes use of concepts from various fields including cybernetics, cognitive science, neuroscience, neurophysiology, brain science, control science, information and communication technology, psychology, linguistic, agriculture and other disciplines. AI can be divided in three types – symbolism, connectionism and behaviourism. Symbolism is an intelligent simulation method based on logical reasoning to simulate human intelligent behaviour.

Connectionism is a connection mechanism and learning algorithm between neural networks. Behaviourism is cybernetic and perpetual action control system.

In a simple sentence AI is using computers to do things that normally require human intelligence. AI technologies are now beginning to offer the ability to see i.e. computer vision, hear i.e. speech recognition, and understand i.e. natural language processing like a human body can do.

2.1 Components of Artificial Intelligence

The components of AI are Expert System, Natural Language Processing, Pattern Recognition and Robotics. The aims of these components are to accelerate human intelligence with computers. Some popular computing techniques and areas for AI development discussed below:

2.1.1 Expert System

Expert system is computer based system that is designed to give solution to complicated issues. It has decision-making ability like an expert manpower. Expert system can conduct this with the process of drawing out knowledge from its knowledge base using the reasoning and interface rules according to the user's queries. It is a part of AI, developed in the year 1970. The performance of expert system is based on the expert knowledge stored in its knowledge base. The main components of expert system include- Knowledge Base, Inference Engine and User Interface.

2.1.2 Natural Language Processing

Natural language processing is an integral part of computer science and artificial intelligence in which machine learning and computational linguistics are broadly used. It borrows techniques and insights from several disciplines like linguistic, computational linguistic, computer science, engineering, library & information science, philosophy, psychology etc. Simply it is a study of interaction between computers & human language.

NLP is not intended to be translated in to a finite set mathematical operation, like programming languages. NLP come to a better understanding of human language. Some important applications of natural language processing's – Machine translation, information retrieval, report generation etc. NLP is an area of research in computer science and AI concerned with processing natural languages such as English, French and Chinese etc. This processing generally involves translating natural language into data that a computer can use to learn about the world and its understanding of the world is sometimes used to generate natural language text that reflects that understanding.

2.1.3 Pattern Recognition

Pattern recognition is a process of pattern by using machine learning algorithm. Dada and Hart defined, “it is a field concerned with machine recognition of meaningful regularities in noisy or complex environments”. It helps in the classification of unseen data. Pattern recognition not only helps in the prediction of the unseen data but also helps in making useful suggestions. The main goal of pattern recognition is the classification of object in to a number of categories or classes. Pattern recognition is mainly used in the new age technical domains like computer vision, speech recognition, face recognition etc. Some important applications of pattern recognition are trend analysis, assistance, e-commerce, computation, biometric device etc.

Now a day's much office, industries, colleges and universities are using biometric device. Biometric device is a digital attendance system and security identification and authentication device. There are many characteristics are included in this device like fingerprint, facial image, voice recognition etc.

2.1.4 Robotics

Robotics is a subset discipline of AI which found applications in almost all areas like industries, hospitals, banks, academic institutions and military operations etc. It is the branch of

technology that deals with the design, construction, operation, and application of robots (Abram, 2019).

It is a very significant component. The term robot came from an old Church Slavonic word “robota” which means “forced labour” and because the computer expert is going to develop the robot on the basis of human intelligent. Robot is mechanical device which performs automation tasks, either according to direct human supervision or a pre-defined program or a set of general guidelines using AI techniques.

3. Applications of Artificial Intelligence Components in Library Activities

AI is impacting every industry as well as the library and information sector. It is reconfiguring many library tasks such as classification, indexing, cataloguing, information retrieval, reference, information literacy, and even learning. It is the greatest usable intelligence that has the capacity of assisting librarians in decision making and administration. AI can also be employed in various areas such as speech recognition, machine transformation and librarian robots. Modern libraries have evolved from centralized, paper-based computer system in to distributed networks of digital and non digital materials, providing innovations in library services as well as traditional services. AI has great potential for libraries as it can perform routine computer input duties. AI may also have the ability of reasoning, planning, learning and collaborating with users or other agents in libraries. Intelligent library computer systems utilize AI technologies to provide knowledge-based services to library patrons and staff. The applications of different components of AI are discussed below.

3.1 Expert System in Libraries

An expert system helps the librarian in realizing the need for an improvement in the library operations and services. The main components of the expert system include a “knowledge editor” module for creating and maintaining concept hierarchies and a “knowledge integrator” module for building structural relationships among concepts.

Expert system can be implied in the following areas:

- a) Classification can be done through the expert system which can search the subject going through the title, contents or body of the book.
- b) Cataloguing is one of the most complex activities in the library. The present day cataloguing code such as AACR2 contains rules formulated in a systematic manner based on normative principles. But recent attempt to automate cataloguing through expert system have focused on descriptive cataloguing because it is considered to be rule based activity. There are two approaches for applying AI techniques in cataloguing –
 - (i) A human machine interface where the intellectual effort is divided between the intermediary and the support system.
 - (ii) An expert system with full cataloguing capability linked into electronic publishing system.
- c) Abstracting-indexing systems, archives etc. can also utilize the “knowledge integrator” module of expert system.
- d) Online retrieval reference and referral services can also use expert system.
- e) With the help of the expert system patrons can be imparted reference service. They can be answered certain questions related to reference desk.

3.2 Natural Language Processing in Libraries

NLP technique have made possible to perform more task with less human power in the field of library and information science. It helps researchers, professionals who work in LIS field.

Information retrieval is covering a major area of NLP. It deals with various types of application. Feld man (1999) suggests that in order to achieve success in information retrieval, NLP techniques should be applied in conjunction with other technologies such as visualization, intelligent agent and speech

recognition. In information retrieval process users can state his information requirement in natural language making the searching more easy and fruitful. This allows users to state complex retrieval language. NLP can use more specifically to searching database such as online public access catalogue (OPAC). NLP is not only used in technical studies but also in studies on library philosophy. Moreover it was revealed that NLP methods have been used in many LIS works in the literature, and through this study, the general framework of these studies in the field of LIS has been drawn. There are mainly seven levels in Natural language processing. These are:

- a) Phonology: It interprets speech sounds;
- b) Morphology: It interprets componential nature of words, which are composed of morphemes;
- c) Lexical: It is relating to words or vocabulary of a language. It defines the meaning of individual words;
- d) Syntactic: Uncovers the grammatical structures of sentences;
- e) Semantic: It determines the meaning of sentence by focusing on word level meanings;
- f) Discourse: It focuses on properties of texts as a whole and making connections between sentences;
- g) Pragmatic: It means understanding and use of language in situation.

3.3 Pattern Recognition in Libraries

Pattern recognition is an integral part in most machine intelligence systems designed for decision making task which are used in a variety of applications such as AI system, image understanding and analysis. Now a days the interest in the area of pattern recognition comes from application such as data mining, document classification, financial forecasting, multimedia, biometric recognition, document image analysis, speech recognition etc. Character recognition is another

important application in the area of pattern recognition with major implications in automation and information handling. Optical Character Recognition (OCR) is a good example of pattern recognition. It can translate the scanned image into computer coded character. Besides, pattern recognition system can be implied in fingerprint identification, signature authentication, and text retrieval, face and gesture recognition.

3.4 Application of Robots in Libraries

Technology has advanced the libraries in many ways, they have started to place robots instead of humans in various operations especially those tasks which are hazardous and time-consuming.

In the future day's robots will dominate the libraries in performing the day to day activities. Some activities which can be performed by the robots are discussed in the following points.

- a) Robot can help in the filing, sorting and replacing the books in the shelf.
- b) Robots can be used for inventory purpose in the libraries which have very large collection. Robots can scan a large number of books per day which will need more manpower in the same job.
- c) Robots can be used for delivering materials like newspapers, magazines, brochures to the users.
- d) It also can welcome and direct guests & students to various locations.
- e) The robot also can be programmed to answer Frequently Asked Questions (FAQs) that information seeker may have.
- f) If robotics is integrated with a drone it can monitor the library better than the other surveillance systems.
- g) Users can be guided by talking robots in the different sections of the library. Users can clarify their doubts by interacting with them.

- h) Robots can be used in books delivery. In large libraries it is not easy to search a book asked by a user. The required book can be detected by the robot with the matching tag and it can be dropped into the robot's basket by the corresponding tray which will follow the notification coming from the shelf unit. The borrower can collect it from the counter which is delivered by the robot.

4. Advantages of Artificial Intelligence

- a) Capacity to handle complex and tiresome activities which are laborious and strenuous for human race;
- b) Ability to perform job quicker than human;
- c) Capability of locating unknown object like that of outer space;
- d) Less mistakes and flaws;
- e) Unlimited performance

5. Disadvantages of Artificial Intelligence

- a) Absence of human touch sometimes becomes reason of dissatisfaction;
- b) Unemployment issue can be increase;
- c) If programming is done wrongly, adverse situation may occur or sometimes can be malfunctioned;
- d) It can demoralize youngsters and may mislead to unethical activities

6. Conclusion

Technology has been a part of each and every human work. The future indeed is promising because of the presence of AI technologies (Barden, 2017). AI technologies have been spread across almost all the areas as Natural language processing, deep learning, drones, computer vision, autonomous vehicles, machine learning, and cognitive computing.

Library activity involves plenty of manual works which can be partially or fully done effectively with the help of robots. The use of this technology in Indian libraries is found less which

should be compensated with the immediate adoption for timely and cost-effective service to the patrons. Even though robots have artificial intelligence, it cannot be intelligent as humans as it is a man-made machine which needs a human touch to get operated. The adoption of AI for assisting library activities has been a boon in the western world than in India. India being a vastly populated country the need may not be imminent, but for sure, the quality of routine services may get increased with the use of AI suitably.

7. References:

- 1) Abram, S. (2019). Robots in Libraries Technology Trends that Aren't that Out-There Anymore! Retrieved July 1, 2020, from <https://lucidea.com/blog/robots-in-libraries>
- 2) Barden, J. (2017). The Pros and Cons of Having Robots in the Workplace. Retrieved July 1, 2020, from <https://www.zippia.com/employer/the-pros-and-cons-of-having-robots-in-the-workplace/>
- 3) Blake, C. (2013). Text mining. *Annual Review of Information Science and Technology*, 45(1), pp.121-125.
- 4) Feldman, S. (1999). NLP meets the jabberwocky: Natural language processing in information retrieval.
- 5) Lewis, D.D. & Jones, K.S. (1996). Natural language processing for information retrieval. *Communications of the ACM*, 39(1), pp.92-101.
- 6) Liddy, E.D. (2010). Natural language processing. In *Encyclopedia of Library and Information Sciences*, Third Edition (pp.3864-3873). New York: Taylor and Francis.
- 7) Liu, G. (2011). The application of intelligent agents in libraries a survey. Retrieved July 1, 2020, from <https://www.emerald.com/insight/content/doi/10.1108/00330331111107411/full/html>
- 8) M. Bavakutty, Muhammed Salih T.K, Mohamed Haneefa K. (2006). *Research on Library Computerization*. New Delhi : Ess Ess.
- 9) Manning, C.D. & Schütze, H. (1999). *Foundations of statistical natural language processing*. London: MIT Press.

- 10) Massis, B. & Massis, B. (2018). Artificial intelligence arrives in the library. Retrieved July 1, 2020, from <https://doi.org10.1108ILS-02-2018-0011>
- 11) Mess, J. A. (1991). Artificial Intelligence in Information Services Revolution or Survival. Retrieved July 1, 2020, from <https://docs.lib.purdue.edu/iatul/1991/papers/8/>
- 12) Mogali, Shivaranjini. (2014). Artificial Intelligence and its applications in Libraries. Retrieved July 1, 2020, from https://www.researchgate.net/publication/287878456_Artificial_Intelligence_and_its_applications_in_Libraries
- 13) Silahtaroglu, G. (2013). Veri madenciligi: kavram ve algoritmaları [Data mining: concepts and algorithms]. Istanbul: Papatya Yayıncılık Eğitim A.S.
- 14) <https://www.javatpoint.com/expert-systems-in-artificial-intelligence> (Retrieved July 1, 2020)
- 15) www.sstramel.blogspot.in/2009/09/artificial-intelligence-advantages (Retrieved July 1, 2020)
- 16) https://www.tutorialspoint.com/artificial_intelligence/artificial_intelligence_expert_systems.htm ((Retrieved July 1, 2020)
- 17) <http://shodhganga.inflibnet.ac.in> (Introduction to Pattern Recognition system) (Retrieved July 1, 2020)

Chapter-12

Copyright Laws: A Librarian's Perspective

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Abstract

This paper analyses the various copyright regulations which are related to libraries. Relevent sections of Indian copyright act are elaborated. A brief outlook of different international agreements and conventions related to fair use is enlisted. The important provisions of fair use provisions of common law countries are explained in a comparative chart.

Keywords: Copyright Law, Fair use, International conventions.

Introduction

Intellectual Property Rights are in the limelight in the modern globalized world. Technological innovations coupled with intellectual property rights have created formidable challenges to library community to efficiently render its services to users. The conflict between publishers and various stakeholders has resulted in the court intervention. Globalization has increased the copyright concerns for the libraries. Increasing commercial value of copyright protection has interested the publishers and authors to keenly track the copyright infringement of their works. It is a recognized fact that copyright will play an important role in the generation and protection of creative works. Knowledge based economies are the future of globalized world. Developing and developed countries are making their intellectual property laws, especially in relation to the copyright laws more

stringent and thereby it is becoming extremely difficult for the developing countries and third world countries to further their technological and knowledge advancements. Development of a nation in the 21st century mostly depends on access to resources. Libraries over the generations played a pivotal role in disseminating knowledge to foster equal distribution of knowledge resources. This paper analyses important national and international developments of copyright laws related to libraries.

Objectives of the Study

- 1) To analyze the various international conventions and treaties related to library exemptions
- 2) To outline the judicial observations in relation to copyright exemptions.
- 3) To explore into the operational freedom for librarians to exercise the fair dealing clause of the Copyright Act.
- 4) To compare the copyright exemptions of various common law countries.

Research Methodology

The authors have followed analytical methods of research to examine various copyright laws related to libraries. Primary sources such as legislations of various countries related to copyright and international treatises were analyzed. Secondary sources such as articles and books are also used in this study. The paper also follows case analysis and analyses court judgments on copyright fair dealing.

The Concept of Copyright

World Intellectual Organization (WIPO) defines copyright as “Rights that creators have over their literary and artistic works”. Works covered by copyright ranges from

- (a) books
- (b) music
- (c) paints
- (d) sculpture
- (e) films
- (f) advertisements
- (g) maps
- (h) technical drawings

Copyright can be classified into two categories:

- (a) intellectual creativity based works

(b) neighboring rights e.g. rights of performing artists

Section 14 of the Copyright Act elaborates the meaning of copyright. It authorizes the provisions of the Act as under:

- (a) reproduction
- (b) issuance of copies
- (c) public performance
- (d) translation
- (e) adaptation
- (f) casting rights

Section 14 (b) explains the rentals/ sale of any computer programme. Section 14 (c) elaborates the meaning of Acts in case of artistic works. Section 14 (d) details the meaning of cinematography. Section 14 (e) enumerated the case of sound recordings. In addition to Section 14 (e), Section 57 of the Copyright Act, talks about authors special rights (moral rights). Neighboring Rights are explained under Section 37 and 38,38A,38B of the Copyright Act.

Copyright Laws and Libraries

The umbilical link between copyright laws and libraries is undeniable. However in the Indian scenario, the number of copyright regulations and libraries are limited. The statement and objectives of the Copyright Act of 1957 provided that, “license to be issued to any library to make one copy for the library and which is not available for sale”. In Section 52 (O) of the Act elaborated that, “making not more than 3 copies of a book including (pamphlet, sheet of music, map or chart or plan) by or under the directions of the person In-charge of a public library, if such books is not available for sale in India”.

Section 52 (p) of the Act permits the reproduction of an unpublished literary dramatic or musical work kept in a library, museum or other institutions through which the public has access for the research and private study. The section further elaborates that if the identity of the author is known to the library then the provisions of this clause shall not apply.

Under the 2012 Amendment of the Copyright Act, the term “fair dealing” has been inserted to Section 52 where exemptions for the infringement of copyright is explained. It is noteworthy that in the Act, the term “fair dealing” is defined. Section 52 (a)

states that, “a fair dealing with a work, not being computer programme for the purpose of

- (a) private or personal use, including research
- (b) criticizes or review whether of that work or any other work
- (c) the reporting of the current events and current affairs, including the reporting of a lecture delivered in public”.

Ever since the proclamation of five laws of library science by Dr. S.R. Ranganathan, the laws are standing as towering guiding light for the libraries and librarians. Being the custodians of knowledge resources in different formats, it is the responsibility of the librarian to offer the library services to its Patrons in an effective and efficient manner. The conflicting interests of the libraries, publishers and authors are significant here. The five laws of library science vehemently favours the maximum usage of library resources.

The fair dealing clauses in the Copyright Act are very important provisions for the libraries to perform its function effectively as knowledge disseminating centers. The Section 52 (O) of the Copyright Act enables the librarians to enhance and enrich the education sector and its upliftment by effectively using the said provision. In his seminal work, Mr. Prashant Iyengar, a distinguished lawyer notes that the terms “book” and “public library” available for sale in India are not defined under the Copyright Act. Further the “person In-charge of the Library” also makes rooms for interpretation owing to the fact that majority of Indian public libraries are working under various committees. Accordingly, the fixation of responsibility becomes an issue over here.

Library Exemption Clause in Other Countries

In order to provide space for genuine use of Copyrighted works for research and for library users, several countries have amended their copyright laws to incorporate the “Doctrine of Fair Use”. A comparative chart of various countries Copyright Act provisions and the Limitations or Fair Uses/ Dealing Clauses are given below:

Sl. No.	Name of the Country	Name of the Act	Relevant Section	Exemption Details
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1.	India	Copyright Act 1957	51 (O), 52	Private or personnel use, criticism or review, Reporting of current events and public lectures
2.	USA	Copyright Act 1976	17 U.S.C S 107, S 504(c)2, S 108	Reproduction rights by libraries, Four step test, Liability of library staff
3.	UK	Designs & Patent Act 1988	S 29, 29A, 30, 32	Non commercial research and private study, data mining, criticism review and quotation, illustration for instruction, accessible copies, news reporting, parody, Library privileges and Library archives
4.	Germany	Act to Align Copyright Law with the Current Demands of the Knowledge e-based Society 2018	S 60(d)	Limitation cap of 15% of the work
5.	Canada	Copyright Act 1985	S 29, 29.1, 29.2	Research, Private study, Criticism or review, News reporting

It is crystal clear from the chart that all the major countries of the world allow only for the limited use of copyrighted works under the Exemption Clauses in their respective copyright laws. In India, under the Copyright Act, the scope of fair dealing is clearly envisaged under Section 52 (1) (a) and 52 (1)(O) of the Act. It is also important that through the Amendment of the Act 27 of 2012, reproduction and issuance of copies to persons with disability have been facilitated. Section 52 (1) (zb) states that, “any organization working for the benefit of persons with disabilities in case of normal format prevents the enjoyment of such work by such persons, the copies can be made accessible on cost of production of the materials”. The Amendment also stipulates or prevents the use of such materials into “ordinary channel of business”. Under the clause ‘any

organization’ is interpreted as, “receiving grants from the government for facilitating access to persons with disabilities or an educational institution or library or arcades recognized by the government” (Alka Chawla 2015).

Copyright Judgments and the Libraries

The Delhi High Court in its judgment in *Chancellor Masters of Oxford University v. Rameshwari Photocopy* case considered the fact that the photocopy shop is getting the books issued from the University Libraries to the said Photocopy shop. The photocopyer argument defending its action is a signboard for the libraries. The main defense by the University was the photocopying of the books was permitted for:

- (a) to reduce the financial burden of students
- (b) the photocopy was only a relevant extract
- (c) to save the original work from getting damage
- (d) the use was for research purposes
- (e) many of the books are out of print or was not available for sale in India

The University also argued that the welfare nature of the Copyright Act demands that the conflicting interests of the publishers, authors and society at large are to be balanced. The University also invoked section 52(1) z (b) for defending its action for the protection of rights of differently abled persons. The single bench of the Delhi High Court, while interpreting Section 14 (a) (2) of the Act, observes that after the procurement of a copy of a book, the Universities are entitled to provide exclusively the right to issue the book to the public.

By relying on the latin Maxim “*Dulo Lex Sed Lex*” (a law is hard but it is law), the court opines that, “this is the principle of exhaustion that perhaps the genesis of libraries not only of Universities and other educational institutions”. The court also sends a caution in the judgment that substantial copying of the work can be considered as a copyright infringement. The court also cited *Williams and Wilkinson Company v. United States* 487 F2d 1345 (Ct. Cl. 1973) where serious infringement of copies are alleged against National Library of Medicine, USA. In the said case, the US Supreme Court upheld that the use is not the same as infringement and use short of infringement is to be encouraged (*Williams and Wilkinson Company v. United States*

420 US 376). The Court also relied on the judgment by the German Federal Supreme Court in reference to supply of photocopies of newspaper, articles by public libraries (2000) ECC 237 where the German Supreme Court has recognized the Libraries freedom to operate and also the reproduction rights. Freedom of information was held important than the reproduction rights of the authors.

International Conventions and Treaties

In order to facilitate the advances of research and to provide a limited scope of exemptions and limitations to the member countries various countries are entered into different agreements.

- (a) TRIPS: Article 13 of the Trade Related Intellectual Property Rights (TRIPS) provides space for member countries to frame limitations and exemption clauses to their copyright laws within their frame work through the three step test. Indian Copyright Law Section 51 Exemptions are well within their frame work. Every signatory country of the TRIPS agreement has framed the copyright regulation according to Article 13. In US copyright laws exemption to library uses are clearly recognized. “Members shall confine limitations or exemptions to exclusive rights to certain special cases which do not work with normal exploitation of work and do not unnecessarily prejudice the legitimate integrity of the right user”. These limitations are applicable only in special cases, i.e. to be decided by individual countries. The second condition of the three steps is the analysis of the exploited work in terms of permissibility and lastly it upholds the legitimate integrity of the right holder. This important feature of article 13 of the TRIPS agreement does not elaborate on the type of materials which are copyrightable. In terms of copyrightable portions of computer programme domestic countries can interpret the extent of copyright coverage.
- (b) Berne Convention: Under Article 9 of the Berne Convention, the legislative power to determine the reasons for reproduction has left with individual countries. Significantly, Article 9 of the Berne Convention has much similarity with the TRIPS agreement.

The Marrakesh Treaty

The Treaty was signed on June 27, 2013. The Treaty was conceived by the UNCRPV. It has the distinction of the first copyright treaty with a human rights perspective. Hence, it attracts the attention of developing countries. Another important fact about the Marrakesh Treaty is that it does not have any relation with other Treaties and international agreements. However, barring few countries, developed nations have not shown any interest in joining this treaty. This endangers the legitimacy of the treaty. Article 11 and Article 12 of the treaty provide the exemption clauses for the physically disabled persons. Article 42 (a) of the treaty permits authorized entities without the authentication of the copyright holder to make accessible format of the copy of a work obtained from another authorized entity, an accessible format copy and supply those copies to the beneficiary persons by any means. Taken in its true spirit, this clause of the treaty can bring enormous learning opportunities for the physically disabled. Even though the term, the library is not mentioned in the treaty, it can be interpreted from the word authorized entity “to facilitate access to resources to the physically disabled persons”.

Conclusion:

It is evident from the recent academic trends that libraries are facing immense challenges to balance the copyright regulations while providing services. Being the custodian of print and digital resources, it is the responsibility of the library to provide uniform services to its clients. Modern technological society’s transformation to the 21st century through artificial intelligence and online technologies, libraries have a greater role to provide authoritative materials to its Patrons. The essence of the copyright laws is to motivate and reward the creators. Library serves as one of the important components to provide the mechanism to facilitate the creator’s work to its intended users. It would be beneficial for the user community as a whole if leading international organization like WTO, WIPO, UN and various national governments are coming together for more operational freedom/ exclusion to facilitate expression movement. It is time for the beginning of a new movement for equal access to knowledge and resources.

References:

- 1) Chawla, A. (2013). *Law of Copyright*. New Delhi: Lexis Nexis.
- 2) Iyengar, P. (2009). The Library exemption under the Indian copyright act. *Exemptions and Limitations to copyright*. Cochin: MHRD.
- 3) Madhu, K. S. (2015). Copyright Fair use and Libraries. *Transforming Dimension of IPR: Challenges for New Age Libraries* .
- 4) Tehranian, J. (2011). *Infringement nation:copyright 2.0 and you*. New York: Oxford University Press.
- 5) The Chancellor, Masters and Scholars of the University of Oxford and Ors. v. Rameshwari Photocopy Services and Ors. (16.09.2016 - DELHC): MANU/DE/2497/2016
- 6) The Berne Convention for the Protection of Literary and Artistic Works, 1886
- 7) The Agreement on Trade-Related Aspects of Intellectual Property Rights, 1995
- 8) The Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired, or Otherwise Print Disabled (MVT), 2013
- 10) The Williams & Wilkins Company v. The United States MANU/USFD/0265/1973: 487 F.2d 1345
- 11) Indian Copy Right Act, 1957
- 12) Copyright Act,United States,1976
- 13) Act on Copyright and Related Rights (Germany)
- 14) Copyright, Designs and Patents Act, 1988 (U.K)
- 15) Copyright Act (Canada)
- 16) The Chancellor, Masters and Scholars of University of Oxford and Ors. v. Rameshwari Photocopy Services and Ors. (09.12.2016 - DELHC) : MANU/DE/3285/2016

Chapter-13

Knowledge at a Mouse Click Away!

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Introduction

Digitalisation as we hear it today, started few decades back. In recent years with growth of technology, almost all sectors be it media, economy, agriculture, healthcare, etc have experienced digitalisation. It has also been welcomed in the area of learning and related activities and it is because of this that learning and gaining knowledge have become easier and faster due to the introduction of digitalisation in each sector. Education or leaning is one of the important parts in each and every person's life. If a person is knowledgeable, he is considered to be a respectable person having dignity in the society and the only way to attain dignity and respect and create a space in the society is through gaining knowledge. In today's scenario, all information and knowledge can be gathered online. Availability of information, data or services online not only saves time but it ensures that such data, information or service reaches to every corner of the country. Earlier or even today in most parts of the country knowledge and learning takes place in physical form meaning thereby that we have to visit the place where knowledge imparting books are shelved and have access to it. When everyone is working hard towards being a part of rat race, this mode of accessing knowledge and learning sometimes prove to be discomforting. It is imperative that every citizen of the country have access to knowledge and learning and this can be made possible only through digitalisation of library and by using social media and social networking sites such as Facebook, LinkedIn, etc as a mode of sharing information and knowledge.

Library and India:

Libraries all over the world are undergoing transformation. This is mainly because of the development taking place in information and communication technologies. Traditionally, libraries were collections of books, journals, and other sources of information. The collection of the traditional libraries are mostly print media, manuscripts etc. and are not well organized. The documents are deteriorating and the collected information is not easy to locate and procure. Such information does not reach the user of the libraries on time. The entire concept of traditional libraries where people used to sit for hours, search and read books and gain knowledge is undergoing change. Today when citizens of the country have become more technically developed and are inclined to adapt technology, increasing access to digitized library by mode of social media such as Facebook, LinkedIn and other social media app is the need of the hour. By using social media and social networking sites, libraries can attract millions of users and build a strong relation between the library and its users.

Social Media and Social Networking Sites:

Internet has changed the way we work. The developments in web technology are creating more friendly and social environments for retrieving and sharing information and one of such is social networking websites. These sites allow users to create a “profile” describing themselves, exchange public or private messages.

Social Media and Social Networking sites play a pivotal role in one’s life. These sites apart from connecting people miles apart, are being used for the purpose of sharing information, pictures, knowledge and other information with each other.

Individuals across the globe have been using various social media and social networking sites such as Facebook, LinkedIn, Twitter, Youtube, Skype etc. LinkedIn allows its users to generate and publish their own contents which are available to the other users as well. These sites can also be used for online discussions, exchanging information, knowledge sharing, etc. These sites are user-based, interactive, helps build

relations and ensures information exchange in a twinkle of an eye. In the digital era, when everything is going digital to increase access to all, use of social media and social networking sites by libraries can increase user access and connectivity between libraries and its users. Libraries can also resort to these sites for the purpose of marketing and increasing their reach and business.

Libraries and Social Media/Networking Sites:

Libraries and social media and social networking sites when go hand in hand can impact users and become the best and easiest mode of exchanging information, knowledge and other library resources. By using the social media and social networking sites, libraries can organise programmes, events, make announcements of new arrival of books, journals, etc and keep its users updated with the latest news in the field of knowledge and information. Some of the social networking sites and how libraries can utilise those platforms is given below-

- 1) Facebook: Facebook is a popular global social networking website that was launched in 2004. Facebook offers products and services beyond its social networking platform. When launched, Facebook was only used as a platform to connect people. But with change in time, use of Facebook has diversified. It is used as a platform for marketing, business etc. Libraries can also exploit this website for marketing their business and for increasing the access.
- 2) LinkedIn: Launched on May 5, 2003, it is mainly used for professional networking. It is a mode of connecting employers with employees and those seeking employment. Libraries can make use of this platform to create professional relationship, expand their reach and business, encourage discussions, organise events, etc.
- 3) YouTube: YouTube was founded on February 14, 2005. YouTube is used for uploading videos, songs, music, documentary films, etc. These contents can be uploaded by an individual, group of individuals, companies, firms, school, or any other like. A page can be created on the YouTube where Libraries can exploit this platform and

publish about their arrivals, seminars from time to time.

- 4) Twitter: This is another social networking site where people post and interact with one another by way of messages called “Tweets”. By using this Platform, Libraries can publish knowledge and information and build connections with experts and influential people because not all users of social networking sites are enrolled with this platform. It can help libraries enhance their reach.

Benefits of using Social Media and Social Networking sites in Libraries:

Social Media and Social Networking sites are dynamic in nature and so are we. Technology plays an important role in helping us reach where we want to. When libraries work hand in hand with the social networking sites, nothing can stop knowledge and information from reaching its users. Various benefits are-

- (i) Increased number of users
- (ii) Easy access to knowledge and information
- (iii) Cost effective
- (iv) Good way of marketing new books
- (v) Announcement of seminars and workshops
- (vi) Provides platform to the users and the library staff to discuss about any issue and redress grievances
- (vii) Libraries can conduct programmes through social media sites
- (viii) University/School libraries can also make use of these platforms which will prove helpful for students and teachers/professors in accessing information and knowledge at a mouse click away.

Way ahead:

As most of the libraries are functioning as traditional libraries and are not accustomed with the latest technological developments taking place, shift towards digital era will not be a five-finger exercise for the traditional libraries. Adapting to

the technological advancements will call for gruelling task on the part of libraries.

- (i) High Speed Internet Connectivity
- (ii) Availability of manpower who can look into the technical glitch when it arises
- (iii) Availability of systems to staff
- (iv) Choosing of right social media
- (v) Awareness among the library staff about the social media and the benefits it provides.
- (vi) Good communication skills
- (vii) Proper setup for authentication process of users to do away with fake users.

Conclusion:

In the present century, social media and social networking sites have occupied an important place in everyone's life. Citizens across the globe have been using platforms like Facebook, LinkedIn, etc for posting videos, information, news, knowledge etc. These platforms have become a part of our day to day life and can be useful for imparting and sharing knowledge as well. Therefore, libraries across the globe can exploit and utilise these platforms as it will not only attract potential users and share knowledge but will also help in maximising growth and increasing business of the libraries.

References:

1. https://www.researchgate.net/publication/293118711_The_Impact_of_Social_Media_to_Library_Services_in_Digital_Environment
2. <http://www.ijodls.in/uploads/3/6/0/3/3603729/ijodls424.pdf>

Chapter-14

Role of E-Law Libraries in the Functioning of Virtual Courts : A Critical Overview

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ABSTRACT

In this COVID 19 Pandemic era where social distancing has become a mandatory norm the only resort left with the Public in general is to seek justice through Virtual Courts. But a problem which often crops up when the lawyers refers to large number of judgments and statutes in the said hearing and it would not be possible for a judge to find them in such a short span of time physically from different libraries or by calling such items mostly when he has to dispose all those urgent matters in one day such as bail hearing and ad-interim injunctions. Moreover calling such referred journals and law books may alternatively invite the chance of infecting the Judges in this era of Pandemic. This Research is intended to find out a solution to the proposed problem and I investigated the solution to this problem by following the Doctrinal descriptive method which is qualitative in nature. This is argued by me that the solution to this problem can only be made by establishing centrally e-Law Libraries which can be accessed equally by the Lawyers and the Judges in making ready references at the time of hearing.

Key Words : Virtual Court, Video Conference, digitalization, Digital libraries/e-libraries

Abbreviation : V.C. means Video Conference, CIS means Central Information System, NJDG means National Judicial Data Grid, C.P.C means Code of Civil Procedure, Cr. P.C. means Criminal Procedure Code, Ld means learned.

1. Introduction :

In the wake of COVID 19 Pandemic situation the Hon'ble Supreme Court has been pleased to issue directives and guidelines for functioning of the Court through Video Conferencing, which will be hereinafter referred to as V.C. and in such case the role of Law Library and its up-gradation and digitalization becomes imminently important for the assistance of the court as well as the Ld. Advocates. Even prior to this the Hon'ble Supreme Court expressed it's clear intentions to turn the Courts of India into PAPERLESS COURTS for which e-court projects have been launched and Courts in Gujrat became the Paperless under the e-commerce projects of Gujrat High Court. Most of the Courts in India are trying to become paperless, in several courts the presentation and filing of cases is done through Central Filing System and disposal of cases or petitions are regularly is uploaded in the

CIS and such informations are stored in the NJDG(National Judicial Data Grid) for future references, moreso, now a days most of the petitions and records are being scanned and kept in a separate Data Archive¹. The litigants and lawyers and people in general can access the online to know the fate of their petitions or result of the cases, not only that even cause list of cases are available online which could be accessed by any person through e-courts. Therefore, the Courts in India are on the verge of turning into a digital court. Thus, the entire project of Digitalization of the Law Courts in India is an endeavor of the Hon'ble Supreme Court and the E-Committee under its guidance and supervision and there lies the future of digital functioning of the Law Courts of India.²

The Law Librarians and e-Law Libraries play an unique and integral role in the shaping of the quality of the legal system at

1 www.nja.nic.in

2 Policy and Action Plan Document Phase II : E-COUTS PROJECT, approved on 08/01/2014, page no 2.

all levels by virtue of their unique collection of data, Parliamentary Commentaries, Law Journals etc. The digitalization of such data is pivotal point of disseminating the functions of court through V.C. The Law Libraries and the Librarians are endowed with the role of initiating the process of data collection, protecting such data, making such data available at the hearth stone of aspirants, maintaining the quality of legal information at a reasonable cost and ensuring equal access to such legal information at all levels.

From the Constitutional point of view this e-Law Libraries would also provide equal opportunity for both the Lawyers, Law officers, Public Prosecutors and Judges to have equal access to such library at any point of time while the hearing is going on and even on a later stage and the said spirit is implicit under the provisions of Article 14 of the Indian Constitution³ read with section 2(d) of the Protection of Human Rights Act, 1993⁴.

At the present moment to address the need of the hour and to provide justice to the litigants who has no alternative than to resort to Virtual Courts for seeking justice, the establishment of a centrally controlled e-Law Library is a mandate where both the lawyers and the courts would have equal access with ease to all those journals, citations, law books, manual etc, etc at a single point of time and in one 'go' without incurring any wastage of time in physically finding such referred items and also avoiding the chance of getting infected by the COVID 19 virus by getting exposed to or coming in contact with any documents or books which has been touched by any infected person.

2. Functioning of Court in the era of Pandemic :

In the wake of COVID 19 Pandemic situation the Hon'ble Supreme Court has been pleased to issue a host of

3 Indian Constitutional Law, 5th Edition, Reprint 2007, by M.P. Jain : Wadhwa and Company.

4 Section 2(d) of Protection of Human Rights Act, 1993 provides : "Human Rights means the right relating to life, liberty, equality and dignity of the individual guaranteed by the Constitution or embodied in the International Covenants and enforceable by the Courts in India"

guidelines permitting Video Conferencing for the robust functioning of the Judicial System across the country and these guidelines would bolster the use of modern technology in the administration of justice for the present and also for the future as well. These guidelines mainly focus on advocating the use of video conferencing for hearing arguments in the Court both at the trial and appellate stage and also enabling the recording of Evidence through such video conferencing so as to avoid the physical functioning of the courts in full swing and to maintain social distancing and to provide relief to the litigants by bringing justice at the hearthstone of every individual and such it is the need of the hour and may be the future of the Legal system.

3. Analysis of Problems :

There is no gainsaying of the fact that legal information are widely available in different website and social networks like Orkut, Twitter, Google Search and other Search Engines but one should not rely upon the online blogs, opinion expressed in the social media and Search Engines which do not bear any liability of authenticity and quality of any case citation, judgment, information or data available at their disposal. Therefore, there is every chance of the general public, litigants, Ld. Advocates and perhaps the court to become a prey to their misguidance, mistake and / or misconceived notion and

such act of placing reliance upon those data and legal information is fatal to the digital functioning of the court and adduce of the process of law.

It is pertinent to mention here that while making argument and / or hearing of any urgent matter the court is duty bound to dispose of the same expeditiously. More so, while hearing bail matter under section 437 of Cr.P.C or any application under the provision of Order 39 Rule 1 & 2 of C.P.C. the court has to dispose of such petition mandatorily on the same date and in the same sitting. Now in such scenarios, the digitalization of Law Libraries and availability of legal information and citation is necessary. While it is also necessary for the advocates to get all

the information and citation with regard to the topic of discussion at their disposal. Therefore, the e-Law Libraries plays an important role to make such data easily available as and when required. Now there has been a tendency of furnishing data available through different Search Engines where sanctity and authenticity of data are not guaranteed. Therefore, it becomes imminently important to digitalize all the data which are available at disposal to wit all texts, codified and un-codified laws, old and recent judgments of different law courts of India and abroad, citations, Parliamentary Debates and Commentaries, Journals, various reports of the Law Commission and other allied materials on law from time immemorial and to establish e-Law Libraries and to make such data available to the aspirants through their official website controlled centrally with the assistance of the Law Librarians, whether free or at a nominal cost, at 'one press of the button', throughout India by adopting user friendly software.

4. Concept, Nature and Scope of Digital Library, Need of Digital Law Library & Role of Law

Librarians :

At the out set it would be pertinent to mention here that the key word “ Digital Library” was introduced by the famous search engine GOOGLE and thereafter by Wikipedia and thereafter by various other search engines as a “ library in which collections are stored in digital formats (as opposed print, microform, or other media) and accessible by the computers.” The term “Digital Library” has also been defined as a “ collection of digital objects (text, video and audio) along with the method for access and retrieval, [as far as users are concerned] and also for selection organization and maintenance”.⁵

Now, creation of digital library does not mean and include the process of digitized collection of data by any utility tool rather it attributes to the collective endeavor and the intelligence invested

5 THE ELECTRONIC LIBRARY 2008, volume 26(1): page 39.

by the Librarians and technocrats to select, collect, quantify, analyze, truncate, scan, tally and secure the collected data in digital form in a digital archive, so that such information or data is open and easily accessible.⁶

The nature of Digital Library can be attributed to a branch library, delivered digitally on the web which offers more than traditional library websites in many ways and which consists of genuine and authentic collection of information and having real staffs, building and a real community in and around.⁷

The scope of Digital Library is to provide a global platform over which people and organizations can devise strategies, interact, communicate, collaborate and search for information and this platform includes a vast array of digitalized information and data bases, books, magazines, journals, judgments, old manuscripts, new developments in and around the society, present legal system, etc, etc. and easy access at any place and any time in this world.⁸

Be it mentioned here that the word e-Library or Digital Library has been interchangeably used.

It can be said that a Digital Library is a mechanism necessary to enable access data globally with ease and which guarantees the authenticity and protection of such data. Ranganathan in 1999⁹ propounded the classic Five law of Library Science as a spirit behind architecting and managing libraries. The same Five laws may be rephrased as given below to guide the Librarians in architecting and managing the Digital Information System of the 21st Century:

- (I) Digital resources are for use;
- (II) Every user seeks digital resource;
- (III) Every digital resources needs it's user;

6 D-Lib Magazine, 2001; 7(10) : Whitten, Ian H, David Bainbridge.

7 Library Technology Report, 2009, volume 45(6), page 5-9, David Lee King.

8 Digital Library: today's need- a review by Kavita Ajay Jadhav ; International Multidisciplinary Research Journal, 2011; 1(11) : 17-19.

9 Five Laws of Library Science, 1999, by Ranganathan S.R., page 11-23.

(IV) Saving the time of the user;

(V) Digital Library is a growing organism world wide.

These five rules have initiated the process of digitalization of informations and data into a secured archive to form a library accessible through the internet by the users and to save time and energy of the user in searching the same physically and thus, it has become the need of the hour in this era of globalization.

Now, in the wake of the COVID 19 Pandemic where the Courts have started functioning through V.C. at the very point of initiation, assistance of Digital/e-Law Libraries is the need of the hour since in order to make proper argument or discussion at the time of hearing it is always required by the Ld. Advocates and the Court to interpret the essence of any provision of codified law either in grammatical method of interpretation or to follow the golden method of interpretation, but sometime it may so happen that both of such method may not clarify the meaning of such provision or the intention of the legislature in enacting such provision and in such case the court has to apply the Hyden's rule of interpretation commonly known as Mischief rule and in doing so the court has to travel beyond the statutory limits and focus on Parliamentary Debates, Parliamentary Commentaries, Statutes in Pari-materia, Old Religious Documents, International Law & Journals, very Old Judgments of different Courts, Opinions of Law Schools, References made by the Law Commission etc. Therefore, in such situation the court has to hunt for such material which would afford an opportunity to clearly interpret the meaning of such provision of law in essence and substance. The Court has to dispose of such matters expeditiously and especially while disposing of any bail petition or urgent petitions and for doing so such documents whether very old or new requires to be digitalized so that the same is available through Internet readily through a centrally controlled e-Law Library and both the judges and lawyers can refer the same from the website of such e-Law Library as and when required. Thus the establishment of a centrally controlled e-Law Library would the curtail the harassment of both the Lawyers and the Courts and also would lessen the chance of getting infected by being exposed to contaminated books and journals. Thus, there would be no necessity of the Court or the Ld.

Advocates to run from one corner to another corner to collect such document physically, and the Courts can dispose of urgent matters expeditiously through V.C. and thus, here come the necessity of the establishment of a centrally controlled Digital Law Library. Thus, in order to establish such Digital Law Libraries throughout India the Central Government and the E-Committee of the Hon'ble Supreme Court with the assistance of Law Librarians has to take up the uphill tasks of digitalizing all such documents as far as practicable to assist the functioning of digital court in this era of COVID 19 Pandemic. After the establishment of such e-Law Libraries the Law Librarians have to be vested with the important duty which is akin to their role in this legal system and they are as follows :-

- (i) Digitalizing and upgrading both current and age old documents furnishing legal information;
- (ii) Providing customized services on law related topics on reference being made;
- (iii) To verify the authenticity and accuracy of legal data and their sources;
- (iv) To prevent tampering of data collected from their archives either by putting watermark or by any other mode;
- (v) To monitor the present changes in the legal arena and to update the website;
- (vi) To conduct annual budgeting, planning and control of e-library setting and the up-gradation of such library in accordance with the present need of the hour;
- (vii) To assist the non-professional these students in accessing the e-library;
- (viii) To provide adequate training of scanning the citations;
- (ix) To maintain a separate column for referring the over ruled judgments and the landmarked judgments so that it would be easy for the aspirants to find out which judgments have been overruled and what is the present rule as per the landmarked judgments;
- (x) To keep a keen watch and track of legal updates on regular basis and to collect the same in their archives so that such updates are available in the electronic form;
- (xi) To make an user friendly interface to assist legal search on any topic by the subscriber or aspirants;

(xii) To analyze suitable methods so that all data on a particular topic is readily available in a single 'go' at the time of searching through ON-NET and also to make arrangements so that most of the important informations and data are available OFF NET so that the users including Lawyers and Judges do not become a prey to the harassment of poor Internet connection.

Thus, the initiative and efforts of law librarians in maintaining and protecting data and making them available to the users would save a lot of time of the Courts and thereby it would result in saving time, money and energy of the aspirants and would curtail the harassment of the Litigants, Lawyers and Prosecutors and would also aid in the speedy disposal of the court matters through V.C.

5. Conclusion :

In this era of Digitalization it is the need of the hour that e-law libraries are made available with ease to the users so that it could afford an opportunity to the Lawyers, Law officers, Judges and also general public to learn and know about the law of the land and also to allow the Lawyers and Law officers and Prosecutors and litigants (while moving in-person), to make references at the time of submission before the court through V.C. without being subjected to the harassment of running from one corner to the other in this COVID19 Pandemic situation. Moreso, the e-Law Libraries would save time and money of the litigants and would afford an opportunity to make wide range of references from extensive range of stored data in the digital archives at one point of time which in turn would provide fast disposal of litigations. But at the same time it would be the ardent duty of the law librarians to keep the e-law library updated so as to quench the thirst of knowledge of recent development of law and also to make them readily available so that could be referred to at any point of time. It would also be required that such e-Law libraries ought to have option for downloading data from the e-Archives so that they could be accessed OFF-LINE because it may be possible that during V.C. due to bad weather or poor connectivity the reference could not be made before the court, therefore if such downloaded data could be accessed OFF-LINE then would aid in making ready references during the hearing

through V.C. and the lawyers and the Courts do not have face any hindrances in disposing of any urgent matter before it due to poor connectivity. It would also be the duty of the e-law librarians to protect such data stored in the e-archives so that no person can tamper with such data even after downloading the same and it can be done very easily by putting water mark in each of such pages of the data and also to foster any strategic downloading mechanism to keep record of the persons of the system accessing such e-archives.

Thus, for proper functioning of Law Courts through Audio-Video Conference in this era of COVID 19, the e-Law Libraries has to be established under the aegis of the E-Committee of the Hon'ble Supreme Court and the Central Government and such Libraries would function with the assistance of Law Librarians. These Digital Law Libraries established centrally would play an important role being a part of the legal system and repository of authentic legal data and without their assistance the Law Courts would not be able to discharge multifarious functions expeditiously in tandem with the direction and guidelines of the Hon'ble Supreme Court.

Chapter-15

E-Publishing: A Supporting tool for Research Output in the time of Pandemic

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Abstract

It goes without saying that a lot of aspects in the world are going online. From content marketing to design, every creative industry is going electronic. But most people still admit that the old-school way of picking up a magazine or book and connecting to a different world has a different charm that no electronic content can match. It may be true but it is not right to take such a narrow approach in the era of publishing. It could hurt both the authors and readers. Publishers should admit that E-Publishing brings more than just simplicity and it has added benefits to the readers. This paper covers the overview of E-Publishing and discusses the pros and cons for both readers and authors. This paper encourages readers to think out of the box and recognize the presence of E-Publishing in global outbreak and also focuses on how the E-Publishing proved as a beneficial tool for the academicians and researchers during pandemic.

Keywords: E-Publishing, Pandemic, Publishing, Research Output.

1. Introduction

Information has been available since human civilization evolved and people started recording it as their own convenient way. Initially this record keeping of information was done on stones, Taamra-patraas and in the form of manuscripts as no specific tools of recording were available there and also people were not very much aware about the importance of keeping a record of information and disseminating it. Gradually when

people started understanding the importance of information, they started keeping it safe. So with the need of information to be used in future and for dissemination of it to the large number of people, there was a requirement of printing machines. So, with the invention of movable typing in Europe by Johannes Gutenberg around 1450, Process of publishing started.

Printing process started spreading in 1500 across the Western Europe while producing over 20 million copies. By the 1600s, over 200 million copies were produced by printing press. The Times was the British daily newspaper launched in 1785. The age of newspapers started in 1800 with the evolution of technology and literacy and mass production of newspapers began. The newspapers witnessed significant rise in readership and sales. But only a few elite-class people had the ability to publish. In 1814, The Times owned a printing press with capacity to produce over 1100 copies/minute.

Richard M. Hoe invented the rotary printing press powered by steam in 1843. It produced millions of copies in a day. After the evolution of rolled paper, mass production flourished in printed works. Press became able to run faster with continuous feed. The News of the World, a Sunday newspaper was the first to sell over 8 million copies in the 1950s. The internet was launched in the 1980s and changed the communication and workspace. But publishers were slow to adopt these changes. The revolution of online publishing began in 2000. By 2012, more opportunities have come for all brands, organizations and individuals to become publishers through social media, blogs and other digital technologies.

These days, publishers are forced to do everything they have never thought due to social distancing and lockdown restrictions. There are several changes that a pandemic brings and different ways for publishers to adopt and evolve. A lot of publishers are witnessing significant rise in web traffic, as compared to usual recessions. Indeed, it helps them to grow subscriptions. With the evolution of the internet, people are now using reliable sources to gather information.

All the publishers have been publishing their newsletters, magazines and blogs with their employees working remotely on different schedules and in various places. Publishers are also using E-Editions to continue their distribution in the pandemic. It comes up with an opportunity to print a magazine which is having a hard time financially. It is the right time for publishers to add more attractive and bonus content to their digital editions like visuals of presentations and interviews, additional photos, and other articles from the past.

2. Evolution of E-Publishing

The publishing of information took place by the printing media for around five decades, but in the year 1971, the project ‘Gutenberg’ started. It was actually a new way of publishing other than the conventional paper-work.

In 1977, the term E-Publishing came into existence. This term was given by William Dijkhuis. The first E-Publications were plain text emails done in the 1980s.

One more medium for electronic publishing came into existence in the 1980s, CD-ROMs. These compact disks were a powerful tool for keeping the content safe at very low cost. A variety of information (textual, pictorial, graphical) was being delivered in an expensive manner with the help of these disks.

After a series of events, the first electronic book was commercially available. It was published in 1981. This was actually a landmark of today’s publishing.

E-Publishing has never been so simple on the surface. It consists of digital publication of magazines, books, and different types of literature. Digital libraries and catalogues are also developed in the form of E-Publishing. Some of the publications include technical publications, dictionaries, encyclopaedias and references. These days, E-Publishing also covers short stories and simple collections to more complex publications. It can be very helpful for story writers in high school to corporations and universities.

3.1 Types of E-Publishing

E-Publishing is the way of delivering books and other publications to readers using the latest technology. Publishers can provide information quickly and smoothly to the readers and it brings huge changes to the publishing industry. E-publishing is actually a broad term which consists of various publishing models, such as print-on-demand, E-Books, email publishing, web publishing, and wireless publishing.

3.1.1 E-Books

E-Books are actually electronic versions of books that can be read with a lot of devices. There are some software programs used to make it easier to read a book. The market for E-books is very large. It is really helpful for students annoyed by lugging around loads of textbooks and business people or consumers who travel a lot. It is really helpful for them to download several books in a small reader.

3.1.2 Print-on-Demand

It is a new approach for printing books on demand at a time. It saves publishers from printing thousands of books at once. It consists of digital texts that are readable by printers and complex laser printing mechanisms. A lot of publishers are looking forward to printing only limited numbers of books while making profits. But this technology is very costly at this time. It is very new these days and it should be a good step between e-books and the traditional approach of printing thousands of books.

3.1.3 Email Marketing/Newsletters

E-mail marketing is a very popular medium for readers who prefer the convenience of getting a daily scoop of the latest news, short newsletters and articles on their inbox. Some businesses also deliver these services specifically to the customers. Media companies use newsletters along with their print and online offerings. A lot of authors publish newsletters to grab the attention of more readers and to inform them about new books.

3.1.4 Web Publishing

Web publishing is nothing new. In reality, it keeps on changing and evolving with the arrival of modern programming languages. HTML is one of the widely used languages but XML still means a lot for publishers to create data and content which can be accessed through a lot of devices.

4.1 Features of E-Publishing

- It is very easy to gather electronic information for all users.
- E-Publishing makes it easy to generate information rapidly to all the users to their desktops and obtain online information quicker than print media
- It is fast and cheap to disseminate research results and views
- E-Publishing is not limited to any location or user
- Online journals are user-friendly and have higher reach
- It is very easy to search and browse for E-Publishing

4.2 Models of E-Publishing

There are different business models of E-Publishing, including print-on-demand, commercial E-Publishing, self-publishing and subsidy E-Publishing. Along with it, agent vendors and distributors pack books, online journals, and sell databases to universities, industry bodies etc. with mark up over the cost. These costs vary according to whether exclusive rights have been procured or shared the same with competitors.

- **Commercial E-Publishers** – They prefer to publish bestselling books with a good mix of subject matter and quality. They also sell through Amazon.com and other online bookstores. They put the same level of technical and editorial work like print publishing.
- **Print on Demand** – It is yet another interesting model, which combines print and E-Publishing. The publisher holds the book in electronic form and it is printed out in hard copy.
- **Subsidy Publishers** – They are different from commercial ones. They accept a lot of manuscripts and publish them. These manuscripts are not even formatted, edited or proofread.
- **Self-Publishers** – These authors publish E-Books themselves and keep whole publishing rights. They are mainly aimed to avoid marketing, publishing, and licensing expenses and they have full control on the price, design, and marketing.

4.3 Categories of E-Publishing

There are two different categories of E-Publishing – Offline and Online. Information passes completely to the user or buyer in offline publishing. They can use the same for unlimited number of times without paying anything extra. For example, a Compact Disc which has a reference material or software stored in a transportable or physical form. A user can access the data regularly with a compact disc player or PC.

On the other side, information is stored in a computer of a publisher and is accessible only for a fee in case of online publishing. Online publishing can be managed, updated and refined from time to time. The publisher cannot update the database in case of offline publishing.

5. Advantages of E-Publishing:

5.1 For Authors

- **Better than traditional approaches**

No matter how excellent you are, it imposes a lot of challenges to get your work into the old method of publishing, especially when you are starting up. You can publish your book on the web if you seriously want to convey your message. You will need to work on your strategy and people will definitely know you.

- **Convenient**

Thousands of E-Books can be stored in E-Readers and all mobile devices. There is no need to overload the shelves and stands with a heavy bunch of books. You can also get bestselling titles in online bookstores. E-Books are the best choice for traveling as you can bring several books you like without weighing up your luggage. E-publishing also provides other services like videos and audios.

- **Affordable**

It is shown that E-Books are generally more affordable than hardcovers and paperbacks without bearing manufacturing and printing expenses. The low-price version of E-Books also helps you buy several versions.

- **Updated content**

Authors can easily edit the documents which are electronically published at any time. This way, readers can easily stay updated

with recent changes. Authors should edit the content before information gets viral and a new issue is released. Even printed books have typing mistakes which come out when they go for editing and proofreading. E-Books are also likely to have typing errors but they can easily be resolved.

- **Eco-friendly**

E-Books can also be eco-friendly apart from being cost-effective. It saves a lot of trees as it saves paper. Some people even burn their old books. As a result, it depletes the ozone layer by releasing greenhouse gases.

- **Highly engaging**

Even the most popular authors are turning their way towards E-Books. This approach helps them to increase their reach to a wider audience within seconds after publishing works. This method is really helpful if promotion of content or brand is great.

5.2 For Readers

- **Having live links**

Links can be affiliated in digital format which can take readers to a specific page of E-Book or to any external page which has further information. It adds great ideas and improves interaction with readers.

- **No need to go elsewhere**

Readers don't have to go anywhere else since the content is easily available on their fingertips. It also helps a lot of researchers because they can easily access theories on the internet.

- **Safety**

In the current pandemic situation, people are unable to go to libraries. So, they can access the material which is available online. It also helps to maintain social distancing and saves you from touching anything without sanitation. Readers can use their own gadgets to access their information.

5.3 Disadvantages of E-Publishing:

- **Plagiarism issues**

E-Publishing comes with greater opportunities but here is a catch. You can publish your books but you should consider legal issues to avoid the risk of copyright infringement. You should secure your artwork, charts, tables and other aspects of your

book with copyright. You should secure your text against plagiarism.

- **Low margin**

E-Publishing takes time to earn a decent amount of money for your living. Authors find it hard to earn more money because E-Books are relatively cheaper than their printed counterparts. If you want to make profits, your marketing should be effective.

- **Lack of Accessibility**

Printed books don't need electricity and they don't require electronic gadgets. You don't have to drain out your cell phone, computers and other devices to read them. There are still some places which don't have proper electricity. In remote areas, internet connectivity is limited. So people who are living there have to buy printed books.

6. Benefits of E-publishing for the researchers during pandemic

No research is useful until or unless it is disseminated to the others to let them know what a researcher has actually done in his/her research. So publishing the research in different formats like research papers, journal articles is very necessary for a researcher and academician. To fulfil this purpose of them, many conferences and seminars are hosted across the world on national and international level. But in current situation of pandemic it is quite impossible to organize such an event. Initially this situation felt like sticking at one place will break the flow of research and writing but webinars were introduced and exchange of ideas started flowing on the web. This all was possible because publishing on web is easy and available.

E-Publishing benefitted the researchers & academicians in many ways like:

- **Availability of E-Content**

During pandemic libraries & information centres were closed and there was no option for accessing books, journals and other reading material through them. So the only content Available to access was E-Content. This helped the researchers in searching the content and review of their literature during pandemic.

- **Interaction through webinar**

As we know that conferences and seminars provide a platform on which researchers and academicians can share and exchange

their ideas. But after the announcement of pandemic no such option was available. So to continue the exchange of ideas, webinars were a great option and researchers were getting interacted with each other on web.

- **Mass connectivity**

Before pandemic when researchers used to attend the physical conferences, connectivity with limited people was possible but in webinars it was possible to connect with large number of people just sitting on one place.

- **Work-satisfaction**

Initially when lockdown was announced due to pandemic, everybody was upset. People were anxious about their learning and research outcome, but soon the E-Content available on web became helpful for them and they were also getting lots of matter for learning through available online courses.

- **No Geographical Boundaries**

Due to E-Content and content available on web, there were no geographical boundaries. Much content published was released free to read and people were learning at their own home.

- **Publishing the article was as easy as before**

Writing journal articles and paper publishing is mandatory for any researcher. So in this pandemic situation when people were not allowed to visit anywhere, publishing of paper was possible and there was no loss in API of an academician.

- **Higher reach**

Another great advantage of E-Publishing is increased reach to more people. Even those who cannot afford to buy subscriptions to costly journals can access the information from scholarly research online.

- **More studies**

Since it becomes easier and faster to disperse ideas more widely and rapidly, more research studies can be done. Researchers can bring more recent scientific studies that businesses can rely on. It also contributes to economic boost and knowledge gain with open access. This way, knowledge can easily be used immediately in teaching as an open resource.

7. Conclusion

All in all, E-Publishing has its own advantages and disadvantages like other things on this planet. As a whole, electronic publishing has come up with many opportunities for authors to reach a wider audience base across the world. A lot of aspiring writers can start their careers and readers can easily access their online materials. It wouldn't be wrong to say that E-Publishing has taken the publishing industry by storm. In addition, E-Publishing also saves the cost of distribution and reproduction. It provides a lot of benefits to librarians, instructors, consultants, editors, publishers, content creators, readers, researchers and academicians. In pandemic e-publishing is playing an important role of content delivering to the readers and writers.

References

- Bashorun, M.T. and others (2013). The Evolution Of Electronic Publishing: A Literature Review. *Transnational Journal of Science and Technology*, 3(4), 11-32.
- Brownrigg, E. B., & Lynch, C. (1985). Electrons, Electronic Publishing, and Electronic Display. *Information Technology and Libraries*, 4(3), 201-207.
- Naikwadi, V.A. & Punwatkar, S.D. (2015). Non-Profit Initiatives for E-Publishing: An Overview. *Golden Research Thoughts*. 5(4), 1-8.
- Souto, P.N. (2007). E-publishing development and changes in the scholarly communication system. *Ci. Inf., Brasília*, 36(1), 158-166.
- Velmurugan, C. & Radhakrishnan, N. (2015). Electronic Publishing: A Powerful Tool For Academic Institutions In The Electronic Environment. *International Journal of Library Science and Information Management*, 1(1), 10-18.
- https://visual.ly/community/Infographics/social-media/evolution-publishing-1400-today?utm_source=visually_embed (Accessed on 23 July 2020)

Chapter-16

Importance of E- Resources in Law Libraries

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Abstract

Like other branch law is also information based. The importance of legal education is gaining popularity day by day. A library is a place where we collect the information from various sources either online or offline. Further that information is used to serve the need of the society directly or indirectly. Objective of law library is also the same. An effective law library would mean the availability of the resources needed to a legal professional. In today's dynamic world due to the development of technology importance of legal e- resources can't be ignored. It is very helpful for law students, academician for doing their day to day research. The researcher in this article will highlight the importance of e- resources for law libraries. This paper will also try to highlight the other dimensions of legal research as well as challenges faced by the librarian and other users.

Keywords

Legal, Information, Technology, Dynamic, E-Resources.

Introduction

The word law is utilized in everyday communication. Law is basically made to control the conduct of human behaviour. According to Thomson (1996), "*Law is a system of rules instituted by act of parliament, custom or practice applying to individuals and corporate bodies in order to punish those who offend the conventions of society*". Susskind (1996) said that, "*Law is at the heart of our personal and social lives, it is the lifeblood of the commercial world and it is central also to our*

national security". Law is always information based. Igbeka (1995) stated that "Library systems and information centers are the best agents to provide a platform to gather legal information as a sources or services". Law libraries are useful for imparting legal education. Similarly law library is designed with an objective to assist law students, scholars and managers of administration of the parent academic institution. Law library is basically a comprehensive collection of Acts, Rules, Case laws, Textbooks and Law journals etc. Information and Communication Technologies (ICTs) has made a greater change in utilizing the online resources for law professionals. In this electronic age, modern law libraries are the combination of both print and e-resources. Earlier due to lack of advancement of technology legal professionals were more dependent on the information which was available in print format. At Present the information is very easily accessible in electronic form. In comparison to printed resources electronic resources cover a wide range of legal information. Shift towards retrieving information electronically has brought some changes. Although traditional formats are still being widely used as they are a time-tested format especially in the field of law. Role of both the print and electronic resources can't be ignored or avoided, as both plays an important role in the academic law library's survival.

Law Library

Law as a subject is technical in nature. We can't ignore this fact that it is a living discipline which keeps growing a day by day. It is dynamic and ever growing in nature. An academic law library is different in its content, organization, and use. A law library is not merely a collection of books, but it is a collection of legal literature also. An ideal law library contains basics of primary and secondary legal materials in various forms. Primary legal materials consists of the actual rules of law created by a government body, constitutions, statutes and codes (from the legislature), case opinions (from the courts) and regulations (from administrative agencies). These materials may be generated from the local, state or federal level. Secondary legal materials include materials which explain or comment on areas of law such as articles, treaties, legal encyclopedias etc.

These materials are helpful in understanding a particular legal topic. The law library brings law, as legal information, to the law school (Dina et al. 2013, Lawal et al. 2012). In a law library setup documents related to legal affairs always require special skills to handle; especially court judgments, legislative enactments, constitutions, treaties, ordinances and administrative rules and regulations. Law library is designed to assist law professionals, law students, teachers and research scholars. The primary objective of establishing the law library is to meet the needs of different user groups for the fulfillment of their various academic activities such as: regular classes, Assignments/Presentations, Moot Courts, Dissertations/Project Reports, Teaching, Research, and Legal Awareness Programs etc.

According to Tewari (1997), “Law library truly plays a vital role in the administration of justice. It is an institution of extraordinary social significance in a free society, inspiring the men and women of vision who devote their talents in the creation and preparation of law libraries, whose benefits reach out far and beyond the personal interests of the original creators”. Importance of law libraries was highlighted by; Dada (2007) that “*Law is a profession which is literally unable to exercise its work without the use of books*”. According to Ukanah and Afolabi (2011) “*Law library is a collection of legal information organized for use of those seeking to qualify as, or who have qualified as lawyers and those enacting or administering law*”. Law library plays a vital role in the administration of justice. Without any hesitation we can say that it works as an institution of extraordinary social significance in a free society.

Concept of Legal Research

Research is a scientific and systematic re-examination of existing facts or knowledge to ascertain whether the existing conclusion can be varied or not. History of research is as old as Indian civilization. Legal research is that branch of knowledge which deals with the principles of law and legal institution. Sources of law can be categorized under the three heads i.e. legislation, precedent and custom. Finding law is not easy as it appears. It involves higher degree of systematic search of legal

materials, statutory, subsidiary and judicial pronouncements. To fully appreciate the potential of law library; it is necessary for law students, faculty members, research scholars and law professionals to engage with legal research process for better result in teaching, learning, research and profession. Legal research is not an exception to the general concept of research whose aim is to know or to discover answers to meaningful questions. The main aim of legal research is to find ‘Authority’ that will aid in finding the solution to a legal problem. It also helps in finding, understanding and applying the law. We can’t ignore that the legal research is considered as one of the basic skill which a lawyer must possess in today’s dynamic world. Anyone who is curious to know something about a particular law and/or its operational facets can be a legal researcher. As an occupational exercise, legal research needs to be undertaken by Legislators, Judges, Lawyers and Legal Academia (Frederick, 1959). The main job of a legal researcher is not only to find out the existing laws but also to examine the issues attached to that and suggest the reformative change in law. Proliferation of information technology has created such a dynamic environment which requires the researchers to be more effective and efficient in his/ her research process. The world of legal research has been profoundly affected by the explosion in ICT and e-resources in recent years. Legal researchers continue to be changed and challenged by the developments in Information and Communication Technology (ICT) as legal materials are now more accessible online through fee based databases, court sites, federal and state government sites, and other free databases.

Information and Communication Technology (ICT) as a Driving Force

Information and Communication and Technology (ICT) revolution is considered to be the century’s most significant development affecting modern library setup. ICT describes the use of computer based technology and internet to make information and communication services available to a wide range of users. The term is used broadly to address a range of technologies, and central to these is internet, which provides the mechanism for transporting data in a number of formats

including text, images, sound and videos. The role of ICT in modern libraries has become so important that it is hardly possible to serve the users without the application of the same. Now a days, libraries are using ICT to improve the services and satisfying diverse user needs. ICT makes it possible for an individual to access information rapidly and easily across local, national and international borders in contributing to revolutionary changes which include the academic libraries also. With the application of ICT, libraries have changed into digital, virtual or electronic libraries. Now the books, journals and magazines can easily be made available in the form of e-books, e-journals and e-magazines. This mode of accessing the library is more user friendly in today's world. After the proliferation of Information and Communication Technology (ICT), e-resources have flourished in an unprecedented way. ICT has made the use of e-resources easier because of its perceived benefits.

E-resources and Their Role in Law Libraries

“E-resources have become the channel for legal researchers to search for information that help to develop research oriented solutions to legal problems (Kenny and Qiang, 2004)”. Impact of e-resources can be observed in many places of the world, and the library is no exception. E-resources consists of information which are in electronic form, and are characteristically easy to use when accessing information compared to sources in print. E-resources are “Materials consisting of data and/or computer program(s) encoded for reading and manipulation by a computer by the use of peripheral device directly connected to the computer or remotely via a network” (Reitz, 2005). It is a broad term that includes-journals, E-books, E-databases, ETDs, E-magazines, E-newspapers, E-reference sources, E-images, E-audio/visual resources etc. It can't be denied that E-resources are also reliable, accurate and timely access to information. Now the libraries have become the e-center where collection of e-resources is accessible via Internet, World Wide Web and also from open access journals, open access archives, websites etc.

In law libraries, e-resources act as a lifeline upon which legal profession and scholarship rest. According to Olson (1999), “The amount of legal resources available electronically is vast

and continues to grow rapidly. In this electronic era, several legal e-databases are created and made available in both online and offline form”. There are many e-databases related to law are available. Some major one is mentioned below:-

- (a) SCC Online: - SCC Online is a product of Eastern Book Company. It is a publishing house of international repute. SCC online is an acknowledged leader in the field of law publishing in India for more than 75 years. It is an extensive database which provides an authentic and reliable comprehensive research experience for legal content from India and many other nations. It covers the reports of Supreme Court of India, Federal Courts, Privy Council, High Courts, District Courts, Historical Courts, Tribunals and Commission etc. In the category of secondary materials it contains constituent assembly debates, reports of commissions and committees, legal articles, treaties, historical trials, policy document etc. Supreme Court Cases (SCC) is the most cited law report by the Supreme Court of India.
- (b) Manupatra: - Manupatra is India’s first leading law publisher which provides a platform for online legal database to access the latest information regarding law, taxation, corporate and business policy. It offers over 2 million judgements from the Supreme Court, High Courts, Tribunals and 14 International Courts; over and above a comprehensive database of case laws reported in recognized journals central and state acts, business policies, bills, notifications and others.
- (c) Lexis-Nexis:- Role of Lexis- Nexis as a search engine for legal professionals can’t be ignored. It is a leading global provider of content-enabled workflow solutions designed specifically for professionals in the legal, risk management, corporate, government, law enforcement, accounting and academic markets. Across the globe, Lexis-Nexis is more user friendly for its customers.
- (d) Hein Online: - Hein Online is also one of the premium electronic research product. It provides more than 186 million pages and 2,87,000 titles and more than 2,800 journals of historical and government documents of legal

history available in an online, fully searchable, image based format and is the world's largest image based legal research collection.

- (e) Westlaw India: - It is an electronic database service which is a part of "*Thomson Reuters South Asia Private Limited*". It is a subscription based service, which provides access to case law, legislation, law review, treaties, directories and other international legal information of various countries to the students, researchers, faculties and lawyers for their teaching, learning, research and practice area.

E-resources have proved to be a great boon for the users. Following are the characteristics due to which e-resources play a vital role in imparting knowledge in a law library setup:-

1. Anyone can access the document available in the form of e-resources around the world without any limitations.
2. It is easy to search, browse, access, copy, download and customize e-resources according to the needs of user.
3. E-resources are more updated version.
4. At one point of time electronic resources open up the possibility of searching multiple files.
5. No physical space is needed for e-resources.
6. Preservation and dissemination of knowledge through e-resources is faster and wider.
7. An electronic information resource provides global distribution, hypertext link and the ability to access from different sites.
8. Mixed media contents i.e. images, video, audio is one of the key features of e-resources.
9. It is interactive and allows interaction between author/publishers and users.
10. It can be accessed simultaneously by multiple users at one point of time.

Challenges for Librarians

Due to the advancement of technology librarian also faces some challenges. Library professionals are facing two complementary challenges-

- (i) The technology is vastly extending the scope of information work.

- (ii) Secondly, user's demands are rising constantly, creating a demand for more and high quality information services.

Law librarians and law libraries plays a unique and integral role in shaping the quality of the legal system. Marke (1964) once remarked "The future for law librarianship is highly challenging and exciting, pregnant with the seeds of great changes, even though the basic education and the core competencies of law librarians are similar to those of other types of librarians, there are sufficient differences in mission and responsibility to separate them." Law librarians have a lot of responsibility for selection, acquisition, storage, arrangements and delivery of useful legal information resources. It is essential that law librarians have a working knowledge of legal vocabulary, including legal abbreviations and citation systems. Law librarian must possess highly specialized knowledge, expertise and experience in providing services that affect the ultimate end users. Leiter (2007) outlined "the role of the law librarian in the electronic environment thus:

- Evaluate the quality, authenticity and accuracy of print and electronic resources,
- Teach legal research methodology, and
- Be seen as core participants in the missions of their institutions."

ICT has imposed a new role on librarians as educator. Law librarians are just like a guru of the information age. They have to be very proactive. It is a mandatory duty of the law librarian to provide the appropriate texts and to guide the prospective lawyers how to access information from them. It is the duty of the librarian to communicate to law academics through various modes of communication within the organization or institution about the recent developments in the legal profession. By doing so they are altering the users of that library to what is new regarding the profession. They must keep pace with the breakneck speed of emerging technologies and adjust to the new research needs and information use behaviors of students, faculty, judges and lawyers. Law librarian's plays a unique role in shaping the quality of the legal education at all levels by

understanding, planning, budgeting and controlling the same in the law library setting.

Challenges for Users

Although e-resources are acknowledged worldwide for its perceived benefits, still these resources are not being used to its maximum extent by the users be it students, faculty members or research scholars. There are some challenges in front of users in using e-resources which are as follows:-

1. Non availability of ICT infrastructure in libraries can be seen as a major challenge.
2. Training for using e-resources is needed for the users.
3. Lack of awareness about e-resources present in the libraries is also a big problem.
4. Overloaded information or lack of required information is another major issue with e-resources.
5. Issues related to copyright and/or IPR may occur with the use of e-resources.
6. Lack of support from library staffs is also a reason of lack of use of e-resources.
7. Users with less IT skills may find it difficult to use e-resources.
8. Difficulty to read on computer screen is another major challenge of e-resources.
9. E-resources can't be accessed in case of technical problems like- power cut, low bandwidth etc.

Conclusion

The main aim of any library is to provide its users with relevant up-to-date information. By providing the up to date information only we can attain the goal of fruitful teaching, learning and research. The challenges posed by advances in ICT and e-resources on libraries are enormous. Law libraries have to brace up to the challenge and embrace this global phenomenon that has enhanced free flow of information and instant transfer of knowledge. Presently, print and electronic formats have exclusive value in a law library setup, and until those values can be replicated in other media, both formats must be collected, maintained and supported by libraries.

We can't ignore this fact that libraries have started incorporating e-resources into their services. It gives more

efficient, effective and reliable data to its users. E-resources are now widely accepted in the field of legal education and practice. In addition to traditional services, the library should provide services by using computers and other electronic means. The law librarian should be cautious in acquiring or providing authentic legal information available in electronic form. Law librarians must possess knowledge about the legal profession in order to understand the forces that drive its information needs. They should look to polish their existing skills and add new skills, if they want to play a key role in the field of law library.

References

1. Dada, T.O. Acquisition of law libraries: emerging issues. *Paper presented at the course on Technical Services in law libraries organized by the N.I.A.L.S. Abuja/Lagos, June 2007, 26-28.*
2. Dina, Y., Akintayo, J. O. and Ekundayo, F. Hauser global law school programme: Globalex-update- *Guide to Nigerian Legal Information, 2013.*
3. Frederick C. Hicks, *Materials and Methods of Legal Research* (1942, Reprint 1959) 23-31.
4. Igbeka, J. U. Information needs of agricultural engineers: The case of Ibadan, Oyo state Capital. *UNESCO Africa, 10*(11), 1995, 99-108.
5. Kenny, G. J., Qiang, C. Z. *Information and Communication Technologies and Broad-Based Development: A Partial Review of the Evidence. Washington, D. C: The World: The World Bank, 2004.*
6. Lawal, V. L., Stilwel, C., Kuhn, R. and Underwood, P. G.A Contextual study of information literacy of aspirant barrister in Nigeria. *South African Journal of Library & Information Science, 78*(2), 2012.
7. Leiter, Richard. Musings on the Future of Law Libraries. *Legal Information Alert. 26, 2007.*
8. Marke, Julius. The Glorious Uncertainty of Law Librarianship. *Law Library Journal; 57, 1964, 1.*
9. Olson, K. C. *Legal Information: How to Find It, How to Use It. Phoenix, Ariz: Oryx Press, 1999.*

10. Reitz, M. Dictionary for library and information science. *London. Raintree*, 2005.
11. Susskind, R. The future of law: Facing the challenges of information technology. *New York: Oxford University Press*, 1996.
12. Tewari, H. N. Legal Research Methodology. *Central Law Agency, Allahabad*, 1997, 50-51.
13. Thomson, D. Law: Certificate in financial services practice (CFSP). *Canterbury: The Chartered Institute of Bankers*, 1996.
14. Ukpanah, M.E., Afolabi, M. Availability of cited law resources by law students in the Universities of Uyo and Calabar law libraries, Nigeria. *Nigerian Libraries*; 44(2), 2011, 40- 57.

Chapter-17

Google Scholar and Microsoft Academic: Open Access Academic Search Tools for Scholarly Information on the Web

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Abstract:

Google Scholar and Microsoft Academic are freely scholarly academic search tools available on the web. These enables the users to search for scholarly literature including peer reviewed papers, theses, books, preprints, proceedings abstracts and technical reports from all broad areas of research. Although, many other Open access academic search tools are available on the web but study is limited to Google Scholar and Microsoft Academic by following a descriptive method of study. These academic search tools are having many advantages when compared with other databases. And also plays wider role in citation tracking, federated search, allows to search on broad-based, comprehensive, multidisciplinary as well as supports fast, easy to use and navigate. In many subject categories Microsoft Academic and Google Scholar are good alternatives to Scopus and WoS in terms of coverage. The study also found some limitations like coverage is not always scholarly, delays in updating, lack of advanced searches features and not covered major publishers. Discusses in detail the history, search strategy, features, citations values, and their limitations.

Keywords: Google Scholar, Microsoft Academic, Scopus, scholarly information

Introduction:

In the past two decades there has been a revolution in computing and communications, and all indications are drastically changes in the field of information. The increasing amount of literature on the Web became the scholars are facing a

serious concern to locate and filter the relevant information on the web. It consumes a lot of time due to lack of awareness and non availability of the scholarly databases. There are many open access scholarly bibliographical databases available on the web where the scholars can filter and retrieve his/ her relevant literature at free of charge while classic academic databases like Web of Science and Scopus are locked behind pay walls. These academic databases are namely Google Scholar, Microsoft Academic, BASE, CORE, Science.gov, Semantic Scholar, Baidu Scholar but the literature evidently shows Google Scholar, Microsoft Academic are highly useful in view of scholarly information.

Objectives of the Study:

- To study the overview of Google Scholar & Microsoft Academic scholarly databases
- To know about merits and limitations of both the databases
- To show a tutorial based various search strategies through screenshots for researchers
- To show a descriptive view of the coverage of both search engines in terms of disciplines.

Review of Literature:

Google Scholar carries the familiar “Google” brand name. As Kennedy and Price so aptly stated, “College students and professors might not know that library databases exist, but they sure know Google”. The familiarity of Google may allow librarians and educators to ease students into the scholarly searching process by starting with Google Scholar and eventually moving to more complex systems. Felter noted that “as researchers work with Google Scholar and reach limitations of searching capabilities and options, they may become more receptive to other products”.

Google Scholar is also facilitated to increased access to gray literature, as it retrieves more than journal articles and includes preprint archives, conference proceedings, and institutional repositories. Google Scholar also includes links to the online collections of some academic libraries. Walters (2007) compared Google Scholar to other discipline-specific or multidisciplinary databases based on a set of "155 core articles representing the most important papers on later-life migration published from 1990 to 2000". The study found that that GS covers 93

percent of the literature, which is better than any of the other databases under investigation

Jacsó (2011) presented a review of its principal 3 Microsoft Academic Search and Google Scholar Citations functionalities in comparison with Scopus and Web of Science, concluding that MAS may become a free tool to help the research assessment Zhang (2011) analysed the h-index and the co-authors network of 100 profiles in MAS.

Overview of Google Scholar (GS):

Google scholar is the scholarly search tool of the world's largest and most powerful search engine, Google scholar was developed by Anurag Acharya, an Indian-born Computer Scientist in the year 2005(Banks;2005).It is incredible tool allowing researchers to locate a wide array of scholarly literature on the web, including scholarly journals, theses, books, preprints, and proceedings, abstracts, technical reports are also indexed.

Google Scholar may be used for citation analysis, through bibliometric techniques, which calculates the impact factor of an individual publication as a function of the number of citations it receives from subsequent authors. Authors are interested in knowing whether anyone has cited their works and/or whether other researchers in their fields have commented on them. Researchers can locate recent articles that have cited the particular article.

Pros and Cons of Google Scholar:

Pros:

1. Google scholar is available on the web, it contains full text of many articles and users can search all years simultaneously.
2. It supports federated searching to scholarly resources and plays as a citation tracking tool.
3. Google Scholar allows you to save both citations and articles to read later
4. Google Scholar allows you to search the variety of documents including grey literature

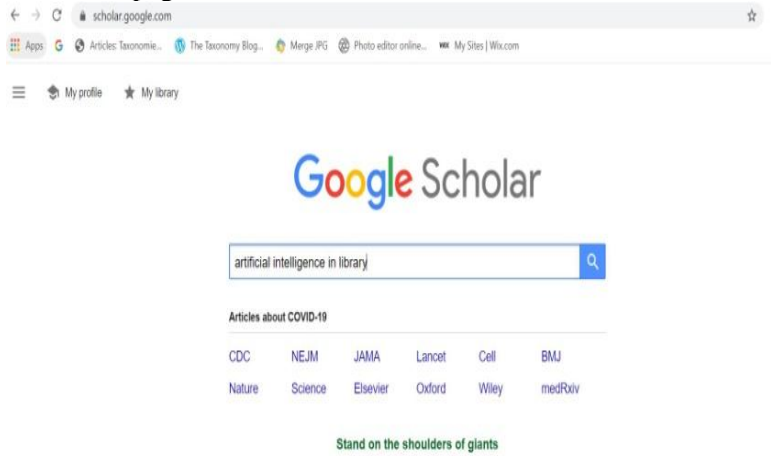
Limitations:

- a. Coverage is incomplete and unclear, not always scholarly
- b. Delays updating with compare to other databases
- c. Lack of advanced search features compare to paid databases
- d. It claims to include all citations from Pubmed and other databases but search shows that is not yet true yet

- e. Google Scholar does not allow users to limit results to either peer reviewed or full text materials or by discipline

Components of Google Scholar:

1. Home page



(Fig.1)

2. Search Result

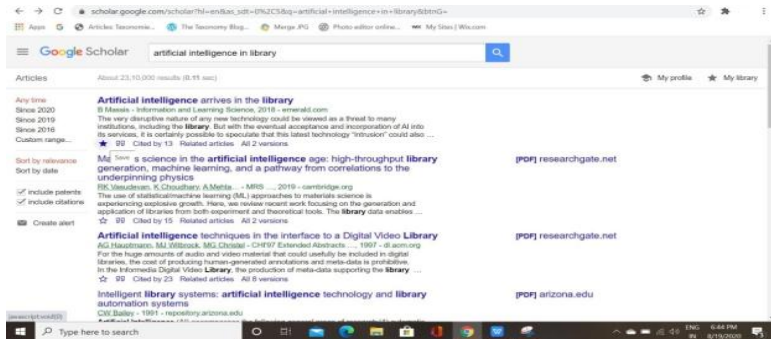
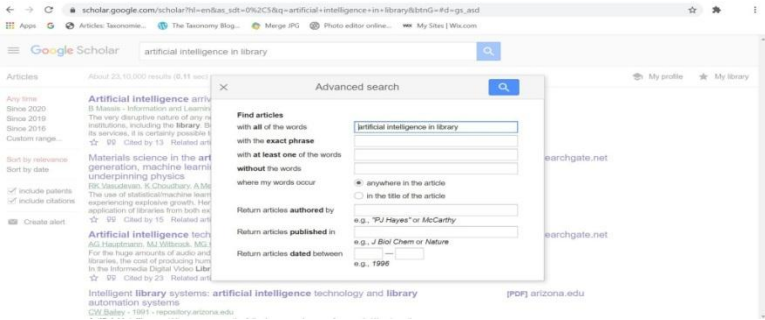


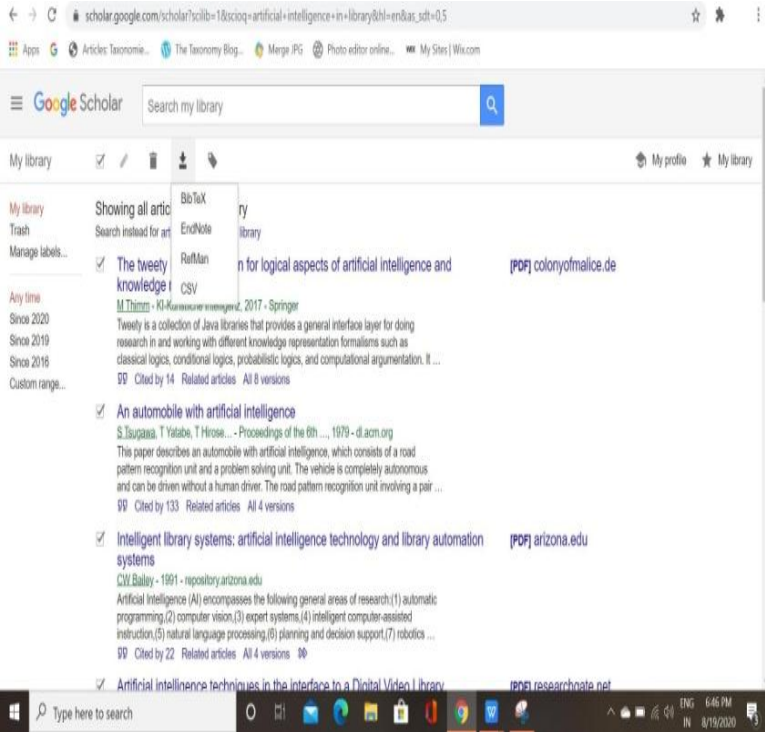
Fig. 3

3. Advanced search and operators



(Fig.3)

4. Export of the data



(Fig.4)

Microsoft Academic Search:

Microsoft Academic Search is a bibliographic database designed and hosted by Microsoft Research to explore how scholars, scientists, students, and practitioners find the academic content, researchers, institutions, and activities. This new research tool uses Microsoft's own Bing search engine and touts the ability to "discover and index" new information while growing with the immense amount of available data (currently, more than 241 million entries). The application also uses the Microsoft Academic Graph (MAG), to show citation relationships among publications and authors. Using an additional user-friendly interface called "Academic Knowledge API," the user can combine the indexing power of Bing with MAG to receive a histogram of related publications, journal entries, presentations, and authors. According to Sven E. Hug and Martin P. Brändle in their recent blog, "Microsoft Academic 2.0 might outperform other commonly used search engines such as Google Scholar, Scopus, and Web of Science."

Features of Microsoft Academic Search (MAS):

A broad coverage in terms of Disciplines, structured and rich metadata as well as functionality and a social network for academics In addition, Microsoft Graph and field of study are highly strength of this database.

Limitations:

According to Hug and Brändle, the findings suggest that the new program is somewhat disappointing because more is expected from a database that gets the majority of its data from web pages. That is, it is presumed that the Microsoft database was compiled using feeds from the largest publishers, after which the metadata was indexed

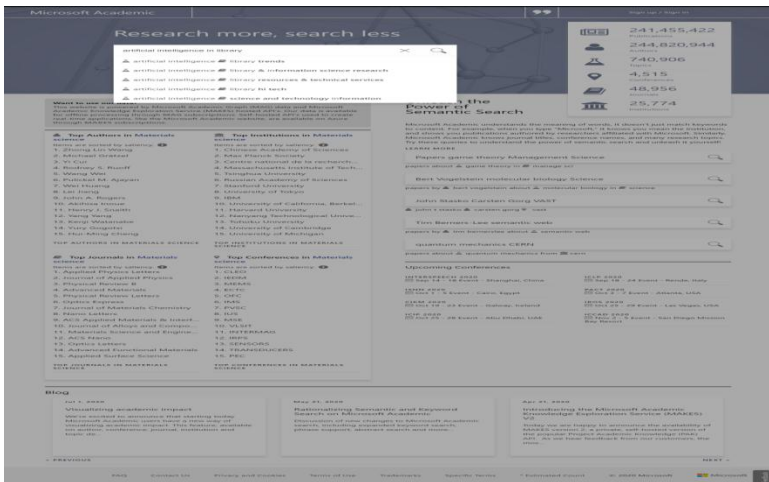
Search Features:

1. Search



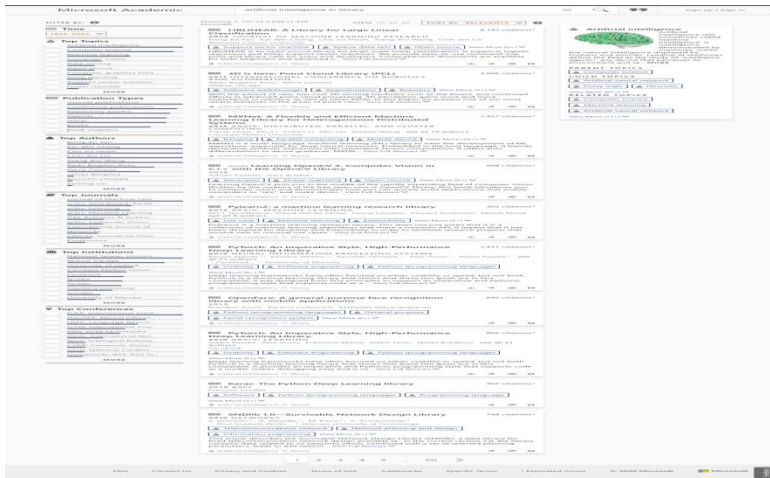
(fig.5)

2. Step. Advance Search with Topic



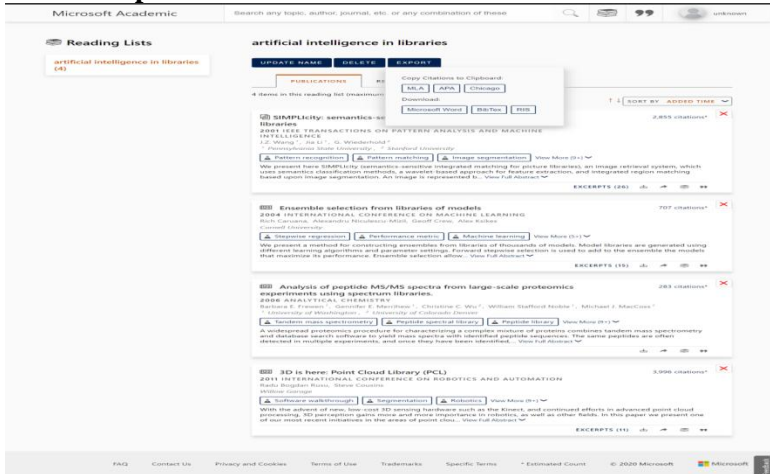
(Fig.6)

3. Search results:



(Fig.7)

4. Export of the Data:



(Fig.8)

Conclusion:

Google Scholar and Microsoft Academic are the most comprehensive sources. The increasing availability of online information resources and open access journals will place in

Google Scholar and Microsoft Academic at the fingertips of most working scholars. In future, the data available on Google Scholar and Microsoft Academic may enable us to study the epidemiology of knowledge on the web and may be the basis for bibliometric studies.

References:

1. Aguillo, I. F. (2012). Is Google Scholar useful for bibliometrics? A webometric analysis. *Scientometrics*, 91(2), 343-351.
2. Arumugam, M Prakash, A study on Microsoft academic search and Google scholar: A gateway for researchers, *IJMRD*, Volume 4; Issue 11; November 2017; Page No. 41- 47.
3. Banks, M A(2005). The excitements of Google scholar potential goof for users of academic information. *Journal of electronic publishing*. 9(1)
4. Enago Academy (2019,July).Microsoft Academic 2.0: Is It Any Better?, Retrieved from <https://www.enago.com/academy/microsoft-academic-2-0-is-it-any-better/>
5. Felter LM. Google Scholar, Scirus, and the scholarly search revolution. *Searcher*. 2005 Feb; 13(2):43–8. [Google Scholar]
6. Giles J. Science in the Web age: start your engines. *Nature*. 2005 Dec 1; 438(7068):554–5. [PubMed] [Google Scholar]
7. Harzing, A. W. K., & Van der Wal, R. (2008). Google Scholar as a new source for citation analysis. *Ethics in science and environmental politics*, 8(1), 61-73.
8. Harzing, A. W. (2019). Two new kids on the block: How do Crossref and Dimensions compare with Google Scholar, Microsoft Academic, Scopus and the Web of Science?. *Scientometrics*, 120(1), 341-349.
9. Hug, S. E, & Brändle, M. P. (2017). The coverage of Microsoft Academic: Analyzing the publication output of a university. *Scientometrics*. doi:10.1007/s11192-017-2535-3

10. Jacsó, P. (2011). The pros and cons of Microsoft Academic Search from a bibliometric perspective. Online Information Review.
11. Kennedy S, Price G. Big news: “Google Scholar” is born. [Web document]. Resource Shelf. UK: Free Pint Limited, 2004. [cited Aug 2006]. <http://www.resourceshelf.com/2004/11/18/wow-its-google-scholar/>. [Google Scholar]
12. Maharana, Bulu, Mahapatra, S (2006). Google scholar: A tool to search scholarly information on the Web.
13. Notess GR. Scholarly Web searching: Google Scholar and Scirus. Online. 2005 Jul–Aug; 29(4):39–41. [Google Scholar]

Chapter-18

Future Role and Challenges of Libraries

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Abstract:

This paper deals with the Future role and challenges of Libraries. The concept of library is as old as the civilization. As a social institution, its value is highly rated in the society. Many slogans related to libraries epitomize their contribution to the humanity. Some of them are, 'library begets the social values ', and 'library promotes the cultural harmony,' reading empowers', so on and so forth. 'Libraries exist to acquire, give access to, and safeguard carrier of knowledge and information in all forms and to provide instruction and assistance in the use of collections to which their users have access. In short libraries exist to give meaning to the continuing human attempt to transcend space and time in advancement of knowledge and preservation of culture. In the present paper, the author wish to focus on UGC and academic libraries, INFLIBNET and academic libraries, National knowledge commission and academic libraries, Paradigm shift in academic Libraries, Relevance of academic libraries and future challenges and opportunities.

Introduction:

Academic libraries have been the integral and vital component of the education system which extends support in education, learning, training and fulfillment of objectives and mission of the education institutions they are part of it. The libraries are primarily attached to the educational institutions like schools, colleges, universities and other standalone institutions of higher learning.

Academic library is considered as the 'heart of the any institution and this statement was perhaps used first by them president of Harvard university,(1869-1909), Charles William Eliot.

University education commission (1948-1949) under the chairmanship of first vice president of India Dr. Sarvepalli Radhakrishnan in its report in chapter four on the importance of libraries has made a very remarkable and unforgettable statement that " The library is the heart of all the university work: directly so, as regards its research work, and indirectly as regards its educational work, which it derives its life from research work.

UGC and academic Libraries:

UGC as a regulatory body for promotion of higher education in Indian universities was established in December 1953 and was formally declared as statutory body by an Act of parliament in 1956. Since its inception UGC has been extending support to universities and colleges in terms of regular grants towards infrastructure development, procurement of books and journals, automation of libraries, etc. Besides, it has constituted a number of committees and commission at different intervals for the academic enrichment of higher education and academic libraries in India. One of the most remarkable and commendable initiatives taken by the UGC towards the development and progress of academic libraries in institutions of higher education was to establish Information and library network centre(INFLIBNET)

INFLIBNET and Academic Libraries

INFLIBNET is considered as a gateway to academic and research communities. It is an autonomous inter-universities centre of UGC based at Gandhinagar (Gujarat) and was established by the UGC in March, 1991. This centre has been actively engaged in modernizing libraries of universities and colleges at national level by extending support in the area of automation of libraries, digitization of resources, software development for libraries and training, consortia based subscription of journals and networking of academic libraries across India for better and effective sharing and access of academic resources among university and college libraries. It has developed software called software for University libraries (SOUL) which available free of cost to INFLIBNET member libraries. Besides, it has developed a reservoir of India theses called Shodhganga which has database of approximately 115346

theses from 280 universities across India(as on 16.12.2016) It has also developed an union catalogue of Indian universities called IndCat which has bibliographical records of about 13 million books from 178 universities. Under consortia based subscription of e-resources, Shodhsindhu, which has been initiated by the Ministry of Human Resource and Development is being successfully implemented by the INFLIBNET has an access of 15000+ journals, 3153000+ e-books and other.

National Knowledge Commission and Academic Libraries

National knowledge commission (KNC) as a high level advisory body to the prime minister of India, a body of first kind in the world, was constituted on 13th June, 2005 by the union government of India. NKC has recognized the significance of academic libraries as centre of information and learning as well as gateway to national and global knowledge. KNC has strongly recommended that efficient and effective academic library system, radical infrastructure improvement in the existing system of knowledge, increased participation, leveraging information and communication technologies are of vital importance to transform India into a vibrant knowledge -based society. All the objectives and mandate of NKC in respect of knowledge paradigm must be supported by an effective academic library system. Keeping in view the significance of support of edge for five key areas of knowledge paradigm, access to knowledge - knowledge concepts -knowledge -knowledge creation - knowledge application -development of better knowledge services, the NKC has constituted a working group on libraries and made several valuable radical recommendations to make the existing academic library and information system efficient and effective. It has already submitted its report with relevant recommendation on libraries to the prime Minister in march 2009. Sincere efforts are being made by the central government with regards to implementation of its recommendation at ground level and establishment of National Mission on Libraries is a significant in this direction.

Relevance of Academic Libraries

Famous Argentine poet and thinker Jorge Luis Borges has stated " I have always imagined that paradise will be a kind of library". This statement is absolutely pertinent whenever we think

about the relevance of academic libraries in India. As per the report of 5th All India Survey of Higher education (2014-2015) there are 760 universities (including all central, state deemed and private universities), 38,498 colleges and 12,276 stand alone educational institutions. This survey has also indicated that there are estimated to be 34.2 million enrolments and approximately 14,73,255 teachers (including professors, Associate professors, Assistant professors, others). All these educational institutions have their own libraries which are catering and supporting to academic, research and scholarly needs of such a large numbers of their clientele and thus fulfilling the mission of their respective institutions. Therefore there is no doubt how academic libraries are extending their support to academic fraternities in pursuit of knowledge and information as well as a right platform for learning and innovation.

Paradigm Shift in Academic Libraries

It is quite evident that mandate of the academic libraries is to support the academic and scholarly mission of their respective college and universities. Being the treasure trove of knowledge and gateways of information academic libraries and librarians have to explore innovative ways to fulfill the information and associated need of their clienteles especially keeping in view the paradigmatic shift in knowledge generation and management, constant invention of new web -resources and presence of information search and retrieval giant like Google. All these have changed the users demand scenario and therefore in order to fulfill and meet the demands and expectations of all its users libraries and their policy makers have to rise to the occasion and to change and redesign their activities to deliver high quality, need based, value added services by adopting new and innovative technologies.

Future challenge and opportunities

Perhaps 'Google' as a giant, others as well, have put up a yaksha prashna before the very existence of academic libraries, their credibility, performance and activities. so we, librarians, have to explore pragmatic ways, introduce innovative methods and techniques to furnish the information needs and expectations of the end users. Development of collections for books, journals and others whether print or digital, updating and introduction of

new services, or whatever services library is going to put in force must have design as per the existing and potential needs of their clientele. At this juncture we are compelled to recall the fundamentals of " Five laws of Library Science". Formulated and propounded in 1931 by the father of the Library science in India, Padma Shri Dr. S.R.Rangnathan. These laws are not only pragmatic but are quintessential and helpful in designing and framing of library policies placing users at the centre.

With the ascent of digital documents and digital technologies libraries role has been widely expanded and multifaceted challenges have emerged. The challenges are not only manifold but seem to be threading to the existence of libraries but simultaneously offering opportunities to library professionals to frame proper strategies to fulfill the changing needs of users in the changing technological environment. Some of the challenges and appropriate strategies to come over them may be enumerated as:

- i) Effective utilization of digital technologies in supporting education and research to meet demands of academic institutions, faculty, students, scholars, others both at personalized level as well as community level.
- ii) Managing digital information resources like digitalized collections, institutions repositories, learning object repositories, online journals, various other web resources in an effective, impressive and user friendly manner.
- iii) Promoting access to Open Access Resources by identifying, discovering relevant scholarly web resources and getting these resources available to user community through a user friendly information gateway.
- iv) Single access platform of multilayered and multifaceted information resources to users keeping in view the recall and precision ration. More extensive research and efforts are required to be made in this direction in future to cope up with the challenges being imposed by various search giants.
- v) Emergence of mobile technologies, its popularity and its various implications deep in the society has opened a new vista for academic libraries too. Scope of suitable and effective implementations in this area must be explored and looked into for the benefit of user community.

vi) MOOCs (Massive Open Online Courses) and rise of online education is another challenging dimension for the academic librarians. They have to prepare themselves and evolve logistics to meet the demands of such students.

vii) Academic librarians must adopt and have to emphasize on information literacy skills/instructions. Information literacy/instructions in the form of training and learning support need to be delivered to the user either in person or in groups. Such programmes require on account of complexities and varieties of digital /web resources and would ensure effective use of subscribed and non subscribed resources. Such programmes will reaffirm belief in campus community that the library is central to academic activity what Dr S Radhakrishnan has said 67/68 years ago.

viii) Mechanism of real time virtual reference service be explored and implemented in an effective way. Mobile, internet and digital technologies would be quite helpful in this regard and would definitely draw the attention of users towards libraries and satisfy their information needs.

ix) Optimum and effective utilization of open source software (OSS). The OSS are playing important role these days and would play a more significant role in future. Academic libraries are required to be acquainted with a range of OSS, their installation, functionality and utilization for the benefit of their user community.

x) Role of social media cannot be ignored as it has left a profound effect on our social life. Academic libraries in future must explore ways and means to capitalize its huge benefit for the advancement of library services.

xi) Capacity building of library and information science (LIS) professionals is of utmost significance in this context which has been advocated and elaborated by the NKC also. This is the most challenging aspect for all librarians especially for those associated with the academic libraries to meet the anticipated demands and expectations of their users. All the library schools in India are required to design and develop their academic curriculum in such a way as to meet the challenges of emerging technologies. Besides academic librarian must adopt lifelong

learning which is only a means of improving competencies, attitude, skills and knowledge.

Conclusion

National knowledge commission has undoubtedly recognized the role and significance of academic libraries. However to transform India into a knowledge-based society academic libraries are required to be redesigned in order to meet the new challenges and expectations of the readers. New format of publications, intensive use of digital resources, changing pattern of educational and learning and role of ICT in access of information, etc. Therefore, librarians have to adapt to these challenges and acquire new requisite skills to meet out the demand and expectations of their users.

References:

1. Bhatt, R.K.(2009) Academic libraries in India : A Historical study. available at:crl.du.ac.in/ical2009/papers(Retrieved on 10 November,2016)
2. Brophy, peter (2001). The library in the Twenty-first century: New services for the information age.London: Library association publishing.
3. Datta, N.(1990) Academic status of for university and college librarians in india.delhi: indian bibliographies bureau.
4. Fifth all India Survey on Higher Education Report.(2014-2015) available at <http://aishe.nic.in/aishe>.(Retrieved on 16 December 2016)
5. Guru, B.P.M.C.,Gopaldaswamy, M.,Arun,J. and Padmamma,s.(2009). Academic library management in India:challenges and opportunities. Available at: crl.du.ac.in/ical2009/papers(Retrieved on 10 November 2016)
6. Information and library Network centre. <http://www.inflibnet.ac.in>
7. National knowledge commission report.(2009) available at <http://knowlegecommissionarchive.nic.in>

Chapter-19

Artificial Intelligence (AI) in Smart Academic Libraries

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Abstract

In the Dynamically changing current modern scenario Artificial Intelligence (AI) is slowly penetrating as one of the driving force of development on various activities and way of life of the society. Libraries and particularly Academic smart Libraries are no exception for the above development. AI injects new vitality into the development of smart libraries. This paper discusses about the prevailing situation of the Smart Library (SL) and AI, and the application of AI in smart academic Libraries are analyzed and the discusses about the value addition of AI in library services. It also discusses about the wide use AI for further development of Smart Academic Library for the benefit of the users.

Keywords

Artificial Intelligence, Smart Academic Libraries, Expert System, Machine Learning, Big Data, Internet of Things, Intelligent Resource System, Intelligent Management System, Smart Application Service, Intelligent Consulting Service, Intelligent Knowledge Service

Introduction

Due to developments in the past decade, Smart Academic Libraries are influenced by new technology revolution in terms of Physical Space Intelligence, Organisation Intelligence, Knowledge, service mode, Management Method

etc., with the help of RFID technology, Cloud Computing, Internet of Things (IOT), Big Data, Virtual Reality (VR) etc. The objective of the Smart Academic Libraries is to provide more efficient, high-quality service to the users and an environment with more information interconnection along with diverse information sharing space. The matured Academic Smart Libraries consists of 24-Hours self-borrowing and returning system such as self issue Kiosk and Intelligent Book Return Boot, mobile application / network application with self-renewal system, intelligent book inventory / position and reservation system, Intelligent Library facilities reservation system etc. along with 3D/AR/VR navigation system is an added advantage. The technical requirements of the Smart Academic Libraries are not completely fulfilled by Internet of Things, RFID etc., the integration of AI will be a new driving force the help the Smart Academic Libraries to the next level (Aithal, 2016). In this article we analyse the Application of Artificial Intelligence Technology in the Smart Academic Libraries of various Academic Institutions and its use to the library and its users, summarize the application status, the challenges and look forward to the application of AI in Smart Academic Libraries.

Review of Literature

The Smart Libraries

Markus Aittola, Finnish Library scholar (2003), first proposed the concept of “Smart Library” in the Fifth International Symposium on Human Computer Interaction with Mobile Devices and Services, Udine, Italy, in which Smart Libraries are Space-Limited and perceptible mobile Library Service (Aittola M, Sep-2003). As per Joachim Schöpfel, in his article on *Infrastructures* 2018, Affinities with the concept of the smart city, especially regarding the central role of information and the integration of technology, people, and institutions was extended to the Libraries also. The outline of a new concept of the smart library, which can be described in four dimensions, i.e., smart services, smart people, smart place, and smart governance. However, the smart library concept does not constitute a unique model or project, but a process, a way of how to get things done, that is less linear, less structured, and more

creative and innovative.,(Schöpfel, 2018). As per Mohammed I. Younis is that the Basic characteristics of Smart Libraries are

1. General perception is organically integrating the user and Library for better service through
 - a. Use RFID
 - b. Internet Of Things,
 - c. “Internet +”
 - d. Image and speech recognition
 - e. Personal Digital Assistant (PDA)
 - f. Artificial Intelligence (AI) etc.
2. People-First – The Smart Library provides the user with All-Round, Real, Humanized Service through a single platform to interact for tracking and acquiring information as per the user needs.
3. Cost-Effective – The Smart Library judiciously develop and utilize the library resources and reduce cost of Human and material resources.
4. Green Development – Apart from user services the Smart Library contributes for the benefit of the earth by following and executing environmental friendly concepts such as energy conservation, environmental protection, rational use of natural resources and promote coordinated development of cultural and ecological construction (Younis, 2012).

The Artificial Intelligence (AI)

The Current technological boom in Artificial Intelligence (AI) is called the Fourth Industrial Revolution by the industry Sang-Chul Park (Park, 2018). The concept of Artificial Intelligence (AI) is formally proposed by Dartmouth, USA in 1956 academic conference. This was recognized as the birth of global Artificial Intelligence (AI)(John McCarthy, 2006). Merriam-Webster (2019) that, artificial is “an area of computer science that deals with giving machines the ability to seem like they have human intelligence or the power of a machine to copy intelligent human behavior”(Merriam-Webster, 2019). The current public is familiar with AI in many ways. AI is a wide-ranging discipline developed by computer science, control science, information science, cognitive science, neuroscience, neurophysiology, psychology, linguistics, brain science and

other disciplines. It is a study on intelligent machines or intelligent systems, stimulated human activities and extend the science of human intelligent.

Artificial Intelligence (AI) focuses on non-algorithmic methods for solving problems and symbols, through the skill of mapping the symbols. This new evolving applications have created great opportunities to information researcher, like multimedia systems, digital libraries, GIS's, e-commerce etc. In this fourth Industrial revolution era these applications are becoming more powerful, are diversified, pressing, and providing information for several known problems.

Artificial Intelligence (AI) can be broadly divided into three types:

- (a) Symbolism:- Logical reasoning based Intelligent simulation method to simulate human intelligent behavior.
- (b) Connectionism:- Principle based on connection mechanism and learning algorithm between one neural network and another neural network.
- (c) Behaviorism:- The theory based on cybernetic and perceptual-action control system.

The Current AI research technical fields are :- Problem solving, Natural Language processing, artificial neural networking, genetic algorithm, expert systems, knowledge engineering, deep learning, artificial life, intelligent control etc (Haibin, 2016). The development of AI from starting in 1956 to present can be categorized into 4 stages. It includes research on (a) Expert Systems such as Flight tracking, Medical Diagnostic etc., (b) Natural Language Processing such as Speech recognition, automatic speech output, Like Amazon Alexa, Google Play, Apple Siri etc., (c) Neural Networks such as Pattern Recognition, Face Recognition, Character Recognition, Handwriting Recognition, Robots both Industrial and Consulting, etc. As per Kevin Warwick (Warwick, March 2013) AI is also divided based on the disciplines into Computer Vision, Natural Language Processing, Cognition and Reasoning,

Robotics, Game Ethics, Machine Learning, HAMLET (How about machine Learning Enhanced Thesis) etc.

Since AI is a broad concept, there are multiple classification methods based on the AI level, like Weak AI (Only good in some aspects, but less than Human Intelligence), Strong AI (Equivalent to Human Intelligence) and Super AI (overall Beyond Human Intelligence). In the current scenario we have almost mastered the weak AI and started towards Strong AI and one step to some extent in selected areas, but not yet been realized Super AI (Hongming, 2019).

Kristin Whitehair (2016), AI gives libraries is the opportunity to shift focus / emphasis and attention. The way we navigate the information changes as per our use. AI gives a us useful shortcuts to apply this knowledge and produce better outcomes. Libraries take advantage of this in order to enhance the access to content based on the user requirement, through Markspace Competences. The Libraries exploit this application of cognitive computing and AI for their potential utility in-order to enhancing the quality of Library Services(Whitehair, Feb-2016).

AI lays the foundation for establishing the Smart Library in the institution. Introducing and implementing further more AI technologies will transform and upgrade the Institution libraries into truly developed Smart Academic Libraries, in order to provide Precision, Personalized initiatives for smart library services.

Liu, Guoying (Liu G. , 2011) has provided an all-inclusive literature review with regard to utilizing the intelligent agent technology (AI) in Libraries. In which it is expressed that both AI and Librarians actually complement each other in order to provide the excellent service to the users. The AI application in library is supplementary to library staff and can never be a threat to them.

Artificial Intelligence (AI) Application In Smart Academic Libraries

Almost all business activities of the Smart Academic Libraries are covered by Artificial Intelligence (AI). The main Application areas of AI based on Case Analysis and Systematic Review are: (a) Intelligent Resource System, (b) Intelligent Management System comprising of Smart Book / Document (Warehouse) Management System and Intelligent Security Management System and (c) Intelligent Services such as Smart Application Services, Intelligent Consulting service (eg. CAS service), Intelligent Knowledge Service (eg. SDA Service) etc.

a) Intelligent Resource System

Through Deep Learning Mechanism along with Big Data and AI, the Resource Procurement System (Circulation System) will collect and integrate automatically all the user's personalized demand information and various types of Document Resource Information. With the above information is compiled for the Intelligent Document Resource Procurement Decision System and the decisions are based on two key factors:

- (1) Determine the Influencing factors, scientifically and reasonably through establishing a Scientific and Objective decision-making model. The Book Ordering Plan and Optimize the allocation of book purchase budget can be achieved by combining the following Comprehensive Factors such as (a) User Groups like Gender, Age, Educational Qualification, Occupation etc., (b) User Personalized Information like Institution, Major / Course wise Faculty and Student distribution, Subject, Subject Status Ranking, Discipline, User Hobbies, Course Name etc., (d) Purchase of Books and Recommendations such as Gratis / Gifts, Specialised Books, Books for Professional Courses, Popular / Most used Books, Expensive Books, Special Collections etc., (e) Expert Recommendations based on Discipline Construction, Utilization Rate, Book Reproduction Rate etc., and (f) Budget (Feng, 2015) .
- (2) Through Comprehensively collect and analyse Open resources'.

Both the AI based Collection and Analysis System and the Procurement System Complement and Support the Procurement Librarians to take better decisions.

b) Intelligent Management System

i) Document Management System

With the current available technologies the Intelligent Document Management System has many distinct characteristics: (1) Circulation and Document Management in Libraries can be achieved through Automatic Self Service Book Issue Kiosk and Intelligent Self Service Book Return Machines which can be



Library RFID Management System

operated 24/7 without much human intervention. (2) With introduction RFID Technology the necessity of storing books as per book number has become redundant and books can be stored randomly on bookshelf and the multifarious bookshelf arrangement is not required. (3) The ultra-High-Frequency RFID technology along with robot systems helps the management of taking accurate book inventory through automatic and unmanned counting, checking and sorting of books in the library which reduces the user's book searching time to a great extend (Chen, May 7, 2019), (Jia Liu, 1-4 May 2017).

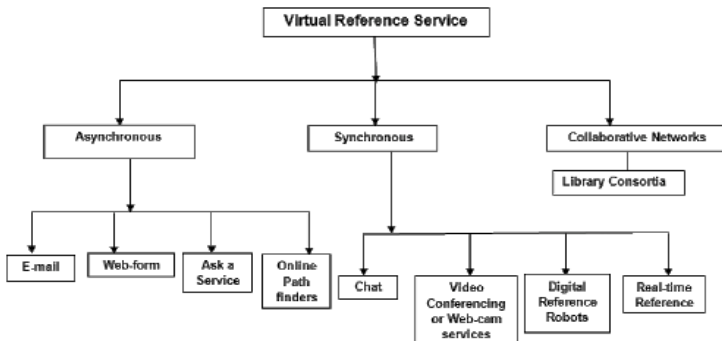
The Joe and Rika Mansueto Library at University of Chicago is established in a similar robotic advanced facility with

underground storage facility with a capacity of more than 3.5 Million volumes in under-ground and have no traditional bookshelves way back in 2011. The collection is managed by robotic systems that help create an environment where scholars can scour the web for hours for academic papers and still get a hard-to-find volume from the stacks. All books can be requested online, then pulled up to the surface by an automated retrieval system that keeps track of every volume (Watercutter, 05-11-2011).

A space-saving project name BookBot Retrieval System will allow more room for learning in Temple's new library the Hunter Library of North Carolina State University. The BookBot occupies only one-ninth of the traditional library bookshelf space. In the 1960s, roughly 70 percent of the space was designated for book storage. The new library dedicates just 40 percent of its space to books. There will still be the traditional stacks with approximately 200,000 titles searchable by hand. The BookBot system saves space by storing other titles inside metal bins, which are stacked inside five bays, each a matrix 55 feet high and 150 feet long. This uses high-density automatic shelf technology to store more than 2 million items and deliver any item within five minutes of placing the request in the online catalog through Robot Book Delivery System to the user. (Bixby, Jan 25, 2016).

The CAPM (Comprehensive Access to Printed Materials) project at Johns Hopkins University Library in US began with the goal of restoring browsability through an automated, robotic system that would allow patrons to browse, in real-time, materials shelved at off-site facilities through a Web interface. In which when the user requires an Off-the-shelf item the CAPM option is selected through the portal. A robot will retrieve the requested item and deliver it to a scanner. Another robotic system will turn pages at the users's request. The user will either view or print pages, and eventually "return" the item or request the item for physical delivery. Once the text is scanned, the user may also

perform automated text analysis options, such as keyword searches on the full text. In each case, the system will respond accordingly via remote control. The most obvious benefit of CAPM is the ability to restore browsability for materials shelved in off-site locations. (Sayed Choudhury & Hobbs, 2001).



Further a variety of independent Intelligent systems based on warehouse management system are available Globally like the LIB-100B the book loss prevention Intelligent terminal of southwest University Library- China, ARC the Automatic Access Center of Villard Merlot Library, Germany, the AVG of Humboldt University Library, Germany and further developments on warehouse management is also on development.

ii) Security Management System

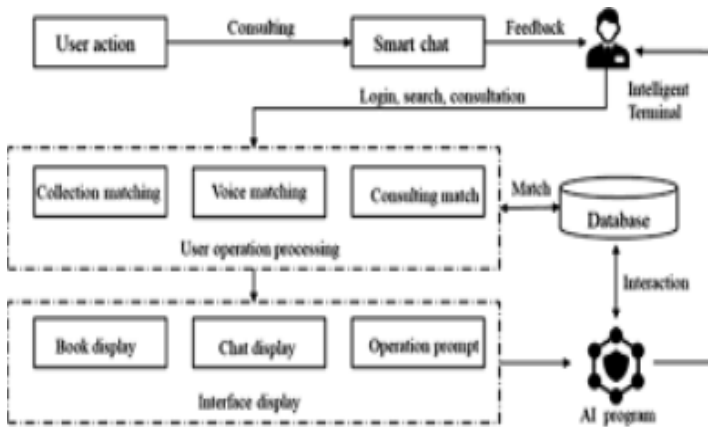
The daily services of the Library comprises of Seat management, Lending / Circulation Management, Identity Management and other Security Management etc. The current developments in technology replaces the earlier ones like ID card, Barcode access card, Smart Card, Fingerprint access etc. by Face Recognition technology designed for AI, in which the User / Student’s face information is linked to the user /student information. This avoids the necessity of the user / student to carry his ID card for using the library facility.

The earlier identity authentication models of Face recognition technologies are slow and are based on Adaboost and PCA (Principal Component analysis) type traditional statistical methods. With the development of DLA (Deep Learning Algorithms) of AI such as CNN (Convolutional Neural Networks) and RCNN (Region CNN) there is qualitative improvement in recognition accuracy and speed is available. This development is exploited by the smart libraries along with another biometric methods such as Fingerprint Scan, Retina Scan etc with access doors. The current Face Recognition Technology is based on the following: Face Image Acquisition, Face Image Detection, Face Image Preprocessing, Face Image Feature Extraction, Face Image Feature Matching and Face Image Feature Recognition (Michel Owayjan, Dec 2013), (Xie, 2014).

c) Intelligent Services

i) Smart Application Service

There are a variety of Smart Application Services visibly available in Smart Academic Libraries such as Self-service Book Reservation and Book Renewal System, Self-service Seat



management system, Self-service Library ATM, Self-service print copy management system, Lecture / Training appointment management system etc. The advantages of these AI based Self service applications over the traditional application services are as follows: (a) with AI to realize instant service in No-show

helps to achieve break through the space-time boundary towards optimum use of the available resources; (b) Logistic and Labor cost of Library services are reduced along with the extend the service form of library service and expand the scope of service targets; (c) the application privacy of the user's are protected and also enhances the willingness of the user's to participate; (d) This reduces the service error probability through manual service and promote the rational, Fair and Unbiased allocation of service resources of the library.

ii) Intelligent Consulting Service

One of the important part of an Academic Research Library's library service is Consulting Service. With the current user demands Traditional Consulting Services are insufficient and have a lot of constrains such as limited number of consulting librarians, time constrain, low / limited efficiency of manual consultation etc. The above shortcomings can be easily overcome by the AI based Intelligent Consulting Service and provide better service to the users.

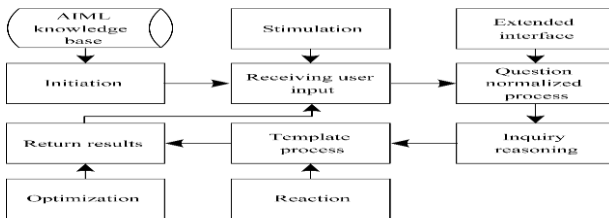


Fig. 1 Reasoning mechanism of A.L.I.C.E.

Based on the open source software Artificial Linguistic Internet Computer Entity (A.L.I.C.E.) and a combined application of several other relevant supporting technologies for facilitating the use of the current existing library resources, Tsinghua University Library has recently developed a real-time smart talking robot, named “Xiao Tu”, for the enhancement of its various service functions, such as reference services, book searching, Baidu Baike searching, self-directed learning, etc. Apart from this “Xiao Jiao” of Shanghai Jiaotong University Library, “WeChat” Automatic answering robot of Harbin institute of Technology are

some of the notable AI based Intelligent consulting service of the libraries. (Fei YAO, 2011).

iii) Intelligent Knowledge Service

The core service of any Academic Library is Knowledge Service. With the rapid development of Cross-media awareness, big-data management, deep autonomous learning, virtual bionic functions and simulation language interaction provides the suitable environment for providing Intelligent and specialized knowledge service in libraries. The user behavior is analyzed through patterns and deep knowledge mining process by the Intelligent user behavior analysis system. The user's application behavior is analyzed and the required knowledge is recommended actively for the individual need and the utilization of the knowledge resource is improved.

In the Intelligent management information data, the literature, patents, science and personal data information are analyzed and used to forecast and to establish knowledge-related networks and are used to provide reference for knowledge services.

In the intelligent operation of service business through knowledge analysis tools, knowledge presentation methods, research conceptual models and analytical research methods. This is to enhance the core competitiveness of the knowledge service. The Optimization of the knowledge service can not only improve the service efficiency, but also helps to provide decision-making and strategic plan for the system (BAKKER & TRIX, 2002), (Liu X. L., FEBM 2017).

The Scope of AI Application in Smart Academic Libraries

IFLA Trend Report 2016 says that, currently AI has the capacity to support, enhance and to some extent replace the human interface in some of the library functions. The librarians need to be proactive and need to bring innovative thinking in libraries. AI is listed as one of the important technological trend and its influence in libraries are as follows. (1)The next generation of browsers beyond keyword search and semantic analysis of web content; (2) Integrated speech recognition, machine translation, speech synthesis to support real-time multi-language translation;

(3) Cloud services for the translation and identification of diverse and complex web content (IFLA, 2016), (IFLA, 2019).

In spite of applying AI in various functions and services of library, at the current scenario a considerable some of these applications are theories and have limitations and constrains on practical implementation because of the following reasons. (1) The investment on research and hardware is not sufficient, (2) challenges are in big data collection and data mining, (3) limited and very few Library AI talent team and AI thinking in library business is poor because of limited / less profitability.

In spite of all this constrains some of the technological developments and applications from other profitable industries and professions are slowly getting adapting to the smart libraries like:

1. Ware housing system from ware house / logistic industry adopted for library books/document storage and retrieval,
2. Smart Guidance System from Hospitality and tourism industry
3. Space reservation system from Hospitality.
4. Information retrieval system from Google play, amazon alexa, apple Siri
5. sales, CRM data based Marketing Decision making system from retail industry

The prospects of AI applications in Smart Academic Library are as follows:

- a) Smart Guidance Service through mobile phones, for space in the hall based on intelligent space sensing construction, Touch screen terminals, Cordless head phones or other wearable devices and mobile terminals to enjoy voice service, seat reservation service, locate accurate position of the books / Navigation in the museum, Smart machine consultation with VR (Virtual Reality) to make it interesting and other smart guidance services.
- b) The new generation information retrieval system of the smart libraries will have deep learning and neural network

- models which can learn language representation from original text and bridge the gap between query and document vocabulary. This will not use the machine learning techniques of manual annotated information retrieval feature.
- c) Accurate information intelligence service is achieved through collecting information and behavior analysis through Big Data, internet of Things and AI, information on reading habits, research interests, teaching content, professional field of interest, research direction, research team, qualification etc. are obtained. Based on the above information and specific scenario the smart reference system will provide the user accurate, personalized, high-quality information and knowledge push like book recommended for borrow, Special Literature on specific information, smart SDA service, Latest research hotspots, teaching reference courseware and material, smart CAS Service etc.

Conclusion

As per the New Media Alliance Horizon Report (2017 Library Edition) AI is one of the most important technologies for Academic Libraries in the next 5 years and is predicted to grow significantly and development and application of robots in library will promote significantly the Library Service Method Transformation. In 2019 Library edition it is predicted that Block Chain and Virtual Assistance in academic libraries will grow significantly in the next 5 years. (NMC, 2017), (NMC, 2019).

The above indicates the changing trends in education system under the impact of AI. The status of Academic Libraries as a Social Education, Learning Center, Knowledge Center and Communication Center and transforming into a broader sphere is evident. The introduction of AI in Academic Libraries is not to replace Librarians, but to support and complement the Librarians through enrich and enhance knowledge exchange and interpersonal interaction. Hence Librarians must understand that AI is a contributor and supporter for the librarians and not a competitor. Hence they should welcome AI with positive attitude for achieving better Library service efficiency.

Reference

1. Aithal, P. (2016). SMART LIBRARY MODELS FOR FUTURE. *International Journal of Engineering Research and Modern Education (IJERME)* , Volume I, 2016 (Issue I.), 693-703.
2. Aittola M, R. T. (Sep-2003). SmartLibrary – Location-Aware Mobile Library Service. *Fifth International Symposium on Human Computer Interaction with Mobile Devices and Services*, (pp. 411-415). Udine, Italy, 2003, 411-415.: Udine.
3. BAKKER, & TRIX. (2002). Virtual Reference Services: Connecting Users with Experts and Supporting the Development of Skills. *LIBER QUARTERLY, ISSN 1435-5205* , Vol: 12, 124-137.
4. Bixby, M. (Jan 25, 2016). Book retrieval powered by robot in new library. *Temple Now* , p. Online.
5. Chen, L. &. (May 7, 2019). *Patent No . : US 10 , 279 , 477 B2*. USA: United States Patent.
6. Fei YAO, C. Z. (2011). Real-time virtual reference service based on applicable artificial intelligence technologies: The début of the robot Xiaotu at Tsinghua University Library. *CJLIS* , Vol. 4 (No. 2, 2011), 12-26.
7. Feng, B. L. (2015). Analysis of Book-Ordering Strategy based on Artificial Intelligence. *Library Journal* , Volume:- 34 (issue:- 8), 39-43.
8. Haibin, L. &. (2016). Artificial Intelligence and Its Evolution. *Science Press - Beijing* , 5-8.
9. Hongming, X. (2019). How to Comprehend the Ethical Conflict of Artificial Intelligence? A Literature Review and Prospects. *Foreign Economics & Management*, 2019 , Volume:- 41, (Issue:-10,), 109-124.
10. IFLA. (2016). *IFLA Trend Report 2016*. IFLA. Netherlands: IFLA.
11. IFLA. (2019). *IFLA Trend Report 2019*. Netherlands: IFLA.

12. Jia Liu, & e. (1-4 May 2017). RF-Scanner: Shelf Scanning with Robot-assisted RFID Systems. *Conference: IEEE INFOCOM 2017 - IEEE Conference on Computer Communications* (pp. 1-9). Atlanta, GA, USA: IEEE.
13. John McCarthy, M. L. (2006). A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence. *AI Magazine* , Volume 27 (Number 4 (2006)), 11-14.
14. Liu, G. (2011). The Application of Intelligent Agents in Libraries: A Survey. *University of Windsor - Scholarship at UWindsor* , 1-39.
15. Liu, X. L. (FEBM 2017). Research on the mobile library marketing service of university library under the new media environment. *Advances in Economics, Business and Management Research*, volume 33 , volume 33, 482-486.
16. Merriam-Webster. (2019). *Definition of Artificial Intelligence*. Online.
17. Michel Owayjan, A. D. (Dec 2013). Face Recognition Security System. *International Joint Conferences on Computer, Information, and Systems Sciences, and Engineering (CISSE 2013)*, At University of Bridgeport (pp. 1-6). Bridgeport: University of Bridgeport.
18. NMC. (2017). *NMC Horizon Report 2017 Library Edition*. Texas, USA: NMC.
19. NMC. (2019). *NMC Horizon Report Preview 2019 Library Edition*. Texas, USA: NMC.
20. Park, S.-C. (2018). The Fourth Industrial Revolution and implications for innovative cluster policies. *AI & Soc* 33, 433–445 (2018). , 433-445.
21. Sayeed Choudhury, G., & Hobbs, B. &. (2001). Comprehensive Access to Printed Materials (CAPM). *JCDL '01: Proceedings of the 1st ACM/IEEE-CS joint conference on Digital libraries* (pp. 174-175). Roanoke Virginia USA: Association for Computing MachineryNew YorkNYUnited States.

22. Schöpfel, J. (2018). Smart Libraries. *MDPI Infrastructures* , 1-11.
23. Warwick, K. (March 2013). *Artificial Intelligence: The Basics*. Online: Taylor & Francis Group.
24. Watercutter, A. (05-11-2011). Robots Retrieve Books in University of. *Wired.com* , p. online.
25. Whitehair, K. (Feb-2016). Libraries in an Artificially Intelligent World. *Public Libraries Online* , Online.
26. Xie, F.-Z. (2014). The design and implementation of intelligent library management system based on RFID/GRPS. *Journal of Chemical and Pharmaceutical Research*, 2014, 6(4):839-844 , Volume: 6 (Issue: 4), 839-844.
27. Younis, M. I. (2012). SLMS: a smart library management system based. *Int. J. Reasoning-based Intelligent Systems* , , Vol. 4, (No. 4, 2012), 186-191.

Chapter-20

ReEngineering the Library Services in Digital Environment: An Overview

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ABSTRACT: *New paradigms have evolved in the field of library and information science in last two decades due to ICT revolution which has totally changed the earlier meaning of library from document preservation to knowledge management. Under this constantly changing environment, libraries are facing a numbers of challenges such as information explosion, Digital revolution, network revolution, shrinking library budgets, escalating prices of documents, increasing users' expectations and availability of information resources in diverse media and so on. To handle this situation, the modern librarianship needs to reengineer their process and practices through innovative and emerging technologies so that better services can be provided to target users. The pace of such changes is very fast. To cope up with these changes, there should be radical change in our thinking, our organization, our people, and the usage of technologies. And this radical change is possible only through way of reengineering. Reengineering is very popular management techniques which can be applied in field of library and information science to achieve the target. The present paper is a conceptual study which throws light on concept, need and planning of reengineering process. The paper also describes the area of library reengineering, its merit and demerits.*

INTRODUCTION

An academic library is described as a place where books and other form of records are professionally acquired, organized and made available for use. The libraries have a key role in the acquisition, processing, preservation and dissemination of

information and knowledge. They support the institution to fulfil the objective to which they belong. At once the libraries were only store-house of books where books were more preserved than utilized and librarians acted like some form of custodians and their interaction with users were minimal. Now the traditional concept of Libraries have undergone a metamorphic change in relation to the repositories of information, dissemination of information and preservation of materials in different formats namely print, audio-visual and other multimedia for life-long learning and incessant search for new knowledge. Now the concept of Library does not remain as a building or a physical repository that houses information, but it has reached the four walls of building. It has proved one of the best innovations and also marked a new era for the profession of librarianship. In 21st century, libraries are shifting from human dependent operations to machine dependency, standalone system to network computing, print media to electronic media, automated library to Digital library or library without walls.

In new era, digital age has transformed the face of libraries and this transformation is visualized in the form of different tools and technologies like web tools, mobile technologies, SMS services, interactive multimedia, networking and remote messaging etc. In digital age, libraries are facing various challenges like scrutiny of information, transformation & expansion of ICT and demand of users through electronic or digital resources. The main challenge for libraries is the use of technology i.e. how we use it and when we use it, which lies at the heart of each of these challenges. On other side modern economic rationalism demands that libraries should become more accountable for both the services they provide and the funds they expend. Such accountability requires libraries to investigate, analyze and, where necessary, change the methods and processes they have traditionally undertaken to justify their very existence to funding bodies. The only solution to cope with, the effects of digital age is Re-engineering of library services. So in digital era, libraries have to be re-engineered them-selves to face various challenges of digital environment and have to be shift from a “just-in-case” to “just-in-time” philosophy.

REENGINEERING: MEANING & DEFINITIONS

Re-engineering represents one of the most recent developments in management theory, and was originally introduced by MIT professor Michael Hammer in the article “Reengineering work – don’t automate, obliterate” in 1990. It is world-wide applicable technique of business restructuring focusing on business processes, providing vast improvements in a short period of time. It starts with a high-level assessment of the organization's mission, strategic goals, and customer needs. It involves identification, analysis, and redesigning of organization's core business processes with the aim of achieving dramatic improvements in critical performance measures, such as cost, quality, service, and speed. It became popular in the late 1980s and early 1990s, with aims to cut costs, increase productivity and provide higher levels of service. It mainly focuses on customer at the centre of process redesign. The concept at the heart of the reengineering is the need to stay competitive in today’s business world.

Hammer and Champy defined reengineering as ‘the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance such as cost, quality, service and speed.’ (Hammer and Champy, 1993)

According to Davenport and Stoddard (1994), Business Process Redesign is “The analysis and design of workflows and processes within and between organizations. Business activities should be viewed as more than a collection of individual or even functional tasks; they should be broken down into processes that can be designed for maximum effectiveness, in both manufacturing and service environment.”

Al-Mashari and Zairi suggested that reengineering of business processes involves changes in people (behaviour and culture), processes and technology. (Al-Mashari and Zairi, 2001)

Encyclopaedia of Information Technology defined the reengineering as ‘the examination and modification of a system to reconstitute it in a new form and the subsequent implementation of the new form.’ (Amjad Ali, 2005)

Daniel P. Petrozoo and John C. Stepper in their book ‘Successful re-engineering’ define reengineering as ‘It is the concurrent redesign of processes, organizations, and their supporting information systems to achieve radical improvement in time, cost, quality, and customers’ regard for the company’s products and services.’ Though this definition is based on the company environment, but it can be applicable in Library and Information System.

On the basis of all above definitions, Reengineering can be defined as a technique of management which involve radical redesigning of processes, services, policies and the organizational structure of an organization.

WHY REENGINEERING

In Digital era, the Information and Communication Technologies are growing day to day at a tremendous speed. The knowledge society is becoming more complex, competitive and dependent on technological changes. The technological changes have influenced every facet of library and information services and have posed various challenges’ to libraries. On other side, user’s demands and expectations are growing. So, for every Organization to survive and grow, improvement is not an option but a compulsion. All these factors have forced libraries to reengineer themselves to improve quality, speed of work and reduce operational cost. The ultimate result to meet the user’s expectation, to improve services and to cope up with technological challenges, is reengineering .So libraries are adopting process of reengineering in resources and services for providing best possible services to its target users. The need of reengineering in libraries in digital era may be of many reasons. These are given below:

- Rapid technological innovations
- Declining library budgets
- Increasing cost of publications
- Continuing emergence of new media formats.
- Explosive growth and use of web resources
- Powerful and user friendly high quality search engines

- Accelerated Learning Scenario
- Intensive use of digital resources
- Increasing competition from Internet,
- Changing users' information seeking behaviour and habits
- Exponential growth of open access scholarly resources on the web
- Interactive virtual learning environment

LITERATURE REVIEW

More (2015) threw light on need of reengineering in library services. The study observed that in rapidly changing information age, reengineering is very essential technique for improving the innovative client library services and libraries should adopt this technique for providing better services to fulfill multidimensional needs of the their patrons. In her article, she emphasized on the need and utilization of reengineering process in library services.

Muthu, Rameshbabu and Baskaran (2015) emphasized on needs and expectation of users. The authors said that library professionals should adopt innovative ideas and creative ways to meet diverse information needs of their users. It is particularly important as the work environment is becoming increasingly complex and competitive. It is, therefore, crucial for libraries to have quick access to high quality, accurate, up-to-date and reliable information to make timely and well informed information to the target users. The authors specially emphasized on adopting non-traditional and innovative methods to meet highly specialized information needs of target users.

Panday (2015) emphasized the need of re-vitalization of library space to support comfortable and collaborative learning environment to its patrons with help of ICT infrastructure. The present paper is a case study done on various academic and public libraries users to determine their current status of library usage; to identify information seeking habit of users and to find out need of revitalizing library space. The result showed that after the development in ICT, users are more attracted toward e-

resources and e-services. On other side libraries are also digitizing their resources to satisfy users' requirement and providing more interactive learning space where users learn collaboratively and exchange ideas and have fun with learning instead of silent reading.

Pai (2015) exhibited the various trends through which libraries are reengineering themselves with updated and advance technologies for creating new learning environment in digital era. The present article listed out various trends in reengineering the libraries which include libraries relationship with publishers, word of mouth (WOM), e-marketing medium, development of institutional repositories, links to entertainment media, open education sources, commercial document delivery services, remote access and e-books etc. This study emphasized that existence and success of libraries in today era is increasingly dependent on its reengineering process with most effective and strategic management of innovative technologies which will enhance the resources, facilities and services.

Sharma (2013) exhibited a complete review of reengineering process and its principles and phases. The present study emphasized that reengineering is one of important quality management techniques which refers to dramatically change in organizational structure, management system, professional responsibilities and skills, performance management and technology development of libraries to satisfy and enhance the users' services. The present study also highlighted seven R's of reengineering i.e. Reorchestrate, Realization, Requirement, Rethink, Redesign, Retooling and Re-evaluate. The study also suggested the various steps for implementation of successful reengineering in libraries

Shastri and Chudasma (2013) focused on need to redesign library services through various emerging technologies to support learning, teaching and research. The present study analyzed the structure and utility of various emerging technologies like mobile technology; cloud computing; GIS and World Wide Web in library scenario. The present paper also highlighted the challenges and areas of application of emerging

technologies in automated library system as well as evaluated the advantages and disadvantages of these technologies. This study also examined that how these advanced technologies are bridging the digital divide and helping in providing effective and valuable information services to serve library patrons in better way.

Dharamraj, Sntosh Kadm and Subhash Chavan (2010) in their article said that reengineering is a popular management technique which can be applied to College library for quality improvement. In this article, authors not only emphasized the historical background of reengineering but also studied the implementation of reengineering in five phase in the college libraries. These five phases are; activities to be re-engineered; selection of reengineering team; vision for new improved process and action needed to implement the new process.

Veer, Kadam and Chavan (2010) emphasised that reengineering is a popular management technique which could be applied to College library for quality improvement. The authors not only emphasized the historical background of reengineering but also studied the implementation of reengineering in five phase in the college libraries. These five phases are; activities to be reengineered; selection of reengineering team; status of current process in library; vision for new improved process and action needed to implement the new process.

Bhardwaj and Sukla (2008) elaborated an overview of reengineering of automation and digital library initiative through web modeling at Delhi College of Engineering so that creative and innovative services and resources can be provided to its users. The present study analyzed that alongwith automation; DCE libraries are moving toward digitalization of resources and services so that virtual library environment can be provided to its user's parallel with traditional librarys. This paper also exhibited that DEC libraries are also emphasized on redesigning of library webpages for maximize its usage and draw users back into library both physically and virtually. For this purpose DCE libraries are implementing high-tech networks and wireless

technologies and also trying to engage users to library through technologies, workshop and orientations.

PLAN FOR SUCCESSFUL REENGINEERING PROCESS IN LIBRARY

The following step should be kept in mind while reengineering the library:

- Identify the Need of Re-engineering
- Composition of the Re-engineering team
- Setting objectives for the Re-engineering process
- SWOT Analysis
- Identification and Selection of Process to be Re-engineered
- Understand (Mapping of) the selected process
- Redesign of New Process (Re-engineering Plan)
- Pilot study of New Process
- Implementation of redesigned process
- Evaluation of Re-engineering Process

MAJOR AREA OF LIBRARY REENGINEERING

Reengineering is the examination, study, capture, and modification of the internal mechanisms or functionality of existing processes and practices in an organization to reconstitute them in a new form with new features and to take advantage of newly emerged or desired organizational requirements and technological capabilities. As the digital revolution has made impact on every processes of library like acquisition, technical processing, users' services, human resource development and financial management etc., it is felt that libraries need to reengineer every process of library as:

Reengineering the Library Collection: Today's, the nature of access of information has been transformed by the emergence of the Internet, which has changed the rules for the production, acquisition and communication. Library users no longer need resources that are available only locally, but they require a variety of print and electronic resources available both locally and from remote locations around the world. A library can

reengineered the acquisition policy by making all acquisition activities as suggestions, selection, approval, procurement, payment, of books, journals, reports, theses, standards, patents, multimedia products, online databases through local area network or via wide area network to improve efficiencies and to minimize the time taken to procure and deliver the required material to target users. The modern libraries can enrich their collection by acquiring following resources:

- CDs, DVDs, Microfilms etc.
- Online-Books, Online Journals, Online Databases.
- E-Reference sources.
- Membership with e-consortia

Reengineering the house keeping operations: In order to improve efficiency of library housekeeping operations library should be automated with standard library software. With the help of Information Technology, the library housekeeping operations should be redesigned in the following manner.

- Automated Acquisition system.
- Automated Cataloguing system.
- Automated Circulation system.
- Automated Serials control system.
- Automated Reporting system.
- Automated Stock Verification system.

Reengineered the library & information services: In digital era, libraries are redesigning their services to fulfil the multidimensional needs of its techno users. Now they are providing number of value added services apart from traditional library services. These are:

- CAS & SDI services by e-mail.
- Online information retrieval system.
- Online resource sharing.
- Digital reference service
- Institutional repository.

Reengineered the human resources: In new era, due to digital revolution technology is developing at very fast pace. To handle this fast increasing technology, the human resources

should be trained. Thus there is need to redefine the role and skill of library professionals in digital environment to handle the emerging technologies. The aspect of re-engineering with regard to human resource development is mainly concerned with the areas of staff selection, orientation, training, technology adoption, work study, change management, motivation etc. Following steps may be conducted for re-engineering of human resources:

- To inform the library staff about the re-engineering process, its need & impact.
- To inform the library staff about their roles & responsibilities in reengineering process.
- Organization of motivation/study tours for the library staff.
- Organization of in-service training programmes for library staff.
- Organise Continuing education program for library staff

Reengineering the Financial process: In 21st century libraries, more stress is given on e- resources which require more money to invest in various hardware and software. To solve this problem, libraries are forming consortia as well as revising their budget process so that effective and efficient services can be provided to target users.

Reengineering the user Education program: In digital era, libraries are using technology in imparting user education programmes. The information literacy programs and orientation program are being designed in such a way that users can locate required and authentic information whenever they need it.

CONCLUSION

In modern digital era ICT is growing at tremendous speed and the knowledge society is becoming more dependent on these technological changes. The technological changes have posed various challenges' to libraries. So the reengineering of library resources and services is very essential to fulfil the patron expectation effectively and efficiently. Considering the importance of re-engineering in library and information services,

it is necessary to rethink on this serious issue and how it can be applied to the libraries for providing better services.

REFERENCES

- Al-Mashari, M, Irani, Z and Zairi, M. Business process reengineering: a survey of international experience. *Business process management journal*, 2001, 7(5), 437-455.
- Ali, Amjad. *Encyclopedia of information technology*. New Delhi, Galgotia, 2005.
- Bhardwaj, Rajesh K. and Shukla, R K. *Reengineering of library and information services through web modeling at Delhi college of engineering*, 2006.
- Gaur, Ramesh C. *Reengineering library and information services*. Allied Publishers, Mumbai, 2003.
- Hammer M, and Champy J. *Reengineering the corporation: A manifesto for business revolution*. New York, Harper Collins, 1993.
- More, Varsha. *Reengineering of library and information services*. *PEARL- A journal of library and information science*, 2015, 9(3), 177-179. DOI:10.5958/0975-6922.2015.00024.B
- Muthu, M, Rameshababu, P and Baskaran, C. *Rethinking of innovative LIS service for libraries in digital era*. *Knowledge Librarian- An international peer reviewed Bilingual e-journal of library and information science*, 2015, 2(1).
- Shastri, Devaspri and Chudasma, Pradipsinh. *Reengineering library services with emerging technologies*. 9th international convention CALIBER, 2013.
- Tikekar, A C. *Vision and roles of the future academic libraries towards 21st century academic libraries and librarianship*. ICAL, Delhi, 2009.
 - Veer D, Kadam, S. D and Chavan, S. *Reengineering library and information services and resources in modern digital era*. Paper presented at 7th Convention Planner, held at Assam, Tezpur University, 2010.
 - Wade, Martyn. *Reengineering the library-the role of strategic planning, marketing and external relation and*

shared services at National library of Scotland. Paper presented at 78th IFLA conference at Helsinki, 2012.

- Wilson, T.D. Redesigning the university library in the digital age. *Journal of documentation*, 1998, 54(1), 15-27.

Chapter-21

Copyright Laws and the Duties of Librarian

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Abstract

Copyright is a subdivision of Intellectual Property Rights and special legal right given by the judiciary to the inventor on his invention. As a creator/inventor (he/she/group/community) has legal rights to enjoy financial and other benefits connected as per the law over the creation. Violation of the copyright law would escort to numerous judiciary consequences. On the other hand law authorizes libraries to use copyrighted material for research and academic rationale without any authorization/permission from the copyright holder. Further, any violation or any infringement of reasonably fair use of library resources is punishable under copyright act. Here an endeavor has been made to comprehend copyright issues in relation to library resources, also highlight protection, encroachment, fair connections, restrictions and limitations under the Indian copyright act 1957. Besides, pointing out on the functions and responsibilities of librarians with regard to copyright laws.

Keywords: Copyright Laws; Copyright and the Libraries; Copyright infringement;

Purpose: Understanding Copyright laws with a library professional standpoint to recognize the dos and don'ts with consideration to Indian copyright law.

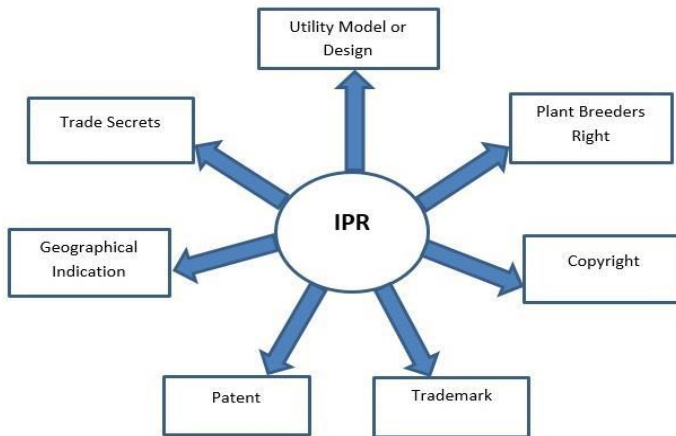
INTRODUCTION

Copyright is one of the divisions of Intellectual Property Rights (IPR). World Intellectual Property Organization (WIPO) defines IPR as, “the legal rights which are the outcome of intellectual activities in the scientific, industrial, literary and

inventive artistic area. There are two main reasonable causes for a country to have laws for the protection of intellectual property:

1. Providing statutory expression to the economic as well as the moral legal rights of the inventor/ creator for the invention/creation.
2. For the promotions of the government act and its policy deliberately and the propagation/dissemination and submission of its results with regards to its applicability to encourage and stimulate the fairness in the practice of trade which would further contribute to socio-economic development.”

Intellectual property has been classified into numerous branches as pictorially represented below:



Copyright law:

Copyright is a unique and absolute legal right specified to the name of the inventor or the creator or a group of scholars or research individuals to protect, defend and guard their inventive work or ingenuity from production, alteration, transformation, re-production, allocation and public presentation by others without prior consent/permission from the inventor/creator/person accountable for the subsistence of that work.

The main principle of the copyright is to protect, guard and to reward the common enjoyment of certain benefits i.e.

exertion of authors on the work he/she invented or produced. It maintains the motivation of the authors/inventor to construct and successfully proceed with further inventions on constant basis.

To avail the benefits of the copyright law one's work or inventions should possess certain factors as stated below:

- a) Original authenticated work (created or invented from inspiration and the same is not cheated or copied from any source that is already existing, it should be first time invention).
 - b) It should hold the quality that it is to be fixed in any of its sustainable form. The public demonstration of the work should be capable of description and its physical expressible form and proficient of being recognized in a fixed or preset form/ it should be identifiable in its existential form of sustainability. Example: painting, web servers etc.
 - c) Publication of the work must be 1st handed i.e., originally recorded work which hold no prior publication by anyone.
 - d) If the work is published after author's death then the author must own the citizenship of the respective place.
 - e) Creator must be the citizen of India in case his work is published outside India
- **Chapter 3 section 13 of Indian copyright act specifically states about works, benefited by this law:** Work: Literary, architectural, dramatic, computer program, software, artistic, musical, Cinematograph films, Sound recordings.
 - **Non-availability of copyright protection:**
 1. Works not preset in sustainable form.
 2. Slogans, methodical ways, phrases, information: fact base (factual), titles, symbols, names, designs; however, the protection to these works could be provided under trademark law.
 3. Patent laws or the trade secret laws could provide protection in cases of: discoveries, guidelines, procedural methods, plans, processes and guidelines.
 4. Works that are already in public domain and original authorship is not traceable are not covered under copyright law.
 5. Already expired copyright works.

- **Creator/author Rights:**

Copyright is a collection of rights enclosing economical and social liberties given to the author to safeguard and secure his work by the judicial department. As per chapter 3 section 14 and chapter 11 sections 57 of the ICA the author has been granted certain special, unique and exclusive rights, these rights are further classified into three categories and are as follows:

- a) Negative or statutory rights: These rights enforce a negative duty on other individuals that are prohibited/forbid from availing the benefit from the work without the permission/ consent from the respective author.
- b) Economic Rights: financial benefits are enjoyed under this right. by assigning rights to others author can avail the benefit to earn royalty. As per the rules state in international conventions, the national copyright statute offer/provides numerous rights to the copyright holder as stated below: Adaption rights, Public performance rights, Public display of works rights, Distribution rights, and Translation rights, Rental rights, Reproduction rights.
- c) Moral rights: Even after the copyright work is assigned to others, either fully or partially copyright laws constantly protect and secure the inventor/ creator. The author name remains on the work forever as per the benefits received under moral rights and it also protects the work from any kind of encroachment / modification or distortion of the work, or any other offensive action.

- **Term and conditions stated under Copyright protection:**

In the current scenario, the copyright doesn't necessitate to have any registration for its security/ protection .the author itself gets the copyright on his/her work when the work is invented / created in sustainable form. As per the Indian copyright act, under chapter 5 in section 22-29; the specification of the term copyright protection has been mentioned to describe numerous works. The term of the copyright protection is stated below:

1. With respect to the dramatic, artistic and literary works the copyright term is lifetime for the author plus 60 years

from the death of the author. For multiple authors: term is 60 years from the death of last author.

2. The copyright protection is 60 years from the date of publication: anonymous or pseudonymous work and also for cinematograph films, sound recordings, and photographs

- **Copyright infringement:**

Violation, breach, contravention, defiance of a copyright law by any individual without holding any license or consent/ permission by the creator/owner of the creation/invention is known as copyright infringement. All kinds of benefits to secure his creations are availed to the author under this right. As per the ICA under chapter 11 in section 51, using any work that is copyrighted without the consent of the copyrighted owner is claimed to be an infringement of copyright law. Person who is indulged or who does the copyright infringement is exclusively held responsible for his misdemeanors & misconduct.

1. Performing without the permission or due consent of the respective owner.
2. Using of copyrighted work for business, trade which brings the opportunity to avail financial benefit and economic fly.
3. Distributing, giving out, and allocating, for purpose of import, business, trade.
4. Reproducing tangible part of the respective copyrighted work in any of its matter form.
5. Circulation among: unofficial, unauthorized persons
6. Implementation/ adoption or reformation/ translation of copyright work without any prior permission or consent from the owner.
7. Re-sailing or giving the copyrighted material on rent to others,

Librarian & the Copyright material

Libraries are essentially important mediators in providing information to the users who are keen in learning with

daily advancement of new factors and the librarians, are the executive supervisor to endow with special and diverse informational resources through exclusive channels. Information can be classified under diverse domains such as: published, printed, un-published, and non-print. Librarian works a catalyst in facilitating the creator/ author/ inventor and is connected to publishers, distributors, vendors, and help the creator and learner in his/her journey. To maintain the balance between copyright and the use of copyrighted material within the established boundary /preview of law is the toughest work/task performed by librarian. The librarian holds the duty to ensure the status of any organization and also shun exploitation or misuse of the copyrighted material by its stakeholders by generating awareness about the copyright laws. The individual breaching, infringing the material/ work is specifically held and responsible for his conduct. Violating copyright laws would lead to legal disputes between chain of authorities starting from the copyright holder to the stakeholder of concerned organization or institutions. Hence, Librarian should necessitate the protection of copyrights while providing any library access to public.

Conclusion

It's an exigent mission for librarians to administer and supervise resources as per the legal framework of copyright laws, but libraries can offer efficient, valuable and effective services under 'fair/genuine use' dealing with devoid of any hindrance, restriction and limitation to the use of information in the academic as well as scientific environment. During the acquisition process, especially in connection to electronic resources, Librarians are required to be attentive, thoughtful and conscientious about the clauses, sections mentioned in the contracts or in agreements while dealing with the publication industry.

In spite of the fact that there are many copyright limitations and issues, the comprehension of copyright law and reasonable use dealings would guide us to utilize copyrighted substance for scholastic and exploration reason in a safe way. Adequate degree of comprehension of duplicate right issues should be considered during/before obtainment/membership of

any assets. Now an understanding/contract/terms and conditions between concerned gatherings on acquirement of assets would assume a significant job in ensuring copyright of holders. As a facilitator the administrator / librarian consistently needs to teach his clients about copyright issues. What's more, this could get one of the significant elements that would assume a significant job in decrease in copyright infringement among library clients. According to the Indian copyright act 1957 it is certain that neither the distributor nor the facilitator is answerable for any encroachment of copyrighted material, yet an individual who is engaged with the action of encroachment is exclusively considered liable for his demonstration of offense.

References:

1. Prakash, Pranesh, 'Exhaustion: Imports, Exports, and the Doctrine of First Sale in Indian Copyright Law' (2012), NUJS Law Review, Vol 5, Iss. 4, p635-664
2. Crews, Kenneth D, 'Copyright Law for Librarians and educators'. American Library Association. Chicago, (2013). ISBN: 97881840882470.
3. Alka Chawla, 'Law of Copyright.' Lexis Nexis India (2013) ISBN: 9788180388354.
4. <http://www.wipo.int/portal/en/index.html> (retrieved on 24.07.2020)
5. <http://copyright.gov.in/documents/handbook.html> (retrieved on 28.07.2020)
6. <http://copyright.gov/title17/circ92.pdf> (retrieved on 28.07.2020)
7. Anjaneya Reddy N M1; Lalitha Aswath, 'Understanding Copyright Laws: Infringement, Protection and Exceptions' 30 April 2016, International Journal of Research in Library Science, ISSN: 2455-104X.

Chapter-22

Gamification in Education

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Abstract

In the current digital generation, delivery of learning resources through technology is rapidly increasing. Gamification has gained a lot of attention and is used increasingly in the educational context. Gamification involves the incorporation of game design elements in the educational domain. Excerpts were selected from research studies to summarise the role of gamification as a learning tool and how it encourages learning behaviours. Gamification also increases motivation and student engagement, thus helping educators to achieve educational objectives and catering to the learning needs of the students. Gamification is an interactive process with real-time feedbacks which promotes learning and ensures adequate motivation. Gamification makes learning fun, enjoyable, memorable and learning more efficient and effective.

Introduction

Gamification has been used extensively in education to enhance student engagement and motivation. In the current digital era, gamification has attracted a lot of attention. Gamification involves the use of game design elements, game-based learning to motivate learners and make learning more engaging. Gamification has a significant impact on education, as it can make learning fun, interactive and effective. Gamification of learning objectives increases motivation and engagement in learning tasks (Caponetto, Earp, & Ott, 2014).

The term “gamification” was documented in 2008 (Deterding, Dixon, Khaled, & Nacke, 2011) and was defined “as using game design elements in non-game contexts”. Gamification provides challenging intellectual work for learners to achieve. The gaming concept involves the identify the target groups, define the learning objectives, create milestones, identify resources, and apply gaming elements for learning. Gamification provides learning opportunities and encourages slow learners. This process influences behaviour provides motivation and enhances active engagement. It also increases cognitive load and achievement levels among learners.

Research has shown that gamification has a positive impact on learning and increases motivation and engagement in learning tasks (Figure 1, Dicheva et al., 2015). Several studies have shown the successful and positive impact of learning through gaming. Another major advantage of gamification is the stimulating effects such as achievement of tasks by learners, immediate feedback, the feeling of accomplishment, by providing badges and rewards. Implementation of gamification in education is an innovative way to motivate learners. However, studies have also shown that the drawbacks and pitfalls of gamification, such as difficulties in task evaluation and increased competition (Dicheva et al., 2015).

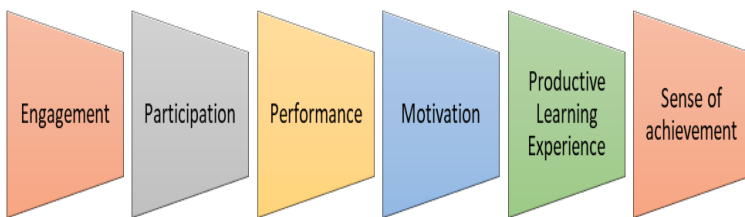


Figure 1 – Learners Objectives in Gamification

Barata et al. has shown that the game design elements involving course design, participation levels, challenges and outcome achievements and rewards, have shown an excellent student engagement and participation (Barata et al., 2013). The online discussions and queries related to the course educational objectives encouraged the learners to achieve targets. Studies

have also shown that gamification has a positive impact on the slow learners and increased their participation levels (Hamari, Koivisto, Sarsa., 2014). The rewarding system has a significant effect, and gaming influenced learning experience. Research has shown gaming levels for learners at different stages have a more significant impact in achieving educational objectives (Huotari and Hamari, 2017).

Incorporating gamification in education:

Gamification has a significant impact on learning and increases creativity and productivity. The elements of gamification in education are students (users), tasks (learning outcome achievement), achievements (results), levels (points), accomplishments (rewards) and ranking of the students based on achievements (Landers, 2014). Feedback is useful for learner engagement, and immediate feedback enhances performance. Gamification is an integral part of education and also future health care delivery.

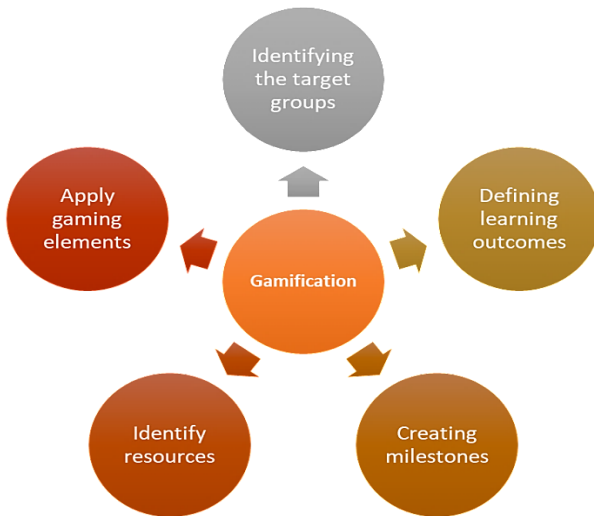


Figure 2 – Steps in gamification in education

The steps in gamification are:

- 1. Identifying target groups:** In an educational context, the target groups are the students (learners). The learner’s skill set, cognitive load, students group size, time frame, and

programme outcome achievement are the key items for identifying and the target group and the context.

2. **Defining educational learning objectives:** The specific learning goals and educational objectives are determined based on the students understanding of the concept and their cognitive load.
3. **Achievable milestones:** The milestones must be set based on the student's education programme and must be appropriate to their level. The lecturer must provide milestones at different levels to keep the students engaged and motivated.
4. **Identifying resources:** The resources must be planned based on the learners' programme educational objectives.
5. **Applying gaming elements:** The gaming elements must focus on the students engaging and self-achievement. The achievements are recognised by points, badges or rewards.

Gamification in education (Kapp, 2012a; Kapp 2012b),

- a) Makes learning fun, engaging and interactive.
- b) Acts as a catalyst by sparking curiosity and provides confidence and motivation
- c) Strengthens learning and encourages engagement
- d) Helps set clear goals and objectives.
- e) Makes learning experiential (learning occurring when the experience is reflected).
- f) Effective feedback increases motivation and aids in the experiential learning cycle
- g) Technology-enhanced gamification enables problem solving and teamwork
- h) Improves motivation and improves collaborative learning.

Limitation of Gamification:

The limitations of gamification are that there should be a clear understanding of the gaming elements. The lecturers must be aware of the gaming strategies. Gamification cannot grade the results. Gamification is a part of learning methodology and not a replacement for face to face instruction (Werbach and Hunter, 2012)

Conclusion

E-learning is an effective integration of gamification. With the emerging digital technology, gamification with mobile devices has shown a positive impact on learners. Gaming techniques implemented in an educational setting helps to achieve the learning objectives, increase learner's motivation, and increases student engagement. It increases cognitive load and achievement levels. Gamification is a practical approach to improve students' attitude and behaviour towards learning.

References:

- Barata, G., Gama, S., Jorge, J., & Gonçalves, D. (2013). Improving participation and learning with gamification. In L. Nacke, K. Harrigan, & N. Randall (Eds.), *Proceedings of International Conference on Gameful Design, Research, and Applications* (pp. 10–17). Stratford, Canada: ACM.
- Caponetto, I., Earp, J., & Ott, M. (2014). Gamification and education: A literature review. In *Proceedings of the European Conference on Games-based Learning* (Vol. 1, pp. 50–57).
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From Game Design Elements to Gamefulness: Defining Gamification. *MindTrek, Sept 28-30*, 8.
- Dicheva, D., Dichev C., Agre G., & Angelova G. (2015). Gamification in Education: A Systematic Mapping Study. *Educational Technology & Society*, 18(3), 75–88.
- Giannetto, D., Chao, J., & Fontana, A. (2013). Gamification in a social learning environment. *Informing Science and Information Technology*, 10, 195–207.
- Hamari, J., Koivisto, J., & Sarsa, H. (2014). Does Gamification Work? – A Literature Review of Empirical Studies on Gamification. In *47th Hawaii International Conference on System Sciences* (pp. 3025–3034). IEEE.
- Iotari, K., & Hamari, J. (2017). A definition for gamification: Anchoring gamification in the service marketing literature. *Electronic Markets*, 27(1), 21–31.
- Landers, R. N. (2014). Developing a theory of gamified learning: Linking serious games and gamification of learning. *Simulation & Gaming*, 45(6), 752–768.

- Kapp, K. (2012a). Games, gamification, and the quest for learner engagement. *T+D*, 66(6), 64–68. Retrieved March 1, 2014, from <https://www.td.org/Publications/Magazines/TD/TD-Archive/2012/06/Games-Gamification-and-the-Quest-for-Learner-Engagement>.
- Kapp, K. (2012b). *The gamification of learning and instruction: Game-based methods and strategies for training and education*. San Francisco, CA: Pfeiffer.
- Werbach, K., & Hunter, D. (2012). *For the win: How game thinking can revolutionise your business*. Philadelphia, PA: Wharton Digital Press.

Chapter-23

Design Thinking for Libraries: How to Achieve Innovation in a Volatile, Uncertain, complex and ambiguous (VUCA) world

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Abstract:

This work offers a diagnosis of the current situation of libraries in an environment with volatility, uncertainty, complexity and ambiguity (VUCA world), proposing that academic libraries use design thinking as a tool to develop prototypes, reach innovation and achieve adaptation to the new conditions of the digital environment. From a future perspective, it reflects the effects that the new context will have on the information user's needs and how it would transform the services in university libraries. This work proposes the application of design thinking as a tool to achieve innovation in libraries.

Keywords: Libraries; Design thinking; Innovation; VUCA

1. Introduction: Libraries in a VUCA World

We live in a world characterized by volatility, uncertainty, complexity and ambiguity (VUCA environment), where both citizens and organizations are immersed.

How can librarians perform in the VUCA environment? Professional skills and attitudes acquired through formal education are no longer enough for a VUCA environment (Mack & Khare, 2016). It is necessary to learn, not to learn, but to relearn. The situation requires a more dynamic and efficient professional adaptation capacity, which surpasses the strategies received in classic pre-professional training (Schön, 1987). Given that situations are volatile, uncertain, ambiguous and complex, they require decision making based on unknown unknowns. Organizations are built and integrated by people,

therefore, all professionals who do not generate the necessary skills and competencies, will become outdated in a context of constant change. Organizations and professional leaders must guide their teams to survive and face the changes of a VUCA world.

Librarians and information professionals should incorporate intellectual work methodologies that go beyond what they received in formal education as a mere accumulation of information. Beyond critical thinking, librarians should take up again the relationship with an unknown context (the VUCA environment) to rethink the relationship with users, who are the recipients of library services. Thus, innovation enters the scene as a central concept for library services.

Innovation is more necessary every day, as a dynamic element, as a survival strategy and as an enabler of change, both for the profession and for libraries. During the 20th century and at the beginning of the 21st century, libraries were changing their organizational structures and services. They became different, more complex institutions, and the need to solve new problems increased. Due to Covid19,

the classroom teaching has been replaced by distance teaching (International Association of Universities, 2020; Marinoni & de Wit, 2020), so the library services must also change, moving from physical to digital services. Specialized libraries are affiliated with a scientific institute or society, academic libraries are affiliated with their universities, school libraries are affiliated with their schools, and so on. And since the digital transformation arising from #Covid19 crosses over all educational levels, academic libraries must re-examine and redefine their services and programs as a whole.

Therefore, it is necessary to analyze the impact of the VUCA context on university library services. This work proposes the application of design thinking as a tool to achieve innovation in libraries.

2. The Mission of University Libraries

Academic libraries are integrated into the higher education cycle. For better performance, it is essential to know the peculiarities of that context.

What is the social responsibility of libraries? According to the International Organization for Standardization (ISO), "*Social responsibility has the organization as its center of interest and concerns an organization's responsibilities to society and the environment. Social responsibility is closely linked to sustainable development. As sustainable development refers to economic, social, and environmental objectives common to all people, it can be used as a way to summarize the broader expectations of society that need to be taken into account by organizations seeking to act responsibly*". (2010, 3.3).

The ISO 26000 standard gives us a holistic approach to address social responsibility in seven major aspects, which we can use as an initial analysis matrix to evaluate libraries. These are: 1) Organizational governance, 2) Human rights, 3) Labour practices, 4) The environment, 5) Fair operating practices, 6) Consumer issues, and 7) Community involvement and development (ISO, 2010). At the same time, the importance of the library's link to its community, understood as social responsibility, is directly related to the vision of sustainable development. The United Nations (UN) has established 17 Sustainable Development Goals (SDG). Of these UN SDG, there are eight where libraries have a role to contribute and help (Garcia-Febo et al., 2017).

Academic libraries, belonging to the field of higher education, can help the SDG Quality Education, whose aspiration is to ensure inclusive, equitable and quality education; and to promote lifelong learning opportunities for all.

In addition, as stated in the IFLA Code of Ethics for Librarians, "*Information service in the interest of social, cultural and economic well-being is at the heart of librarianship and therefore librarians have social responsibility*" (IFLA, 2012).

3. Libraries and Innovation

For successful performance, academic libraries need to know more about the context and users to improve their experience. Beyond theory, the #Covid19 pandemic has shown us that we live in a VUCA world: a context with volatility, uncertainty, complexity and ambiguity. It is a context that altered

working conditions: the requirement of physical presence became volatile, uncertainty reign in all situations, the physical and psychological environment grew in complexity and ambiguity is a constant currency in today's news (what was true yesterday may be uncertain today).

Academic libraries must survive and develop through continuous improvement and innovation, transforming themselves according to the users, the recipients of their services (Baker, 2016). Thus, it is necessary that libraries offer their services, not based on the principle of least effort, but with the best effort, knowing the users to deliver the transformations that arise from higher education. If education is digital, so must library services. I therefore propose design thinking as a central strategy to analyze the context and solve the problems that academic libraries face in a VUCA world.

4. Design Thinking: Origin and Concept

Design thinking is a problem-solving method that was created at the Institute of Design at Stanford University, founded in 2005. Its main mentor is Tim Brown, who created the IDEO consultancy in 1991 with David Kelley (Brown, 2008). One of Brown's most famous projects was Design Thinking for Educators, developed with the Riverdale Country School in New York and which applied design thinking to education, starting with six basic stages: 1) discovering meaning: finding a problem, defining a design challenge, analyzing a challenge; 2) exploring the world: benchmarking, how other people solved our problem; 3) generating ideas: searching for meaning, brainstorming; 4) creating a prototype: generating a design in beta format; 5) promoting external feedback: groups and teams analyze each other; and 6) evolution of the prototype: trial and error, iterative development (Carroll, 2009).

Design thinking is essential for organizational culture change (Pardo Kuklinski, 2020). It is a tool for exploring innovation strategies and generating creative thinking.

My proposal is that librarians apply design thinking to innovate in libraries, that is, as Pardo Kuklinski says: "*promote designer thinking for non-designers that allows them to attack*

concrete problems by creating innovation with the user at the center of the process.” (2014).

Design thinking can be considered as a mental experiment whose main objective is that the researcher (the teacher, the librarian) manages to think like a designer. Designers work to develop products, and participate in projects that seek to change and improve the strategies of an organization, its production processes or the services.

Design thinking is a problem-solving method that reduces risks and increases the chances of success. Design thinking is a technique for generating innovation from users, which begins by analyzing human needs on a specific topic, observing, creating prototypes and testing them. It connects knowledge from various disciplines (engineering, psychology, marketing, architecture, sociology) to arrive at a small-scale, feasible, humane, technically viable and cost-effective solution.

4.1 Design Thinking for Libraries

In 2014, the public libraries of Aarhus (Denmark) and Chicago (USA), created the *Design Thinking for Libraries* toolkit with the monetary support of the Gates Foundation and the coordination of IDEO, Tim Brown's study. Their goal was to create a way of working to understand the needs of their users and improve the commitment of libraries to their environment, based on empathy with their communities (IDEO, 2015).

The challenges facing university libraries in relation to digital education are complex, volatile and varied. The context of a VUCA world requires new approaches and new perspectives, which allow libraries to adapt through innovation in a process of continuous change. Libraries, like citizens, like users, must learn to learn; with design thinking adapted to libraries, they can work with users to identify their real needs, and thus generate new processes, innovative projects and why not? new services for new needs. According to the Design Thinking for Libraries project, *“Thinking like a designer is not about knowing how to draw, it is about embracing the unknown and being creative in the face of ambiguity. Adopting a designer's mindset allows you to see problems as opportunities and gives you the confidence to start creating transformative solutions.”* (IDEO, 2015). In

libraries you can start with small projects (Meier & Miller, 2016), such as changes to the website, collection development, increasing the number of users, applying the cooperative methodology of design thinking and rapid prototyping.

4.2 The Main Characteristics of Design Thinking

From some critics' reviews to the methodology of design thinking, Kolko (2018) identified three fundamental characteristics: empathy, problem exploration and prototypes.

Empathy: Based on participatory design, design thinking seeks to generate a meaningful connection with the user, even emotionally, to see them not only as "customers", "users" or "consumers", but as participants, as co-designers of the product or service.

Problem exploration: it consists of analyzing the challenge to be solved through a combination of logical and linear research with illogical and divergent exploration. This method requires the designer to be able to combine and alternate the different approaches.

Prototypes: the third principle is to generate scalable and faithful models or prototypes, to test them with real people to understand if they are usable, useful and desirable. Prototypes are created in order to communicate a project.

4.3 The Stages of Design Thinking

For Brown & Wyatt (2010) there are three major phases: inspiration, ideation and implementation. The inspiration phase is the one that starts from a problem in search of solutions, looking for empathy with the user; the ideation is the phase where ideas are generated and tested, building a prototype and the implementation phase is the one that integrates the project in the life of the interested people. The phases include stages, and although there are many variations according to the different theoretical currents, most (Lockwood, T. & Papke, E., 2018; Brown & Wyatt, 2010) coincide in six major stages: understanding, observing, point of view, ideation, prototyping, and testing.

1. **Understanding:** consists of delimiting the problem area. It is the first stage of the Design Thinking process, which has two main phases: the first is to define the research problem. In this phase, designers must identify which are the knowledge areas in which the problem is inserted. Specialists are consulted to help understand the problem in depth. Participants are immersed in learning, interviewing experts and also researching, for example, cases of good practice (benchmarking). The main objective is to generate knowledge of the context. The second phase is to form work teams for the generation of ideas. Each team will have a leader, a minute secretary and a researcher. Each team will seek to identify a problem, a case, a challenge. It is possible to start with a specific problem from one of the group members' libraries. The team members examine and define the challenge to be solved, according to the techniques of the research methodology.
2. **Observe.** The objective is to really know the user and his or her needs, which provides a lot of useful information. Time is saved by observing the user, understanding their behaviour and needs in the context of the design problem and therefore the new service is redefined. At this stage, the team members focus on the users, and also on the experts to obtain, always from an empathic point of view, information about their habits, needs and attitudes. The information collected is shared with all team members (crowdsourcing). The idea is to generate empathy with the users ("put yourself in their shoes"), based on basic questions: How do users behave? How do they interact among themselves and others in the physical space? To investigate these aspects, in-depth interviews are conducted with users to learn about their desires and emotions. The aim is to know a representative user, rather than an archetype (the qualitative approach is more important).
3. **Point of view.** This is the stage that seeks to understand the users' needs. It is about defining what the problem is, the need or the desire to be solved. The question "How might we..." is the trigger for defining a point of view. The goal is to raise and make several suggestions to produce changes

that impact the user experience. Methods based on divergent and emergent thinking are used, trying to find ideas outside the box. The information retrieved from the observation phase (empathy) serves to achieve an effective problem statement, considering the priorities of the user's needs. Lists of requirements can be made to enrich the definition of the challenge. Mini-projects and ideas should be of high relevance and low cost (fast execution and low budget). We work with feedback, analyzing errors and looking for "intelligent errors" (hybridization).

4. Idea. The ideation is the stage where designers must generate concepts, ideas and solutions. The idea generation phase is a main component of design thinking: the aim is to obtain as many ideas as possible, without censorship, without rejection, and to seek creativity and fun. It is a phase where collaboration predominates. The teams, with their roles formed, can work from different techniques of intellectual group work: with a blackboard, drawings, sketches, schemes, mind maps, brainstorming, sticky notes and paper prototypes in search of the solution to the problem. Brainstorming is fundamental at this stage, where the aim is to find an innovative idea. More than a formal theoretical learning, the solution to the problem is sought, with two main phases: the first is to gather all the ideas raised and select the best one, the second is to pose an interaction of the groups to achieve a general feedback (angels and demons technique). After the brainstorming, a design framework for the final product is obtained. The predominant way of thinking at this stage is convergence.
5. Prototyping. Once the concepts generated in the previous stage are evaluated, prototypes are created (models, drawings, patterns, etc.) to be tested and evaluated. The prototype stage is of rapid execution (demo or die). The prototype can be a sketch, a draft, a simple draft, a schematic model, a cardboard box or some phrases on a cardboard. The goal of the teams is to achieve a functional prototype. In this phase of design thinking, the outlines of the prototype serve to establish what can be built, how it will work, and how it will interact with the user. The prototype can be a cardboard

model, a drawing or an animation. Physical models, computer graphics, maps and diagrams are helpful. At this stage the predominant mode is visual thinking: many drafts are generated and the best ones are selected until a chosen model is determined. The groups must work in a short period of time and manage to obtain prototypes that can be executed quickly and on a low budget.

6. Testing. The teams test the prototypes with the users. At this stage of implementation, the opinion of external experts is again considered, as well as the feedback from the users. The objective of the test is to detect which things work, and which do not, to iterate, modify the prototype, and retest. It is an iterative process of evaluation and concept refinement, which draws on both external (users and experts) and internal (design team) knowledge, i.e., social thinking and collaborative work of all stakeholders. The feedback enriches the discovery phase, allowing to better "shape" the prototype with what has been learned. Intelligent errors are sought through iteration, until the minimum viable prototype (MVP) is reached. It also seeks to interest the authorities in order to involve them in the innovation. The communication and exposure of the prototype is fundamental. For this phase it is specifically recommended a short, focused and viral narrative (storytelling), with a TED time duration, presenting five to ten ideas, you can include invented words that represent the solution of the problem (buzzwords).

5. Conclusion: Design Thinking in (for) Libraries

Just as people cannot live in isolation, as they are social beings, libraries cannot exist separately from their users.

Just as teaching has changed from being teacher-centered to being student-centered, libraries must be user-centered in order to redefine themselves. In order to achieve innovation in libraries and information services, it is necessary to apply agile problem-solving techniques, which are quick to solve and low cost. Competencies in design thinking must be strengthened, with project-based educational courses, with interdisciplinary teams.

The didactic perspective of design thinking courses aims at transmitting practical knowledge about the essential elements to deal creatively with complex problems, and also so that designers (librarians, researchers) can generate a group understanding of the problem that is not limited by linear thinking. The teaching of design thinking transmits the way to create a shared knowledge and a wealth of experience that facilitate team communication at a metadisciplinary level. The application and praxis of design thinking to solve concrete problems are decisive tools that allow libraries to achieve innovation in their structure and way of working.

By applying design thinking, libraries can achieve innovation and therefore be more humane.

References

- Baker, D. (2016). Making sure things can never be the same again: Innovation in library and information services. *Advances in Library Administration and Organization*, 35, 1-44. <https://doi.org/10.1108/S0732-067120160000035007>
- Bennett, N., & Lemoine, G. J. (2014). What VUCA Really Means for You. *Harvard Business Review*, 92(1/2), 27.
- Brown, T. (2008). Design Thinking. *Harvard Business Review*, 86(6), 84-92.
- Brown, T. (2009). The Making of a Design Thinker. *Metropolis*, 29(3), 60-62.
- Brown, T. & Katz, B. (2009). *Change by design: how Design Thinking transforms organizations and inspires innovation*. New York: HarperBusiness.
- Brown, T., & Wyatt, J. (2010). Design Thinking for Social Innovation. *Stanford Social Innovation Review*, 8(1), 30–35.
- Carroll, M. (2009). *Taking Design Thinking to School* [PowerPoint slides]. Stanford University. <http://web.stanford.edu/dept/SUSE/taking-design/presentations/Taking-design-to-school.pdf>
- Cross, Nigel. (2011). *Design Thinking: Understanding How Designers Think and Work*. Oxford, New York: Berg.
- Garcia-Febo, L. *et al.* (2017). Advancing the United Nations Sustainable Development Goals: Experiences of

- international academic and research libraries. *College & Research Libraries News*, 78(9), 516-520.
- Gardner, H., Csikszentmihalyi, M., & Damon, W. (2001). *GoodWork: When excellence and ethics meet*. New York: Basic Books.
 - IDEO. (2015). *Design Thinking for Libraries: a toolkit for patron-centered design*. <http://designthinkingforlibraries.com/>
 - Instituto Internacional de la UNESCO para la educación superior en América Latina y el Caribe (UNESCO IESALC). (2020). *COVID-19 y educación superior: de los efectos inmediatos al día después. Análisis de impactos, respuestas políticas y recomendaciones*. Caracas: IESALC.
 - International Association of Universities (IAU). (2020). *The Impact of COVID-19 on Higher Education around the world*. Paris: IAU. <https://www.iau-aiu.net/COVID-19-Higher-Education-challenges-and-responses>
 - International Federation of Library Associations and Institutions (IFLA). (2012). *IFLA Code of Ethics for Librarians and other Information Workers*. <https://www.ifla.org/publications/node/11092?og=30>
 - International Organization for Standardization (ISO). (2010). *Guidance on social responsibility (ISO Standard No. 26000:2010)*. <https://www.iso.org/standard/42546.html>
 - Kolko, J. (2018). The divisiveness of design thinking. *Interactions*, 25(3), 28–34. <https://doi.org/10.1145/3194313>.
 - Lewrick, M; Link, P. & Leifer, L. (2018). *The design thinking playbook : mindful digital transformation of teams, products, services, businesses and ecosystems*. Hoboken: Wiley.
 - Lockwood, T. & Papke, E. (2018). *Innovation by design*. Wayne, NJ: Career Press.
 - Mack, O., & Khare, A. (2016). Perspectives on a VUCA World. In O. Mack, et al. (Eds.), *Managing in a VUCA World* (pp. 3–19). Springer. https://doi.org/10.1007/978-3-319-16889-0_1
 - Marinoni, G. & de Wit, H. (2020, June 8). A severe risk of growing inequality between universities. *University World News*.

<https://www.universityworldnews.com/post.php?story=2020060815405140>

- Meier, J., & Miller, R. (2016). Turning the revolution into an evolution: The case for design thinking and rapid prototyping in libraries. *College & Research Libraries News*, 77(6), 283-286. <https://doi.org/10.5860/crln.77.6.9506>
- Millar, C. C. J. M., Groth, O., & Mahon, J. F. (2018). Management Innovation in a VUCA World: Challenges and Recommendations. *California Management Review*, 61(1), 5–14. <https://doi.org/10.1177/0008125618805111>
- Pardo Kuklinski, H. (2014). *Sobre el método Outliers School*. Barcelona: Outliers School.
- Pardo Kuklinski, H. (2020). *Protopía: La contribución de Outliers School a la evolución de la cultura digital, la educación y los medios en Iberoamérica*. Barcelona: Outliers School.
- Plattner, H.; Meinel, C.; Leifer, L. J., eds. (2011). *Design thinking: understand, improve, apply. Understanding innovation*. Berlin; Heidelberg: Springer-Verlag.
- Schön, Donald. (1987). *Educating the Reflective Practitioner*. San Francisco: Jossey-Bass.

Chapter-24

Challenges and Services for Special Abled in Libraries with Special Needs

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Abstract:

“The main purpose of the paper is to elaborate the Challenges and services for special abled in the libraries. At the purpose once many of us have faith in the word special abled they quickly envision someone in a Wheel chair. Libraries should provide the services to the special abled user without any discrimination. Libraries ought to conjointly take necessary steps to handle accessibility challenges round-faced by individuals with disabilities once mistreatment their libraries. Libraries ought to take more steps to either introduce or enhance services that cater for individuals with disabilities **UNESCO** and **IFLA** have given rules to give equivalent library administration to all special abled person.”

Keywords: Special abled person, accessibility NIVH library, Library.

Introduction

In recent years, the knowledge superhighway, the net has become a worldwide entre for info dissemination with the flexibility to share worldwide collections of data. Essentially special abled individual incorporates:

1. Individuals with a physical incapacity.
2. For Deaf or hearing impaired
3. Blind or partly sharp-eyed
4. Learning or intellectual disabilities.
5. Persons with reading difficulties
6. For cognitively disabled person.

The definition was given by the globe Health Organization in 1976 that primarily attracts a three-fold distinction between impairment, disability, and handicap, outlined as “An impairment is any loss or abnormality of psychological, physiological or complex body part or function; a incapacity could be any restriction or lack (resulting from associate degree impairment) of ability to perform associate degree activity within the manner or at intervals the vary thought-about traditional for a personality's being; a handicap is a disadvantage for a given individual, ensuing from associate degree impairment or a incapacity, that stops the fulfilment of a task that's thought-about traditional (depending on age, sex, and social and cultural factors) for that individual’.

Needs of the special abled persons in a very library: “Access for all to every library”

People with associate degree inability have varied degrees of requirements. Their necessities square measure abundant identical because the people World Health Organization don't seem to be unfit. they regularly endeavour exhausting for a top quality of life as alternative traditional individuals. Indeed, even the special abled individuals, once given quality healthful services administrations and therefore the essential gear will keep it up the errands like those done by the non- special abled. One can't but feel upset that despite having the limit they have to stay staying debilitated individuals because of absence of a solid network based mostly showing emotion adjunct network.

A special abled individual **World Health Organization** is within the prime of his childhood, requests and equivalent likelihood and may, consequently, be offered a scope of facilitate, for instance, library facilitate, assessment support, note-taking in school, sign translators and correct parking arrangements then on. simply once the special abled have solid facilitate, for instance, those documented higher than they will would really like to possess normal living.

A library need to contain the attendant helpful gadgets for the special abled people:

1. Braille Printer

2. JAWS Screen Reader
3. Natural Speaking
4. NVDA & Braille embosser (printer)
5. Scanner
6. Daisy book reader (for e-books)
7. Adjustable high power lens
8. Seika Cell Braille show (stop anytime to correct spellings)
Machine
10. Magnifier mouse
11. Supernova
12. Kurzweil 3000

Role of a library for disabled persons:

Our Indian constitution is swearing equity freelance of sophistication, position and sex, and so on, we've got the special abled demonstration, equivalent open door all told circles of lives for the impaired. Our library laws that guarantee the privilege to information severally, nonetheless the real things square measure as per the following:

As a patron of library and knowledge services to have faith in the special abled people, the overwhelming majority of the open libraries don't seem to be accessible chair and excluded within the tutorial programs as distinctive support of the incapacitated. there's certifiably not a constructive rule for serving to special abled. Academic libraries, Institute libraries and Public libraries must weight on the requirement for uniformity to access for the debilitated individual as some rule and handicapped understudy specifically. The curator or the librarian in charge must liaise with the facilitator of the association working for the individual with an inability for vital information.



Services for special abled in


Nowadays to fulfil the needs of the special abled person's libraries need administrator or manager who are modern and


have knowledge about the latest developments that are going to have a significant impact on their services. It is their duty to propel quality administrations by expanding an extraordinary knowledge into the issues looked by the special abled. Library-staff must discern that mostly many of the special abled persons have no control over their behavior and thusly they must be sufficiently skilled to manage problematic conditions. To handle the special abled patrons in the library, the library staff must be implement the following method.



1. Library staff should be trained.
2. Special Services should be offered.
3. Start User Assistance Schemes.
 - a. Give fundamental associate and help to the special abled user with using assistive creative innovative tools like Read and Write, (SuperNova, supernova is a screen reader and magnifier to help those with visual disabilities. These tools help special abled users by zooming and perusing back content.
 - b. Libraries should provide the photocopying service.
 - c. Longer loan periods for the special abled patrons.
 - d. Library staff should be trained with proper materials.
 - e. Proper training should be given to the library staff as how to deal with the special abled user.
 - f. Allow the special abled patron of the library to approve their helping workings to get books etc on their behalf.
 - g. Handle their inquiries in a mannerly way.
 - h. Library Professionals is always ready to help the special abled patron in a superior manner.

Sr No	Services	Description
1	Accessibility	<p>library should be completely available stopping, make ways of movement to and all through the office, passageways with sufficient, clear openings or programmed entryways, handrails, inclines and lifts, available tables and open help work areas, and available open accommodations.</p> <p>1.The entrance o fthelibrary is fully accessible in accordance</p>

		<p>with applicable accessibility standards</p> <ol style="list-style-type: none"> 1. Signpost must be Clear and in readable format. 2. Without any obstacles a special abled person provides the support such as walker, crutches, wheelchair etc. 3. Accessibility standards must be followed in the library. 4. In library entrance door must be wide enough to allow a wheelchair to enter in the library 5. Automatic doors should be used in the library for the special abled patron. 6. If Elevators are used in the library, they must be well lit with buttons and signs in Braille and synthetic speech. 7. Every part of the library should be accessible to the special abled patrons. 8. The OPAC of the library must be available in accessible formats. 9. May I help you! desk for the special abled user should be located close to the entrance of the library. 10. Book shelves must be reachable form a wheelchair, if in any case wheelchair is not reachable to the shelves, patron must approach to the library staff for the desired help. 11. The lighting must be Non-fluorescent. 12. To minimize sound in the reading areas, a sound insulation must be used. 13. There must be a separate toilet for special abled patron in the library including washbasin, mirror at the appropriate height.
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		14. The help desks should be of adjustable height to enable special abled patrons in wheelchair to be able access the help desk.
2	Library as a Distribution Centre	Mostly people who are visually impaired, have low vision, and other print disabilities can't get to perusing materials in printed formats. They require perusing material in accessible formats such as Braille etc. The website of the library must contain the catalog of material available in accessible formats and the services provided for persons with disabilities.
3	Training of the Staff	Sufficient preparing and refinement must be given to library staff to guarantee that they can associate with Special abled patron. This preparation can be in the idea of a short supplemental class and the preparation and sharpening programs must be advanced in discussion with the incapacity division and must be led with the help of specialists in the inability space.
4	ICT (Devices & Softwares)	 <p>1.JAWS (Job access with speech) is one of the most mainstream and compelling softwares created for the visually impaired.</p> <p>2.The software empowers visually challenged perusers to peruse a PC screen with the assistance of a text-to-speech output or a refreshable braille display.</p> <p>3.Just like JAWS software , the shruti system is also currently deployed in 40 schools across India by the GOI.</p> <p>SANYOG</p>

		<p>Sanyog Project at IIT Kharagpur (2004-05)</p> <p>An alternative communication aid for people with speech impairment and neuro-motor disorders Visual, iconic language based, speech enabled Can be personalized to the cognitive ability of the user Alternative access mechanisms with scanning/ access switches Supports 3 languages – Bengali, Hindi, and English</p>  <p>The system has been deployed at four centers in India, (i) Indian Institute of Cerebral Palsy, Kolkata, (ii) Action for Ability Development and Inclusion, New Delhi, (iii) Monovikas Kendra, Kolkata, (iv) Blind Peoples Association, Ahmedabad Winner of Da Vinci Award – Engineering Society of Detroit & Multiple Sclerosis Society</p> <p>SANYOG - a project of the IIT Kharagpur, which has made the lives of several speech impaired children, and enabled all of the them to show themselves in creative ways.</p>
5	Services	<ol style="list-style-type: none"> 1. Large print notices/signage 2.Braille signing on all shelves 3.Braille buttons in lift 4.Automatic doors 5.Service point have low desks 6.Walkways free of obstacles 7.Signs in the library building clear and well lit 8.Paved walkways for special abled patron 9.Those who cannot come to the Library physically, for them a provision of home delivery is available to the special abled user. 10. Assistive Services for the blind user <ol style="list-style-type: none"> 1 JAWS Pro Talking Software 2 Talking Typing Teacher Pro 3 Prisma Magnification Device for Low

		<p>Vision</p>  <p>4 Kurzweil 1000 OCR Reading Software</p> <p>5 Library should also provide the braille Scanning software named - (Optical Braille Recognition)</p> <p>6 Freedom Scientific's SARA</p> 
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Major Challenges

1. Lack of knowledge of issues affecting special abled person.
2. Lack of resources to acquire special equipment to cater for special abled person.
3. Some libraries those are not patronised by the special abled people hence they do not spend money on equipment that will lie idle
4. Lack of commitment from top management.
5. Lack of refresher courses to handle the issues for the special abled.

6. No institutional policy governing library services to special abled.

7. Lack of Promotion to perceive impaired library patron as a unique gathering needing extraordinary support.

CONCLUSION

Libraries plays a great role in the lives of special abled persons by encouraging them. Libraries must use some strategies which is based on some standards of universal design to guarantee that library strategy, assets and services should meet the requirements of all people. Library administration should be aware of the present day technologies which address disabilities and should know how to assist all users with library technology. Ensuring equal access to information for all, also refers to the groups of people with special needs and disabilities; National Accessible Library is an admirable initiative by the Government for special abled persons. Government taking initiative by the addition of Divyangjan is surely to bring about change in Society's outlook towards special abled person. In spite of that, more research needs to be conducted on information seeking behaviour of the blind and visually impaired users. Today the tendency in libraries is to open their services to all, providing library materials in accessible formats such as digital, audio, but also large print and Braille formats, developing electronic library catalogues of these materials on the World Wide Web, ensuring on-site workstations equipped for the blind as well as developing other library services.

REFERENCE:

- www.nivh.gov.in
- <http://www.nivh.gov.in/index.php/library>
- Das, A. (2017). Information support for the development of disabled persons with special reference to the people of East Midnapore a district of West Bengal India.
- Cantor, A (1996). The ADAPTABLE approach: A practical guide to planning accessible libraries. *Library Hi Tech*, 14, 41-45.

- Wall, Patrick .S and Sarver, lee (2003) Disabled student access in an era of technology available at <http://academic.research.microsoft.com/paper/10412367>
- Roulstone, A (1998) Enabling technology: disabled people, work and new technology, Buckingham, Open University.
- Morgan, Greg (2003) A word in your ear: library services for print disabled readers in the digital age, *Electronic library* vol. 21 No 3,234-239.
- marsh, joanna.2014.academic library services for differently-abled patrons, emporia state university, and p.1-15.
- Office of the Registrar General & Census Commissioner, India. (2011). Census of India: Disabled Population. Retrieved October 30, 2015, from http://censusindia.gov.in/Census_And_You/disabled_population.aspx
- International Journal of Information Sciences and Techniques (IJIST) Vol.6, No.1/2, March 2016 267 [8] craddock, p. 1986.university libraries and differently abled people: what kind of relationship? p.14- 20.

Chapter-25

Library and Information Science Education in Bihar: an overview

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ABSTRACT

The aim of professional education is to prepare the members of that profession for its successful practice by giving a good foundation in its theory and practice. The strength of the profession lies in the quality of manpower available to practice the profession. The goal of LIS education is, therefore, to prepare personnel for the task of successful performance at different levels of competence as managers in different types of libraries and as teachers in the schools of LIS. The paper presents an overview of LIS education in Bihar. It describes the state-of-the-art of LIS education in 9 LIS Departments of universities of Bihar, analyses the course content and suggests for innovativeness and standards to meet the present and future demands of knowledge society.

Keywords: LIS education, LIS Course, LIS education in Bihar, Two years integrated courses

1. INTRODUCTION

Library and information science is the combination of library science and information science. Very often, library science is considered as traditional area of study and information science is regarded as advanced field of study that deals with different aspects of information, involving application of ICT in a great deal. Library and Information Science (LIS) provides education for library and information professionals.

It aims at creating appropriate human resources to run the libraries and information centres such as Librarians,

Information officer and Documentation Officer. It is just a question of preference. In actual practice, there are no hard and fast rules. LIS education is a life-long process. After initial formal education, it continues in the form of continuing education and staff development. It is argued that the progress of information processing and information technology move together in present day information society. Examples are given that there is a significant professional relevance of information technology for LIS and for the quality of information delivery as well like Web 2.0; semantic web; ontology, etc. To adequately pursue the goal of transmission of information through innovative use of information technology for the 21st century, information professionals are needed who are proficient in library science and information technologies. The promotion of practical skills and professionalism is posited as fostering the development of competent information practitioners. Therefore, raising the scope and the quality of LIS education is inevitable to raise the quality and efficiency of knowledge dissemination/transmission. The updating of curricula and courses to develop the technical competencies is being done from time to time with the support of University Grants Commission (UGC) subject panels and Reports of Curriculum Development Committees. The paper analyses existing programmes of the LIS departments in Bihar to meet the growing demand for competent manpower. It further suggests how the LIS departments have to respond to produce the expected kind of professionals.

2. LIBRARY SCIENCE EDUCATION IN BIHAR: GENESIS

LIS education in India began in 1911, when the Baroda School was started by W.A. Bordon at the initiation of the Sayaji Rao Gaikwad II, the Maharaja of the State of Baroda. Over the past 102 years LIS education in India has undergone significant changes with the support of UGC. The seeds of LIS education in Bihar were sown 42 years ago in T. M. Bhagalpur University, Bhagalpur. The T. M. Bhagalpur University introduced Bachelor of library science (B.Lib.) Course in 1971. T. M. Bhagalpur University introduced Master of library science (M.Lib.) and Ph.D. Course in 1987.

3. LIS EDUCATION IN BIHAR: THE PRESENT SCENARIO

In Bihar, out of 12 universities, 8 are offering Library and Information Science education but they have not full-fledged departments, full-fledged Faculty, that clearly shows the real condition of Library and Information Science education in Bihar. Some universities provide Certificate Courses in Library and Information Science (CLIS) and Diploma in Library and Information Science (DLIS). The others provide BLISc and MLISc courses. Most of the universities provide MLIS course in distance mode. The majority of the universities generally conduct two separate courses for the Bachelor's degree followed by the Master of Library and Information Science of one year duration each. Only T. M. Bhagalpur University have offered **two years integrated courses** (UGC Curriculum) of two year duration, and BBA Bihar university, Muzaffarpur and Veer Kunwar Singh University, Arrah offer BLISc of 3 year duration and minimum eligibility for this course is an intermediate.

4. THE SCOPE OF THE STUDY

The study includes 8, out of 12 universities of Bihar that offer LIS courses at graduate, postgraduate and Ph.D. level.

5. ANALYSIS OF DATA

The data gathered through interview of faculty members of LIS department from 8 University departments of Bihar that offer LIS courses have been tabulated, analysed and discussed.

5.1 LIS Courses in India

Presently Library and Information Science courses in India are offered at six levels namely, CLISc, DLSc, BLISc, MLISc, M.Phil, and Ph.D and D.litt.. These courses are broadly classified into semi professional and professional. The semi professional level courses are CLSc and DLSc. Presently the following LIS courses are available in India:

- Certificate course in Library and Information Science (C.Lib.Sc)
- Diploma in Library and Information Science(D.Lib.Sc.)

- B.Lib.Sc. /BLIS (Bachelor Degree in Library and Information Science)
- M.Lib.Sc. /MLIS (Master Degree in Library and Information Science)
- M.Lib.Sc. /MLIS (Two year integrated Course)
- M.Lib.Sc. /MLIS (Five year integrated Course)
- PGDLAN (Post Graduate Diploma in Library Automation and Networking)
- M.Phil (Master of Philosophy) in Library and Information Science
- Ph.D (Doctor of Philosophy) in Library and Information Science
- D.Litt in Library and Information Science

The minimum admission requirement, the duration and objectives of the course of the different levels are given in the Table-1 below.

Table 1: Levels of LIS Education in India

Courses	Minimum Admission Requirement	Duration	Objectives
CLIS	Secondary 10th Class /Matriculation	6 month or 1 year	Provides students elementary of library science to serve in a small Library
DLIS	Secondary 10th Class /Matriculation/Senior Secondary 10+2	1-2 year	To give the student an understanding of the Normative principles And theoretical foundations of LIS. The preparation and use of Lib Tools and in the Lib Management of various Types Libraries
BLIS	Degree in arts/Science commerce or their equivalent	1 year or 3 year Bachelor Degree in Library and Information Science	To enable the students to understand and appreciate function and purpose of libraries in changing social and academic set up, and to train student for using library tools.

MLIS	BLIS	1 year	To acquaint universe of subject, to give students specialized & deeper knowledge, to make student proficient in design, development for using library tools and technique, to acquaint research methodology, IT Applications in Libraries.
MLIS (Two year Integrated course)	Degree in arts/Science commerce or their equivalent	2 year	-Do-
MLIS (Five year Integrated course)	Senior Secondary 10+2	5 year	-Do-
M.Phil	MLIS	1-2 year	To make students proficient in methods and techniques of research, to give student specialized knowledge, to prepare of further study to leading a Ph.D or other research degree.
Ph.D. & D. Litt.	MLIS and M.Phil /NET, whereas in some Universities a pre-Ph.D written test and Viva voice examination.	2-3 year	To expose the students to research methodology and technique, to make significant contribution to existing knowledge, to give evidence of carrying out original, innovative and scientific research independently.

5.2 LIS Courses in Bihar

In Bihar the courses are being offered in two patterns— BLIS and MLIS of one-year each generally referred to as 1+1 pattern, and two-year integrated MLIS programme. Table 1 shows that majority (7/8) of the departments offer 1+1 pattern course only T.M.Bhagalpur University offered two-year integrated. Further, BLIS is being offered in distance mode in 6 and MLIS in 4 universities. Four universities offer the course through regular and distance mode while one (NOU, Patna) offers the same only through distance mode. Three universities (Lalit Narayan Mithila University, Darbhanga; BBA Bihar university, Muzaffarpur, and Veer Kunwar Singh University, Arrah) offers BLISc of 3 year duration and minimum eligibility for this course is an intermediate. Two universities (NOU, Patna and MMHAPU, Patna Muzaffarpur) offers certificate/Diploma courses and minimum eligibility for this course is an intermediate.

Table 2: LIS Courses in Bihar

Dept./ University	Year of starting LIS courses	Available courses(Present Status)							
		BLIS MLIS (1+1 year)		MLIS BLISc (2year) (3 year)		CLIS/ DLIS		Ph.D.	
		R / D	R/D	R/D	R/D	R / D	R / D	F T	PT
T.M.Bhagalpur University, Bhagalpur	1971	-	-	R	-	-	-		PT
Lalit Narayan Mithila University, Darbhanga	1976	D	D	-	R	-	-	-	-

Basasaheb Ambedkar University, Muzaffarpur	2002	R + D	D	-	R	-	-	-	-
Patna University, Patna	1980	R + D	R	-	-	-	-	-	-
Maulana Mazharul Haque Arabic and Persian University, Patna	2008	R	-	-	-	-	R	-	-
Magadh University, Gaya	2001	R + D	R+ D	-	-	-	-	-	-
Veer Kunwar Singh University, Arrah	2009	R	-	-	R	-	-	-	-
Nalanda Open University, Patna	1993/94	D	D	-	-	D	-	-	-
Mahatma Gandhi Central University, Motihari	2019	R	R					FT	

Note:

R= Ragular Mode

D= Distance Mode

FT= Full Time

PT= Part Time

5.3. FACULTY

The quality education depends on the performance of faculty as their skills to impart knowledge to the learner which are the basis for the campus education system. Apparently that gives campus programmes an edge over distance education.

UGC has formulated a comprehensive faculty policy for university education, with an aim to reach out to the learning needs of students. However, in practice there are several variations and hurdles. Teaching pedagogies generally focus on two aspects—teaching to transmit knowledge, and teaching to facilitate learning. Both the conceptions demand teacher’s skills to have efficient learning outcome. The curriculum indicates what the student has to ‘learn’, but it is teaching that makes the student to ‘understand’ the concept and acquire the necessary professional skills.

It is obvious from Table 3 that faculty position is not rosy in all LIS departments of Bihar. There is no full-fledged faculty in Bihar, there are 6 university departments that are being managed with Guest faculty faculty, 1 university departments that are being managed with part time faculty faculty and 1 university departments that are being managed with adhoc faculty.

Table 3: Faculty Positions

Sr.No.	Dept./University	Faculty positions
1.	T.M.Bhagalpur University, Bhagalpur	Part-timer Faculty
2.	Lalit Narayan Mithila University, Darbhanga	Guest Faculty
3.	Basasaheb Ambedkar University, Muzaffarpur	Guest Faculty
4.	Patna University, Patna	Guest Faculty
5.	Maulana Mazharul Haque Arabic and Persian University, Patna	Guest Faculty
6.	Magadh University	Guest Faculty
7.	Veer Kunwar Singh University, Arrah	Ad Hoc Faculty
8.	Nalanda Open University, Patna	Guest Faculty
9.	Mahatma Gandhi Central University, Motihari	Permanent Faculty

6. FINDINGS AND SUGGESTIONS :

- ☞ Out of these 8 institutes covered under this study, only T.M. Bhagalpur University has two years MLIS and other 7 universities have one year BLIs and MLIS. UGC has given a model curriculum for an integrated two-year MLIS course, so there should be more and more universities for adapting to such programs in the future.
- ☞ There is no full-fledged faculty in Bihar, there are 6 university departments that are being managed with Guest faculty, 1 university departments that are being managed with part time faculty and 6 university departments that are being managed with adhoc faculty. So it strongly recommended that there should be fulltime regular faculty in all the Universities at the earliest.
- ☞ T.M. Bhagalpur University follows the Ph.D. program in part time mode and but due to some barriers, this course is about to stop. The required measures must be taken to improve the degrading status of this programme of the Dept.
- ☞ Designing the syllabus and course structure is essential for LIS field. But most of the universities follow old syllabus, so these must adopt new syllabus like UGC model as per the current demand of the society.
- ☞ The departments should try to make courses more practical-oriented and as far as possible should offer in regular mode because as it is a professional course, emphasis on hands-on practice is required to develop skills and competencies among students. This must be taken care of seriously.
- ☞ Universities should give special care towards developing up-to-date infrastructural aspects, and fulltime regular faculty.
- ☞ Uniform course pattern in all the Universities are suggested. BLIS may be confined to distance education and colleges. Campus departments may offer postgraduate courses with limited enrolments and in-depth curricula slanted towards professional training may be framed.
- ☞ It is necessary to establish collaborative efforts among Departments of LIS, to develop and share the learning packages, educational materials and expertise of the faculty.

7. CONCLUSION

The domain of LIS needs to be redefined to identify the core jurisdiction of the discipline and its necessary adaptability

in contemporary times. Indeed the need is to design fresh information science courses keeping in view of the changing knowledge society. The efforts of the departments in Bihar Universities are not significant and sufficient. The seeds of LIS education in Bihar were sown 42 years ago in T. M. Bhagalpur University, Bhagalpur but after 42 year, not a single University of Bihar has fulltime Faculty in Library Science.

It is obvious from the analysis that the curriculum of LIS programme of T.M. Bhagalpur University, Bhagalpur, is outstanding with balanced emphasis on all aspects. Hence the need of the hour is to devise uniform eligibility criteria, fulltime faculty and selection policy that can really attract those students with aptitude and attitude for the profession.

8. BIBLIOGRAPHY/ REFERENCES

1. Ahmad, Nasiruddin. Library Education in Bangladesh Need Modernization. *Journal of Library and Information Science*. V.13; 1988.p.143
2. Asundi, A.Y. Specialization in Library and Information Science Education. *Herald of Library Science*. V.30; 1991. P. 249.
3. Babu, Ramesh B and Mahalakshmi, M. Students Opinion Survey on Library and Information Science Courses through Distance Education. *ILA Bulletin*. V.31; 1996.p.84
4. Gupta, O.P. LIS Training Curricula and National Approach. *Herald of Library Science*. V. 41; 2002.p. 48
5. Saha, Ramkrishna. Today's LIS education. In *Library science education in West Bengal*, edited by Goutam Goswami. Paper presented at the Fifty-first Bengal Library Conference, 18-20 December, 2009, Bantra Public Library, Howrah. Bengal Library Association, Kolkata, 2009. pp. 134- 40.
6. Panigrahi, Pijuskanti, Some Reflection on Lis education in East India, XXIV IASLIC Conference Proceedings, IASLIC, Kolkata, 2010, P.305-14
7. Krishan Kumar & Sharma, Jaideep. *Library and information science education in India*. Har-Anand, New Delhi, 2009; 312p.
8. <http://www.magadhuniversity.net/index.php>.
9. <http://www.nou.ac.in>(accessed on 21 march 2014).
10. http://www.tmbu.ac.in/view_department.php?deptid=71 (accessed on 21 march 2014)
11. http://www.pu.ac.in/lib_info_sc.html (accessed 21 march 2014).
12. http://shodhganga.inflibnet.ac.in/bitstream/10603/1205/10/10_chapter%202.pdf(accessed 1 April 2014).

Chapter-26

Social Media Analysis and Internet Privacy Issue

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The Research Paper shall discuss the significance of social media analysis keeping into consideration with issues and importance of privacy. As we all know that the pervasiveness of social media, empowers active users about the usage of difference internet/social media platforms and express their opinions freely anytime through active participation in all types of discussions be it political, entertainment, e-commerce etc.

The centre of attention of Social Network Analysis focuses is about watching trends of an activity on these social media platforms to form a conclusion about the relationship, user's behaviour, his/her choice of search for any particular word, sentence etc and form assumptions. A lot of open source apps/social media tools are available for analysis.

When we talk about the Privacy and that too on internet which is also commonly referred to as online privacy, is a subset of data privacy and a fundamental human right. Basically, it refers to the personal privacy that you're entitled to when you display, store, or provide information regarding yourself on the Internet.

[1] <https://www.purevpn.com/blog/what-is-internet-privacy-scty/>

The paper also carries the pros and cons about social media platforms and internet privacy and how the laws play a vital role to protect the individual privacy.

Key words: Social Media, Social Media Analysis, Internet, Internet Privacy, Issues & challenges, privacy behaviour, ethics etc..

INTRODUCTION

Social networking has become an everyday, mainstream way to use the internet. Social networking refers to the use of social

media websites and apps, such as Facebook, Instagram, and Twitter, to connect with family, friends, and people who share your interests. Social network analysis (SNA) is a process of quantitative and qualitative analysis of a social network. SNA measures and maps the flow of relationships and relationship changes between knowledge-possessing entities. Simple and complex entities include websites, computers, animals, humans, groups, organizations and nations.

[2]<https://www.techopedia.com/definition/3205/social-network-analysis-sna>

TOOLS FOR SOCIAL NETWORK ANALYSIS

Social media analytics tools are pieces of web application analysis software that are used to monitor, assess and consequently improve social media performance. They are simply a subset of web analytics tools that are designed to gather and make sense of web performance data produced by social media sites and platforms, and consists of the usual graphical dashboard and data visualization techniques that give the user a clear understanding on the performance of their social media presence. Social media analytics tools are essential in running a successful social media campaign. It allows social media experts to track and determine the performance of various portions of the social marketing campaign such as sales, customer service and sentiment analysis.

Common methods of analysis used:

- ☞ Data mining
- ☞ Transformation
- ☞ Natural language processing
- ☞ Data pre-processing
- ☞ Data visualization
- ☞ Hidden pattern evaluation
- ☞ Traffic analysis

Examples of social media analytics tools or platforms:

- ☞ Google Analytics
- ☞ Twitter Analytics
- ☞ Facebook Insight
- ☞ Hootsuite

A wide variety of tools, each specialized on one or more of the expected functionalities, exist. Most prominent tools listed as

follows:

1. Gephi: Gephi is widely used within the digital humanities (in history, literature, political sciences, etc.), a community where many of its developers are involved. Gephi inspired the LinkedIn Maps [18] and was used for the network visualizations for Truthy.

[3]

[wikipedia.org/wiki/Gephi](https://en.wikipedia.org/wiki/Gephi)<https://en.wikipedia.org/wiki/Gephi>

2. Pajek: Pajek is a file format for networks, typically stored in files with a .net extension. It is used as input for software such as Infomap. It is a tool for people that have to explore and understand graphs. The user interacts with the representation, manipulate the structures, shapes and colors to reveal hidden properties. It uses a 3D render engine to display large networks in real-time and to speed up the exploration.

[3]

https://en.wikipedia.org/wiki/Social_network_analysis_software

3. Igraph : igraph is a library collection for creating and manipulating graphs and analyzing networks. It is written in C and also exists as Python and R packages. There exists moreover an interface for Mathematica. The software is widely used in academic research in network science and related fields.

[4] <https://en.wikipedia.org/wiki/Igraph>

4. JUNG: It is described as The Java Universal Network/Graph Framework which is an open-source software mainly developed for creating interactive graphs. The working of JUNG is network and graph manipulation, modeling, analysis, and visualization. The software has support for GraphML, Pajek, and some text formats which presents customizable visualization, graph types and includes graph theory, data mining and SNA algorithms (random graph generation, clustering, decomposition, optimization, statistical analysis, distances, flows, and centrality measures). The good part is that it has a native sparse matrix format and a graphical user interface, which makes JUNG's representations and algorithms both space and time efficient.

INTERNET PRIVACY

What is Internet privacy or Online Privacy?

There are certain things that people do in order to not have

anyone else know what they're doing on the Internet. Some are simple, while others are more complex. They include:

- Identifying themselves only with a generic name or some other impersonal piece of information
- Not posting certain personal information about themselves on websites
- Deleting records on their web browser or computer of where they've been on the Internet
- Setting their web browser to not track where they go on the Internet
- Using websites that do not track their activity, or installing programs that prevent tracking
- Using web browsers or other programs that create fake Internet addresses for their computer

[5] <https://techboomers.com/t/what-is-internet-privacy>

Privacy embraces solitude, personal space, or intimacy with family and friends and as such, it is a ubiquitous and trans-cultural phenomenon. Privacy leverages well-being; without privacy we are at risk of becoming physically or mentally ill.

Even before the various networks supporting online communication converged as the Internet, tensions existed between users' desires to communicate online in very personal ways and their assumptions that their disclosures would or should be treated as privileged and private. These tensions have not abated with the advent of social media. Just as it was with the most bare-bones, text-based online communities of the past, it is with contemporary media: The more users disclose of themselves, the more they may enjoy the benefits these systems have to offer. At the same time, the more they disclose, the more they risk what they themselves consider breaches of their privacy.

[6][[Privacy-online-perspectives-on-privacy-and-self-disclosure-in-the-social-web-e189149500.html](https://www.fortune.com/2011/01/11/privacy-online-perspectives-on-privacy-and-self-disclosure-in-the-social-web-e189149500.html)]

The manner in which information is collected, stored, exchanged, and used has changed forever – and with it, the character of the threats to individual privacy. But while the electronic revolution touches almost every part of our lives, it is not, of course, technology itself that is the villain, but the uses to which it is put.

The spy in your bed

Computers are getting smaller and smaller and can be made of, or fitted into, many new and interesting materials. The possibilities are endless, but so are the dangers. For instance, the field of electronic textiles or 'washable computing' provides all sorts of fascinating futures. Fabrics that can monitor vital signs, generate heat or act as switches suggest limitless possibilities, from the ridiculous – clothes that change colour constantly – to the useful – a jacket that recharges your mobile phone. Textronic's 'textro-polymer' is made of fibres that change their resistance as they are deformed, stretched, and so can detect pressure. Very handy – but imagine a bedsheet that was able to detect, and broadcast, the number of people lying on it.

[7] K. O'Hara and N. Shadbolt, **The Spy in the Coffee Machine** (Oneworld, 2008)

CONCERN TO HANDLE PRIVACY AND DATA

The harnessing of technology for tackling trafficking and smuggling crimes needs to be vigorously pursued, but without undermining the fundamental rights of both the victims and the public (Gerry et al, 2016). Privacy and data protection considerations are included in the UNODC (2008, Tool 9.15) toolkit on "Use of standardized data collection instruments" or the United Nations Inter-Agency Project on Human Trafficking's (2008) "Guide to ethics and human rights in counter trafficking". The global nature of trafficking in persons and smuggling of migrants means that attention needs to be paid to similar concerns in various locations where concepts of privacy and data protection are less well developed.

"Examples of technology which might be used to tackle trafficking and smuggling, but which can also create privacy and data concerns include (Gerry et al, 2016)"

INDIVIDUAL SURVEILLANCE

Rightly or wrongly, there are certain people on the Internet who make a habit of tracking what other people do. For instance, certain businesses look potential employees up on the Internet to see what kind of person they are, including if they have any bad habits that could result in the company's image being tarnished.

LOCATION TRACKING:

The State Bahrain have distributed SIM cards to workers upon arrival in the country to enable the workers to use text messaging to contact the regulatory authority immediately if there are problems with their employers. Such approaches enable State tracking of migrants which, whilst used to text or notify of risks, can also compromise the privacy and data of the individual by revealing political or religious affiliation or personal relationships and creating a risk of transfer of data for commercial purposes.

DATA COLLECTION

Data can assist in detection, investigation and prosecution of smuggling and trafficking, and can assist in predicting crime patterns and anticipate activity for the purposes of crime prevention.

Collected data can enhance investigative cooperation at national and transnational levels, thus promoting data sharing and collaboration among law enforcement bodies.

Collection of personal data from those affected by trafficking and smuggling may go beyond that required specifically for a criminal investigation or mutual transnational assistance, compromising the privacy of trafficked or smuggled persons, including their personal data.

Access to data creates risks to safety and compromises the recovery of victims, including in the context of profiling.

Possession of data can create stigma, affecting integration into a societal environment and access to the labour market.

Depersonalization and anonymization and avoiding the registration of excessive information or centralized storage can be a financial burden, which can affect both investigation and protection.

DRONES

Usage includes un-detectability from the persons under surveillance, flexibility in tasking and ability to facilitate border management and cover remote areas.

Maximized surveillance can raise serious privacy concerns regarding the individuals monitored. Not all jurisdictions recognize privacy in public spaces and when used at borders or urban areas they may capture images of legitimate operators who become the subject of recorded material and potential scrutiny.

It should also be noted that technology used to facilitate trafficking and smuggling can create privacy and data concerns (Gerry et al, 2016). For example, both traffickers and smugglers may track and monitor the activities of the victims/migrants by direct or remote interrogation of their phone. This can also provide access to a database of evidence. At the same time, the safety of an individual may be severely compromised. Removing technology can be disempowering, can transfer power and cause isolation.

[8]<https://www.unodc.org/e4j/en/tip-and-som/module-14/key-issues/privacy-and-data-concerns.html>

ISSUES AND CHALLENGES

Two major factors contribute to the privacy problem on the Web:

- i) the inherently open, nondeterministic nature of the Web and
- ii) the complex, leakage-prone information flow of many Web-based transactions that involve the transfer of sensitive, personal information.

Preserving privacy on the Web has an important impact on many Web activities and Web applications. Of these, e-business and digital government are two of the best examples. In the context of e-business, privacy violations tend to be associated mostly with marketing practices. Typical cases occur when businesses capture, store, process, and exchange their customers' preferences to provide customized products and services. In many cases, these customers do not explicitly authorize businesses to use their personal information. In addition, a legitimate fear exists that companies will be forced to disclose their customer's personal data in court. For example, in the Recording Industry Association of America (RIAA) v. Verizon (summer 2002), the music recording industry forced ISPs to disclose IP information about users who allegedly illegally downloaded music.

[9]<https://www.computer.org/csdl/magazine/sp/2003/06/j6040/13rRUwd9CJP>

Further, we can classify Web users' personal information as one of three types:

Personal data include information such as a person's name, marital status, mailing and email addresses, phone numbers,

financial information, and health information.

Digital behavior refers to Web users' activities while using the Web, including the sites they visit, frequency and duration of these visits, and online shopping patterns.

Communication includes Web users' electronic messages, postings to electronic boards, and votes submitted to online polls and surveys.

The four major sources we identified are unauthorized information transfer, weak security, data magnets, and indirect forms of information collection.

UNAUTHORIZED INFORMATION TRANSFER

Personal information is increasingly viewed as an important financial asset. Businesses frequently sell individuals' private information to other businesses and organizations. Often, information is transferred without an individual's explicit consent. For example, in 2002, medical information Web site DrKoop.com announced that, as a result of its bankruptcy, it was selling customers' data to vitacost.com.

[10] Health Data Management, "Koop Clients' E-Mail Addresses for Sale,"³ July 2002; www.healthdata/management.com/html/PortalStory.cfm?type=trend&DID=8775

WEAK SECURITY

The Web's inherently open nature has led to situations in which individuals and organizations exploit the vulnerability of Web-based services and applications to access classified or private information. In general, unauthorized access is the result of weak security. A common form of these accesses occurs when foreign entities penetrate (for example, through hacking) Web users' computers. Consequences generally include exposure of sensitive and private information to unauthorized viewers. The consequences are even more important when the attack's target is a system containing sensitive information about groups of people. For example, in 2000, a hacker penetrated a Seattle hospital's computer network, extracting files containing information on more than 5,000 patients.

[11] Security Focus, "Hospital Records Hacked,"⁶ Dec. 2000; www.securityfocus.com/news/122.

DATA MAGNETS

Data magnets are techniques and tools that any party can use to collect personal data.

[12] PriceWaterhouseCoopers, "E-Privacy: Solving the On-Line Equation," 2002: www.pwcglobal.com/extweb/pwcpublications.nsf/DocID/ED95B02AC583D4E480256A380030E82F.

Users might or might not be aware that their information is being collected or do not know how that information is collected.

Various data-magnet techniques exist:

Explicitly collecting information through online registration.

Online registration entails that users provide personal information such as name, address, telephone number, email address, and so on. More importantly, in the registration process, users might have to disclose other sensitive information such as their credit card or checking account numbers to make online payments.

Identifying users through IP addresses.

Generally, each time a person accesses a Web server, several things about that person are revealed to that server. In particular, a user's request to access a given Web page contains the user's machine's IP address. Web servers can use that to track the user's online behavior. In many situations, the address can uniquely identify the actual user "behind" it.

Software downloads.

Companies that let their customers download their software via the Internet typically require a unique identifier from each user. In some cases, companies use these identifiers to track users' online activity. For example, in 1999, RealNetworks came under fire for its alleged use of unique identifiers to track the music CDs or MP3 files that users played with its RealPlayer software.

COOKIES.

A cookie is a piece of information that a server and a client pass back and forth.

[13] D.M. Kristol, "HTTP Cookies: Standards, Privacy, and Politics," ACM Trans. Internet Technology, vol. 1, no. 2, 2001, pp. 151-198.

In a typical scenario, a server sends a cookie to a client that stores it locally. The client then sends it back to the server when the server subsequently requests it. Cookies are generally used to

overcome the HTTP protocol's stateless nature; they let a server remember a client's state at the time of their most recent interaction. They also let Web servers track Web users' online activities—for example, the Web pages they visit, items accessed, and duration of their access to every Web page. In many situations, this monitoring constitutes a violation of users' privacy.

Trojan horses

These applications might seem benign but can have destructive effects when they run on a user's computer. Examples of Trojan horses include programs that users install as antiviruses but that actually introduce viruses to their computers. For example, a Trojan attack might start when a user downloads and installs free software from a Web site. The installation procedure might then launch a process that sends back to the attack initiator sensitive personal information stored on the local computer.

WEB BEACONS.

Web bug or Web beacon is a small transparent graphic image that is used in conjunction with cookies to monitor users' actions. A Web beacon is placed in the code of a Web site or a commercial email to let the provider monitor the behavior of Web site visitors or those sending an email. When the HTML code associated with a Web beacon is invoked (to retrieve the image), it can simultaneously transfer information such as the IP address of the computer that retrieved the image, when the Web beacon was viewed, for how long, and so forth.

CONCLUSION

As we have seen that the technology-referred solutions mostly focus on network privacy. These referrals typically use a blend of encryption or request rerouting to provide data privacy and some anonymity. Privacy-enhancing technologies have not met the challenge of safeguarding people's data on the Web mostly due to the underlying assumption that third-party providers can implement privacy preservation. As the P3P effort shows, providers have no vested interest in insuring Web privacy. Therefore, the design of privacy-enhancing techniques must focus on how to make the privacy-preservation part of the data it is supposed to protect.

With the emerging of Web services the systems will be able to

automatically understand data semantics. For some Web users, this provides a more convenient Web. Unfortunately, this also provides an increased incentive to intrude in people's privacy because of the enhanced quality of information available to Web users. Therefore, more effective techniques are necessary to protect this high quality Web information from illegitimate access and use. Although legislation can work for paper-based information, it has limited effect on Web-based information. A promising research direction is to explore the concept of code shipping to develop novel mechanisms for data protection. The objective is to empower users to have better control over the access and the use of their data. This approach meshes well with the Semantic Web. The idea is to embed user agents with the data. These agents would travel with the data, setting access protection dynamically.

REFERENCES:

- [1] <https://www.purevpn.com/blog/what-is-internet-privacy-scty/>
- [2] <https://www.techopedia.com/definition/3205/social-network-analysis-sna>
- [3] https://en.wikipedia.org/wiki/Social_network_analysis_software
- [4] <https://en.wikipedia.org/wiki/Igraph>
- [5] <https://techboomers.com/t/what-is-internet-privacy>
- [6] [Privacy-online-perspectives-on-privacy-and-self-disclosure-in-the-social-web-e189149500.html]
- [7] K. O'Hara and N. Shadbolt, *The Spy in the Coffee Machine* (Oneworld, 2008)
- [8] <https://www.unodc.org/e4j/en/tip-and-som/module-14/key-issues/privacy-and-data-concerns.html>
- [9] <https://www.computer.org/csdl/magazine/sp/2003/06/j6040/13rRUwd9CJP>
- [10] Health Data Management, "Koop Clients' E-Mail Addresses for Sale," 3July2002; www.healthdata/management.com/html/PortalStory.cfm?type=trend&DID = 8775
- [11] Security Focus, "Hospital Records Hacked," 6 Dec. 2000; www.securityfocus.com/news/122.
- [12] PriceWaterhouseCoopers, "E-Privacy: Solving the On-Line Equation, 2002; www.pwcglobal.com/extweb/pwcpublishations.nsf/DocID/ED95B02AC583D4E480256A380030E82F.
- [13] D.M. Kristol, "HTTP Cookies: Standards, Privacy, and Politics," *ACM Trans. Internet Technology*, vol. 1, no. 2, 2001, pp. 151-198.

Chapter-27

Design Insights and Content Analysis of Archive on Ayurvedic: An Initiative of Central Council for Research in Ayurvedic

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Abstract

This document discusses design ideas and content analysis, from a file that serves as an extension of the digital library and institutional repository from the perspective of a research institute in the field of Ayurveda, Central Research Council in Ayurvedic Sciences (CCRAS), one of the main research organizations of the Ministry of AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homeopathy), government of India, which conducts, coordinates, develops, disseminates and promotes scientific research in the field of Ayurveda.

The document further addresses the basic principles and principles of creating archives in an Indian knowledge management ecosystem and focuses on categorizing and analyzing content for an archive. The document aims to discuss the founding of an archive at an early stage to ensure future sustainability through its content design and analysis practices.

Keywords: Digital Library, Ministry of Ayush, CCRAS, Government of India.

Introduction

Emerging from the open access initiative, concepts such as digital files, open access, institutional repositories and digital libraries have triggered a paradigm shift in the concept of library

and information services. Institutional repositories offer an institution a mechanism for showing its intellectual products and research results while preserving and managing its work throughout its useful life. Lynch says that Lynch states that “Digital libraries provide users with coherent success to a very large, organized repository of information and knowledge”.

Archives are essential research infrastructures for any field. Archival content is invaluable as it allows researchers to delve into the past, transforming historical research into updated knowledge. While tangible documents are carefully preserved, their digitization has led to greater detection capabilities. Investigators no longer have to go to the location of the material, allowing for a faster, easier and more thorough investigation. The art facts of the past are carefully preserved to ensure the transparency and reliability of the investigation. Without archival content, the wealth of current research would cease to exist in the future. Preserving past research not only allows us to track academic developments, but also guarantees the future of research events in the current context.

"Archive on Ayurveda", a CCRAS initiative, was developed to acquire, digitize and share online library resources to support Ayush's scientific / research / teaching communities. It is a digital repository of knowledge accumulated in Ayurveda, with a collection of valuable old books, old magazines, research articles, popular articles, impressions of events, success stories, case studies, annual reports, newsletters, newsletters and other gray publications scattered around the world. the world. India has had a rich history in Ayurveda and the archive aims to present the work of India Ayush together with its global counterparts. It serves as a convergence point for the institutional research repository, the digital library and other collections of Ayurvedic research material of national and global importance. It is the result of a person's passion for Ayurveda and knowledge management.

Considering the growing trend of digitization of information, it was decided in the early stages of conception, to design it as a digital archive keeping in mind limitations of a conventional physical archive particularly arduous accessibility for end users and requirement of dedicated space.

Key Objectives

1. Key objectives of Design

- Preserve and conserve historical documentation on Ayurveda for future use.
- Mobile access of valuable content
- User-friendly retrieval system
- Support research and education in the field of Ayurveda.

2. Key Objectives of Content Analysis

- To evaluate the current collection of Archive portal
- To recognize the enhancement required for different types of collection.
- For future estimation of content requirement
- To decide on the measures to ensure sustainability of the portal

3. Methodology & Basic Principles

1. Design Methodology- The archive was designed on the lines of digital repository, while we were still being able to keep a grasp multiple documents of distinctive nature and historical values. Several repository software was researched and reviewed including E-prints, Fedora, Greenstone and DSpace. It was concluded that DSpace had all the characteristics required for the project including easy and seamless customization, multiple language support and multiple format support (PDF, JPEG, MPEG, TIFF).

2. Content Acquisition, Creation and Management- The acquisition of achievable material is one of the most significant steps of digital archiving, In our country, where archives and open access movement are relatively new concepts, acquisition of content requires strategies for finding or attractive material holders through networking, word of mouth and persuading researchers, institutes, collectors or any other community stakeholder to share material.

Almost all the archival material becomes available in a tangible paper format as a first-hand fact, data, evidence in the form of manuscript, printed books which was converted into digital form for the purpose of preservation and providing online access worldwide. This act of producing the information product

from the available physical document for incorporation in digital archive is referred to as a creation for the digital archive.

3. Basic Principles- Moving ahead, some of the basic principles and policies were formulated for further development of archive.

- (a) For procurement and collection of material, a guideline was established to determine the relevance of material available archived.
- (b) The procurement is open through gift, donation and purchase.
- (c) To avoid any legal or copyright issue, a guideline was prepared for the incorporation of content in the archive. Copyright clearances, necessary permissions and documentation must be secured in case of such material. All sections of the portal are open to public access, except the Digital library section, which is password protected as it contains copyright protected content.
- (d) Once the material has been acquired, it requires identification and cataloguing. The organization of archives is enabled by both identification and cataloguing to manage the digital objects over time. A unique key is assigned by identification for finding the object and linking the object to other related objects. Metadata is the key to ensuring that resources continue to be accessible into the future.

Content Categorization (Collections)

For an archive to paint a complete picture of the subject and its legacy, it must have varied content from diverse distinct periods of history. The collections in **AOH** are categorized under twelve categories as per the nature of documents:

1. Council's Research Work- Council's Research work is an institutional Repository of the Council. In the four decades of its existence, the council has achieved a tremendous success in its various programs- Literature Research, Drug Standardization, Clinical Research, Medicinal Plant Research, Pharmacology Research, Tribal Health Care Research, and Fundamental Research and has several archival documents, such as, the Indian Journal of Research in Ayurveda, CCRAS Newsletters, CCRAS Quarterly Bulletins, Official records of the Council and

minutes of the meeting of the Scientific Advisory Committee, Standing Finance Committee and General Body meetings which project the history of the Council. These documents are part of the institutional repository.

2. Digital Museum-A Digital Museum Section of the website intends to capture the essence of Ayurveda community by portraying significant events in the history of Ayurveda through images and places of importance. Some of the images collected were from early 1800s, which are now preserved and digitized for the archives.

3. Gazette Notification- The Gazette Notification contains a compilation of all the acts and bills, passed by the Government to evolve uniform standards of education in Ayurveda and to regulate Ayurveda practice through registration of practitioners.

4. Newspapers Clipping on Ayurveda- Prior to the era of electronic and digital media, newspapers were the prime sources of information regarding the development of any field and public sentiments towards to it and so has been the case in Ayurveda. The newspaper clippings section showcases media coverage of Ayurveda and its practitioners.

5. Digital Library- This is the second largest collection of the portal. As mentioned earlier, this portal is a meeting point for IR and the Digital Library. This collection comprises of old journals which have been inactive and not readily available through the internet. The council has access to it as the council has been subscribing to such journals since 1979 for our research scholar.

6. Rare Articles- It is the greatest and most vital collection of the archives. As the title suggests, it contains the collection of articles which are inactive or rarely available. A significant part of this section is from the journal “Hahnemannian Gleaning”, which is considered by many as the most reputed journals for research purposes. This journal is not readily available for individual researchers anywhere else.

7. Rare Journals- This collection comprises of journals from all over the globe, scattered over multiple websites/portals. All such journals have been unified in the portal to assist researchers.

8. Rare Books- Traces of such rare books can be found in the colleges and institutes of the places which have been significant in development of Ayurveda. The council began its collection from one such place, West Bengal, with the approach of unifying together rare books less than one single portal. The content analysis has shown a greater scope of development of such collections and the council intends to target furthermore regions to acquire such content.

9. Parliamentary Discussion- This collection comprises of the discussions held in the Indian Parliament, pertaining to the development of homeopathy or policy making. Most of the recent discussions have been documented in the portal.

10. Event Impression- In its effort to unite with fellow ayursh and propagate research, the Council conducts several events, such as, seminars and workshops. This collection comprises of images and photographs from such events.

11. Video Archive- As of now, the video archive contains videos of lectures and speeches from the council events. To keep the website light and easily accessible, the videos are not directly uploaded on the portal and this section of the website redirects to CCRAS' official YouTube channel.

Content Analysis

A detailed analysis of each collection category, strengths and weaknesses of an archive collection can be identified which can then benefit the archivist to define the content structure of the archives and narrow the focus on gaps in the collection. The content structure was analyzed using two basic indicators:

1. Collection Timeline Analysis- One of the key performance indicators of an archive is its content spread over time, thus the content was analyzed through year-wise distribution. The study indicated that the oldest document on the portal is "Digest of Ayurveda Principles" by Edward Williams which was published in 1837. The document is a part of the collection titled "Rare Book". Another old document in the collection is a rare journal titled "The Homoeopathic examiner" published in the year 1841.

2. Collection Size Analysis- The collection size is another indicator, which helps an archivist to identify the balance of the

collection. The largest document collection is in Rare articles with 1789 documents and the second biggest collection is the digital library with 804 articles. The other collections are the Council's Research Work with 573 documents, Rare journals with 379 journals, Rare books with 135 books since the year 1837, Gazette notifications and video archives both with 107 in numbers and remaining collections are with under 100 documents in each collection.

Learning from the Study

The study revealed the current content structure of the Archive.

1. Collection Timeline- The AOH currently holds 218 years of ayurvedic content, from 1800-2018. The study shows that the maximum resources (2496) belong to the time period of 1900-1999 and minimum (392) to the period 1800-1899. It can further be broken down in decades and years as per individual requirements. It can be concluded from the study that; the archivist should work on strategies for content acquisition from the period 1800-1899. The maximum number of documents followed by Rare Book Collection with 107 documents.

2. Collection Size- The Study has discovered that rare articles comprise almost 50% of archive's total content. Further efforts are required to increase the rare journals and rare books collection and identify the scope of acquisition in other categories as well.

As the collection grows, there can be multiple indicators, which define the content structure of an Archive. The above graph exhibits different facets of all the collection categories which can be further examined using different indicators for content acquisition strategies and its improvement.

Conclusion

As planned and designed, the Archive on Ayurvedic, an archive in the digital era, allows easy and remote access to historical documents that communicate the stories and highlight the development of ayurveda around the world.

There will be continuous expansion of digital archive activities. A robust design, content categorization and regular content analysis practices ensure a balanced and sustainable archive. The learning's form content analysis will lead to

improved systems and the sustainability and maintenance of an archive must be an institutional strategic goal.

Well-planned archives will be an asset to research communities, reforming and revitalizing conventional content access through the process of a digital based knowledge infrastructure. The efficiency of the operations system and the quality of the information circulating are crucial to research in any field and more so in medical services.

Our hope in the near future is, that all archives in world, will be without boundaries and walls and limitless resources will be available to whole user community.

References

1. Adul Azeez, T.A. (2003). How to Design Digital Library. *SRELS Journal of information Management*, 40(3), 267-273.
2. Ahmad, p., Aqil M and Siddique, M.A. (2012). Open institutional repositories in Saudi Arabia: Present and future prospects. *International Journal of Digital Library Services*, 2(2), 58-68.
3. Anuradha, KT. (2013). Design and development of institutional repositories: A case study. *The International Information. Library Review*, 37(3), 169-178.
4. Bansode, S.(2011). Developing institutional repository in university library: A case study of University of Pune. *International Journal of Information dissemination and technology*, 1(4), 188-92.
5. Biradar BS, Banateppanavar Koteppa. (2012). Design and development of institutional repository using Dspace: A case study of Kuvempu University, India. *International Journal of Digital Library System*,3(3), 1-13.
6. Kawatra, P.S. (2000). Textbook of information science. New Delhi: APH Publishing Corporation.
7. Lynch, C.A. (1994). The integrity of digital information: Mechanism and definitional issues. *Journal of American Society of Information Science*, 45(10), 737-744.
8. Mittal, Rekha and Mahesh, G. (2008). Digital libraries and repositories in India: an evaluative study. *Program: electronic library and information systems*, 42(3), 286-302.
9. Moghaddam, G.G. (2010). Preserving digital resources: issues and concerns from a view of librarians. *Collection Building*, 29(2), 65-69.
10. Murugathas K., Balasooriya, H. (2014). Developing an institutional repository: Experiences at the library, Faculty of

Medicine, University of Jaffna. *Journal of the University Librarian Association of Sri Lanka*, 18(1), 39-50.

11. Raitt, David. (2000). Digital Library initiatives Across Europe. *Computers in Libraries*, 20(10), 26-34.
12. Royster, P. (2007). The institutional repository at the University of Nebraska-Lincoln: its first year of operations. *OCLC systems & services: International digital library perspectives*, 23(2), 183-189.
13. Shiri, A. (2003). Digital library research: Current developments and trends. *Library Review*, 52(5), 198-202.
14. Wasiwasi, J. Mgonzo, Zaipuna, O. Yonah. (2014). Design and development of a Web Based Digital Repository for Scholarly Communication: A case of NM-AIST Tanzania. *International journal of knowledge content development & Technology*, 4(2), 97-108.
15. Xia Jingfeng, Sun Li. (2007). Assessment of self archiving in Institutional repositories: Depositor ship and full text availability. *Serial Review*, 33(1), 14-21.

Chapter-28

Copyright Challenges in Online Learning during COVID-19 Pandemic: A Librarian's Perspective

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Introduction

The current global crisis caused by COVID-19 has posed a threat to the whole socio-economic infrastructure in almost every country of the world. Since its outbreak in Wuhan in China in December 2019, it has spread over around 216 countries and territories and over 28 million people all over the world have got infected. Preventing the spread of this epidemic, worldwide lockdown, curfews, quarantines, stay-at-home, and various other restrictions were enforced. This global shutdown drastically impacted almost every aspect of human endeavor, including teaching and learning. According to UNESCO' data, the complete closure of universities, colleges, and schools badly affected about 1.2 billion students and youths across the globe. Alone in India, about 37.4 million students witnessed this learning disaster. In higher education, about 993 universities and 39931 colleges in India were compelled to close their premises, examinations were postponed, and admissions were deferred.

Libraries are still closed for the users and the physical learning resources have become obsolete these days. It became a great challenge for the educationists as well as the policy-makers to maintain the uninterrupted teaching and learning. Consequently, it became a compulsion for the academic institutions to rethink conventional methods of teaching and to shift towards remote learning through digital platforms. In such a situation, online learning tools and e-resources have become inevitable for bridging the gap caused by the pandemic. However, this sudden transformation in learning system has also posed various challenges before the educational institutions, mainly in developing countries. Inadequate technological infrastructure like poor internet bandwidth, lack of ICT skills, non-availability of e-contents, high cost of electronic devices as well as e-resources and above all the legal constraints like copyright issues in using and developing digital contents are some of the major challenges

confronted these days during successful implementation of online teaching and learning. In this paper, the researcher has discussed briefly how a paradigm shift in education system has been witnessed worldwide during the COVID-19 outbreak and tried to focus on copyright challenges and issues which affect online education. The paper analyses the opportunities and exceptions under fair dealing provisions for unhindered teaching and learning to keep pace with the recent changes.

Objectives of the Study

The present study focuses on the following objectives:

- To highlight the issues in online learning during COVID-19 pandemic.
- To trace out the copyright challenges in digital environment.
- To explore the fair dealing exceptions under Copyright Law in respect to teaching and learning.
- To critically analyze the effectiveness of fair dealing provisions under Indian Copyright Act, 1957.

Research Methodology

In this study, the researcher has adopted analytical method to examine the copyright laws related to online learning and e-resources. Various primary as well as secondary sources like legislative/ statutory provisions, case laws, scholarly articles, and information available on different websites have been explored.

Paradigm Shift in Education: Traditional to Online Learning

With the rapid growth of Information and Communication Technology (ICT) and the internet in 21st Century, a drastic change has been witnessed in almost every walk of human life. In recent years, digitization and internet have greatly impacted our education system also in the form of e-learning, online content management, MOOCs, etc., which allow everyone to contribute or participate in this universe of knowledge. Libraries are also facing this transformation and developing their collection in digital form to provide a variety of customized information services to the concerned users through internet. Although we are living in an era which is popularly known as Digital Age or Information Age and trend of using internet and web-based resources in higher studies, has been rapidly increased in recent past. But still the whole world is in a transitional phase and it has been severely experienced during the recent lockdown, which proved that there are miles to go for a fully digitized and networked society.

Recently in the beginning of 2020, when a sudden wake of COVID-19 pandemic compelled the world to shut down all its endeavors, the only option to continue all the essential works including education, was to move towards adopting a network-based system. Confronting this

unexpected and unprecedented disruption in education during worldwide lockdown, a sudden shift from traditional classroom teaching to online teaching has been globally witnessed. Universities, colleges, and even schools also had to adjust with the new reality by adopting online tools for facilitating uninterrupted teaching and learning. In the situation where students are unable to attend the traditional classroom learning, the online learning or e-learning methods have enabled the learners to connect remotely with the teaching & learning process. During the current crisis, online teaching platforms have proved to be a gateway for the students to keep them connected with their curriculum.

Online learning, e-learning, web-based learning or virtual classroom is an advanced form of traditional classroom learning based upon information and communication technology (ICT). By using digital technology and the internet, it provides a path for speedy transmission of information and knowledge. A variety of online learning tools like Microsoft Team, Google Classroom, Go Meeting, Skype, Zoom, etc are being used by the universities and colleges for teaching through virtual classrooms. E-contents related to curriculum are being developed by teachers and academicians.

Web-based access or remote access of digital resources is being provided to the enrolled students via university websites. Since students are not able to use physical collection of libraries due to shutdown, developing a rich collection of digital databases like e-books and e-journals, has become a necessity. Besides subscribing the e-resources, digitization of physical resources already available in the library, developing institutional repositories, and to connect with various collaborative projects, like consortia, are urgently needed mainly in university libraries. Government has also taken various initiatives to maintain the free flow of knowledge, like SWAYAM e-learning portal, e-PG Pathshala, National Digital Library of India, IIT Pal, Vidwan, e-Shodh Sindhu, etc.

With all these efforts of adopting online learning, our education system has witnessed a complete paradigm shift during last few months. However, while adopting online educational methods, the students as well the academicians, both are facing so many challenges.

Issues and Challenges in Online learning

It is a universal truth that necessity is the mother of invention. When all the educational institutions were forced to shut down their premises, online learning tools provided the most suitable way to bridging the gap in education occurred during the crisis. But a sudden shift towards internet-based teaching has also revealed the limitations of our Information and communication system. A number of issues and

challenges have come out before the educationists as well as the policy-makers. Developing countries, like India, have not an adequate technological infrastructure for high speed internet connectivity, which creates problems in getting reach mainly in rural areas. Another major issue is that the teachers and students are not trained or skilled to use the online tools effectively. This also makes them hesitant to adopt the technology as the replacement of traditional classroom teaching. In India where the poverty rate is so high, hefty prices of digital resources prevent the educational institutions to subscribe or procure them for their students. Besides all these constraints, the key challenge is the copyright issues in the present digital environment, which must be focused and understood.

Copyright Challenges in Online Learning

Revolutionary innovations in technology in last two decades have completely changed the methods of information dissemination and retrieval as well as the information-seeking behavior of the users. However there is still a huge knowledge gap between the societies, one that have fast access to information and knowledge, and the another where the individuals are unprivileged due to less access to knowledge. This knowledge gap is known as digital divide. People with lower socioeconomic status cannot afford their required information. This digital divide can be seen between the institutions of the developed and developing countries. Most of the digital resources or e-learning contents are copyright protected which can only be accessed after paying hefty prices to the publishers or the copyright holders. And thus the restrictions under copyright laws control the access to education and knowledge.

Copyright is one of the important intellectual property rights which grant legal protection to the creators of original intellectual works, related to literary, musical, dramatic, artistic, sound recording, cinematography, etc. The main objective of copyright law is to provide protection to the creator's rights against unauthorized, reproduction, distribution, performing, translation, broadcasting of any original innovative work, in order to encourage creation of new works.

In recent time, digital technology and explosive use of internet have posed a great concern for copyright protection. Advent of cyberspace and the technologies to easily share, download and reproduce multiple copies of digital contents have created a threat of violating the rights of the copyright holders. Cases of infringement of copyright over internet are increasing day by day. Downloading and uploading, file sharing, archiving, linking of different sites without due permission, are some examples of infringement. Consequently, to strengthen copyright laws has become the national as well as international concern. But on

the other hand, the main objective of the copyright laws to maintain a fine balance between the interest of authors or the owners of copyrighted works and the users' interest to access these works. The copyright laws in many countries including India have incorporated exceptions and limitations to facilitate teaching and learning by providing free access and reproduction rights to copyrighted materials within certain limits. But it is argued that with few limitations and exceptions, all these national and international IPR laws emphasize much on protection of the rights of IPR owners restricting the fundamental right to access to knowledge and education. In the present digital age, it has been a challenge to maintain a balance between the protection of copyrighted works and the use of these works for imparting education to all.

Now in the time of crisis, our policy-makers as well as the educationists must reanalyze the fair dealing exceptions, whether they are sufficient enough in the larger benefit of the whole society. Meanwhile, the academicians and the librarians should know the provisions of fair dealing given under Section 52 of Indian Copyright Act, 1957 to avoid legal constraints while dealing with the digital resources.

Fair Dealing Exceptions for Teaching and Learning

Doctrine of fair use or fair dealing is an embedded part of copyright laws, which provides certain exceptions for fair use of copyrighted works by imposing certain limitation to the rights of the copyright owners. These statutory provisions are necessarily incorporated in international conventions and copyright laws of nations, which allow the general people to reproduce a reasonable part of a work without infringing the rights of the author for the purposes of private study and research, teaching, criticism, reporting, current events, judicial proceedings etc. Fair dealing concept permits the user to copy a portion of a document, book, journal, database, etc. for private study or research, without taking permission from the author. In Indian law, the term "Fair Use/ Dealing" is not defined anywhere, but the provisions related to the fair use/ dealing have been incorporated in the section 52 of Indian Copyright Act, 1957. As amended in 2012, Section 51(1)(a) provides that "A fair dealing with any work, not being a computer programme, for the purpose of – (i) private or personal use, including research; (ii) criticism or review, whether of that work or of any other work; (iii) the reporting of current events and current affairs, including the reporting of a lecture delivered in public." This section has been amended several times. The most recent amendment is Copyright (Amendment) Act 2012, which has

widened the scope of fair dealing. However the act is silent on fair dealing uses in e-libraries or digital libraries.

Some of the provisions regarding teaching and learning as well as libraries which are also applied in online learning are as follows:

- A teacher or a student can make copies of such works in the course of instruction, or as a part of questions or in answers to the questions in any examination. But they cannot use these copies commercially.
- Copyright will not be violated if any performance is made by staff or students in the course of activities of an educational institution, of a literary, dramatic, or musical work, cinematograph, or any sound recording, provided that the audience should be limited to staff/ students/ parents/guardians/persons connected with activities of the institution.
- An article published in a newspaper, magazine, or other periodical on concurrent topics can be reproduced, if the author of that article has not expressly reserved the rights to himself.
- The non-commercial public libraries are allowed only to store or preserve any copyrighted work in any medium by electronic means, if the library has already a non-digital copy of that work.
- Adaptation, reproduction, issue of copies or communication to the public of any work in any accessible format is allowed to facilitate persons with disability to access to works for private or personal use, educational purpose or research; but it must be on a non-profit basis and used only by the person with disability.
- For research or private study purposes or with a view to publish an unpublished work, copyright act allows to reproduce any unpublished literary, dramatic or musical work kept in a library, museum or other institution for public access, provided that if the identity of the author or the authors of any such work is known to the library, museum or other institution, the provisions of this clause shall apply only when such reproduction is made at a time more than sixty years from the date of the death of the author or, in the case of a work of joint authorship, from the death of the those authors who dies last. Although it is not specified here that who can reproduce such work, but while a work kept in library, the library can copy such unpublished work on the request of users for research or private use purposes.
- While doing research or study one can make copies of the material available on the internet for the sole purpose of studying.
- Access to e-books or e-journals is allowed through university website or through the library.

- If the copyrighted work temporarily stored in the technical process of electronic transmission, this action will not be considered as infringement of copyright.
- The act also permits the observation/study/test of the program to determine underlying elements while lawfully utilizing the computer programme.
- One can make copies or adaptation of the computer programme for a non-commercial personal use only.

While analyzing the above-mentioned fair dealing exceptions for using copyrighted works for teaching and learning purposes, it is evident that these provisions are very limited in scope and ambiguous in nature. The contours of these exceptions have often been defined by the courts, depending upon the facts and issues of the case. In India, only a handful of cases regarding fair dealing have come before the courts. In the case of *Super Cassettes Industries v. Hamar Television Network Pvt. Ltd.* the Delhi High Court said that, “It is neither possible nor advisable to define the exact contours of fair dealing. It is question of fact, degree and overall impression carried by the courts.”

In another case *Wiley Eastern Ltd. and Ors. V. Indian Institute of Management*, the court interpreted the purpose of the limitations and exceptions to copyright given under Section 52 as, “The basic purpose of section 52 is to protect the freedom of expression under Art.19(1) of the Constitution of India- so that research, private study, criticism or review or reporting of current events could be protected.”

In this context, a landmark judgment pronounced by the court was *University of Oxford & Ors v. Rameshwari Photocopy Services & Ors*, popularly known as Delhi University Photocopy Case, in which the court observed that the Section 52(1) (i) of the Act is wider enough to include any reproduction of a copyrighted work by a teacher or pupil in the course of instruction and reproducing and distributing course packs to students does not amount to copyright infringement as long as the inclusion of the works photocopied (irrespective of the quantity) was justified by the purpose of educational instruction.

Conclusion

After going through the exceptions under fair use provisions, it is obvious that these exemptions to copyright infringement under Indian Copyright Act 1957, are very limited and confined to cope with the challenges occurred during COVID- 19. The act does not expressly provide exceptions regarding electronic and digital learning resources, as per the requirements of the users in the present day scenario. The ambiguities in copyright law prevent the libraries in digitizing the available resources. Today the internet has opened the door of

collaborative endeavors in the field of digital resources. Under the legal framework, exceptions regarding such endeavors must be clearly incorporated to prevent the infringement of copyright. To cope up with the challenges posed by the present digital world, our policy-makers should revise the copyright laws in order to make it more user friendly along with maintaining the fair balance between the copyright holders and the users. On the other hand, teachers and librarians should also be more vigilant while disseminating e-contents to the students. It is a crucial duty of teachers as well as the library professionals to spread awareness among students towards the provisions of fair use. At the same time they have to keep aware themselves also towards the digital age complexities.

References:

- Ahmad, Nehaluddin.(2009).*Copyright Protection in Cyberspace: A critical study with reference to Electronic Copyright Management Systems (ECMS)*. Retrieved from <https://ibimapublishing.com/articles/CIBIMA/2009/873738/873738.pdf> on 29.08.2019
- Ahuja, V.K. (2015) *Intellectual Property Rights in India*. Gurgaon: LexisNexis. 2nd edn.
- Amrita,Kumari. (2019). Understanding Fair Use/ Dealing Exceptions for Libraries under Indian Copyright Law. Presented at *2nd National Conference in Development of Digital Libraries in IPR Regime*. Lucknow, 2019. Lucknow:RMLNLU.
- Chawla, A. (2013). *Law of copyright: comparative perspectives*. Gurgaon: LexisNexis.
- Hombal, S. G. and Prasad, K.N. (2012). Digital copyright protection: issues in the digital library environment. *DESIDOC Journal of Library & Information Technology*. Vol.32 No.3, 233-239.
- James, T. C. (2005). Digital technology and libraries: a copyright law approach. *Annals of Library and Information Studies*. Vol. 52 No.1, 1-7.
- Kaul, H.K. (2017). *Empowering libraries: strategies for the future*. New Delhi: DELNET.
- Khan, Musheer Ahmad. (2013). *IPR in India and USA: Its impact on library services*. (Doctoral Thesis). Retrieved from <http://shodhganga.inflibnet.ac.in/jspui/handle/10603/40586>. pdf on 21/08/2019.
- Kwall, Roberta Rosenthal. (2006). *Library reproduction rights for preservation and replacement in the digital era: an author's perspective on section 108*. Retrieved from

https://www.researchgate.net/publication/228156471_Library_Reproduction_Rights_for_Preservation_and_Replacement_in_the_Digital_Era_An_Author's_Perspective_on_Section_108. on 21.08.2019

- Mendes, Hugo Cavalcanti Vaz. (2014). *Copyright Protection versus Access to Knowledge: a critical analysis of Brazilian and U.S. copyright laws*. (LLM Thesis). Retrieved from www.etd.ceu.edu on 23/08/2019.
- Nagpal, Megha. (2017). Copyright Protection through Digital Rights Management in India: a Non-essential Imposition. *Journal of Intellectual Property Rights*. Vol.22,224-237.
- Narayanan,P.(2017). *Law of Copyright and Industrial Designs*. 4th ed. Kolkata: Eastern Law House.
- Jena, Prabhat Kumar. (2020). Impact of Covid-19 on higher education in India. *International Journal of Advanced Education and Research*. Vol5.No 3, 77-81.
- Rafiqi, Fareed Ahmad & Bhat, Iftikhar Hussian. (2013). Copyright Protection in Digital Environment: Emerging Issues. *International Journal of Humanities and Social Science Invention*. Vol.2 No.4,6-15.
- Seth, Karnika. (2016). *Computers, Internet and New Technology Laws*. 2nd ed. Gurgaon: LexisNexis.
- Usadel, P.M. (2016). Copyright law and the access to education and knowledge in the digital age: ...University. Retrieved from <https://cris.maastrichtuniversity.nl> on 23/08/2019.
- Thomas, Zakir. (2012). Overview of changes to the Indian Copyright Law. *Journal of Intellectual Property Rights*. Vol.17,324-334.
- The Copyright Act, 1957
- <https://www.timesnownews.com/business-economy/industry/article/covid-19-pandemic-and-on-line-education-an-overview-of-the-potential-copyright-challenges/619458>
- <https://www.mondaq.com/india/copyright/955608/virtual-teaching-and-copyright-how-fair-is-fair-use>
- <http://jgu.edu.in/blog/2020/06/29/impact-of-covid-19-on-higher-education-challenges-opportunities/>
- <https://www.highereducationdigest.com/impact-of-covid-19-on-higher-education/>

Chapter-29

Marketing of Library and Information Products and Services :

A study

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ABSTRACT

Marketing of library and information products and services approach aims at determining the needs, wants and demands of the target clients through designing and delivering appropriate products and services more effectively for the purpose of achieving organizational goals and objectives. This paper is an aims to conceptualize the strategic approaches of marketing mix to library and information centers finally, it recognizes some benefits of proposed marketing plan. This paper explains the marketing aspects of Library and Information Services and Products in this age of the Information Communication Technology. It discusses the related topics like Information, Information Providers, Need for Marketing of Library and Information Services/Products, Customers related aspects, Concept, Objective and Definition of Marketing, etc.

Keywords: Information Products, Library and Information Products, Library and Information Services, Marketing of Information Products,, Information

1. INTRODUCTION

The nature of the information marketplace is under continual evolution. Two of the most powerful drivers of change in ‘the new economy’, information and communication technology and the internationalization of the marketplaces, are impacting even more strongly on the marketplace for information products and services than on other business sectors. All organizations in the information industry, irrespective of

whether they are in the public or private sector, need to form new strategic alliances, identify new market segments, and evolve new products and, in general, manage changing relationships between suppliers and customers. If organizations in the information marketplace are to survive and flourish, they need to be confident about their mission and role, and to be continually alert to technological, economic, political and social factors that are re-shaping the context in which they seek to serve users, contribute to communities, attract and retain customers, and establish and maintain relationship with other organizations.

The library is basically related to service marketing. The service marketing developed into the new discipline in 70s and 80s when the service sector grew rapidly in the developed countries. The researchers tried to extend and modify the product marketing concepts to services marketing. The interest in marketing has tremendously increased over the past few decades in libraries like other service sectors such as education, health, transportation, insurance, banking, etc. marketing in its rapid development has widened its meaning and scope to cover a larger sense with a wider course of activity. Now it is the Information age where information has become a daily need, as productive good to tailor consumer/client needs. Success of any activity – social, cultural, political or economic in the modern human life, is based on the amount and accuracy of information available.

For a long time, we had enjoyed a supplier's market and we lost our interest in working for our customers, and yet we want customers to come back. But we should always keep in mind that only satisfied customers come back and there are greater chances that a dissatisfied customer will find some other suppliers of information to meet his information need. Hence, there are some unique reasons that require marketing orientation in library and information services and it will help us in following ways:

- i. **Management of Libraries:** Due to explosion of information at global level, the more information available in the market, therefore management of libraries is necessary for users need. The world in which libraries exist has changed

dramatically. It moves faster, relies on technology and competes more intensely. Fearful that change may threaten our existence, we must look to marketing to help us manage better (Keiser and Galvin, 1999).

- ii. **Commitment to Customer Satisfaction:** In particular to library services area, the users are fund providers, patrons, employees, etc. but they are also customers too and more so, every user is a customer. Customers are individuals, a group or community. In the business environment, he only comes back for service or in order to support it, if he is satisfied with the service presently, unless he finds a different source to meet his information needs or his funding is ceased.
- iii. **Understanding Customers:** It is the first question to be asked when we have to talk about customer who is customer? Whom are we trying to serve? What is the interest area? What can we provide to serve these interests? Under what conditions can we offer services and products? How do we communicate with our users and how they communicate their needs to us? There is a common understanding that if we know better about the library then we do know about its resources, facilities, services, products etc. particularly in the information era, where marketing's role in library and information centre finds information/products for the customers, not customers for the information/product. We must always remember that no library "owns" its users to the extent that it determines their likes and dislikes. We must pay attention to user's requirement and preferences.
- iv. **Libraries need to Progress:** Library should progress with the time and circumstances and environments. Due to global information explosion and use of information communication technology, more information comes every second and today's information is becoming old very fast for tomorrow. Libraries continue to face continuing changes in the environments strategies and outcomes. Perhaps the most important challenge is scarce financial resources – representing a major threat and we as librarians always looking for opportunities to mobilize resources in financial terms. Such development requires increased emphasis on marketing for library and information services. Good

marketing efforts take care of all resources and how they can be channelized in an efficient way.

- v. **Information Management:** Information management is managing the processes of selection, collection building, processing, controlling, and dissemination of information in an organization. Information Management can help an organization recognize and use the potentials for the resources of information and information technology (Brenner). Librarians have a significant role to play in Information Management.

2. *MARKETING*

There is a new meaning of marketing in Library and Information sector. Marketing is a new concept to the library and Information Professionals. As such the developing marketing initiatives of libraries and understanding of the total marketing concept among library and information professionals need some basic marketing frameworks that they have taken so far.

Broadly the concept of marketing views is depicted following:

- (i) **Marketing as a set of Techniques:** Generally, it is viewed as a set of techniques involving a number of processes. The process may begin with defining the objectives of the library and devising the overall strategy which fits with the objectives of the library. Then it is to: devise an overall strategy to achieve those objectives with targets and milestones; draw up practical short-term plans and then most importantly take action. An organization that embraces the marketing concept, tries to provide products and satisfy customer needs through a coordinated set of activities and that also allows the organization to achieve its goals, in such approach marketing, planning work together (Dibbs).
- (ii) **Marketing a Philosophy:** The term marketing is so well established in our vocabulary of library services that there is little appreciation for its newness as a business philosophy. It was less than three decades ago that marketing came into the field of library and information

services as thinking and orienting Library and Information Services business/library and information Services in marketing term. The premise of marketing is both simple and the customer is the beginning and end of every activity in an organization and many of our thinkers had advocated this philosophy in library and information services.

- (iii) **Marketing as an Approach:** There are exploited symbolic dimensions to human and physical resources while serving the user. In this approach everything, human skills; service attitude and information resources are put more closely to serve the customers. In this approach service to the customers involves assembling and delivery of the mix of physical resources, the system and mental exercises. There are inter related manufacturing firms, which make their product in one place, and product manufacturing and consumption in distance way. Hence there is a clear distinction between identity of the manufacturer and that of distribution outlet where the product is sold.

3. Some Library & Information Product and Services

3.1 Product:

- (i) Periodicals :Learned journals, academic journals, Professional journals, Magazines, Newspapers, Newsletters and bulletin boards.
- (ii) Reference documents: Encyclopedias, Dictionaries, Bibliographies and bibliographic databases, Directories and database.
- (iii) Books Adult fiction, classics Adult fiction, popular Adult non-fiction, learned, textbooks Adult non-fiction, popular Children's fiction Children's non-fiction Paperback books Hardcover books
- (iv) Others: Published reports from Government and other agencies, Videos, Music, CDs, DVDs, Multimedia documents, Government publications, Corporate reports-technical and business Patents Conference proceedings.

3.2 Services: Information services, Document delivery and interlibrary loans services, End-user training, Market research agencies, Information service providers (ISPs), Alerting services, Helpdesk services, Consultancy services, etc. As per Dr. S.R. Ranganathan's point of view, "Service Trinity" has great relevance with such approach in case of libraries. Ranganathan considers:

- (i) Users (Customers)
- (ii) The Staff (Service Providers)
- (iii) The Information Resources and System (different type of materials, systems, procedures, etc.) have greater relationship with each other in library and information services.

4. Information Products: Information consists of classified and interpreted data that are used for decision-making. Data is the raw material, which is processed and interpreted to form information. Knowledge is a stock of all information. That part of knowledge, which is communicated, is known as information. Information as such is not a commodity. Products, services and channels, which carry information, represent information as a commodity. Information products and services like any other commodity are demanded in the market and the demand is affected by factors like, Price, Preferences, Income, Expectations, Population, Seasons, Technology and Price of other goods. Information is demanded only when there is value or utility to the consumer.

5. INFORMATION GENERATOR

RESEARCH AND DEVELOPMENT INSTITUTIONS:

Research is an activity, which is undertaken in a systematic way, in order to increase the stock of knowledge/information and use it ultimately for the benefit of man and society. Maximum information is generated through R & D centers like ICSSR, DST, DRDO, ICHR and CSIR etc. Research activities give rise to information products like, research monographs, reports, journal articles, theses, dissertation etc.

- (i) **GOVERNMENT:** It is also a major Information Producer. The various activities that are undertaken by different ministries, departments etc. constitutes a large amount of information.
- (ii) **BUSINESS AND INDUSTRIAL ORGANISATION:** the activities of business and industrial organizations result in the product of business and industrial information like the new products that are being manufactured, the process of manufacturing etc. for advertisement for their products, they bring out various designs brochures or catalogues for the society, these are named as trade literature.
- (iii) **INDIVIDUAL:** Litterateurs like poets, novelists etc. are also major producers of information. Their products like fiction, novels, poems, essays etc. reflect the socio-economic and cultural condition of specific countries at a specified period.
- (iv) **MEDIA:** In everyday life, the important events or activities take place in society and that are reflected through the media e.g. newspapers, magazines, television, radio etc. In this way, the media plays an important role as a generator of information.
- (v) **LIBRARY AND INFORMATION CENTRES:** All the information produced in the society gets accumulated in libraries and information centers. With the information explosion, it has become difficult for the users of information to go through all these and extract the relevant ones. In this respect, library and information centers play an important role by collecting this information, processing it and supplying it according to the specific needs of the users.

6. WHY INFORMATION NEEDED?

As we are human beings and we want information for progress and satisfaction in our day-to-day life. Since human wants are unlimited but time and money is not, the consumer therefore must make choices between alternatives.

Professional Skills for Marketing

Library personnel require the following professional skills and knowledge for the effective and efficient marketing of library products and services.

- knowledge of various marketing strategies for promoting information skills.
- technical knowledge, such as ability to use the Information Communication Technology
- perception of user needs and ability to obtain feedback from users and satisfaction

7. DISTRIBUTORS OF INFORMATION

The information generation/production process is a continuous one and the information get accumulated at such a fast pace that it becomes difficult for the users to go through all of them, to extract relevant information. For this, proper distribution channels are necessary to fulfill the specific needs of the users. Traditionally, libraries and information centers functioned as the facilitators. Some of the facilitators are:

- (i) Documentation and Information Centers: The purpose of these centers is to accelerate the information retrieval and dissemination process e.g. INSDOC (NISCAIR), NASSDOC etc.
- (ii) Information Analysis Centre: it is a type of organization whose key activities are analysis, interpretation, synthesis, evaluation and repackaging of information or numerical data.
- (iii) Referral Centers: This function as a sort of 'information desk', which do not provide inquires directly with the information they need, but suggest sources (organizations or individuals) likely to satisfy the clients.

8. CONCLUSION

The librarians should understand the nature of information, needs of users, the transfer process between people and information. Understanding of this new dimension of library and information services will help concerned policy makers in formulating appropriate plans and programs to make the library and information services

most effective, and long sustainable. The library can be called an information market and the library user is a consumer of information or customer of information. Information is a vital resource for national development. Library acquisition, organization and dissemination must be based on modern concept of marketing to achieve user satisfaction with the help of ICT for effective & better results.

REFERENCES:

1. Besant, L.(2002). Relationship Marketing of Services-perspectives from 1983 and 2000, *Journal of Relationship Marketing* 1(1), 59-77.
2. Booms, B H and M. J Bitner(1981). Marketing Strategies and Organization Structures for Service Firms. In Donnelly, J and W R Geroge, eds *Marketing of services*, American Marketing Association.
3. Brophy, Peter and Coulling, Kate, (1996). *Quality Management for Library and Information Managers*, Aldershot, Gower.
4. Clague, L.(1991). Charging for Information Services: Is There a Best Way for Internal and External Cost Recoveries? I, *New Zealand Libraries*, 46(9),12-14.
5. Clow, Kenneth E(1998). *Services Marketing*, John Wiley
6. Drucker, P.(1989). *The New Realities*, New York, Harper & Row.
7. Gupta, Dinesh K(2000). A Focus on Customers: Imperative for Managing Quality: In Raghavachari M. & Ramani K.V, ed. *Library & Information Services in Delivery Service Quality: Managerial Challenges for the 21st Cenry* New Delhi, Macmillan.
8. Gupta, Dinesh K.(2000). Making relationship with customers. An agenda for 21st century Library and information Services. In: *Proceedings of the academy of marketing conference 2000*, held at the university of Derby(England), 5-7 July 2000.
9. Gupta, Dinesh K.(2000). *Quality Management in Library and Information Services: Is Ranganathan revisited:ILA Bulletin*,36(2).
10. Gupta, Dinesh K and Jain S L(1996). *Library and Information Services in new Economic Environment: An Overview*, *Herald of Library Science*, 35(1-2),41-47.
11. Hartm Keith,(1999). *Putting Marketing Ideas Into Action*. London. Library Association Publishing.

12. Herson, P.: and Dugan, R.(2002). An Action Plan for Outcomes Assessment in Your Library, Chicago, American Library Association.
13. Hoadley, I.B,(1995). Customer Service? Not Really, College and Research Libraries News,56(3), 175-176.
14. Kuhn, Thomas, S.(1970).The structure of Scientific Revolution. International Encyclopedia of Unified Sciences, Vol.2,No2. the University of Chicago Press.
15. Kuronen, T & Pekkarinen, P.(1996). Ranganathan's Five Laws of Library Science Revisited: The Challenge of the virtual library. Herald of Library Science 35(1-2).3-17.
16. Morgan, Eric Lease(1998). Maketing Future Libraries, Computers in libraries, 18,50-51.
17. Peel, Malcolm(1987). Customer Service: How to Achieve Total Customer Satisfaction. London, Kogan Page.
18. Rowley, Jennifer(2001). Information Marketing. MPG Books Ltd.
19. Tucci, Valerie K.(1988) Information marketing in libraries, In:annual Review of Information Science and Technology, 23, BV. Elsevier Science Publishers(for ASIS).
20. Xavier, MJ(1988). New Paradigms in Maeting, Management Review, Dec.,13-23.
21. https://globaljournals.org/GJHSS_Volume13/4-Marketing-of-Library-and-Information.pdf
22. https://shodhganga.inflibnet.ac.in/bitstream/10603/173041/5/05_chapter1.pdf
23. https://www.academia.edu/4171347/Marketing_of_Library_and_Information_Products_and_Services_in_Electronic_Era
24. <https://pdfs.semanticscholar.org/cc04/a4f59c8010f4f5924a3bb1d9c293f13a3615.pdf>