

**USE OF SOCIAL MEDIA FOR MARKETING OF
LIBRARY AND INFORMATION SERVICES IN
IITs: A STUDY**

Thesis Submitted for the Award of the Degree of

**DOCTOR OF PHILOSOPHY
in
Library Science**

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LOVELY PROFESSIONAL UNIVERSITY, PUNJAB

2025

DECLARATION

I, hereby declare that the presented work in the thesis entitled “Use of Social Media for Marketing of Library and Information Services in IITs: A Study” in fulfilment of the degree of **Doctor of Philosophy (Ph. D.)** is an outcome of research work carried out by me under the supervision of Dr. Jatinder Kumar, working as Associate Professor, in the Department of Library and Information Science of Lovely Professional University, Punjab, India. In keeping with the general practice of reporting scientific observations, due acknowledgements have been made whenever the work described here has been based on the findings of another investigator. This work has not been submitted in part or full to any other University or Institute for the award of any degree.

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CERTIFICATE

This is to certify that the work reported in the Ph. D. thesis entitled “**Use of Social Media For Marketing of Library and Information Services in IITs: A Study**” submitted in fulfilment of the requirement for the reward of the degree of **Doctor of Philosophy (PhD)** in the Department of Library and Information Science of Lovely Professional University, Punjab, India., is a research work carried out by Rajiv Kumar, 42100046, is a bonafide record of his original work carried out under my supervision and that no part of thesis has been submitted for any other degree, diploma or equivalent course.

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ABSTRACT

In the age of digital transformation, where rapid advancements in technology continue to reshape societal structures, academic libraries are compelled to evolve beyond their traditional roles. This study, titled *"Use of Social Media for Marketing of Library and Information Services in IITs: A Study,"* investigates the use of social media platforms as strategic tools to market and enhance library and information services in the Indian Institutes of Technology (IITs). Against the backdrop of the information explosion and the rise of Information Communication Technology (ICT), the study focuses on how social media can serve as a bridge between libraries and their users, improving visibility, engagement, and academic support.

Historically, libraries held a monopolistic position as the sole repositories of information. However, this status has diminished with the advent of digital platforms and Web 2.0 technologies, which allow users to access, create, and share information in real time. The proliferation of social media platforms such as Facebook, YouTube, Twitter, Instagram, LinkedIn, and WhatsApp has revolutionized the way information is disseminated and consumed. In this context, libraries are no longer confined to physical spaces; they must now compete with diverse information providers across digital landscapes. Thus, the role of marketing, particularly digital marketing, has become crucial in ensuring that academic libraries remain relevant and user-centric.

This study is grounded in the concept of Library Information Marketing (LIM), which emphasizes a strategic, need-based approach to information dissemination. Unlike product marketing, information marketing deals with intangible, perishable, and inseparable services. LIM seeks to enhance the perceived value of library services through the integration of user awareness (informing users about available resources) and user education (training them to access and utilize these resources effectively). Social media serves as a natural extension of LIM, offering an interactive platform that supports user engagement, feedback collection, and real-time communication.

The objectives of this study are fivefold: (1) to identify the major social media platforms being used by the IIT libraries to market library information sources and services; (2) to evaluate the acquaintance of the user with the social media platforms used by the IIT libraries; (3) to examine the purpose and ease to use social media platforms being used by IIT libraries; (4) to analyze the hindrances and problems

being faced while accessing social media platforms; and (5) to investigate the various challenges surrounding the libraries' strategies in marketing the information sources and services and provide recommendations. The research was conducted across eight IITs in North India: Delhi, Kanpur, Roorkee, Varanasi, Ropar, Mandi, Jodhpur, and Jammu. These institutions vary in age, infrastructure, and digital maturity, offering a comprehensive view of the current landscape.

A quantitative approach was adopted, with data collected through structured questionnaires tailored separately for library users and librarians. A pilot study was conducted to test the validity and reliability of the research instruments, followed by a full-scale survey distributed both online and offline. The user questionnaire employed non-probability convenience sampling to capture insights from a diverse group of students, researchers, and librarians. The analysis utilized both descriptive statistics and inferential methods to test four key hypotheses: (H1) Social media tools used by IIT libraries has enhanced the awareness and usage of information sources and services; (H2) Library users frequently use social media platforms to access the library information sources and services offered by their respective libraries; (H3) Library users faces very few challenges while accessing information through social media networks; and (H4) Library users are satisfied with the information sources and services provided by the IIT libraries through social media platforms.

The findings reveal a high level of awareness and engagement with social media platforms among IIT students. Facebook was the most recognised platform (92.6%), followed by YouTube (86.6%) and Instagram (62.8%). These platforms were found to be effective in delivering academic content, announcements, and interactive features such as polls, live sessions, and tutorials. Instagram and YouTube emerged as particularly influential due to their visual and multimedia capabilities. The study also found that 98.9% of respondents accessed social media through smartphones, underscoring the need for mobile-optimized content. An in-depth analysis of content strategy showed that students value regular updates on events, workshops, and new resources. Platforms like Instagram and Facebook were preferred for event promotions, while YouTube was ideal for tutorials and research guides. LinkedIn effectively engaged alumni and professionals, whereas WhatsApp and Telegram served as direct communication channels for instant updates. Libraries that utilised these platforms strategically saw increased engagement and positive user feedback.

However, the study also uncovered several challenges. Approximately 64.9% of students cited distractions and Internet addiction as significant issues, while 56.4% expressed dissatisfaction with irrelevant content. To address these issues, the study recommends the creation of dedicated quiet zones within library premises, enhanced Wi-Fi infrastructure, and backup power systems. Additionally, the study proposes the establishment of focused social media channels (e.g., WhatsApp broadcast groups) for academic updates, reducing exposure to irrelevant content.

A key recommendation emerging from the study is the integration of user-centric content and personalisation strategies. By involving students and faculty in content creation, such as sharing academic experiences, recommending books, or leading discussion threads, libraries can foster a sense of community ownership. Personalisation can significantly enhance user satisfaction and engagement through tailored content suggestions based on browsing behaviour and academic interests. The study also advocates for regular capacity-building workshops for library staff, enabling them to develop digital content, plan campaigns, and respond to user queries effectively. The role of social media as a facilitator of academic support was further validated by user responses. 60.8% of students used social media to stay updated with academic news, while 51.6% used it to maintain social connections, indicating a blend of informational and social utility. This dual role positions social media as a vital part of students' daily routines. Features like Instagram Q&As, YouTube "Ask Me Anything" sessions, and Facebook polls allowed users to participate in decision-making, suggest resources, and seek academic support in a responsive and inclusive environment.

This study reaffirms that social media is no longer an auxiliary tool but an integral component of academic communication and resource dissemination. It enhances visibility, promotes real-time interaction, and provides a dynamic platform for students to engage with libraries beyond physical boundaries. Social media also serves as a channel for feedback, enabling continuous improvement in service delivery. The collaborative and participatory nature of these platforms fosters a more connected academic ecosystem, bridging the gap between students, librarians, and faculty. Nonetheless, the study cautions against unregulated use. With high screen time and potential distractions, it is essential to implement guidelines and monitor usage patterns. Libraries should balance engagement with responsibility, promoting

purposeful usage and digital literacy among students. Regular assessment of content effectiveness and user preferences should inform future strategies.

This study significantly contributes to the academic discourse on Library Information Marketing (LIM) by contextualizing the role of social media in enhancing library engagement across premier Indian institutions like the IITs. It advances theoretical understanding by integrating LIM with digital communication frameworks, demonstrating how interactive, user-centred content can bridge the gap between academic resources and their intended users. The study empirically identifies which platforms—such as Facebook, YouTube, X(Twitter) and Instagram are most effective for academic outreach based on actual usage patterns, awareness levels, and user satisfaction. Moreover, it highlights the dual academic and social utility of social media platforms, reaffirming their role not just in disseminating information, but in building collaborative and connected academic communities. The research also offers a practical contribution by developing a channel-content matrix, platform-specific strategies, and content recommendations tailored to the behavioural preferences of IIT students. Additionally, the study brings to light infrastructural and behavioural challenges affecting digital engagement, offering actionable solutions like content personalisation, dedicated academic channels, and staff training. Thus, this research fills critical gaps in understanding the efficacy, challenges, and best practices of social media use in academic libraries, laying a foundation for future studies and institutional strategies in India and other developing countries.

In conclusion, this research affirms that adopting a structured, strategic, and student-centric approach to social media marketing holds transformative potential for academic libraries, particularly within premier institutions like the Indian Institutes of Technology (IITs). The study demonstrates that social media is not merely an auxiliary communication tool but a powerful medium for fostering sustained academic engagement, enhancing visibility, and promoting real-time interaction between libraries and their user communities. By effectively leveraging widely used platforms such as Facebook, YouTube, and Instagram, IIT libraries can bridge the informational and communicative gaps that often hinder optimal utilization of library resources. Furthermore, the integration of interactive, multimedia-rich content aligned with student preferences significantly boosts user engagement and satisfaction. Addressing infrastructural constraints and behavioral challenges—such as digital

distractions and uneven Internet access—through targeted interventions and training further strengthens the impact of social media strategies. This research thus calls upon academic libraries to reimagine their digital outreach not as a peripheral function but as an essential component of their service delivery model. In doing so, libraries can reinforce their relevance in the digital age, positioning themselves as dynamic academic partners that contribute meaningfully to students’ learning journeys and scholarly success. Such a paradigm shift is vital for academic libraries seeking to remain responsive and resilient in an evolving educational landscape.

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LIST OF ABBREVIATIONS

SM	Social Media
SMP	Social Media Platform
IIT	Indian Institute of Technology
IITD	Indian Institute of Technology Delhi
IITROP	Indian Institute of Technology Ropar
IITK	Indian Institute of Technology Kanpur
IITJ	Indian Institute of Technology Jodhpur
IITMD	Indian Institute of Technology Mandi
IITR	Indian Institute of Technology Roorkee
IITJMU	Indian Institute of Technology Jammu
IIT(BHU) VAR.	Indian Institute of Technology (BHU) Varanasi
IPC	Indian Penal Code
CPS	Content Posting Schedule
ICT	Information Communication Technology
AI	Artificial Intelligence
VR	Virtual Reality
WELL	Whole Earth Electronic Link
AIM	AOL Instant Messenger
B.C.	Before Christ
URL	Uniform Resource Locator
MMCN	Multi-Level Multi-Modal Cross-Attention Network
PIB	The Press Information Bureau
LIM	Library Information Marketing
LIS	Library And Information Services
MOOCs	Massive Open Online Courses
SNS	Social Networking Sites
eWOM	Electronic Word Of Mouth
SM	Social Media
SMO	Social Media Optimization
BBC	British Broadcasting Corporation
Q&A	Question And Answer
UG	Under-Graduate

PG	Post-Graduate
RS	Research Scholar
HKUL	Hong Kong University Libraries
SPSS	Statistical Package For The Social Sciences
χ^2	Chi-Square
GATE	The Graduate Aptitude Test In Engineering
JEE	Joint Entrance Examination
B.Tech	Bachelor Of Technology
M.Tech	Master Of Technology
M.Sc	Master Of Science
MHRD	Ministry Of Human Resource Development
INDEST	Indian National Digital Library In Eng.,Sc And Tech.
OPAC	Online Public Access Catalog
MGCL	Mahatma Gandhi Central Library
BHU	Banaras Hindu University
RFID	Radio Frequency Identification
CAS	Current Awareness Service
SDI	Selective Dissemination Of Information
ILL	Internet Leased Line

LIST OF APPENDICES

Sr. No.	Appendices
1.	Questionnaire for User
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3.	List of Publication
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CHAPTER 1

INTRODUCTION

This chapter provides an overview of the emergence and evolution of social media, tracing its historical development and outlining its comparative advantages over traditional print media. It examines the transformative role social media has played in reshaping communication practices, particularly within the context of academic libraries. The chapter highlights how libraries have responded innovatively to the rise of social networking platforms by adapting their services to meet the dynamic needs of users in the digital age. Furthermore, it delineates the rationale and purpose of the present study, outlines the research objectives, and presents the hypotheses formulated. Lastly, the chapter underscores the significance of the study and provides an outline of the subsequent chapters to guide the reader through the structure of the research.

1.1 Introduction

From the age of Cave paintings, which are said to be the earliest symbols ever used for communication, to the age of Social media, where information is flowing at lightning speed, technology is developing and transforming our way of living, working, and learning. There has been a revolutionary change in the way things operate. Information and communication technologies (ICTs) are important in this era of high-speed information generation. The growth of electronic knowledge dissemination channels that raise the effective bar for general and specialised education has been made possible by the advancement of current information and communication technology. In the process of learning new things, growing creatively, and making sure that there is more activity in the educational process, modern information communication technologies are being used by institutions in their daily operations (Dobrica et al., 2023).

Technology like computer networks, multimedia, the Internet, and so forth have been incorporated into the many areas of modern libraries as a result of the information revolution. The availability of a wide range of information resources is one feature of modern libraries that resulted from technological disruptions. Access to information was limited to libraries. The library's position as the exclusive source of knowledge has, however, changed recently. Information is being created, stored, and distributed in new ways due to the advent of global computer networking, which is advancing communication technologies at a lightning speed. A lot of information is available at the

fingertips rather than in the stacks. "As libraries move towards digital collections, they must ensure that users are aware of both the information available to them and how to access that information" (Ashcroft, 2002).

Additionally, with the proliferation of social networking and Web 2.0 technologies, libraries can now connect with users via interactive Web-based tools (Jain, 2012). This social networking site enables users to share information about themselves, ranging from highly personal to academic interests. Social media has grown to become one of the world's largest platforms for sharing real-time information. Social media refers to websites and applications that emphasise interaction, collaboration, content sharing, community-based input, and communication. The latter has developed into a highly effective method of communicating with friends, family, and members of various communities. Academic libraries worldwide have been compelled by current information dynamics and the recent technological revolution to embrace social media as an effective tool for marketing library information services (Vyas & Trivedi, 2014). Flickr, Twitter, RSS, Snapchat, Facebook, Instagram, YouTube, blogs, and instant messaging are all examples of Web 2.0 applications that the majority of libraries have adopted (Mahmood & Richardson, 2011). Social media allows people to come together online to discuss, debate, and ultimately shape how others perceive and use information. In recent years, social media has revolutionised how people, groups, and organisations communicate, share, and search for content. Various users of all age groups use Facebook, WhatsApp, Wikis, LinkedIn, Blogging, YouTube and online groups for instantaneous communication and dissemination of news and other data. According to Obar and Wildman (2015), Social Media is a collection of online communication channels devoted to community-based participation, interaction, content-sharing, and collaboration. Social media includes websites and programmes devoted to forums, microblogging, social networking, bookmarking, curating, and wikis. The Internet and social media are popular in this age of scientific discovery and technical advancement. Users of this social networking site can disclose everything from intimate details about themselves to professional and academic pursuits. Social media are technologies that allow people to interact with each other and share information, ideas, career interests, and other forms of expression through virtual communities and networks. Many different stand-alone and built-in social media services are available now, making it hard to define them. However, there are some things they all have in common (Greenwood et al., 2016). Information is the bare minimum needed for each activity carried out in this world.

Because it supports different experts in making wise selections, on the other hand, there has been a significant increase in information availability, both in print and non-print modes, that people have called the "information explosion."

1.2 Definitions of Social Media

According to Carr & Hayes (2015), social media is defined as "Internet-based, disentrained, and persistent channels of mass personal communication facilitating perceptions of interactions among users, deriving value primarily from user-generated content." This definition highlights the hybrid nature of social media as a convergence of mass and interpersonal communication, wherein the platforms enable asynchronous yet ongoing interactions. The emphasis on user-generated content as the primary source of value reflects the participatory and decentralised model of information exchange, where users are both consumers and producers of content. This conceptualisation is particularly relevant in academic contexts, where social media facilitates knowledge sharing, collaboration, and engagement beyond traditional institutional boundaries. Social media encompasses online platforms designed for social networking, microblogging, and various forms of electronic communication. These platforms facilitate the creation of virtual communities, enabling users to share ideas, disseminate information, and exchange diverse forms of content. In the academic context, social media is recognised as a dynamic tool for interaction and engagement, fostering collaboration and knowledge-sharing among individuals and institutions across geographical boundaries. According to Paljug (2025), social media networking is defined as a form of digital communication that enables users to establish online networks and communities for the purposes of social interaction, information exchange, and the dissemination of user-generated content. This conceptualisation underscores the participatory nature of social media platforms, which facilitate the creation, sharing, and engagement with content in a collaborative virtual environment. In an academic context, such platforms serve as critical tools for communication, community-building, and knowledge dissemination across diverse user groups. When individuals develop, share, and exchange ideas and information in online groups and networks, it is called social media. Social media involves community, dialogue, audience connection, and relationship development. It serves as more than simply a broadcast medium. Time and place restrictions are removed by social media sites like Facebook and Instagram, increasing the possibilities for contact overall. These platforms enable users to converse more freely and simultaneously with

several recipients, which can enhance other communication methods (Tammisalo et al., 2024). Due to its many communicative affordances above traditional means of communication, social media may also satisfy various exclusive requirements (Taipal, 2019). Some academics have examined social media's potential to improve people's well-being since it can promote communication in intimate relationships through mobile phones Rosenberg and Taipale (2022). Social media allows users to network, find people who share interests, and meet potential friends or clients. According to Taprial and Kanwar (2012), social media are online tools and activities that individuals use to exchange ideas, viewpoints, experiences, insights, and other content. According to Bortree and Seltzer (2009), social media can facilitate reciprocal communication and engagement between individuals, organisations, and the public. One of the main ways people communicate socially in the modern world is through social media. According to Wright and Hinson (2010), user-generated content is content that is shared online to encourage user conversation.

1.3 Evolution of Social Media

The human desire to communicate and advancements in digital technology have propelled the development of social media. This is a tale about large-scale personal connection creation and maintenance. The ability to transmit and receive information about oneself and one's surroundings is a basic human communication system that has been dubbed the "communication cycle." All creatures interact in order to survive on a daily basis. This cycle consists of Seven Stages: Sender, Message, Encoding, Channel, Receiver, Decoding and Feedback (Cutlip, 1962). This desire to communicate with the latest technology has given birth to Social Media. The use of social media platforms to promote products and services is referred to as "social media." Producing and disseminating content on social media platforms is necessary to achieve marketing goals. Posting updates on social media that encourage user interaction may also involve text, images, videos, and other types of information. There are five stages in the development of social media:

1.3.1. Pre-social media era: Social media is a new way to communicate in the present times. The development of social media and online social networking may be traced back to the discovery of paper. Written letters were used to transmit messages from one person to another, and the establishment of postal services in 550 B.C. Another significant development in communication was the creation of the telegram by Alexander Graham

Bell in 1792. Once the telephone was invented in 1890, it opened up a new avenue for information sharing and real-time communication. With the advent of radio technology in 1895, Guglielmo Marconi established the shift from a one-to-one communication to a one-to-many communications approach. Global information and communication technology development occurred in the latter part of the 20th century. CompuServe and other early versions of the Internet were created in the 1960s after supercomputers were first launched in the 1940s. While data transmission over phone lines began in 1979, the first email service was launched in 1971. In 1979, the first versions of web browsers were made available over Usenet, allowing users to interact via a virtual newsletter.

1.3.2 The Emergence Phase: It was throughout the 1990s when social media began to dominate social media discussion and interaction. Anyone can build their own website with Geosites, one of the first social online services that launched in 1994. Users could submit their articles online via The Globe.com, which was created in 1995. In the middle of the 1990s, Community Memory, the first social media platform, was established in support of free expression. When this website was founded, the Internet was gaining popularity. AIM (AOL Instant Messenger) was developed in North America in 1997. It was the most popular instant messaging software. American entrepreneurs Stewart Brand and Larry Brilliant established The WELL in 1985. Well (Whole Earth Lectronic Link) is regarded as the oldest social networking site. When Andrew Weinreich introduced "Six Degrees" in 1997, it changed how people networked. Users can introduce the network to their friends, acquaintances, and families. Members can view the friends of friends and extend an invitation to join the network. According to Edosomwan et al. (2011), most networking websites today adhere to a networking style known as the six-degree separation.

1.3.3 The Establishment Phase: This phase encompasses the temporal span from the mid-2000s to the early 2010s. In 2002, Mark Zuckerberg and some of his Harvard College friends registered the domain name "Facebook". In 2004, Mark Zuckerberg started working on Facebook. Initially, it was made to facilitate connections among students at Harvard University. Public access to Facebook began in 2006 (Jumaat & Tasir, 2016).

In 2003, Reid Hoffman established LinkedIn as a platform for professional networking, whereas Myspace was introduced to revolutionise the music industry. Flickr, which gained popularity by allowing users to share and network with their photographs, was created in 2004 by a firm named Ludocor. Eventually, in 2005, Yahoo purchased Flickr.

YouTube was founded in 2005 by Jawed Karim, Steve Chen, and Chad Hurley. In 2006, Jack Dorsey, Biz Stone, Evan Williams, and Noah Glass founded the microblogging platform Twitter, and later Elon Musk acquired the platform in 2022. In 2007, David Karp launched Tumblr, a microblogging platform. In 2009, Brian Acton and Jan Koum founded WhatsApp, which merged with Facebook in 2014. Mike Krieger and Kevin Systrom created Instagram in 2010 as a free smartphone application with networking features for sharing photos and videos. Ben Silbermann, Paul Sciarra, and Evan Sharp founded Pinterest in 2010.

1.3.4 The Expansion Phase: This phase encompasses the period from the early 2010s to the present. Snapchat was founded in 2011 by Evan Spiegel and Bobby Murphy as a photo-sharing software featuring disappearing content. Byte Dance developed TikTok as a worldwide Douyin counterpart. TikTok was introduced to the International market in 2017.

1.3.5 Future trends: Social media include the idea of a metaverse, or an immersive, networked virtual environment, which could be the next big thing in social networking, especially with firms like Facebook (now Meta) making significant investments in augmented and virtual reality. Social media increasingly incorporates AI, with chatbots, predictive algorithms, and tailored suggestions influencing user interactions. The possibilities for augmented reality filters on social media sites like Instagram and Snapchat are endless. Fully immersive virtual reality environments with avatar-based interaction may be a part of social media's future. There will probably be more regulation of social media corporations as worries about data privacy continue to rise. In order to provide users with more control over their data, platforms may move toward more decentralised models. The emergence of social media has revolutionised how individuals interact with one another, communicate, and consume content. From humble beginnings as networking tools, these have developed into an extensive ecosystem influencing business, politics, society, and interpersonal relationships. The emergence of AI, VR, and the metaverse presents an opportunity for social media to evolve and become more deeply ingrained in daily life.

1.4 Purpose of Social Media

The purpose of social media is to disseminate timely and relevant information about available resources, community-based activities, and service initiatives. Online social

networking sites provide a medium for people with commonalities in their interests, hobbies, backgrounds, or actual relationships to develop social networks with one another (Sachin, 2014). According to a report released by the U.S. Department of Higher Education, most faculty members use social media for professional purposes, including teaching international business, communicating with students in distant locations, and disseminating course materials. A survey of 308 postgraduates and graduate students at a Saudi Arabian university revealed a significant association between students' online social media use and academic performance (Eid & Al-Jabri, 2016). The emergence of social media as an accessible and efficient means of sharing information has reduced the associated costs significantly. Throughout history, social media has evolved into a unique and essential marketing tool that can make or break a business's success (Eid et al., 2019). The information revolution triggered by personal computers and networking has been a powerful driving force bringing revolution to the information profession. The central idea of this essay is that the digital revolution has changed our society and given rise to new strategies for network organisation (Kneel, 2021). The impact of this revolution led to the integration of technologies, such as multimedia, computer networks, the Internet, etc., into the various domains of modern libraries. One such aspect of modern libraries that emerged through technology disruptions is the availability of myriad forms of Information Resources. A few years back, libraries were the only source of information. However, the libraries have recently lost their status of monopoly on information. The term market Share has declined considerably with the introduction of global networking of computers as communication technologies are developing very fast and opening new vistas in which the information is being generated, stored, and disseminated. A vast lot of information is available at the fingertips rather than in the stacks. "As libraries move towards digital collections, they must ensure that users are aware of both the information available to them and how to access that information" (Ashcroft, 2002). In the modern day, the proliferation of ICTs, especially social media, has completely altered the nature of advertising campaigns (Khayer et al., 2020). There are three main types of social media networks: professional/academic networks, public/mass networks, and local/regional networks. Three distinct types of social media networks have been identified. To that aim, the first type is primarily used for

instructional purposes. It is anticipated that users of these networks will mainly consist of students, scholars, and teachers who will contribute to the site's content. The second set of activities is more open and accessible to the general public. Social networks that are limited in time and space make up the third kind. Users are expected to reconnect with the network at regular intervals and within specific geographic areas, such as a campus, district, state, etc. (Serajian & Akhgar, 2013).

1.5 Rise of Social Media

As mentioned in Table 1, the most recent data available shows that Facebook is the most popular and extensively utilised social networking platform globally. With 3.06 billion monthly active users, Facebook is used by 37% of global users at least once a month. YouTube is the second most popular social network, with 2.7 billion users. Today's top five social media platforms have more than 2 billion active users.

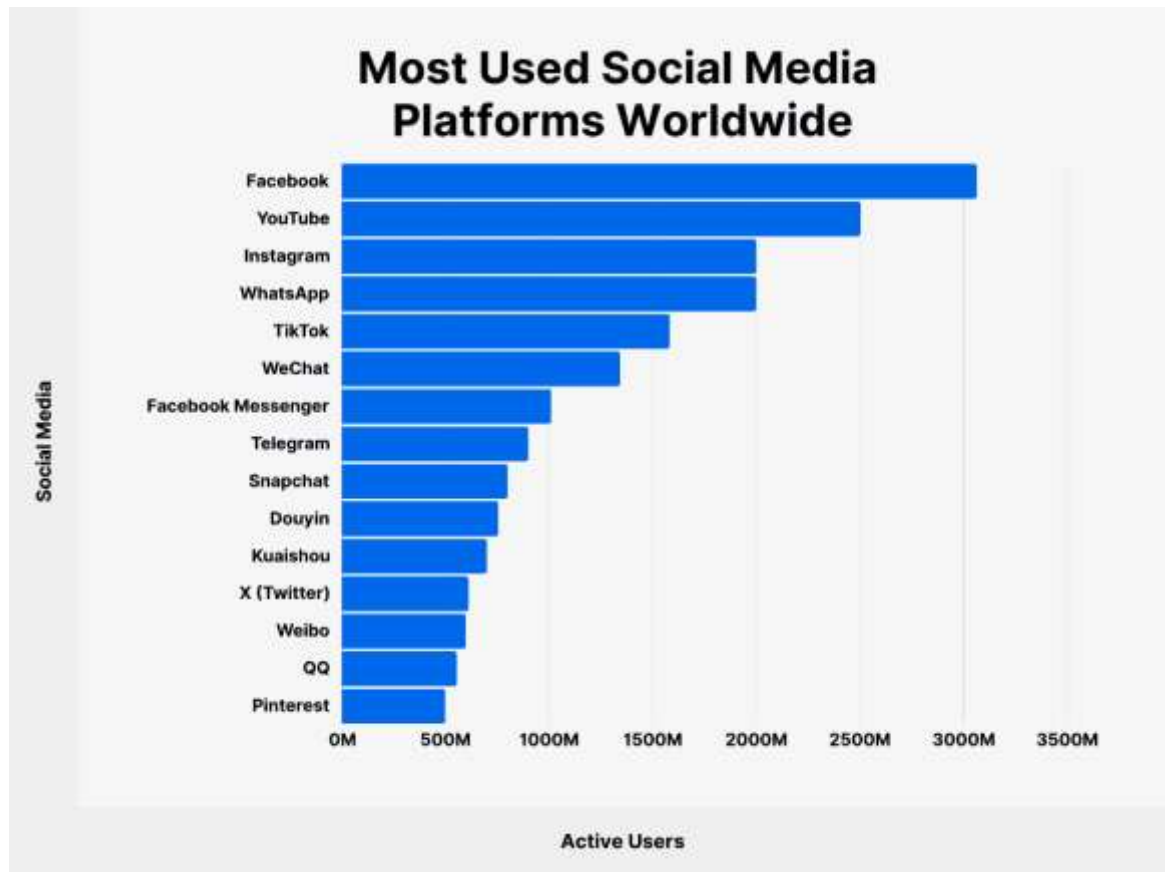
Table 1.1
Top Five Social Media Platforms

Ranking	Social Media Network	Monthly Active Users
1	Facebook	3.06 Billion
2	YouTube	2.70 Billion
3	WhatsApp	2.40 Billion
4	Instagram	2.35 Billion
5	TikTok	1.67 Billion

Note: Data sourced from Exploding Topics (April 10, 2024).

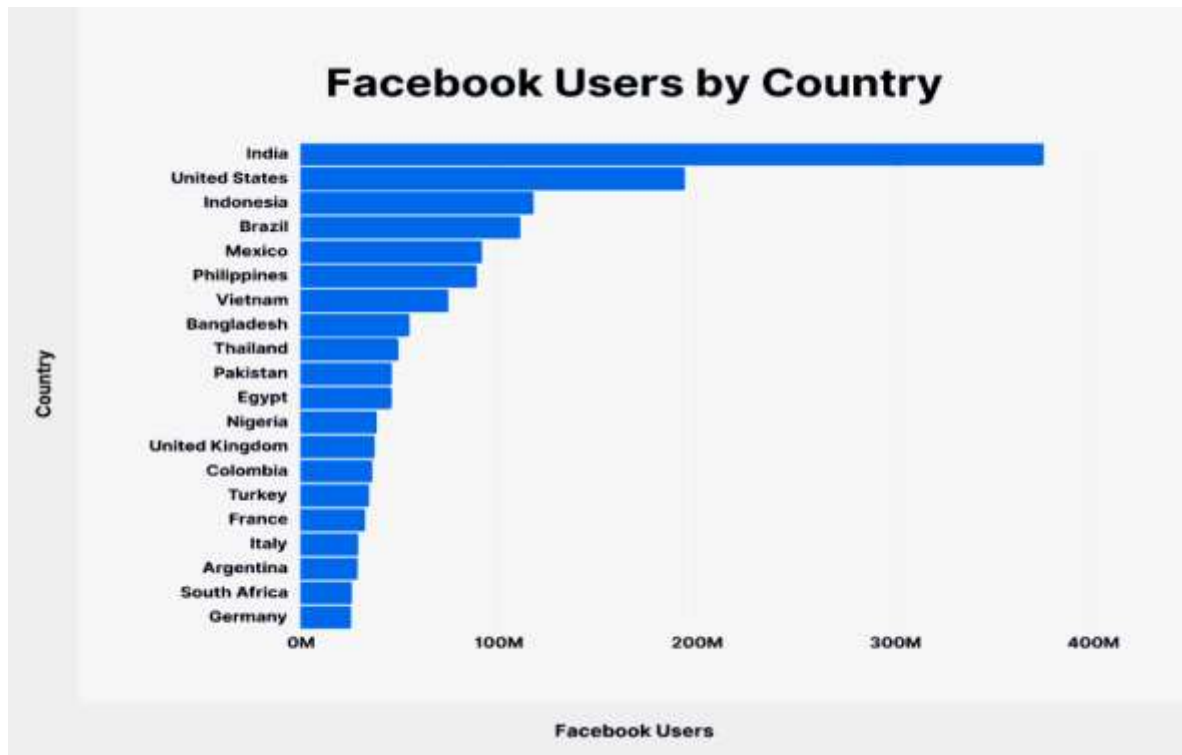
Source: Duarte, F. (2024, April 10). Top 35 Social Media Platforms (2024). Exploding Topics. <https://explodingtopics.com/blog/top-social-media-platforms>

As per Table 1.1, the most used social media platform and tool is Facebook, the world’s largest social network, with more than 3.06 billion monthly active users (as of 2024). As presented in Fig. 1.1 top fifteen social media platforms following Facebook are YouTube, Instagram, WhatsApp, etc



Source: Statista **Figure 1.1** : Most used social media platforms worldwide

As visible in Figure 1.2, India has the largest number of Facebook users; they create personal profiles, add other users as friends, and exchange messages, including status updates. Brands create pages, and Facebook users can "like" brands' pages. X/Twitter is a social networking/micro-blogging platform that allows groups and individuals to stay connected through the exchange of short status messages (280-character limit). Instagram is a free photo and video-sharing app that allows users to apply digital filters, frames and special effects to their photos and then share them on a variety of social networking sites. LinkedIn is a place where groups of professionals with similar areas of interest can share information and participate in a conversation. YouTube/Vimeo is a Video hosting and watching website, and Blogs are a platform for casual dialogue and discussions on a specific topic or opinion.



Source: Statista **Figure 1.2 :** Facebook Users by Country

1.6 Social Media's Effect on Youth

These days, using social networking sites is a craze. Some individuals will not even consider others existing if they do not have a digital presence. Youth are greatly impacted by the increasing demand to be active on social networking sites and have an impressive profile. The more time students spend on social media each day, the higher the rate of social media addiction (Parlak & Başkale, 2023).

1.7 Benefits of Social Media

Social media has changed dramatically in less than a generation, going from direct electronic information exchange to a virtual community, shopping platform, and essential 21st-century marketing tool. Social media has completely changed how individuals connect, communicate, and exchange information. It describes the digital tools and platforms that let people and communities produce, distribute, and trade material in text, picture, video, and audio formats. With the tools and capabilities

these platforms offer, users may engage in virtual communities, develop networks, and communicate with one another. Social media's core purpose is to use the Internet to promote connections and social engagement.



Source: Author's own compilation

Figure 1.3: Traditional and Social Media Marketing

It dissolves barriers of time and distance by enabling instantaneous connections and communication between people in different regions of the world. Users can communicate their ideas, opinions, experiences, and interests with others on social media platforms, making them an effective tool for personal branding and self-expression. Fig 1.3 reveals that how social media marketing has taken over traditional marketing.

1.8. Social Media in Education

Facebook, Twitter, and Instagram are all major parts of students' everyday lives, and they are frequently viewed numerous times per day (Junco et al., 2011). There has been a noticeable increase in the amount of time people spend on social networking sites in order to remain updated. In 2017, Internet users spent an average of more than 2 hours per day on social networks and messaging services (half an hour per day more than they did five years prior), which accounted for over one-third of their daily computer usage (Mander,

2017). The trend is expected to continue rising in the years to come.

The combination of technological breakthroughs and widespread adoption of online e-learning platforms in today's institutions has resulted in revolutionary changes in students' preferred modes of communication. Among a sample of 3,000 college students in the United States, 90% report using Facebook and 37% report using Twitter to share academic books (Elkaseh et al., 2016).

1.9 Social Media in Academic Libraries

Social media was used across different demographic groups before implementing social media as a marketing strategy for the libraries. The platforms where librarians may discover the majority of the users should be a focus area of the initial marketing efforts, given the increasing penetration and usage of social media these days. Facebook, YouTube, WhatsApp, and Instagram are the top four social media platforms, each with over 2 billion users. According to the most recent data, Facebook will still be the social media king in 2023, with 2.96 billion active users (Bernhardt, 2022).

Many people use social media for personal and professional purposes. However, it is always advisable to choose cautiously the information to be shared and with whom they are doing so. These channels allow us to communicate with family, friends, and subject experts. At best, social media has had a mixed effect on society as a whole. The widespread usage of social media allows libraries to figure out how to use these platforms to advertise their services and attract new users. Libraries undoubtedly profit from outreach initiatives and marketing plans that seek to draw in new users, inform current users about new offerings, or re-engage lapsed users (Garoufallou et al., 2013). Social media has become the most prominent and significant virtual area, where librarians may promote their services and products using the platform for more than just social networking. The strength of social media is remarkable since it allows librarians to reach a vast audience quickly after placing an advertisement; it is cost-effective and efficient to reach the targeted users. There are a few reasons why librarians prefer these social media platforms. Students frequently use these platforms and spend most of their time on these sites for academic and general purposes (Henderson, 2020). Users appreciate being heard and feel more fortunate when the library provides the assistance they require and establishes a more welcoming and approachable communication channel where they can voice concerns or find out more information about the library.

Libraries have additional opportunities to connect with their user base through social media, target particular audiences, and provide them with a chance to engage with the library. Social media is all about doing what libraries do to link people with information. Social media facilitates user communities' outreach and easy access to the required information. With digital technologies, libraries can use social media marketing to promote their brands, products, and services. Libraries can interact with their users and help them make efficient use of the products and services provided by the library by utilising social media for marketing (Tofi, 2019).

1.10 Social Media Strategies for Libraries

In academic libraries, social media refers to online platforms and technology that facilitate the exchange of scholarly material, research findings, and library resources amongst researchers, students, library personnel, and the larger academic community. It offers an engaging and dynamic setting for sharing knowledge, encouraging teamwork, and bringing users into deep conversation (Adewojo & Mayowa-Adebara, 2016). Social media platforms offer a favourable environment for librarians to engage with users and handle their information demands through different Social media platforms. Social media is important for academic libraries because it may improve access to intellectual resources, build virtual communities of practice, and reach beyond physical boundaries with library services. Social media platforms allow librarians to highlight their holdings, advertise workshops and events, give users timely updates, and have real-time conversations with users. They additionally promote a culture of cooperation and knowledge exchange by facilitating the sharing of scholarly research, creative ideas, and instructional materials between academics and students. A sense of community among students, teachers, and staff may be fostered, resources and services offered by the library can be promoted, and engagement with the academic community can be achieved by using different social media platforms at university libraries. Social media sites like Facebook, Instagram, LinkedIn, and Twitter allow libraries to inform their audience about news, updates, and crucial announcements. It makes communication quick and easy and gives libraries access to a larger audience, including both on- and off-campus users. In social media marketing, consistency is essential. The librarian has to remain constant so as to engage the users regarding various updates. Maintaining consistency helps expand library reach and increase user engagement.

1.10.1 Consistency on Social Media Platforms

Although libraries can use many social media platforms, it can be challenging to understand how these platforms can be most effectively used to promote library services. Only a few platforms consistently qualify as the most popular social media platforms for promoting library and information resources and services (Bakare et al., 2018).

Facebook is the platform where the user can get in touch with peer groups and subject experts, post and share videos and photos, and keep up-to-date with new library additions and library events. In this way, it can be utilised as a tool for promoting library activities. Facebook can be used to evaluate library services or get user feedback because it allows users to like, dislike, or remark. On Facebook, a brief video describing the services provided by the library and a guide to the new databases it has subscribed to can be posted.

YouTube: Libraries can set up their own accounts there and upload recordings of fascinating events there as a kind of advertising. Presentations and demos on paid databases, guides on using sources, and movies on book reviews will develop readers' interest. This draws more people to use the library's resources and services.

Twitter is based on message services, whether they are used through specific websites or cell phones. It makes it simple and quick for the user to message friends and relatives. Twitter is a powerful social media platform that can be used to advertise library events. It increases library visibility. It helps readers to acquire information on the dates of book exhibitions or even the sale of weeded books. It can be used to provide input on new databases, books, and journals the library purchases. It allows for direct communication with users. It can also be used to let people know if the library hours have changed or if they have been extended.

Instagram: Libraries and librarians are now using social media platforms to connect with people in various exciting and creative ways. Instagram is the newest social media platform that libraries are experimenting with. It lets users shoot photos with their smartphones, add fun filters and hashtags, and then share those photos with their followers online. Opportunities to boost productivity and acquire a competitive edge have been made possible by social media. Many social media platforms exist, and each day, millions of users access and use them to share and receive information. Social media is seen as a low-cost, effective tool that libraries may use to connect with users, target particular populations, and provide them a chance to engage with libraries. Libraries frequently

utilise social media to advertise their collections, services, and events as well as to stay in the minds of their users (Chi, 2020).

The importance of consistency: Social media platforms play an important role in enhancing library services. It makes sense that libraries want to increase their influence and outreach in their communities (Ezat Gharieb, 2021). Library marketing techniques generally include building a presence for the library on Facebook, Instagram, and Twitter, and consistent posting is required to keep the user engaged with the library services. It allows the development of an identity that leaves a lasting impression on the user and boosts the user's confidence to use that platform again. It is essential to keep that balance on all social media platforms. Social media marketing relies heavily on consistency. Being consistent is necessary for users to recognise library services and products. Librarians may increase user engagement and reach by being consistent in posting information about library services, which builds a reputable image of the library. A robust and dependable social media presence will help librarians connect with users and boost website traffic. Understanding the user when posting messages on social media is the first step in using a consistent tone. The librarian must keep in mind the goals for which they are posting on social media, as well as their purpose, vision, and values, to assist and achieve the balance and consistency necessary for effective social media marketing. They should try to communicate in a way that will help the user to be aware of the resources and services available in the library. The objective is to be genuine and relevant. It encourages the user to interact with the information that is being distributed on the social media platforms. It is better to have a Content Posting Schedule (CPS), which will help to plan out each day's content for each social media platform and try to stick to it to maintain consistency (Payne, n.d.). Using a consistent strategy across all social media platforms will help librarians invite users to travel with them on their journey. Regular posting on social media platforms demonstrates extra effort being done by the librarian, and this continuous presence will help to meet the marketing objectives.

1.10.2 Steps to maintain the consistency of Social media platforms

Appropriate legislation and enforcement are needed to counter the problem of fake news. Although there is regulation, the issue cannot be resolved without proper implementation. Individuals who produce and disseminate hate content ought to face legal consequences under relevant social media regulations and sections of the Indian Penal Code (IPC).

Moreover, automated methods for filtering fake news should be developed by online information distribution networks. There should be a cap on sharing previously shared content, notwithstanding the fact that WhatsApp has already started to limit the number of users that can share content. The degree to which a user regards information found on social media as accurate, dependable, impartial, and comprehensive is known as social media credibility. Social media platforms can help libraries market and curate reliable content. Both dependability and knowledge, which can have both factual and subjective aspects, go hand in hand to create credibility.

1.11 Social media and credibility

As social media platforms have exploded in number at a never-before-seen rate with the advent of the digital age, it has fundamentally changed how information is shared, consumed, and interacted with others. Academic libraries, which are crucial in facilitating the transmission of knowledge and supporting intellectual endeavours, stand to benefit the most from this transition. The importance of credibility in this context transcends purely academic concerns; it has a significant impact on the moral character of academic institutions and the accuracy of the information they provide to their users. Organisations that distribute information on social media play a significant role as well. They should hold themselves publicly accountable to a set of values that uphold the integrity of the material they provide as well as their own institutional credibility (Kington et al.,2021). For IIT libraries in North India, maintaining reputation is crucial, especially when using social media for marketing purposes. The foundation upon which trust is based is credibility. The reputation of libraries, which act as knowledge's gatekeepers, is a crucial asset. Libraries can be extremely helpful allies in the academic process when they are acknowledged as reliable sources of information. Credibility distinguishes academic libraries as reliable resources in the pursuit of knowledge in an era characterised by the explosion of information.

1.11.1 Defining Credibility in Social Media

As it relates to social media platforms, credibility is a complex and dynamic concept that focuses on how trustworthy, authentic, and reliable people and things are regarded to be when they are encountered online. A number of important factors are closely interlinked with credibility in the context of social media. These elements are crucial in determining how people evaluate the dependability and trustworthiness of the content, sources, and platforms they come across in the digital world.

Source Credibility: The perceived reliability and authority of the organisation or person in charge of distributing information on social media are relevant to this factor. The credibility of the source is affected by things like the entity's knowledge, standing, openness, and congruence with the user's values and interests. When libraries use social media, establishing source credibility frequently depends on their institutional authority, subject-matter knowledge, transparency, and a regular presence on the platform. The level of trust a reader has in the reliability, accuracy, and objectivity of the information posted on social media is referred to as social media credibility (Flanagin & Metzger, 2007).

Content Credibility: The calibre and correctness of the material being spread are also factors in content believability. Content that has been thoroughly studied is factually correct, contemporary, and aligned with existing knowledge is often considered to be more credible.

Platform Credibility: Perceptions of credibility are significantly influenced by the general credibility and reputation of the social media site itself. In general, people are more likely to trust social media sites that have a solid reputation, are well-known for their careful content monitoring, and are dedicated to combating disinformation. But nowadays, the capacity to distinguish between reliable information is becoming increasingly crucial due to the rising popularity of social media platforms, particularly Facebook, and its tendency to spread disinformation. Because Internet rumours have the potential to seriously hurt people and society, social media users need to be aware of the reliability of the information they consume (Li & Suh, 2015).

Consistency and Transparency: Credibility is intimately related to information sharing consistency and source and attribution openness. Regular and trustworthy publishing, precise source citations, and open communication about the sources of the content are all necessary for maintaining credibility. The study concluded that determinants of social media information credulity (source credibility, medium credibility, and information quality) had a positive and significant relationship with each other (Hussain, Rafique, & Naveed, 2023). On social media, the dynamics of user engagement and exchanges can have a big impact on the credibility of contributors and content. Credibility is typically increased by high levels of user involvement, favourable comments, and user endorsements. Conversely, unfavourable remarks, criticism, or a lack of participation can damage credibility.

1.11.2 Challenges in Establishing and Assessing Credibility on Social Media

Quick Information Transmission: Information can travel quickly thanks to the real-time nature of social media platforms. However, this speed might make it difficult to confirm and judge the veracity of information before it attracts a lot of attention. Libraries may find it challenging to maintain the highest levels of accuracy and dependability while keeping up with the quick dissemination of information. **False and misleading information:** Social media platforms are frequently used as a breeding ground for deliberate deception as well as inadvertent misinformation. Libraries must manage the complexities of separating reliable material from false information, which calls for rigorous fact-checking, source confirmation, and an astute eye for possibly false content. The study's findings advance the field by identifying particular information-seeking behaviours that are associated with college student's capacity to recognise and assess fake news stories effectively, as well as with their propensity to disseminate these stories on social media (Leeder, 2019). Awareness must be created among the students to correctly use the available information. **New Platform Features:** Social media platforms frequently change the display and authority of content by introducing new features and functionality. To preserve credibility and successfully engage their users, libraries must stay educated about these changes and adjust their strategies. **Personality of User Perception:** In the end, social media reputation is a personal affair that varies from user to user. It isn't easy to set a standard that is recognised by all users since their viewpoints and experiences may influence how they evaluate credibility.

Effectively handling these complexities and issues in the context of IIT libraries in North India is essential for preserving the validity of information provided on social media platforms. Libraries may become important information hubs and reliable participants in their communities' quest for knowledge and intellectual engagement by establishing themselves as reliable sources of information and resources. Understanding and successfully controlling the elements that affect reputation on social media are crucial for libraries. Academic libraries may create confidence, ensure the accuracy of material given, and establish themselves as trustworthy partners in their academic communities' pursuit of knowledge and intellectual engagement by upholding high source credibility and message credibility and selecting respectable platforms (Schweiger & Cress, 2019).

1.11.3 Strategies for Enhancing Credibility on Social Media Platforms of Libraries

Libraries must increase the legitimacy of their social media presence. Libraries may

guarantee that they are regarded as reliable providers of academic knowledge and resources by putting into practice efficient strategies and best practices. To do this, consider the strategy of verifying sources and factual information before posting any information on social media and use strict fact-checking procedures. Check the veracity of sources and compare data with reputable academic databases and dependable sources. With the help of citations with clear attributions about the information's origins and accurate citations for any shared content. This strategy strengthens the legitimacy of the library's social media posts. The role of a professional portfolio highlights the staff's credentials, experience, and specialisations to demonstrate their knowledge of the library's subject matter. In addition to highlighting the library's reliability, this promotes user confidence in the information supplied. Librarian participation and response actively interact with users by giving prompt, thorough answers to their questions and comments. This displays a dedication to user involvement and enhances the trustworthiness of the library. They collaborate with academics to co-create and exchange material with academic researchers, students, and professors. These alliances increase its reputation by putting the library in contact with authorities in other sectors. Finally, the study on social media credibility in libraries highlights the significance of credibility in the digital age. It's more than just an issue of reputation; it serves as the foundation for the library's credibility, trustworthiness, and usefulness. Libraries may improve their social media marketing efforts and continue to be crucial providers of academic information and assistance by proactively addressing the issues and implementing successful plans. Credibility on social media is negatively impacted by understanding fake news. When recipients realise the news may be false, they verify the information. As a result, some users are more adept than others in spotting false information. As a result of their backgrounds and experiences, social media users may possess differing levels of awareness about false information (Majerczak & Strzelecki, 2022).

1.12 Social media and fake news

The digital age has fundamentally transformed the way users access, consume, and disseminate information. With the proliferation of the Internet, social media platforms, and rapid technological advancements, individuals are now more interconnected than ever before. However, this increased connectivity has also given rise to a critical and complex issue: the spread of misinformation. From inaccurate news articles and manipulated images to deepfake videos and coordinated disinformation campaigns, the

digital landscape is increasingly saturated with misleading and deceptive content, collectively referred to as "fake information." It is a significant threat to the accuracy of information and the confidence of people, organisations, and societies since it feeds on the speed and reach of the digital environment. False information has a wide range of effects. It can skew public debate, frighten people into fighting, and erode their confidence in reliable information sources. Academics, decision-makers, and the general public have all expressed grave worry over the proliferation of bogus information in modern society. The proliferation of false news, whether created by humans or algorithms, has a harmful impact on society and individuals on both a political and social level. The rapid turnover of news in the social network age makes it difficult to determine its accuracy in a timely manner. Therefore, it has become essential to have automated methods for spotting fake news. Based on the title and the news' substance, this research presented a methodology for spotting false news (Umer et al., 2020).

The term "fake news" was first used in the 19th century, so misinformation is not a recent phenomenon. However, the Internet and social media have changed how it is produced and disseminated. Before the Internet, individuals often got their news from reliable media sources. Due to the lack of editorial standards or regulations, the Internet has made it possible to produce, exchange, and consume news and information in new ways. Nowadays, many individuals get their news from social media and other online sources, but it is not always clear which articles are reliable and which are not. False or misleading news that poses as reliable news is called fake news. "Fake news" is defined as "purposefully crafted, sensational, emotionally charged, misleading, or totally fabricated information that resembles the form of mainstream news." (Zimdars & McLeod, 2020). The two main types of false information are: First, Stories that are purposefully untrue, i.e., those who publish them are aware that they are false yet nonetheless do so. This might be done to influence public opinion or to increase visitors to a particular website. Secondly, despite being largely false, many stories do contain some truth. It is possible that the author has not verified all of the facts or that they have exaggerated key details in order to make a particular point. More complex methods are required to identify false news as it grows more common and challenging to identify. The propagation of false information via fake news puts its users and target, who may be both individuals and institutions, in considerable danger (Zhang et al., 2019). On social media platforms, the

dissemination of false information and fake news has a negative impact on social peace and stability. On social media, fake news frequently appears and spreads daily. It has the effect of influencing, upsetting, and deceiving societies or countries. Several research studies distinguish between trustworthy and fraudulent news on social media websites. Fake news is stopped from spreading via accurate and prompt identification. This research examines several machine learning and deep learning techniques' contributions to false news detection models (Nirav Shah & Ganatra, 2022).

1.12.1 Types of fake news

Depending on the intent of those who produce it, there are various kinds of fake news. Like clickbait, it is a term used to describe articles that are purposefully written to generate website traffic and advertising revenue for website owners, frequently at the expense of accuracy and truth. Sensationalism attracts attention and encourages online sharing and clicks, as do bizarre or outlandish stories and distorted visuals. In the same way, Propaganda is used to describe stories that are made up or misrepresented to deceive readers or further a particular viewpoint or political objective (Baptista & Gradim, 2021). Misinformation or disinformation masquerading as news that is frequently disseminated extensively on social media platforms is referred to as fake news. Its quick expansion in the digital age has raised serious concerns about public trust and information literacy. There are numerous types of fake news, and each has its own purpose and approach. Others are made to deceive (manipulated or manufactured content), others to entertain (satire), and some to corrupt factual facts (misleading content or false context). Promoting responsible digital involvement and critically assessing online information requires an understanding of the main categories of fake news.

1. Satire or Parody

Content that imitates actual news and is intended for amusement or amusement. Although it isn't meant to be misleading, sharing it without context can cause people to become confused.

2. False Connection

Readers may get incorrect inferences as a result of headlines, images, or captions that do not accurately reflect the content.

3. Misleading Content

Misleading information is offered to readers, frequently by selecting or out-of-context framing data to support a specific narrative.

4. False Context

False contextual information, like old images portrayed as current happenings, is published with authentic content.

5. Imposter Content

When reliable sources are impersonated, like in the case of disseminating misleading information by imitating the logos of reputable news organisations.

6. Manipulated Content

Photo-shopped images or manipulated videos that misrepresent the original are examples of how real information or imagery is changed to deceive.

7. Fabricated Content

Information that is wholly untrue, frequently without any basis in truth, and produced with the intention of misleading and hurting others.

8. Clickbait

Headlines that are sensationalised and intended to entice readers to click, sometimes by misrepresenting the information.

9. Propaganda

Information that is utilised to support a political cause or viewpoint, particularly when it is skewed or deceptive.

10. Conspiracy Theories

Explanations that are based on suppositions and frequently lack reliable proof, attributing events to covert schemes by influential organisations.

11. Deepfakes

Artificial intelligence (AI) is used to generate synthetic media, which is images or movies that use someone else's likeness to trick viewers.

12. Sockpuppets and Astroturfing

False internet personas are frequently used to sway public opinion by giving the impression that a subject has widespread support.

1.12.2 Understanding Fake Information

Any content that is purposely produced, transmitted, or disseminated with the aim of misleading, manipulating, or deceiving people, groups, or the general public is referred to as fake information. It includes a variety of misleading information, such as: Sometimes, false or erroneous information that is disseminated without harmful intent is called misinformation. It could be the result of mistakes, miscommunications, or misinterpretations. Misinformation frequently spreads unintentionally but can nonetheless have adverse effects. At the same time, disinformation is the deliberate production and spread of false information, frequently with the intention of attaining a specific goal, such as misinforming the public, swaying public opinion, or fostering unrest. Disinformation is frequently motivated by a secret goal. An ideology, agenda, or point of view is propagated by the systematic dissemination of information that is frequently biased or misleading. Governments, businesses, and people can all use it to manipulate public opinion. Sometimes, between what individuals think and what they post on social media, there is a significant mismatch (Pennycook & Rand, 2021).

The majority of fake news is disseminated via websites that mimic legitimate news sources to appear credible. Research indicates that social media makes it possible for misleading information to spread swiftly and more quickly than actual news. Because fake news is frequently created to capture attention and appeal to emotions, it spreads quickly. For this reason, it frequently includes ludicrous claims or tales that incite rage or fear.

Regardless of the reliability of their sources, social media bots can spread false information since they produce and distribute items in large quantities. Online, bots have the ability to generate fictitious accounts that grow in popularity and authority, among which some have been designed to disseminate false information (Himelein-Wachowiak

et al., 2021). Through trolls, spreading fake news is also assisted by Internet users who consciously aim to rile up others or provoke conflicts. For political purposes, they may occasionally be paid to do so. To describe institutionalised troll organisations that seek to meddle in political decision-making, the terms "troll farm" or "troll factory" are occasionally used in this context. Secondly, deepfakes are occasionally used in fake news. These videos are forgeries produced with computer software, machine learning, and face swapping. In order to generate new footage that depicts events or actions that never actually occurred, images are blended. The outcomes can be hard to spot as misleading and can be pretty persuasive. For example, throughout the COVID-19 outbreak, there were countless instances of bogus news online, making it a haven for misleading information. The assertion that 5G technology was connected to the spread of the virus was a recurring example of fake news on social media, purportedly because 5G weakened the immune system while the infection communicated via radio waves. Although these assertions were false and frequently refuted by authoritative sources, they were still widely disseminated.

1.12.3 Techniques for Fake Information Tracking

Tracking and eradicating bogus information is a difficult task in the constantly changing world of digital information age. Many different strategies and tactics have been devised to deal with the problem of false information. There are a few ways to spot false information, detect fake news websites, etc., on social media platforms, or prevent unintentionally spreading false information online. Verify the website address for the page you are visiting. On occasion, the URLs of false news websites may have spelling problems. Look at the 'About Us' section if you are unfamiliar with the website. Facts like data, statistics, expert quotes, and other figures will be abundant in reliable news reports. These are absent from bogus news. It is a good idea to examine the article's publication date because reports with inaccurate information frequently include erroneous dates or altered timeframes. It is important to check that it is a recent or historical news story. More people are posting multi-modal content on social networking sites due to the growth of the mobile Internet. The challenge of detecting fake news has gotten more and more difficult. Despite the fact that many works extract and integrate textual and visual representation in posts utilising sophisticated techniques. To support the task of detecting false news, Ying et al. (2021) proposed a novel end-to-end Multi-level Multi-modal Cross-attention Network (MMCN). This architecture integrates textual and visual

information through hierarchical cross-modal attention mechanisms, enabling more accurate identification of misinformation by capturing complex semantic and contextual cues across multiple modalities. Fact-checking independently confirms the accuracy of statements made in news articles, claims, or other sources. It is a technique known as fact-checking. It looks over the content, cross-references it with reliable sources, and assesses its accuracy in light of the available data. Fact-checking groups and websites like FactCheck.org, PolitiFact, and Snopes are great resources for confirming the accuracy of claims and disproving false information. This poses a problem for journalistic ethics. Through social networks, the general public actively contributes to creating and distributing news in the digital age. Fake news and misinformation are becoming one of the key issues facing journalistic practice as a result of the media's lack of control (López-Marcos & Vicente-Fernández, 2021). Whereas Artificial Intelligence (AI) and Machine Learning Algorithms to identify possibly false information, AI and machine learning are used to identify trends and anomalies in massive datasets. To determine the reliability of content, these algorithms examine linguistic patterns, metadata, and other factors. They can spot photos and movies that have been altered. Automated bogus information identification relies heavily on initiatives like Google's Jigsaw, commercial AI solutions, and specially created algorithms. In various fields, false information is seriously damaging. To stop such harm, it is therefore becoming more and more important to precisely identify bogus news. In this study, we provide a unique approach to the identification of false news that combines graph and summarisation approaches (Kim & Ko, 2021). Through crowdsourcing, information can be verified by combining the efforts of volunteers, citizen journalists, and online communities. In order to encourage volunteers to report, look into, and confirm the accuracy of claims, images, and videos, many platforms and organisations rely on the wisdom of the community. Platforms like Bellingcat, Reddit, etc., and collective intelligence enable crowdsourcing to check information efficiently. A statistical calculation is utilised in this work to forecast if a news item is true based on the comments received, and it offers a dynamic model with a secure voting mechanism where news reviewers can offer feedback on the news (Sengupta et al., 2021). Blockchain and digital signatures guarantee the integrity and validity of digital content, blockchain technology and digital signatures are used. Content creators might affix digital signatures to confirm the item's provenance and determine if it has been altered. Content creators can timestamp their work on the blockchain or apply digital signatures to verify the content's origin and whether it has

been altered. Blockchain-based verification services and projects like Factom provide secure methods for content verification and authentication, which is crucial for digital assets like photographs and videos. Besides this, Social media images may have been altered or distorted. An image could be factual but be used inaccurately. To find out where an image comes from and whether it has been manipulated, utilise tools like Google's Reverse Image Search to check the authenticity of the image. The major channel for disseminating fraudulent photos is social media. Fake photos are edited photographs that have had their information changed using software or other methods. Spreading fake photographs on microblogging sites leads to misrepresentation and division of society (Singh & Sharma, 2022). Besides the credibility of the author, the sources of the media house are very important in checking the authenticity of Fake news. Moreover, re-posting, re-tweeting, and other forms of spreading misleading information rely on believers. Think twice before sharing if you are unsure of the authenticity of an article. The most popular fact-checking websites are Snopes, PolitiFact, Fact Check, and BBC Reality Check. In India, rumours are disseminated by word-of-mouth, conventional media, and, more recently, digital modes of communication such as altered videos, memes, unconfirmed marketing, and social media (Luo et al., 2021). Social media's use to promote fake news has become a significant issue in this nation. The main source of fake news in India is forwarding the WhatsApp message. One of the worst tools for propagating fake news is Photo-shop. Reverse Google Image Search can determine whether an image has been photo-shopped or not. All you have to do is download the image, post it, and search for the original image on Reverse Google Image if it has been altered. Each of these strategies contributes, specially and crucially, to the ongoing struggle against false information. The best successful strategy frequently combines a number of these techniques. It is important to understand that the battle against false information is one that is constantly changing, and these strategies are constantly being modified to fit the demands of the digital age. We can successfully track, combat, and lessen the impact of false information in the current information landscape by using a complete methodology that uses both human judgment and automated techniques. The threat of fake news is growing every day due to the increased use of social media, which has led to more people using social media platforms like Facebook, Twitter, WhatsApp, and Instagram. Undoubtedly, the distribution of false and misleading information increases the risk of potential acts of violence and hatred while also having a significant negative influence on society as a whole (Rocha et al., 2021). Fake news is becoming a

significant concern as social media and digital technology are used more frequently. Fake news is made up of reports that have been created with no verifiable information, sources, or statements due to this incorrect or misleading information (Priyanka, 2021).

1.12.4 Challenges in Curbing Fake News on social media

Examines the difficulties and constraints that academics, fact-checkers, and organisations have in the ongoing fight against false information. The false information producers and disseminators are intelligent and quick to change their ways in order to avoid being caught. The cat-and-mouse game is challenging to win because they continually switch up their strategies. The tracking methods and tools used to stop the production of bogus information must continuously advance as well. So, by gathering and analysing personal data about people, some monitoring techniques, particularly those that fall under the purview of AI and data analytics, may violate their right to privacy. So, it is crucial to strike a balance between the requirement for efficient tracking and privacy rights in order to guarantee that personal data is not misused or violated. The false information spreads quickly online, frequently in hours, reaching millions of users. This rapidity makes it difficult to stop false information before it causes harm. So, quick and efficient tracking techniques are needed to stop the rapid dissemination of false information and its possible adverse effects on real-world situations. Fake news can quickly spread across borders, making it difficult to identify and combat on a global scale. Cooperation between nations and international organisations is essential to combat the widespread distribution of fake news. A thorough, multidisciplinary strategy is necessary to address these difficulties and constraints. It requires the continual development of moral standards, technological advancements, and international collaboration to build efficient tools for detecting false news while upholding the rights of individuals and the ideals of free expression. The increasing number of fake news has emerged as an impossible task in a time when the unrestricted flow of digital information has become the norm, affecting our daily lives, influencing public opinion, and even changing the course of societies and entire countries. A basic investigation led to the beginning of the understanding of false information. Propaganda, disinformation, and misinformation were examined in order to understand the details that support the range of misinformation. Real and false media are becoming more and more difficult to distinguish because of innovative digital technology. The introduction of deepfakes, which are hyper-realistic films that use artificial intelligence (AI), are very realistic recordings that have been digitally altered to show individuals talking and doing things that have never actually occurred (Westerlund,

2019).

The Press Information Bureau (PIB), a central body of the Indian government, has been suggested as the arbiter of whether information is false online. The Press Information Bureau (PIB) fact-checking team was founded back in 2019 and solely looks at content pertaining to central government ministries and groups. Under the Cable Television Networks (Regulation) Act of 1995, all TV channels are expected to abide by the Programme Code, which states that shows must not contain any material that is vulgar, defamatory, willfully misleading, provocative, or half-truthful. The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, under the IT Act of 2000, have been made public and are applicable to digital news producers. Controlling fake news is the responsibility of the PIB fact-checking team on social media platforms. The fundamental reason that fake news is being distributed on social media is that there is little regulation and execution (Aldwairi & Alwahedi, 2018). Comparatively, the minimal principle applies to online platforms compared to traditional media. Many Internet news portals are emerging as a result of inadequate entrance barriers. Due to a lack of appropriate, legally binding regulations, online venues are susceptible to more inappropriate behaviour. Some issues can be resolved with technology: Some more upbeat specialists asserted that it is possible to control the spread of false information by taking advantage of the Internet, mobile apps, and other platforms' growing speed, reach, and efficiency. Specific improved strategies are anticipated to emerge to produce and promote reliable, fact-based news sources. Technology, collaboration, education, and legislation are likely to play significant roles in tracking fake information in the future. Embracing a holistic approach, these components are essential for tackling the constantly changing problems caused by false information and preserving the integrity of digital information and communication in the future.

To sum up, false information is a problem that cannot be solved with a single strategy or method; instead, it calls for a dynamic, comprehensive response that develops in parallel with the misleading strategies used by those who disseminate false information. Everyone wishes to work in a digital environment where truth wins, and fraud is exposed. The integrity of information is upheld by understanding the complexities of this issue, remaining vigilant in the face of its challenges, and accepting the opportunities presented by emerging technologies. The fight against false information is never-ending, but it is one that needs to be joined by everyone, guided by a strong commitment to truthfulness,

morality, and the protection of the integrity of the digital world.

1.13 Library Information Marketing (LIM)

Marketing is the process of conceptualising, pricing, promoting, and distributing goods, services, and ideas in order to generate exchanges with target groups that satisfy both customer and organisational objectives (Kotler, 1996). Numerous marketing concepts equip libraries with tools for collecting and analysing user data about their users' information needs, assisting in the design, development, and delivery of appropriate services (Kavulya, 2004). Marketing in libraries entails a significant shift in librarians' traditional attitudes toward information acquisition, organisation, processing, and retrieval. The primary goal of a library service should be to assist users in gathering and processing information (Kaur & Rani, 2007). The information age developed slowly at its onset, but in recent years, it evolved rapidly due to developments in ICT. There has been a revolution in the generation, storage, retrieval, exchange, and communication of information. Information and knowledge on paper have been transformed into the electronic mode through digitisation. The present society is predominantly an information society, thereby actively engaged in producing and supplying information goods. Marketing entails managerial processes that can be explicitly defined as the art and science of identifying and developing profitable relationships with target markets. Marketing management is a process that involves analysis, planning, implementing, and controlling. It encompasses goods, services, and ideas, with the end goal of satisfying all parties involved (Kotler, 2002). Marketing in the education sector becomes more of a challenge to attract students. Promotional activities, when performed in the most effective way in order to reach the right user at the right time and in the right way, enhance the possibilities for education and professional development among young people (Lysytsia et al., 2021). Academic libraries are discovering that by employing marketing principles and techniques, they can better communicate with a wide range of external audiences, better understand their users' needs, deliver products and services that meet those needs more efficiently and effectively, and justify funding. (Spalding & Wang 2006). Academic libraries are designed to meet the educational needs of the school, college, or university in which these are housed, primarily for the convenience of students, researchers, and faculty members. The role of marketing is to discover, create, and deliver value in order to provide goods and services that meet the needs of a target market. Marketing involves a whole range of activities related to planning, pricing,

promoting and distributing the products that satisfy the user's needs (Ihejirika, 2021).

Previously, when ICT did not exist, marketing was associated with physical goods. As the economies move, a new concept emerges, i.e. "Information goods" (Maass et al., 2007). With the introduction of Digital Libraries and the availability of the Internet with high broadband facilities, accessing and downloading digital documents are in high demand among users. Marketing is a process whose primary purpose is to promote and facilitate the exchange of information. Marketing helps various individuals and groups obtain what they desire and require through exchanging goods and services with third parties (Hibbard et al., 2021). With the fast-changing landscape of digital information and services, creating awareness, facilitating access and stimulating the use of digital information is quite essential. (Dwivedi et al., 2021). Library information marketing (LIM) is a process that promotes and facilitates the exchange of information. Here, information marketing differs from product marketing because they are intangible, inseparable from the manufacturing process, variable, and perishable. Intangible services are those that can be offered but cannot be seen, tasted, felt, heard, or smelled before being purchased (Kolawole, 2021). Services are inseparably linked to their products because they are typically produced and consumed simultaneously. This description is especially true for physical products, which are frequently used long after being manufactured. Theoretically, applying marketing principles to LIM will increase the value of the library as perceived by the users, and such change in the library services is necessitated due to developments in ICT. It changes users' reading habits and information-seeking behaviour. In today's world, well-established libraries are full of sources and services, and they have more technical and skilled employees than before (Shastri & Chudasma, 2022). Still, the most significant thing is to understand the users properly and adopt marketing techniques to keep them satisfied. Marketing of information involves not just disseminating the information but also making the best use of the library's resources. Users' needs, demands, convenience, and the presentation of information products to users must all be considered. Adopting a marketing strategy will not only sustain the libraries but also their information products and services. It is no longer enough to simply give the user what libraries have generated but to generate what the user will benefit from (White, 2012). Thus, the focus is shifting from tailor-made services to need-based services. As a result, progressive libraries are involved in fabricating user-oriented products and services to provide the highest level of satisfaction.

1.13.1 Social Media Marketing in Library

Marketing is also very relevant to the problems and challenges that non-profit organisations face because it aims to achieve better services and higher user satisfaction rather than profit, market share or return on investment. (Pradhan, 2014). While the bottom line is always a consideration in any business, marketing a library mainly focuses on providing better service and being more efficient so as to attract more users. Using social media is the best way to bring library users together and meet their various interests and requirements (Collins & Quan-Haase, 2014). The goal of library marketing is to help users find the information and preferences they need by connecting their specific information requests with the library's extensive collection of relevant materials and services. The success of a library's marketing efforts hinges on the positive experiences of its users.

Library and information services marketing has always been difficult in conventional institutional settings. With the advent of social media, librarians and information professionals now have access to previously unavailable channels for promoting their services. The ideal way to connect library users together and cater to their wants, needs, and desires is through the usage of social media (Jones & Harvey, 2019). Today, every institution, such as libraries, maintains a presence on Facebook, Twitter, and MySpace in order to communicate with library users and provide them with the most recent information about the library (Swain & Barik, 2016). Additionally, Libraries can now communicate with users using interactive Web-based tools because to the growth of social networking and Web 2.0 technology. Users of this social networking site can disclose details about themselves, including scholarly and extremely personal hobbies. One of the biggest channels for sharing information in real-time worldwide is social media. Social media refers to websites and applications that emphasise interaction, collaboration, content sharing, community-based input, and communication. The latter has developed into a highly effective method of communicating with friends, family, and members of various communities. Boateng and Quan Liu (2014), provide an early yet insightful analysis of Web 2.0 application usage in top U.S. academic libraries, with a strong focus on social media integration. The study identifies Facebook, Twitter, and blogs as dominant tools used for outreach, marketing, and enhancing user engagement. It reveals that libraries adopted these platforms to promote events, share resources, and facilitate real-time communication with users. The article emphasises the strategic value

of social media in extending library presence beyond physical walls and fostering interactive, user-centred library services in the evolving digital landscape.1.13.2 Social media platforms are the perfect places to market library services

The term "Social Media" describes the practice of exchanging information, concepts, and opinions via social networking sites and websites. The majority of us regularly use social media platforms like Facebook, Twitter, YouTube, and Instagram (Kanchan & Gaidhane, 2023). Having supportive social connections is becoming more and more important in the education and library sectors, in addition to mastering technical abilities and obtaining access to information technology. Libraries are increasingly using social media sites.

Social media platforms are used to publish library news and press releases for online users, distribute news and service alerts, and give quick service updates to online users. All in all, these social media channels enable libraries to advertise their offerings. Due to the widespread usage of the Internet, libraries and educational institutions have a great chance to expand their user base. Understanding the variations among various social media platforms would enable users' communication strategies to be modified properly. In order to continue serving as social hubs for the community, libraries had to battle. As a result, they have started to advertise themselves more on social media in an effort to draw in new clients and maintain relationships with current ones. A sizable, happy community of library users can be created through social media. Unquestionably, it is a good way to discover more about the target market. Libraries are becoming actively using social media platforms. Social media platforms assist libraries in disseminating critical information about their resources, services, projects, events, community, exchange programmes, and other initiatives (Gupta et al., 2022). Because everyone is online, educational institutions and libraries have a big opportunity to grow a community of users. The goal is to understand the differences between different social media platforms and adjust communication methods for users accordingly. Many libraries lack the funding necessary to promote themselves through marketing initiatives or advertising. Social media is a great tool that they can use for free. Social media libraries may offer users a multitude of materials in one place in various languages. Visitors can discover information on virtually any subject. Users can find articles on any topic, for instance, without physically scouring the library stacks.

The library can create events pages to advertise future events for the coming week or month. To keep informed about library events and book displays, they might encourage people to follow them on social media platforms like Facebook, Instagram, and Twitter. This will encourage more people to attend events and maintain patron interest in library programs and services. Through the development and usage of social media technologies, a new platform for user-generated content exchange has been established, allowing library users to search, connect, engage, produce, watch, comment, and share material online (Akporhonor & Fasae, 2020).

One writing, two sharing. Don't restrict your advertising to just one channel if your library produces content such as newsletters, etc. Share the content frequently to maximise your efforts. Cross-promotion and regular social media posting may be the key to reaching new users. Libraries advertise their collections and books to people on social media channels. By educating consumers about the resources available, utilisation will increase day by day. With the ever-changing landscape of availability of electronic information, sources and services, facilitating access, raising awareness, and encouraging the use of various library information sources is necessary. A social media platform is an online platform that enables people to connect with others who share similar personal or professional interests, real-life connections, activities or backgrounds (Akram & Kumar, 2017). Social media is a collection of interactive computer-based platforms that allow users to have discussions, share ideas and information, and create web content using virtual networks and communities. The most prominent social media networks include Instagram, TikTok, Facebook, YouTube, Twitter, etc. (Ghosh et al., 2021). Social media is emerging as a dominant stage because it allows participants to reach, nurture, and engage with their target audience, defying location and time constraints. Another benefit of social media is that it is a free and open medium to discuss, exchange ideas, and share opinions.

There are two essential aspects of promotional activities:

1. User awareness: What is available
2. User education: how to access the available information

1.13.3 User Awareness

The key to the success of any program is awareness, and the same is true for the effective use of social media platforms. Any activity undertaken to raise awareness of the library's

information sources and educate users on the skills required to make the best use of these sources is referred to as promotion. As new library information sources emerge on the information landscape, their promotional activities necessitate more than just notifications. Keeping users current on these electronic sources is a significant challenge (Ashiq et al., 2021). Promotion is the only factor determining the effectiveness of a sophisticated service offered online. In today's world, promotional activities may include website announcements and linking to library web pages from institutional home pages, Facebook, blogs, and Twitter, among others. According to Ansari and Tripathi (2017), librarians who use social media more frequently for knowledge sharing can get feedback on how to improve user services, maximise the use of documents and library content, foster collaboration, and foster effective communication between staff members and library users. This opinion was further supported by (Akporkonor & Olise, 2015), who said that Facebook and blogs are the most often used social media platforms for promoting library and information resources and services.

Additionally, research revealed that librarians' use of social media facilitates two-way communication, facilitates contact with library users, offers a platform for feedback, and boosts library utilisation. Books, journals, databases, and specialist collections are just a few resources available at university libraries. By highlighting and promoting these resources on social media, educators and students may increase awareness of their availability and encourage their use. Libraries frequently host lectures, workshops, and other events to improve students' research and information literacy. A way to promote these events, spark interest, and promote participation is through social media platforms.

1.13.4 User Education

Academic libraries are utilising social media platforms like Facebook, Twitter, Instagram, LinkedIn, and YouTube to connect with individuals, especially students, who might not interact with conventional communication methods since social media has become an essential part of everyday life (Van Dijck & Poell, 2013). In order to keep teachers and students updated about accessible resources, social media platforms are utilised to promote new books, journals, e-resources, and databases through posts, stories, or real-time updates. Social media is used to promote library-hosted workshops, webinars, and educational events, thereby improving visibility and participation. Many libraries host live webinars, Q&A sessions, and workshops on information literacy issues through platforms like Instagram Live, Facebook Live, or YouTube. Students get the chance to

learn in real time during these classes. Social media provides academic libraries with effective instruments to improve user education by promoting user interaction, library resources, and information literacy (Chu & Du, 2013). Libraries can promote increased awareness of their services and resources while assisting users in developing critical research skills by producing creative, engaging, and readily available learning content.

1.14 Research Gap

A significant underexplored research area in the use of social media for marketing library and information services in IITs exists. Despite the increasing adoption of social media by academic institutions, there is limited research specifically examining how IIT libraries leverage these platforms for outreach and engagement with their user communities. This gap highlights the need for understanding various strategies, effectiveness, challenges, and best practices associated with social media marketing in the context of IIT libraries. Further investigation may offer insights that can improve marketing initiatives and adaptation in IIT library services to better meet the needs of their users.

1.15 Statement of Problem

Libraries have jumped on board with the growing use of social media tools by users around the world to manage their collections better, making it possible to share important notices and updates with other members of the university community as well as to frame library users in a broader academic context. However, there is a need to study the extent to which Indian Institute of Technology (IIT) libraries offer library information resources and services to library users. By increasing user awareness, the library's resources and services will see an increase in use. Marketing is critical in ensuring that the library is utilised by the community. Resources in electronic formats necessitate more promotion and evaluation than is currently taking place. The library's sources and facilities will be used more frequently due to ongoing marketing and promotion efforts. Furthermore, sound marketing strategies play a significant role in the success or failure of e-resource services. It is imperative that librarians take a more proactive approach to market their knowledge products, information, and services in order to better meet and serve the users' needs. The primary focus of research is to understand how libraries use different platforms (such as Facebook, Twitter, and Instagram) to reach their user base; studies frequently examine the usage of social media for marketing library services and

resources.

Hence, the present study "Use of Social Media for Marketing of Library and Information Services in eight IITs of Uttar Pradesh, Uttarakhand, Rajasthan, Himachal Pradesh, Panjab, J&K, and New Delhi, in the digital environment" this study attempts to adjudge and understand various factors that impact library users' awareness of Social Media Marketing and ascertain major social media marketing strategies used by librarians to make users more aware. The modern youth spend a significant portion of their daily lives interacting via social media. Getting an answer to the question, "How does social media marketing enhance the library services of IITs for the benefit of the library user?" will further help to shape the study.

1.16 Research Objectives

The research aims to make contribution to the literature by considering the main purpose of the study as how social media marketing enhances the library services of IITs. The objectives to be fulfilled are as follows:

1. To identify the major social media platforms being used by the IIT Libraries to market library information sources and services.
2. To evaluate the acquaintance of the users with the social media platforms being used by the IIT Libraries.
3. To examine the purpose and easy to use social media platforms being used by the IIT Libraries.
4. To analyze the hindrances and problems being faced while accessing social media platforms.
5. To investigate the various challenges surrounding the libraries' strategies in marketing the information sources and services and provide recommendations

1.17 Hypothesis of the Study

The following hypotheses are formulated to investigate this study

H1. Social Media Tools used by the IIT Libraries has enhanced the awareness and usage of information sources and services.

H2. Library Users frequently use Social Media platforms to access library information sources and services offered by their respective Libraries.

H3. Library users face very few challenges while accessing information through Social Media networks.

H4. Library users are satisfied with the information sources and services provided by the IIT libraries through social media platforms.

1.18 Tentative Chapter Scheme

The present study is proposed to have the following chapters:

Chapter 1 - Introduction:

This chapter will give a brief introduction to the study, its significance, objectives, hypothesis to be tested, and tentative chapter scheme.

Chapter 2 - Review of Literature and research gap

This chapter will present the review of the extant literature related to use of social media enhance the library services with a research gap at the end.

Chapter 3 - Research Methodology

This chapter will entail the data collection, sample, methodology, and various statistical tools to test the hypothesis.

Chapter 4- Growth and development of IIT's Libraries

This chapter will present the growth and development of IITs libraries of North India. It will also include the state of the art of the libraries under study.

Chapter 5- Descriptive Analysis

Results of Descriptive Analysis and Validation tests will be conducted and discussed.

Chapter 6 - Findings and Discussion

This chapter will enclose the results obtained in the previous chapter and discusses their implications.

Chapter 7 - Conclusion and Recommendations

This chapter covers the study's conclusions, recommendations, testing of hypotheses, suggested additional research, and suggested social media framework (model) for university libraries.

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CHAPTER 2

REVIEW OF LITERATURE

Overview

The literature review chapter on the use of social media for marketing of services in academic libraries provides an in-depth examination of how libraries adopt digital platforms to promote services, engage users, and enhance visibility. It explores key themes such as user behaviour, platform effectiveness, challenges faced by librarians, and strategic communication. The chapter also identifies research gaps and theoretical frameworks that guide understanding social media's role in transforming library outreach and academic support.

- 2.1 Introduction
- 2.2 Social Media and Education
- 2.3 Social Media Marketing in Libraries
- 2.4 Case studies of Social media in Libraries
- 2.5 Social Media Benefits for Libraries
- 2.6 Social Media and Challenges in Libraries

2.1 Introduction

The goal of the literature review is to evaluate and compile the important study that has been done on the subject for the good of society, both experimentally and descriptively. The main goal of this analysis is to examine research activities in the field of social networking and its numerous educational applications. Review of related literature pertinent to a specific research problem plays a key role in any research program. It forms the basis for a clear understanding of the concept under study. It not only gives the idea about work already done in the relevant area but also enables us to understand the methods and procedures followed to arrive at a solution to the research problem. Hence, an attempt was made to scan the literature that was best suited to the present study. Research on the subject, such as assessment of resources, awareness programs, and service quality, is important, especially in IIT libraries. An attempt has been made to review the existing literature pertaining to the assessment of library social media support

to users, awareness programs and service quality of libraries, particularly in the IITs. The purpose of this literature review is to critically examine the existing body of research on the use of social media and its applications in libraries. The review aims to avoid redundancy by identifying and acknowledging established findings, explore prevailing research trends, and remain informed about the most recent advancements in the field. These objectives collectively support the development of a comprehensive understanding of the topic and help position the current study within the broader scholarly context.

The current study's primary focus is on the literature on social media use in libraries, particularly in educational institutions. A literature review looks at books, scholarly articles, and any other sources that are relevant to a certain topic, field of study, or theory (Frank, 2006). After that, it provides an overview, critical evaluation, and description of these works in relation to the research issue being studied. Literature reviews serve to situate the current research within the broader academic discourse by demonstrating how the study contributes to and builds upon existing knowledge. They also offer a comprehensive overview of the key sources consulted during the investigation of a specific topic, thereby highlighting the scholarly foundation and contextual relevance of the research. The definition given above leads us to the conclusion that a literature review is a scholarly document that presents the state of knowledge on current issues, including theoretical and methodological contributions. The process of identifying and selecting relevant literature involves the use of abstracting and indexing tools to systematically locate a wide range of sources, including books, peer-reviewed journal articles, online databases, newspapers, periodicals, theses, dissertations, conference proceedings, reports, reviews, instructional materials, and audiovisual media. A diverse range of sources is explored to review relevant literature, including academic databases such as Emerald Insight, Taylor & Francis, ProQuest, ShodhGanga, and Google Scholar, along with various web-based resources.

Additionally, references and bibliographies appended to books, research articles, and other scholarly works are carefully examined to identify further pertinent studies and ensure comprehensive coverage of the topic. This chapter presents an overview of the literature on the use of social media in university libraries. It includes studies on the use of social media in libraries to provide services, policies, challenges, and best practices conducted globally, particularly in India.

Social media platforms (SMPs) are widely known, and the terms are used interchangeably with social networking sites or, social media tools or social media applications. SMPs are electronic communication platforms like social networking sites and microblogging that allow users to develop online communities and exchange information, thoughts, and other materials such as pictures and videos. SMPs can be defined as the collection of input-output, interaction, sharing, and collaboration-based online communities. Applications for social media are a network of online communities linked by interactive computer-mediated technologies that make it easier to create content and share ideas, such as comparable interests and other types of information. According to Cheng et al. (2017), social media applications are online tools and methods that individuals use to exchange viewpoints, experiences, insights, and views. Recent studies related to social media service quality, challenges, awareness programs, functionality, convenience, reliability, security, etc. The service quality assessment, in general, has been discussed to know the satisfaction level of the users. The relevant research studies that have been undertaken both in India and elsewhere are therefore categorised, examined, and presented under the following headings depending on their currency and relevance.

2.2 Social Media and Education

These days, social media platforms are used in education as well as other fields. It impacts the educational sector and can have both positive and negative effects on students. Social media allow academics, researchers, and students to work together swiftly and exchange intellectual resources. It made learning more interactive, time-efficient and participatory. Social media now plays a crucial role in learning environments, presenting both possibilities and difficulties. Numerous studies have examined its incorporation into education, revealing a range of effects on the processes of instruction and learning.

Ofili and Emwanta (2014) assessed the impact of the use of social media, and a study revealed that in the education sector, social media plays a significant role in students spending a lot of valuable time on social media for research purposes. With the development of social media in the education sector, it is clear that institutions are now using these tools to interact with users and satisfy their information needs. In this study, Stirling's (2014) doctoral studies looked at how students utilise Facebook in higher education. The thesis investigates how the platform affects students' learning experiences and how they see its worth for social and academic objectives. This study by Knox

(2014) analysed the inherent cultural conflicts that arise in Massive Open Online Courses (MOOCs), especially when they take place in virtual learning contexts. He examined MOOCs' effects on education and challenged the underlying presumptions. Lupton (2014) investigated the function of social media in the field of higher education. The study found that social media helped academicians by facilitating round-the-clock connections and network building. According to the researcher, social media has encouraged higher education institutions to conduct studies. According to the researcher, pupils should utilise social media under appropriate supervision and instruction. This study by Berriman and Thomson (2015) examined how to handle privacy and intimacy on social media as teenagers. Offering insights into the intricacies of teenage social media use, it examines the ethical assessments and cultural norms surrounding young people's online interactions. In this article, Brailas et al. (2015) explored the potential of Wikipedia as an educational tool, emphasising how acculturation may be achieved by involvement in its community. How using Wikipedia promotes group learning and the growth of critical thinking abilities is covered by the writers. This study by Boyd (2015) highlighted the significance of examining social media as a social and cultural phenomenon. She highlights the necessity of conducting multidisciplinary studies in order to comprehend its effects on other facets of society, including education. This article of Polk et al. (2015) explored how students in secondary school view and use Wikipedia for research. The writers talk about Wikipedia's problems with trustworthiness and how students use it in their studies.

Ainin et al. (2015) investigated how Facebook use affects students' academic achievement and socialising. According to the research, excessive Facebook use is linked to poorer academic achievement even while it can help students socialise. According to the study, Facebook can be a helpful tool for education if utilised properly, but moderation is essential. Donelan (2016) assessed how social media could be used to foster professional growth and academic networking. According to the study, social media helped to support individual academics in their roles and enabled the evolution of higher education. The researcher noted how the adoption of social media tools, the sharing of best practices, and the growing involvement of young people in academic issues reinforced the fundamentals of higher education. Panahi et al. (2016) undertook a study that looked into the use of social media platforms and found that it was beneficial to join in order to have interactions with peers who were not in their immediate local area

and to stay informed about new developments. Face-to-face interactions and in-person instruction cannot be replaced by technology, particularly for medical students. However, it is a helpful addition to in-person instruction and improves the educational process. Crittenden et al. (2019) analysed the growing role of social media and digital technologies in enhancing education. They argue that such tools influence both marketing practices and pedagogical approaches. Exposure to advanced systems helps students develop critical thinking, creativity, and integrative learning skills. These digital experiences foster deeper engagement and knowledge acquisition. The study advocates for integrating social media into education to prepare students for global challenges. In this study, Manca (2020) examined the use of social networking platforms and tools for academic purposes and found that social media platforms had become an essential part of higher education instruction. The study aimed to address the existing gap by exploring whether and how social media sites such as Instagram, Pinterest, Snapchat, and WhatsApp have evolved into integral tools for teaching and learning in higher education contexts. Van Tuan (2021) investigated how the use of social networking sites (SNS) impacted the study habits and interpersonal relationships of Vietnamese university students. The study employed a quantitative methodology and involved a sample of 125 students from various colleges in Hanoi. It was discovered that excessive use of SNS had a detrimental effect on both study habits and interpersonal interactions. The study suggested that students should be provided with guidance on the effective use of social networking sites in order to enhance their academic performance and interpersonal relationships. Khan et al. (2021) conducted an analysis of social media use and found that social media played a significant role in the education sector by providing students with a learning platform that facilitated easy interaction with subject matter experts and peers. During the coronavirus outbreak, when all educational institutions were closed, university libraries prioritised the delivery of services through social media. The study emphasised that, in order to meet user expectations, university libraries needed to adopt smart technologies to evaluate and utilise social media effectively. These platforms enabled students to share online content, interact with experts, and receive timely feedback. Wang et al. (2021) conducted a study in an educational institution and found that both postgraduate (PG) and undergraduate (UG) students were generally satisfied with the use of social networking sites (SNSs) for learning. However, the findings revealed that PG students perceived SNSs to be more valuable than UG students. PG students also used these platforms more frequently for academic purposes and were more

inclined to engage in peer interaction through SNSs. Woods, Gomez, and Arnold (2023) provide a comprehensive overview of the multifaceted role social media can play in higher education. Their analysis underscores the importance of strategic implementation and the need for educators to be adept at integrating these tools to maximise learning outcomes. Al-Qaysi et al. (2023) contribute significantly to the understanding of social media's role in education by systematically reviewing existing literature and identifying key factors influencing its adoption. Their work underscores the importance of considering disciplinary and cultural contexts in future research and the potential benefits of exploring alternative theoretical frameworks to enrich the discourse on social media integration in educational settings. Ohara (2023) explores the pivotal role of social media in enhancing communication management within educational institutions. The study emphasises how platforms like Twitter and Facebook have reshaped the way educators, students, and administrators interact. By examining various case examples, the article highlights the benefits of real-time updates, broader outreach, and community building through social media. However, the study also notes challenges such as information overload and the need for strategic communication policies. Overall, the article provides practical insights into leveraging social media for effective and transparent educational communication. Van Zoonen et al. (2024), investigate how trust in institutions influences the spread of unverified information on social media. While not library-specific, the study has critical implications for academic and public libraries that rely on social media to disseminate credible information. The authors reveal that users with low institutional trust are more likely to share unverified content, highlighting a challenge for libraries aiming to establish themselves as trusted digital information hubs. For libraries, the findings underscore the need to foster transparency, credibility, and digital literacy in their social media strategies. Chowdhury (2024), investigates the dual impact of social media on the academic performance of university students in Bangladesh. While the study primarily focuses on learning outcomes, its findings offer valuable implications for academic libraries. The research reveals that when used constructively, social media can support academic engagement through access to learning resources, peer collaboration, and information exchange. For libraries, this highlights the opportunity to integrate social media into service delivery—promoting digital literacy, disseminating academic content, and fostering interactive learning environments that align with students' digital communication habits. Amjad et al. (2024), explore the integration of mobile learning, ChatGPT, and social media in tech-infused classrooms, offering insights that extend to

academic libraries. The study underscores how social media platforms serve as vital tools for knowledge sharing, collaborative learning, and academic discourse. From a library perspective, the findings highlight the potential of social media to enhance digital service delivery, promote information literacy, and facilitate user engagement beyond traditional settings. The article advocates for leveraging social media in academic libraries as a strategic extension of learning support ecosystems. Zhang et al. (2024), explore the complex relationship between social media use and students' academic performance, mediated by family bonding and collective learning, with mental well-being as a moderating factor. While the study centres on educational outcomes, it offers valuable insights for academic libraries aiming to leverage social media as a collaborative and supportive learning environment. The findings suggest that libraries can enhance their role in collective learning by using social media platforms to foster peer interaction, promote shared academic goals, and support students' mental well-being through engaging, inclusive, and informative content. Muftah (2024) investigates the impact of social media on English language learning during the COVID-19 pandemic, offering valuable implications for academic libraries. The study reveals that platforms like YouTube, WhatsApp, and Facebook played a significant role in supporting self-directed language acquisition, peer interaction, and exposure to authentic content. For libraries, this highlights the opportunity to curate and promote language-learning resources via social media, host virtual language clubs, and engage students through interactive posts. The article underscores the potential of social media as an accessible, informal extension of library services that supports language and lifelong learning. Lan and Tung (2024), investigate fake news awareness and trust among university students who actively use TikTok. The study reveals that while students are highly engaged on social media, their ability to critically evaluate information varies, raising concerns about digital literacy. This has important implications for academic libraries, which can play a key role in addressing misinformation. By leveraging social media platforms—including TikTok—libraries can promote media literacy campaigns, teach fact-checking skills, and guide students in evaluating sources. The study highlights the library's evolving role as a proactive agent in combating digital misinformation. Kumar and Nanda (2024), examine the dual role of social media in supporting both formal and informal learning processes. The study highlights how platforms such as WhatsApp, Facebook, and YouTube serve as effective tools for academic collaboration, content dissemination, and peer engagement. With special relevance to libraries, the article underscores the potential of social media to

expand library outreach, foster learning communities, and promote information literacy. It encourages libraries to integrate social media into their service models, making them more accessible, interactive, and aligned with students' evolving digital learning preferences. Singh and Meena (2024), explore the transition to online teaching in Indian higher education institutions during the COVID-19 pandemic. The study sheds light on the challenges and innovations adopted by educators, with social media emerging as a key enabler of communication and learning continuity. From a library perspective, the findings underscore the importance of integrating social media into library services to support remote learners. Platforms such as WhatsApp, Facebook, and YouTube were instrumental in promoting access to e-resources, providing updates, and engaging students, thereby reinforcing the library's role in digital academic support.

Madhusudhan and Soni (2024) assessed the impact of social media use and revealed in their study that social media had emerged as the main means of promoting library operations and disseminating information during the preceding six years. Xie et al. (2024) study underscores the transformative potential of social media in enhancing accounting education and knowledge management. By integrating social media into educational practices, there is an opportunity to create more dynamic, interactive, and accessible learning environments that benefit both practitioners and learners in the accounting field. Sengupta and Vaish (2024), explore the evolving role of social media in higher education during the COVID-19 pandemic, with findings that hold significant relevance for academic libraries. The study highlights how libraries leveraged platforms such as Facebook, WhatsApp, and YouTube to maintain communication, deliver remote services, and support digital learning when physical access was restricted. It emphasises social media's effectiveness in bridging the gap between users and library resources during crises. The authors advocate for the institutionalisation of social media practices in libraries to enhance accessibility and user engagement. Shoaib et al. (2025), examine how academic libraries in Pakistan adapted their services and facilities during the COVID-19 pandemic. The study highlights the critical role social media played in maintaining library user engagement amid physical closures. Platforms such as Facebook and WhatsApp were actively used to disseminate updates, share digital resources, respond to user queries, and promote virtual programs. The authors emphasise that social media has become a vital communication tool, enabling libraries to remain accessible and responsive. The results support the ongoing use of social media in outreach and

service strategies for libraries.

2.3 Social Media Marketing and Libraries

Hicks (2012) carried out an investigation on the use of social media by librarians and revealed that, in order to effectively serve a connected society, libraries needed to employ social media. The study found that social media platforms enabled academic librarians and Internet users to collaborate and communicate more broadly. Sponcil and Gitimu (2013) examined how college students used social media. The study found that social media had an impact on college students' perceptions of themselves. The researchers discovered that college students had used at least one type of social networking website. They also made several recommendations for further research on the use of social media for educational advancement. McCallum (2015) investigated the use of social media and revealed that, due to the growth and acceptance of social and interactive tools, university libraries progressively implemented IT solutions to better advertise their resources and services.

Siddike et al. (2015) analysed the use of social media marketing in libraries, and the study found that academic librarians held specific opinions on using electronic word of mouth (eWOM) and social networking sites (SNSs) to promote library services. Librarians utilised social networking platforms to build user communities and advertise library services. Islam and Habiba (2015) conducted a study on the use of social media, and the results of the paper showed that most libraries marketed their library and information services on Facebook and LinkedIn. Most libraries used social media to promote their products and services, share news and events, hold video conferences, advertise, and conduct research. Sheikh et al. (2016) examined how social media marketing was used in libraries, and the study found that university libraries in industrialised nations utilised social media extensively and were aware of its potential for service marketing. In Pakistan, however, university libraries were found to be largely ignoring social media tools. As the influence of social media websites grew, it became unavoidable for libraries to develop an online communication strategy that could be used for stimulation, service provision, and marketing. The study suggested that libraries should make an effort to manage social media tools efficiently in order to maximise the profitability of their use. Harrison et al. (2017) examined the use of social media in libraries and revealed that in the past decade, social media had surpassed traditional methods of communication to become the primary vehicle for disseminating library-

related news and promoting library events. The study emphasised that, for greater efficiency and effectiveness, it was essential to have a dedicated individual working full-time on the task to maintain active and up-to-date social media accounts. Magoi et al. (2019) examined the use of social media and revealed that most scientific studies on academics focused on exploring the resources, objectives, and opportunities for the effective use of libraries. The study concluded that social media was beneficial for academic libraries in marketing and promoting library services, professional development, social interaction, sharing of material, and communication for the benefit of library users. The progressive nature of social media in academic libraries helped them achieve their goals, especially in terms of facilities and services. The study found that the most popular tools among librarians were Facebook, Twitter, YouTube, Instagram, LinkedIn, Tumblr, Pinterest, Flickr, and Vine. Williams (2021) examined the use of social media among the younger generation. The study revealed that these social media platforms were used by institutions to interact with users and satisfy their information demands. New digital tools also encouraged younger generations to use library services. Anyim (2018) investigated the use of social media in libraries, and the study revealed that user training or education referred to programs specifically designed to explain to a group of users how to use online information sources. Library user education helped students grasp library concepts, resources, and services and become proficient users. Tofi (2019) investigated the use of social media and revealed in the study that libraries could reach more people using social media, narrow in on certain groups, and encourage engagement with the institution. Libraries existed to facilitate information exchange, which was precisely what social media was designed to do. Social media marketing for libraries promoted the library's brand, products, and services online. Libraries were able to engage users and help them utilise library products and services with the support of social media tools. Beese (2019) evaluated the use of social media in libraries and revealed in the study that social media was a growing library marketing tool. Understanding social media's significance, complexity, and evolving nature was found to be crucial for a library's marketing plan. The platforms attracted diverse communities. Twitter caters to scholars, an older university crowd, and library and media professionals, while Facebook attracts a general audience, especially older students and even young people who return to Facebook due to their informational needs. Kamarudin et al. (2020) evaluated the use of social media and revealed in the study that the intensification of social media had resulted in a new way for millions of users worldwide

to seek and share information. The authors demonstrated that the library's greater challenge was to develop engaging and effective social media sites in order to successfully adapt the library's voice, visibility, and presence to the cultures, diverse contexts, and audiences represented on social media platforms. Academic libraries require a best-practice social media programme to educate and guide appropriate online behaviour and activity so that social media can be a positive experience for all. Library management was advised to conduct staff training and upgrade librarians' and library staff's social media skills. Libraries could become more accessible to the community and capable of providing the best service through the effective use of social media. Budu et al. (2020) focused in their study on the predominance of social media and found that libraries were establishing their identity through the effectiveness of social media platforms, which influenced users' perceptions and utility. University libraries, library resources, and information centres all benefited from the use of social media. With the enhancement of library services globally due to automation, technological innovation, and the expansion of the student population, speedy access to social media platforms became crucial for keeping current and potential users informed about academic library services. The study examined how social media (SM) platforms promoted library services. The utility and popularity of social media networks depend on their efficiency. Libraries, library materials, and information hubs all benefited from SM marketing. Tajedini et al. (2020) examined the significance of the social media strategy and its possible approaches. The goal was to build a community of loyal library users, start conversations with them, and adapt in order to better meet their needs. The study found that this approach attracted more students to library services, increased repeated library visits, enhanced library service utilisation, and strengthened library preference. Pashootanizadeh and Rafie (2020) conducted research on the contribution of social media to interaction capability. The investigation found that the most valuable aspect of social media advertising for libraries was its "interaction capability" with users, which helped inform them about library products and services. Ezat (2021) examined the use of social media and revealed in the study that public libraries needed to understand how to market themselves effectively online in order to establish a vast online community and build strong relationships with their users. According to the study, content marketing was a strategic marketing technique that emphasised the production, dissemination, and publication of content for an online audience. Using social media platforms such as Facebook and Twitter to connect academics and library communities was shown to be

effective. Engagement analysis, however, necessitated assessing reach and impressions, monitoring the number of subscribers, and maintaining effective communication, as social media accounts underwent frequent changes. Anwar and Zhewei (2021) conducted a study on the use of social media in libraries and revealed that social media influenced library resources and services. The study found that social media promoted library services and resources and was considered promising in its ability to help libraries deliver timely information to users. The researchers analysed the concept of social media, its impact, significance, and the challenges associated with its use in library settings. It was a qualitative study. The findings indicated that social media had a significant impact on library resources and services, helped libraries market their services and resources, and held great potential in enabling libraries to reach users and provide timely information. Shastri and Chudasma (2022) investigated the use of social media and revealed in their study that, to meet the various kinds of user demands, skilled staff was the need of the hour. The study showed how librarians provided ICT-based services to users. Well-established libraries had more resources, services, and technically skilled staff than before. Mensah and Onyancha (2022) found in their study that social media was useful for contacting libraries and for delivering and evaluating library services due to its value-added features, which included improved performance and quick, simple evaluation at any time and from any location, particularly during awareness campaigns. The study suggested that academic libraries should have made social media easier to utilise. Anwar and Zhewei (2022) analysed social media marketing, and the study provided data on people's perceptions of the library's use of social media. Notably, users recognised social media as a service that the library provided. The study suggested that academic libraries should have used social media to create, disseminate, and interact with users regarding their services and information resources. Ritonga et al. (2023) conclude that social media is a potent tool for promoting academic library services, enhancing user engagement, and expanding the library's reach. They recommend investing in staff training for digital content creation and developing a strategic social media plan to maximise benefits. The study identified Telegram as the most suitable medium for marketing library services. Margam (2024) explores the transformative impact of metaverse technologies on libraries, emphasising their potential to enhance user engagement through immersive experiences. The study discusses how libraries are integrating virtual environments to offer interactive learning, virtual tours, and digital exhibitions. With a special focus on social media, Margam highlights how platforms

such as Instagram, YouTube, and Facebook serve as bridges between physical and virtual library spaces. These channels are effectively used to promote metaverse-based services, engage tech-savvy users, and foster community interaction. The study positions social media as a vital companion to immersive library innovations. Bartoloni and Ancillai (2024) provide a comprehensive systematic review of two decades of social media marketing research, the article synthesises insights across academic disciplines and proposes an integrative framework that outlines how firms create, deliver, and capture value through social media. Special attention is given to the evolution of platforms, user engagement strategies, and content dynamics. The authors emphasise the strategic role of social media in brand positioning, community building, and customer relationship management. Their future research agenda calls for deeper exploration of emerging platforms, algorithmic influence, and ethical considerations in digital marketing. Ahmed et al. (2024) present a comparative analysis of how libraries in developing countries adapted their service delivery during the COVID-19 pandemic, the study highlights the crucial role of digital platforms, with a special focus on social media as a tool for maintaining user engagement and continuity of services. Libraries leveraged platforms like Facebook, WhatsApp, and Twitter to disseminate information, conduct virtual programs, and offer digital literacy support. The authors emphasise that social media became an essential communication bridge in the absence of physical access, showcasing its potential in enhancing library resilience during crises. Drossos et al. (2024) the study highlights framework for optimising social media marketing content strategies, with an empirical focus on brand posts on Facebook. The study identifies key content attributes such as vividness, interactivity, and timing—that influence user engagement. Emphasising the strategic use of social media, the authors provide actionable guidelines for enhancing brand visibility and fostering consumer interaction. Their findings underscore the importance of aligning content with audience expectations and platform algorithms. The article offers valuable insights for marketers seeking to refine their social media presence through data-driven strategies. Shah et al. (2024), examine how social media technologies and CRM 2.0 capabilities contribute to user loyalty and institutional reputation. Though focused on broader university contexts, the study offers significant implications for academic libraries. It highlights how libraries, as key service arms of universities, can use social media to build stronger relationships with users, enhance service personalisation, and foster loyalty. The findings suggest that consistent engagement, responsiveness, and value-driven content on social media can

strengthen the library's image, making it a strategic asset in the university's reputation-building efforts.

Kwan et al. (2024) examine the role of youth marketing in special libraries using the 7Ps marketing mix, with particular emphasis on the Taste Library's strategies in the digital age. Notably, the article underscores the strategic use of social media under the "Promotion" component, highlighting its power in engaging youth through platforms like Instagram and Facebook. The authors illustrate how creative content, influencer partnerships, and interactive campaigns on social media have helped reposition the library as a culturally relevant and youth-centric space. The study effectively demonstrates that social media is not just a communication tool but a transformative force in library marketing. Muneja (2025), explores the strategies used by universities and colleges in Tanzania to market electronic resources, with a notable emphasis on the role of social media. The study reveals that platforms like Facebook and WhatsApp are increasingly being adopted by academic libraries to raise awareness of e-resources, share access links, and engage with users in real-time. Social media has proven particularly effective in reaching students in remote areas and promoting underutilised digital collections. The article underscores the need for strategic social media planning to enhance visibility, accessibility, and usage of library e-resources. Gupta (2025), the study highlights social media as a key tool in this transformation, enabling libraries to engage users, gather feedback, and co-develop services in real-time. By leveraging platforms like Twitter, Instagram, and Facebook, libraries can experiment with interactive content, promote new services, and foster user-driven innovation. Gupta emphasises that social media not only supports outreach but also acts as a participatory medium for continuous service improvement, aligning libraries with evolving user needs and technological expectations.

2.4 Case Studies of Social Media in Libraries

2.4.1 International Case Studies

Eid and Al-Jabri (2016) analysed the use of social media in libraries, and the study revealed that Saudi Arabian university students enjoyed Internet chatting, creating knowledge and information, file sharing, and entertainment. A survey of 308 postgraduate and graduate students at the university revealed a significant association between students' use of online social media and their academic performance. Zhu

(2016), conducted a study that examined social media use in libraries, found that WeChat was used by 500 million individuals; therefore, academic libraries in China could not avoid using it. Through WeChat, a highly popular social media program in China, libraries had the opportunity to inform staff, teachers, and students about their services and enhance their standing among these user groups. Most of the work to promote social media tools in libraries had to be done by the libraries themselves. Semode et al. (2017) investigated the use of social networking sites (SNSs) by librarians as well as their proficiency in effectively using these platforms, and revealed in the study that SNSs were utilised by librarians in Nigeria to disseminate information regarding library resources and library-related news. The study also found that in Nigeria, there were challenges such as power outages, poor networks with limited bandwidth, insufficient time, and a lack of interest on the part of some librarians. Alawadhi and Al-Daihani (2019) examined the use of social media in libraries and revealed in their study that academic librarians in Kuwait were fond of social media, as reflected in their marketing efforts. A questionnaire was used for quantitative data collection. The study suggested that academic libraries should have used social media to create, deliver, and share information sources and services with users. Additionally, since social media had become a primary method of assessing and exchanging information, the study emphasised that management needed to focus on specific aspects of using social media to market library information sources and services, such as the utility of social media tools in raising awareness and conducting needs assessments and satisfaction surveys. Jones and Harvey (2019) highlighted the importance of social media in marketing, promotion, and user communication. British educational institutions were surveyed via questionnaire, with responses from 58 librarians and 498 students. The study found that many libraries struggling to adapt to the modern information age were ignoring social media. It concluded that social media was an effective tool for promoting and marketing libraries in educational settings, which remained a largely unstudied sector within library research. Cheng et al. (2020) conducted a study on how university libraries in Hong Kong utilised social media platforms to advertise library resources and services. The study revealed that many libraries struggled with marketing via social media. Using the Facebook page of HKUL as a case study, the research shed light on the subject of social media marketing. According to the study, librarians needed to use social media efficiently and understand user behaviour, etiquette, and culture to use social media

platforms effectively. The analysis found that a lack of intriguing content and an unpleasant presentation hurt the page's popularity. Anwar and Zhiwei (2020) examined the use of social media and revealed in their study that social media may have been the biggest user-interaction revolution. Social media helped libraries create virtual learning zones to improve library use. Social media marketing assisted libraries in promoting their resources and services in the virtual world. Bhuyan and Bipasha (2021) investigated the use of social media during COVID-19 and revealed in their study how students used social media during the epidemic period. According to the findings, Dhaka University Library (DUL) was able to deliver online services throughout the COVID-19 epidemic by utilising a variety of social media platforms. The majority of students and faculty utilised Facebook. Bashir et al. (2021), in examining how university students used social media, found that over the past decade, social media had grown in importance as a means of sharing and obtaining information in various spheres of life. A cross-sectional survey carried out at four universities in Faisalabad, Pakistan, served as the basis for the study. A structured questionnaire was developed, and data from 400 students were collected. The majority of students used social media multiple times a day. Most of them used WhatsApp, Facebook, and YouTube. Men used social media more than women. Gmiterek (2021) investigated the use of social media in university libraries and revealed in the study that university libraries made a variety of digital materials available during the COVID-19 lockdown in the spring of 2020. The study examined the content published by 18 Polish university libraries, how they used social media, and how they engaged and collaborated with users when the physical libraries were closed. Fanpage Karma, a social media content planning tool, was used to collect social media data from Polish university libraries. The tool compared university library social networking sites and found that Polish university libraries used Facebook, Instagram, and Twitter during the lockdown. Facebook, Instagram, Twitter, and YouTube were identified as the platforms prioritised by users.

2.4.2 National Level Case Studies

Arumugam and Balasubramani (2019) examined the use of social media platforms by young professionals in Tamil Nadu, and the study revealed how engineering colleges in Tamil Nadu used social media for promotion. Social media technologies provided a shared platform where LIS professionals could reach multiple user groups easily.

Considering their technological competence, young professionals were more active in using these tools. Social media was preferred over traditional means. The analysis showed that Facebook, Twitter, and LinkedIn were utilised to share knowledge and reviews. Ansari and Khan (2020) aimed to examine how social media and mobile devices could be used to communicate with academicians at higher education institutions and transfer resources. The study was based on a survey of 360 students at a university in eastern India. It explored how students viewed social media and mobile devices in relation to peer and lecturer engagement, collaborative learning, and academic achievement. Mahalakshmi and Babu (2021) carried out an investigation on the use of social media by LIS professionals, based on data from 652 respondents from rural, semi-urban, and urban areas. The study revealed that library professionals should have played a more active role in the process of information exchange for the benefit of users. The Internet had become omnipresent, and its expansion had made social networking sites the most common form of communication. The study examined the type of knowledge exchanged, motivations and rewards for sharing, and issues faced when sharing knowledge via SNS. Data were collected using an interactive web survey, and a percentage-based method was employed to analyse the data. SNS platforms were found to have benefited respondents overall. Respondents agreed that social media sharing compromised data security and privacy. The research indicated that LIS professionals should have played a more active role in the process of information exchange.

2.5 Social Media and Benefits for Libraries

Social media's incorporation into user engagement and marketing initiatives is transforming how libraries engage with their communities. There are several ways to improve library exposure, accessibility, and user involvement through social media platforms, ranging from boosting digital literacy to improving support services. However, to properly optimise their digital outreach, libraries must constantly adjust to new trends and make training investments in social media. According to Phillips (2011), academic libraries that actively answered user questions on social media saw an increase in foot traffic and greater levels of satisfaction. By responding to inquiries and offering advice online, libraries strengthen their bonds with their users. A study by Ayu and Abrizah (2011) founded that academic libraries in Malaysia use Facebook for promoting new acquisitions and engaging students through discussions and polls. According to

Sachs et al., (2011), Facebook can be used to provide reference services. Their research showed that in addition to posting information, libraries also use Facebook to Respond to often requested inquiries. Make academic resource recommendations. According to Luo et al., (2013) founded that social media improves digital literacy by giving libraries a place to Organise research skills workshops online, ask questions about database searches in real time. It provides citation style and academic writing tutorials and distribute infographics and movies to make difficult research procedures easier and teach students how to conduct research. Make virtual consultations available. Singh and Gill (2015) found that Facebook was the most popular social networking site across all four of the North Indian universities that participated in the study. The majority of students accessed social networking sites on laptops and primarily learned about them through their friends. About half of the students used social networking sites for enjoyment, with their primary goal being to interact with peers. Most students had been using social networking sites for one to two years and spent roughly an hour on them. They predominantly accessed social networking sites from their homes, with hostels being the second most common location. The most popular features on social networking sites were chat rooms, and 65.4 percent of students acknowledged that social networking sites were excellent for communication and had significant potential for application in academic settings. Libraries, at the time, heavily depended on social media to interact with users. The importance of social media in academic and public libraries has been examined by Islam and Habiba (2015) according to these research, social media sites like Facebook, Instagram, LinkedIn, and Twitter are essential for expanding library outreach and encouraging community involvement. Omeluzor et al. (2016) evaluated the use of social media platforms for the marketing of library services and revealed in their study that social media was used to notify users about new arrivals and service trends. Social media was found to be helpful for young people in their studies, as they preferred online sources of information. The study suggested that libraries should have used social media networking since it was cost-effective. It also identified several challenges, including inconsistent power supply, inadequate ICT skills, fear of technology, lack of understanding of modern technology, insufficient bandwidth, and lack of Internet connection. Bakare and Mutula, (2017) carried out an investigation on use of social media technologies and revealed in the study that have revolutionised how we create, store, organise, and provide information, raising public expectations of university libraries as a gold mine to boost research productivity. Users of academic libraries seek

customised information rapidly. The library's valuable resources can increase research productivity. These technologies to contact users and give services. It relates to collaborative, communicative, and information-sharing services. Social media makes it easier for academics, researchers, and library staff to work together. According to studies by Sin and Kwon (2017), founded that libraries utilise social media to share academic papers and research updates, as well as to connect professors and students with academic resources. Encourage interdisciplinary research partnerships and give researchers access to networking opportunities. Peñaflor (2018) conducted a study on academic libraries in the Philippines and discovered that Facebook pages and groups helped students and librarians communicate easily. These platforms were used by libraries to respond to inquiries, carry out surveys, and gather service user feedback. According to Howard et al., (2018), libraries that use social media to their advantage provided online forums where users may exchange ideas, work together on research projects, and discuss scholarly subjects. These platforms act as a link between library services that are provided digitally and physically. When Joo et al., (2018) examined public library Facebook pages, they found that interactive elements like quizzes, library events, and book recommendations increased user engagement. Their research emphasises how social media can help libraries become more engaging spaces rather than just passive knowledge bases. Al-Daihani and Abrahams (2018) founded that Facebook analytics help academic libraries measure engagement and optimise content strategies. Nisar et al. (2019) examined the emergence of social media and found that social technologies could assist firms in managing information flows. This led to changes in their knowledge management systems, which were then connected to improvements in performance. This knowledge management tool was considered important because it enabled staff members to communicate and share information with various groups within their Community of Practice. Fosso et al., (2019) The study highlights that internal and external elements influencing social media adoption and utilisation, including strong internal management leadership to assist emergency operations. Because of the proliferation of social media platforms, once prohibitively expensive methods of information dissemination have become much more cost-effective. Eid et al., (2019) found that social media has emerged as a tool that is both economical and effective for exchanging information. Social media has expanded throughout time and grown to be a unique and crucial marketing tool in determining the success of any business, product, or service. Academic and public libraries were able to interact with users, promote digital resources, and ease research

collaboration by utilising social media platforms including Facebook, Instagram, LinkedIn, and Twitter (Alawadhi & Al-Daihani, 2019). Chi (2020) examined the use of social media, and the study revealed that social media benefited organisations and individuals by providing competitive advantages and opportunities to increase work efficiency. The study was based on a review of the available literature. Social media assisted libraries in a variety of ways communicating with users, conducting marketing and promotional activities, offering economical solutions, collaborating and connecting with other libraries, and accessing, selecting, and providing feedback on library products and services in multiple ways. It was considered critical to create high-quality platforms to engage users. These platforms had the potential to impact both user perceptions of libraries and library usage. The proposed framework consisted of the following components: design, navigation, content, services, and Web 2.0 technologies. Libraries were advised to create content aligned with their users' preferences. Social media content and user interactions were to be constantly monitored and analysed. The study suggested that, if properly utilised, social media could play a critical role in bridging the divide between libraries and their users in the near future. Imran et al. (2020) examined the role and importance of social media during emergencies, and the study revealed its benefits in such conditions. It found that gaining a fast understanding of the situation as it evolved during disasters and emergencies was a difficult task for official response organisations. Members of the public, humanitarian groups, and other concerned authorities sought relevant information to either prevent the disaster or assist victims as quickly as possible. Traditional techniques were time-consuming and labour-intensive. The widespread use of non-traditional information sources, such as social media (SM) platforms, created multiple opportunities to collect useful information in a timely manner to improve disaster response. Nawaz and Samdani (2021) conducted a study on social media use and found that social interaction, business, education, and research had all changed as a result of social media's widespread use. The results showed that time spent on social media was helpful for finding research opportunities, collecting, organising, and analysing research data, identifying ways to participate in research activities in advance, receiving help with research from other students, and disseminating research findings. As a result of these findings, educators, researchers, and policymakers were encouraged to better incorporate social media literacy into their work. Gohel (2021) carried out an investigation on the use of social media and revealed in the study the need and importance of social media platforms for promoting library services. In the age of social media, the majority of

libraries had implemented and used platforms such as Facebook, YouTube, Instagram, Twitter, Pinterest, and others. Marketing was found to increase the value of information in the marketplace via social media. Providing library services through social media benefited both users and librarians. The use of social media to deliver library services had increased the number of library users. However, there were numerous challenges to library marketing, such as poor institutional funding, lack of support from the organisation's management, limited encouragement for library staff, and a lack of technical and marketing skills. Despite these challenges, the study suggested that librarians could develop marketing strategies tailored to their own libraries using their individual skills for the benefit of users. Dwivedi et al. (2021) studied the impact of social media and the Internet and found that they had altered user behaviour and practices. The study emphasised that raising awareness, simplifying assessment, and encouraging the use of digital information were crucial in the rapidly evolving ecosystem of digital information and services. The growing popularity of social media had a significant impact on how libraries communicated with their users, shared information and advertised their services.

2.6 Social Media and Challenges

Even while social media has many advantages, libraries still have to deal with issues including maintaining user interest, privacy concerns, and the digital divide. Blakeman and Brown (2010) examined the function of social media in library marketing, highlighting its capacity to disseminate research and promote brands. They pointed out several difficulties, including information overload, issues with credibility, and challenges in maintaining an active online presence. Due to a lack of specialised staff to oversee social media accounts, many libraries connected with users inconsistently. According to the survey, libraries needed to create content strategies that suited user interests and use resources efficiently. The authors advised conducting regular evaluations of social media efficacy in order to improve user interactions and marketing strategies. Anttiroiko and Savolainen (2011) explored how Web 2.0 technologies were being used in public libraries and the difficulties associated with their adoption. The study identified significant obstacles that libraries had to overcome, including lack of technical know-how, budgetary restraints, and resistance to change. The authors pointed out that although Web 2.0 tools such as blogs, wikis, and social networking sites had significant potential to increase user involvement, many libraries faced organisational

resistance and challenges related to the digital divide. According to the report, in order to successfully incorporate Web 2.0 technologies into their services, libraries needed to adopt a systematic approach that included user engagement strategies, funding support, and staff training. A follow-up analysis of the Vancouver Public Library's social media integration was provided by Cahill (2011). According to the report, maintaining an active social media presence required substantial resources, including dedicated staff and careful content planning. The study identified challenges such as information overload, tracking engagement metrics, and balancing online and physical offerings. It recommended that libraries allocate sufficient funding and resources to sustain their social media strategies while regularly assessing their effectiveness. The author also suggested that implementing user-driven content creation could enhance community involvement and foster sustained engagement. Aharony (2012) explored Facebook marketing strategies and engagement tactics used by libraries. According to the survey, perceived utility, usability, and individual inventiveness were among the variables that affected library workers' opinions regarding Facebook adoption. The research showed that although many librarians were aware of Facebook's advantages, issues such as time constraints, privacy concerns, and a lack of institutional support made it difficult to use effectively. The study suggested that libraries should have established social media guidelines and provided training in order to fully benefit from Facebook. The research findings indicated that the adoption of Facebook in libraries was impacted by organisational and technological variables, necessitating appropriate integration strategies. Bertot et al. (2012) covered the policy-related difficulties that libraries encountered while implementing social media policies. Institutional policies, ethical considerations, and governmental restrictions frequently restricted libraries' ability to fully engage with users on social media. Major obstacles included issues such as digital rights management, accessibility, and censorship. According to the study, policies that promoted open access, privacy protection, and staff empowerment were necessary for libraries to use social media effectively. The study recommended the establishment of clear social media policies, training programs for librarians, and adherence to ethical and legal requirements. Chu and Du (2013) examined the advantages and disadvantages of social networking platforms in academic libraries. Although social media sites like Facebook and Twitter facilitated knowledge sharing, they also presented drawbacks such as handling unfavourable comments, ensuring the accuracy of information, and adhering to legal requirements. The authors contended that, to mitigate such issues, libraries

should have established moderation guidelines, trained employees, and implemented risk management techniques. According to the study, collaborative alliances between technology specialists and libraries enhanced the efficacy of social networking initiatives. While social media improved communication and brand visibility, Luo et al. (2013) examined the successes and challenges of libraries using social media for marketing purposes. They concluded that social media marketing required ongoing evaluation to ensure alignment with institutional goals and audience expectations. The study emphasised that dedicated social media teams, structured engagement policies, and ongoing staff training were necessary to manage user feedback, meet content demands, and balance traditional and digital outreach efforts. Boateng and Liu (2014) examined the adoption of Web 2.0 applications in academic libraries and the difficulties associated with it. The study found that libraries struggled to engage users due to low user awareness and a lack of digital literacy, despite the growing integration of social media platforms like Twitter and YouTube. The sustainability of social media projects was also hindered by staff workload and financial constraints. To improve Web 2.0 adoption, the authors stressed the need for libraries to conduct regular training sessions and establish strategic partnerships with academic institutions. The study concluded that staff competencies and institutional commitment were essential for the successful integration of social media in libraries. Fasola (2015) investigated librarians' opinions about using social media to promote libraries. The study emphasised hesitancy due to concerns about workload, a lack of institutional incentives, and fear of unfavourable comments. Many librarians felt unprepared to effectively handle online interactions, even though some were aware of social media's potential. According to the study, libraries ought to have funded staff training initiatives, established specialised social media departments, and drafted comprehensive guidelines for digital interaction. The results showed that librarians' confidence in using social media could have been increased with the right training and institutional support. Rashid (2015) investigated identification and social media issues in relation to Assamese university students. The study found that users were enamoured with the social networking site because it gave them the opportunity to establish a personal identity. The researcher discovered that social media had become more visual in nature and that a significant amount of interaction on social media revolved around photographs. Ali and Aliyu (2015), according to the study, found that a large number of students had extensive usage of social networking, particularly Facebook. The researchers observed that students were spending increasing amounts of

time on social networks. They suggested that students needed to be shielded from the negative consequences of social media. Kaushik (2016) analysed the challenges of social media in libraries and revealed in the study that there was a lack of sufficient policy and execution in social media networking. In addition to this, other barriers included security and privacy concerns, lack of skills, limited understanding of social media, and the inadequate use of skilled library staff. The study also found that a lack of understanding, bandwidth problems, insufficient training, and copyright restrictions made it difficult to market library resources and services on social media. Gan (2016) investigated WeChat's integration in Chinese public libraries, emphasising adoption obstacles such as a lack of technical know-how, governmental restrictions, and content control issues. According to the study, WeChat improved communication and service delivery in libraries, but libraries faced difficulties in retaining users due to competition from for-profit platforms. The study suggested creating focused content initiatives, educating employees in digital customer service, and collaborating with tech companies to maximise platform utilisation. It emphasised the importance of localised strategies when integrating social media into library operations. Cavanagh (2016) examined the use of Twitter and other microblogging sites by Canadian public libraries. The report identified several obstacles, including uneven content strategies, a shortage of personnel with the necessary skills, and low user engagement. Libraries often found it difficult to produce engaging content that complemented their offerings when competing with other information sources. According to the results, libraries needed to create explicit content policies, provide staff with training in digital communication, and utilise data analytics to enhance their social media strategies. The study's findings indicated that incorporating social media into library operations required thorough preparation and consistent effort. Bhakta (2017) investigated the effects of social networking platforms on Indian students. The study found that college students were impacted by social networking sites in both positive and negative ways. The researcher discovered a negative correlation between students' academic performance and the amount of time they spent on social networking sites. It was proposed that excessive use of social networking sites could negatively impact students' academic performance. In their study, Jones and Harvey (2019) explored the efficacy of social media marketing in university libraries, highlighting major obstacles such as low user engagement, difficulties in managing content, and challenges in calculating return on investment. According to the study, social media had the potential to increase library awareness, but its effectiveness was limited if libraries did not

implement regular interaction plans. The results indicated that, in order to maximise social media outcomes, libraries needed to adopt a strategic approach that incorporated data-driven content development and user behavior analysis. The study recommended using analytics tools to measure engagement metrics and enhance social media strategies for broader reach. Okike and Oyeniyi (2019) examined the role of social media and revealed in their study the challenges it posed for librarians. The study described how librarians and information workers had to be cautious when posting information to avoid security breaches, particularly concerning personal data. It emphasised that information and library users required personal attention. The authors suggested that libraries, the media, the public, and information professionals should have created social media awareness campaigns to address these issues. Ozbay and Alatas (2020) studied the use of social media and its associated problems, such as fake news, and found that it was easy for anyone to make a false comment or publish a fake news article on social media. The study identified the distinction between false and real news as the greatest challenge. With a focus on fake news, the study proposed a two-step method for identifying false information on social media. The emergence of social media had made news more accessible, affordable, and timely, but this shift also brought disadvantages. Particularly dangerous was deceptive content, such as fake news produced by social media users. The research proposed a strategy that combined supervised artificial intelligence algorithms with text mining techniques to detect bogus news on social media. Meel and Vishwakarma (2020) conducted a study on social media use and the problems associated with fake news, and found that rumors, misinformation, disinformation, and information pollution were all byproducts of the digital communication ecosystem, posing significant dangers. In this review study, they included an impact analysis, characterisation, comparison, and a thorough assessment of the state of methods, techniques, and technologies used to reduce the malicious effects of information pollution. Abaido (2020) analysed the incidence of cyberbullying among Arab university students, its varieties and distribution methods, and their attitudes toward reporting it rather than remaining silent. The study also evaluated the negative impact of social media. Information was collected from 200 students in the United Arab Emirates. Cyberbullying on social media was confirmed by 91 percent of the study's sample, with Facebook (38 percent) and Instagram (55.5 percent) reported as having the highest rates. Oriogu et al. (2020) explored the application of social media and revealed in the study that librarians needed to use social media to serve the new generation of users. Inadequate training

opportunities and sluggish Internet were identified as major challenges. The study indicated a link between social media use and library services and found that the age of library staff affected their use of social media. Ashiq et al. (2021) conducted a study on the use of social media and revealed that as new forms of library and information sources emerged on the information landscape, their promotion had to go beyond simple notification. Keeping people informed about the latest electronic resources presented a significant challenge.

The literature reviewed shows that social networking can help a library by providing huge exposure and user reach. With the help of the latest technologies, such as using social media optimisation (SMO), users can be attracted to the library's latest sources. Moreover, social media platforms enable libraries to stay in touch with their users and create a database online that can be used to improve library processes and operations. Thus, when used effectively, social media marketing techniques can significantly benefit library and information work by increasing user awareness of library information sources and services. The purpose of this study is to ascertain the major marketing strategies used in the promotion of digital information sources and services and assess the determinants of user awareness of these digital sources and services. From the literature, the following gaps were identified.

Various determinants like acquaintance of the library users with the social media platforms and problems faced by library users while assessing social media platforms are such determinants on which there is limited research.

- Components of social media marketing have been studied but limited work evaluates the major social media platforms being used by the IIT Libraries to market library information sources and services.
- Studies examining the factors that influence users' engagement with library social media sites and further explaining the relationship between the constructs are in emerging state and scarce.
- Limited studies have investigated the challenges surrounding the libraries' strategies in marketing the information sources and services and provide recommendations to overcome those challenges.
- There is a need to evaluate the reliability, satisfaction, and dependency of the IIT Library users on the Social Media platforms

In conclusion, social media is a rapidly expanding technology that has already permeated every aspect of human activity. In terms of social media's use and effects, the educational sector is not an exception. Numerous researches have been carried out in the areas of social networking and social media. However, due to cultural and religious barriers, research undertaken in one country or continent cannot be applicable to another country, region, or continent. The literature has covered the academic value of social networking sites in great depth. Nevertheless, there is very little participation from institutions or libraries in encouraging the use of social media platforms. The use of social media can greatly aid in research and development efforts. Social networking sites could be used to provide services like online research cooperation, reporting research findings and sharing resources etc. Institutions may establish guidelines to encourage researchers to use social networking sites, and the government can be extremely helpful in granting access and preventing inappropriate usage of different social media platforms. After reviewing the literature, it was discovered that no study was done among the library users of IITs in North Indian states so to find out how aware the users were of different academic and general social networking sites, how often they used them, why they used them, what obstacles they faced, the effects of social networking sites on their academic skills, etc.

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CHAPTER 3

RESEARCH METHODOLOGY

Overview

The research methodology chapter outlines the systematic approach adopted to study the use of social media marketing in academic libraries. It details the research design, sampling techniques, data collection tools (such as structured questionnaires), and analytical methods used to examine librarian and user perceptions. The chapter also highlights the rationale behind selecting IIT libraries as the study context and explains the reliability and validity measures undertaken to ensure robust findings.

3.1. Introduction

3.2. Research design

3.3. Source of data and unit of analysis

3.4. Universe of the Study

3.5. Sampling

3.6. Data analysis

3.1. Introduction

Social media platforms have become valuable tools for global action, mobilisation, participation, and higher education. Over time, they have evolved into parallel communication and development channels. Social media platforms, usually web-based apps, leverage multi-way communication to allow people and institutions to create, engage with, and share new or existing content in digital environments. Higher education researchers, instructors, and students all make extensive use of social media platforms. Students have more options to communicate with alumni, teachers, administrators, and other students both inside and outside of their current institution, thanks to social media platforms. In order to establish a research design for the current study, the researcher reviewed the literature in the previous chapter. Each research project's meticulous and critical planning is essential to its successful conclusion. Since a research design is the

blueprint for the entire research project, it is appropriate to say that. The researcher can use time, money, and resources better with a well-planned design. It is a strategy and framework for addressing the research topics. The study design provides a more significant research outcome. As the foundation of the entire research project, a reasonable and rational research design aids in the organisation of concepts in a coherent manner and aids in assessing the work's validity and generalizability.

In response to the global rise in social media usage, libraries have actively embraced these tools to enhance the management of their collections. According to Kumar and Nanda (2024), social media platforms enable libraries to disseminate important announcements and updates effectively within the users community. However, there is a need to study the extent to which Indian Institute of Technology (IIT) libraries offer library information resources and services to library users. By increasing user awareness, the Library's resources and services will see an increase in use. Marketing is critical in ensuring that the Library is utilised by the community. Resources in electronic formats necessitate more promotion and evaluation than is currently taking place. The library's sources and facilities will be used more frequently due to ongoing marketing and promotion efforts. Furthermore, sound marketing strategies play a significant role in the success or failure of e-resource services. It is imperative that librarians take a more proactive approach to market their knowledge products, information, and services in order to better meet and serve the users' needs.

Tajedini et al. (2020) investigate that social media is playing a bigger role in library communication, and users have high expectations from the libraries. To spread the word about library services, there is a current push to add more and more relevant social media platforms. However, most Indian libraries are still relatively new to this activity. The librarians' biggest issue is integrating this new type of communication via social media platforms. The traditional marketing strategies used by libraries in the past were intended only for a small number of users; but, with the expansion of online information, many more library services are now accessible. Moreover, users might not be cognizant of the accessibility of particular library services associated with their topic. As a result, users are dealing with the challenges of abundance. But librarians cannot abandon their users

amid the overflow of information, where locating relevant material is not only a difficult endeavour but also occasionally an irritating and time-consuming one. Because the actions needed to manage marketing through social media are more complicated than those for traditional marketing, the entire situation presents a significant challenge for librarians to assess their methods and procedures in managing social media platforms. Since social media platforms are more than just a means of disseminating information, they should also serve as hub that meet users' information demands. However it is imperative that mechanisms for social media development, access management, and dissemination be developed from the perspective of the users. Therefore, a thorough understanding of how users feel about the way social media platforms are organized and managed in IIT libraries will enable the respective library to take proactive measures to address user concerns and improve users' ability to obtain information from social media platforms. Hence, this study attempts to adjudge and understand various factors that impact library users' awareness of Social Media Marketing and ascertain major social media marketing strategies used by librarians to make users more aware. The modern youth spend a significant portion of their daily lives interacting via social media. Getting the answer to the question “How does social media marketing enhance the library services of IITs for the benefit of the library user?” will further help to shape the study.

3.2. Research design

Research design serves as both a conceptual framework and a guide for data gathering and analysis (Kumar & Praveenakumar, 2025). Descriptive research was chosen for this study since the research challenge at hand required the pursuit of fact-finding inquiries. The best approach to characterize the current state-of-the-art is this one. Survey methods used in descriptive research include gathering numerical data via questionnaires, in-person or telephone interviews, or observation. In order to obtain accurate information about the marketing of social media platforms in the libraries under investigation and to understand the expectations of users regarding social media, the survey approach was deemed to be the most suitable for this particular study. The survey approach was used for this research project, which included interviews with the librarians, a structured questionnaire as a tool, and on-site observations of the facilities. This study is limited to

eight Indian Institutes of Technology (IITs) and focuses on how social media marketing is organized and managed, as well as what users think and anticipate from the social media platforms (SMPs) services offered by the libraries that are the subject of the study.

3.3. Source of data and unit of analysis

The primary source of data for this study comprises eight Indian Institutes of Technology (IITs), which form the core focus of the investigation. To supplement the primary data, secondary sources such as print and electronic books, peer-reviewed journals, and scholarly databases were also consulted. The unit of analysis consists of individual research scholars from these eight IITs, located across the Indian states and union territories of Jammu & Kashmir, Panjab, Himachal Pradesh, Rajasthan, Uttrakhand, Uttar Pradesh, and New Delhi, who participated in the study by responding to a structured questionnaire.

3.4 Universe of the Study

The universe of study consists of twenty-three Indian Institute of Technology (IITs) in India. An institution of higher education working at a very high standard in specific areas of study. The Indian Institutes of Technology (IITs) were established under the Institutes of Technology Act of 1961 (Sharma & Kaldewey, 2025). Located all around the nation, these prestigious engineering schools are renowned for their cutting-edge scientific and technological methods, research achievements, and academic brilliance. The state-wise breakup of the IITs is given in Table 3.1

Table 3.1

List of IITs with NIRF 2024 ranking

Name	NIRF 2023 Rank	NIRF 2024 Rank	Abbreviation	State/UT	Founded In
IIT Kharagpur	6	5	IITKGP	West Bengal	1951
IIT Bombay	3	3	IITB	Maharashtra	1958
IIT Madras	1	1	IITM	Tamil Nadu	1959
IIT Kanpur	4	4	IITK	Uttar Pradesh	1959
IIT Delhi	2	2	IITD	Delhi	1961
IIT Guwahati	7	7	IITG	Assam	1994
IIT Roorkee	5	6	IITR	Uttarakhand	1847
IIT Ropar	22	15	IITRPR	Punjab	2008
IIT Bhubaneswar	47	54	IITBBS	Odisha	2008

IIT Gandhinagar	18	18	IITGN	Gujarat	2008
IIT Hyderabad	8	8	IITH	Telangana	2008
IIT Jodhpur	30	28	IITJ	Rajasthan	2008
IIT Patna	41	34	IITP	Bihar	2008
IIT Indore	14	16	IITI	Madhya Pradesh	2009
IIT Mandi	33	31	IITMD	Himachal Pradesh	2009
IIT Varanasi	15	10	IIT BHU	Uttar Pradesh	1919
IIT Palakkad	69	64	IITPKD	Kerala	2015
IIT Tirupati	59	61	IITTP	Andhra Pradesh	2015
IIT Dhanbad	17	15	IIT ISM	Jharkhand	1926
IIT Bhilai	81	73	IITBH	Chhattisgarh	2016
IIT Dharwad	93	Not in 100	IITDH	Karnataka	2016
IIT Jammu	67	62	IITJMU	Jammu and Kashmir	2016
IIT Goa	Un- ranked	Not in 100	IIT GOA	Goa	2016

Note : NIRF ranking of IITs in 2024 and year of established under the Institutes of Technology Act of 1961

Source: <https://byjus.com/jee/list-iit-colleges/>

3.4.1 Scope of the Study

The scope of the study is limited to the following eight IITs of Uttar Pradesh, Uttarakhand, Rajasthan, Himachal Pradesh, Panjab, J&K, and New Delhi, as given in Table 3.2. These institutions have been taken on the basis that all these institutes are old and well-established technical institutions. For the newly established IITs., it was not possible to determine the users' perspective and vision of the organization and management of Social media platforms during this short span of time. The eight Indian institutes of technology (IITs) under study and their year of establishment are given in table no. 3.2.

Table-3.2

Scope of the study

Sr. No.	Name of the Indian Institute of Technology	Year of Establishment
1.	Indian Institute of Technology, New Delhi (IITD)	1961
2.	Indian Institute of Technology, Kanpur (IITK)	1959
3.	Indian Institute of Technology, Roorkee (IITR)	2001
4.	Indian Institute of Technology (BHU)Varanasi,	2012
5.	Indian Institute of Technology, Ropar (IITRPR)	2008
6.	Indian Institute of Technology, Jodhpur (IITJ)	2008
7.	Indian Institute of Technology, Mandi (IIT MD)	2009
8.	Indian Institute of Technology, Jammu (IIT JMU)	2016

Note : The scope of the study is limited to eight IITs of North India

3.4.2 Data Collection through Survey Method

In the present descriptive research, the survey method was employed as the primary tool for data collection. Surveys are widely recognized for their ability to systematically gather quantitative and qualitative information from a defined population (Karunarathna et al., 2024). This method was chosen due to its effectiveness in capturing opinions, attitudes, and behaviors related to the use of social media platforms in academic library settings.

To ensure comprehensive coverage of stakeholder perspectives, structured questionnaires were administered to two distinct respondent groups: library users (students, faculty, and researchers) and library professionals (librarians). The survey included both closed-ended and open-ended questions, enabling respondents to provide standardized as well as elaborative responses.

Data collection through the questionnaire was conducted in-person, allowing researchers to clarify doubts, encourage participation, and ensure accurate completion of the forms. This approach also helped in reaching respondents who might not be comfortable with or have access to online survey tools, thus enhancing the inclusivity and reliability of the data. The face-to-face interaction ensured a higher response rate and added contextual insights that may not be captured through digital or telephonic surveys.

The responses obtained through this method provided a nuanced understanding of both user experiences and librarian perspectives regarding the adoption, challenges, and effectiveness of social media marketing practices in academic libraries, particularly within the Indian Institutes of Technology (IITs).

3.5 Sampling

The sample of the study includes all library users enrolled at the eight institutions. Table 3.3 shows that the total population of all the eight IITs was 46616 in the year 2022-23. Practically, it is difficult to study entire population of the users of all the universities under study; sample population was selected to be representative of whole population and presented in table 3.3.

Table 3.3*Total Population of IIT's*

Sr. No.	Respondent	Population Size
1	IIT Delhi	11770
2	IIT Kanpur	8236
3	IIT Roorkee	9210
4	IIT Varanasi	8475
5	IIT Ropar	2646
6	IIT Mandi	2389
7	IIT Jodhpur	2186
8	IIT Jammu	1704
Total Number of Students		N=46616

Note : Total Population size of the eight IITs. of North India.

These IITs are well known in India and around the world for their demanding academic programs, innovative research, and contributions to engineering and technology. The Simple Random Sampling Method was used to create the representative sample. The distribution and collection of completed questionnaires are shown in Table 3.4. The researcher individually visited all IIT for data collection. As a representative sample of both male and female respondents, data from undergraduates, postgraduates, and research scholars were gathered. The stratified sampling method was used to select samples from the universe of study. The population was divided into four strata viz. Undergraduates (UG), Postgraduates (PG), Research scholars (RS) and Faculty (F) from each IIT under study. From each stratum, the sample size for simple random sampling is calculated using Slovin's formula. When the population is too big to directly sample every individual, Slovin's formula determines how many samples are needed (Adhikari, 2021).

Slovin's Formula is written as:

Formula: $n = N / (1 + Ne^2)$

where n = Number of samples, N = Total population and e = Error tolerance.

Comrey and Lee (1992) offer a graded scale for evaluating sample sizes in scale development, suggesting that a sample size of 100 is considered poor, 200 is fair, 300 is good, 500 is very good, and 1,000 or more is deemed excellent. Hence, considering the vast demographic coverage of the eight IITs of Northern India, the study selected a sample

size of 1,101, exceeding the recommended threshold.

With the help of Slovin, data is collected from eight IITs, as shown in Table No. 3.4.

Table 3.4

Data collection

Sr. No.	Name of IIT	No. of Students	Sample Collected
1	IIT Delhi	11770	275
2	IIT Kanpur	8236	194
3	IIT Roorkee	9210	215
4	IIT (BHU) Varanasi	8475	198
5	IIT Ropar	2646	65
6	IIT Mandi	2389	59
7	IIT Jodhpur	2186	53
8	IIT Jammu	1704	42
Total		46616	1101

Note : Data Collected from eight IITs of North India

3.5.1 Research tools used for the study

The following tools were used to collect qualitative and quantitative data: To carry out the study more comprehensively in order to achieve the objectives two different types of questionnaires based on the literature survey and theoretical framework were complied. Promotional Activities as undertaken by the IIT Libraries using Social Media Tools (For Librarian). The questionnaire has adapted statements from Bloom's Taxonomy, a framework for categorizing educational goals, which was developed by a committee of educators led by American educational psychologist Benjamin Bloom in 1956 (Krathwohl, 2002). Questionnaires also represent a crucial and extensively developed tool for conducting social science research (Zhang et al., 2024).

Questionnaire-I for Librarians/Library Incharges: The main aim of this questionnaire was to gather data related to various facets of the IIT library to achieve the objectives of the study. The questionnaire was framed in order to seek details about library facilities, resources and awareness programs of the library. Further questions were designed to know the attitude of the librarians and library in charge towards the application of information communication technologies in the libraries

Questionnaire -2 for users: The main aim of the questionnaire was to gather data related to various facets of IIT users. The questionnaire was structured to cover key dimensions relevant to the study. Mainly focused on capturing general information about the users, including demographic details necessary for contextual analysis, users' awareness and usage patterns of social media platforms (SMPs) to assess their familiarity, frequency of use, and purpose of engagement. Further design to know the infrastructure and library services, aiming to understand the technological readiness and the extent of digital integration within library systems and challenges faced by users while engaging with social media platforms. Users' expectations were captured through their views and recommendations on the effective utilization of social media to enhance library services.

Questionnaire for Librarian

It is divided into five sections, namely:

- Section 1 : General Information about the Institution and library
- Section 2 : Social Media Platforms Usage and Frequency
- Section 3 : Purpose, Promotion and Library Services;
- Section 4 : Benefits of Social Media Platforms;
- Section 5 : Barriers and Challenges being faced on Social Media Platforms in IIT Libraries.

Questionnaire for User

It is divided into five sections, namely:

- Section 1 : General Information;
- Section 2 : Users' Awareness/Usage of Social media platforms (SMP)
- Section 3 : Infrastructure and Library Services;
- Section 4 : Challenges Faced while Using SMP
- Section 5 : User's Expectation

3.5.2 Observation method

Observation is the most natural and effective way of gathering data. Keeping in view the significance of the observation method, personal visits have been made to all the eight IITs. The researcher visited all the libraries and computer centres personally and

observed the organizational and administrative practices, functioning, and facilities provided for accessing social media platforms. It helped the researcher to have a clear picture of the organization and management activities taking place in the libraries of IITs under study.

3.5.3 Analysis of Institute/Library Social Media Platforms

Websites act as an important link between the users and the institute. These also play a key important role in promoting and maximizing access to social media. The aim of analysing the library websites of the IITs libraries in North India is to ascertain how effectively the libraries are utilizing their respective social media platforms to provide easy access to users with the latest information.

3.5.4 Other Data Collection

Annual reports and admission brochures of the Indian Institute of Technologies were also consulted in addition to the data given by libraries/users through the questionnaires

3.6 DATA ANALYSIS

A database was created using Microsoft Excel 2010 to store the obtained data. Utilizing the Statistical Package for the Social Sciences 24.0 (SPSS) software, the cleaned and processed data was subjected to both descriptive and inferential statistical tools and procedures. (Pallant, 2020).

Apart from the *Percentage Analysis*, the *p-value hypothesis Test* was also employed. A statistical metric called a *p-value* is employed to verify a hypothesis in relation to observed data. Under the assumption that the null hypothesis is correct, a *p-value* calculates the likelihood of getting the observed data. The observed difference is more statistically significant when the *p-value* is smaller.

3.6.1 Pilot Study

Pilot studies were conducted to test the validity and reliability of both the research instruments and standardize of both the questionnaires to be used for the study. The questionnaire was pre-tested at Indian institute of technology, Ropar before using it with the survey population. Amendments were also made to the questionnaire following the pilot test. Bujang et al., (2024), The reliability of a questionnaire is evaluated via a pilot study, which is a small-scale trial, by looking at its consistency, clarity, and

conformity to research goals

3.7.2. Data Collection Procedure and Administration of Questionnaires

Before carrying out any survey, it was necessary to obtain permission from the authorities concerned. An official written request was made to the competent authority of the universities under study through the CRDP, Lovely Professional University, Phagwara to help in conducting the survey. Questionnaire-I was administered to librarians of various institutions under study to ascertain the present status of the organization and management of social media platforms in their respective institutions. The mailed Questionnaire Method was used to collect data pertaining to different libraries. All eight librarians answered the survey with one follow-up. For the rest two, a second call was to be made to get the filled-in questionnaire. The second questionnaire was given out directly to the users. The benefits of a questionnaire include a high response rate, which is typically quite high, and the researcher's presence to help or respond to questions. Regardless of their standing, every respondent received an identical questionnaire. The researcher personally distributed the questionnaire at faculty offices, cyber cafes, lecture halls, and libraries. This provided the opportunity to reach out to a large number of respondents. Filled questionnaires were collected on the spot. The majority of respondents completed and returned the questionnaire, indicating a generally positive response to the data collection process. Throughout the administration of the questionnaire, clear and appropriate instructions were consistently provided by the researcher to ensure accurate and informed responses. While the process was demanding, it ultimately proved to be a constructive and insightful experience.

3.6.2 Data Collection Challenges

With the kind co-operation of the competent authorities of all the universities under study, the researcher faced no difficulty in obtaining the approval to conduct the survey for this study. However, a few problems were encountered in collecting the filled questionnaires from users. It was very difficult to find the research scholars as they were either carrying out research part-time or had little free time due to their teaching and other academic responsibilities. While some respondents were reluctant to complete the questionnaire, others did so voluntarily. Completing the questionnaires required a great deal of convincing. A few respondents were also questioned to fill in the gaps.

3.6.3 Tools of Presentation and Analysis of Data

Statistical tabulation techniques were used to evaluate and interpret the data gathered from the questionnaire while keeping the study's goals in mind. Microsoft Excel is a widely used spreadsheet program to tabulate and present data. Data can also be visually represented using the same software to create charts and graphs. In order to arrive at the conclusions, the researcher employed the following statistical approaches at various points during the investigation. These are:

Percentage Calculations

In a sample of one hundred (100), a percentage can also be used to show how much or how frequently something occurs. To represent percentages, use the symbol "%."

Mean

The central tendency is described by adding together all the values and dividing that total by the number of values (Trochim, 2001).

Chi-square Test

In statistical analysis, one of the most basic and popular non-parametric tests is the chi-square test (χ^2). A measure of the real difference between the expected and observed frequencies (or values) is called chi-square (Okoye & Hosseini, 2024). The value of the chi-square is zero if the actual and observed frequencies are identical. The larger the difference between the expected and observed frequencies, the higher the value of χ^2 . When the computed chi-square value is smaller than the table value, it suggests that the discrepancy between the actual observed frequencies might have resulted from chance fluctuations and can be ignored. The definition of the number χ^2 is

$$\chi^2 = \sum (O - E)^2 / E$$

In this case, O stands for the observed frequencies and E for the expected ones.

Probability value (p-value)

A p-value calculates the likelihood of getting the observed outcomes under the null hypothesis. The statistical significance of the observed difference increases with decreasing p-value. Generally, a p-value of 0.05 or less is considered statistically significant.

3.6.4 Limitations of Study

According to an old saying, anything worthwhile is worth doing to the best of one's abilities. That is, one should strive for greatness. However, this is not always feasible in real life. People must operate under the limitations imposed by society and the natural environment. In other words, although every attempt was made to ensure that this study was authentic and thorough, there were still a lot of limitations. The primary restrictions on the research are

- This study focuses only on the social media platforms that libraries utilize and manage for their users.
- A nationwide poll was not feasible due to a lack of time and money. Consequently, only eight universities from the states of Jammu & Kashmir, Himachal Pradesh, Panjab, Uttarakhand, Haryana, Delhi, Rajasthan, and Uttar Pradesh have been selected for the study.
- A limited sample of library users was selected for this investigation.

In conclusion, guided by the objectives of the study, this chapter has presented a comprehensive research design outlining the nature of the research, its philosophical foundations, and the methodological approach employed for analysis. The research was conducted in accordance with the emerging themes identified and discussed throughout the chapter. A coherent account of the research design, methodology, and philosophical stance has been provided to justify the chosen approach. Additionally, the chapter has acknowledged the limitations encountered during the study, as revealed through fieldwork and contextual insights, thereby setting the stage for the subsequent analysis and findings.

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CHAPTER 4

GROWTH AND DEVELOPMENT OF IIT LIBRARIES

Overview

The "Growth and Development of IIT Libraries" chapter traces the evolution of library services within the Indian Institutes of Technology, highlighting their transition from traditional print-based systems to modern, technology-driven information hubs. It explores how IIT libraries have embraced digital tools, including social media, to enhance accessibility, user engagement, and academic support. The chapter also discusses infrastructural advancements, resource digitisation, and the increasing emphasis on user-centred service delivery in these premier institutions.

4.1. Introduction

4.2. Key objectives and purposes of IITs

4.3. History of Indian Institutes of Technology (IITs)

4.4. IIT growth and development

4.5. Research Boundaries and Framework

4.6. Profile of IITs under study

4.7. Conclusion

4.1. Introduction

The expansion and advancement of the IIT libraries in North India will be discussed in this chapter. The state of the art of the libraries being examined will also be covered. Pandit Jawahar Lal Nehru, India's first prime minister, believed that science was the foundation of life and could solve problems like illiteracy, hunger, and poverty. Under Nehru's leadership, establishing several scientific and technological research institutes was a top priority, fuelled by programs like the Green Revolution and improvements in education. Under the direction of Shri N.R. Sarkar, the Indian Government formed a commission to construct technical education facilities for the nation's industrial post-war growth. On the advice of the Sarkar committee, IITs were established in the nation's northern, eastern, western, and southern parts. The first institute of technology was IIT Kharagpur, which opened in 1950. Later, IIT Bombay was founded in 1958, followed by IIT Madras in

Chennai in 1959, IIT Kanpur in 1959, and IIT Delhi in 1961. As a group of autonomous engineering and technology colleges, the Indian Institutes of Technology were established by the Institutes of Technology Act of 1961. Parliamentary legislation has designated some institutions of national importance to produce a workforce of highly skilled scientists and engineers to support India's socioeconomic development. According to the Institutes of Technology Act, every IIT functions autonomously. IITs have more autonomy in academic and administrative domains such as faculty hiring, curriculum development, admissions, and governance.

The IIT Council oversees the expansion and functioning of all IITs in India and is chaired by the Minister of Education (formerly the Ministry of Human Resource Development). Strategic planning and the creation of IIT system policies depend on it. IIT campuses are equipped with modern conveniences like state-of-the-art labs, research facilities, libraries, sports facilities, residence halls, and recreational opportunities. The IIT system continues to evolve and expand, making a substantial contribution to the development of India's technological capabilities, fostering innovative entrepreneurship, and shaping the future of engineering and technology education. The Graduate Aptitude Test in Engineering (GATE) for postgraduate programs and the Joint Entrance Examination (JEE) for undergraduate programs determine admission to the highly competitive Indian Institutes of Technology (IITs) system, which is a network of top engineering and technology institutions in India renowned for their academic excellence and research contributions. IITs provide courses in various subjects, including computer science, physics, chemistry, management studies, electrical, mechanical, civil, aerospace, and chemical engineering. IITs have a strong reputation abroad, and their alumni are leaders and trailblazers in various industries worldwide. The Indian Institutes of Technology substantially enhance India's technological capabilities and increase its competitiveness abroad by representing excellence in research, teaching, entrepreneurship, and innovation.

4.2 Key objectives and purposes of IITs

The primary objectives of IITs are to provide excellent engineering, technology, and related subject training while doing state-of-the-art research and innovation. Top-notch faculty, state-of-the-art facilities, rigorous academic programs, and an emphasis on holistic development are all hallmarks of these universities. In order to produce skilled workers and future leaders, universities offer excellent undergraduate, graduate, and

doctoral programs in management, engineering, technology, and the sciences. IITs are tackling societal problems, increasing knowledge, and developing technology via important and creative research in many different areas. They also encourage educators and learners to develop an entrepreneurial ecosystem to transform innovative ideas into profitable ventures and goods. Institutes collaborate on joint research projects, business partnerships, and technology transfer with companies, governments, and international organisations, producing highly skilled engineers, scientists, and technocrats who aid the nation's economic growth and labour force. Through cooperative research projects, international collaborations, and student exchanges, the IITs promote academic excellence and global Perspectives. This strategy aims to enhance quality of life, address societal demands, and promote sustainable development by utilising technology and research discoveries.

4.3 History of Indian Institutes of Technology (IITs)

India's quest for excellence in higher education and technical improvement is highlighted by the noteworthy story of the creation of the Indian Institutes of Technology (IITs). India's goal of promoting innovation, research, and human capital in the engineering and technology fields is reflected in the establishment and growth of IITs. Here is a summary of the significant turning points in developing IIT. Before independence, the concept of establishing higher technical institutes in India was conceived. Visionary educators and leaders saw the importance of developing domestic technical talent to promote industrial development and national advancement. Higher technical education institutions were established in post-independence India thanks to a report by Sir Thomas.

R. J. Taylor titled "Higher Technical Institutions" in 1944, the first Chairman of the Atomic Energy Commission, Dr. B.C. Roy then led the establishment of the first Indian Institute of Technology, IIT Kharagpur, in 1951. The Ford Foundation and the West Bengal government helped to establish it. Following IIT Kharagpur's success, the Government devised plans to open more IITs nationwide to satisfy the rising demand for technical education. IIT Bombay was founded by the Government in 1958 with Soviet assistance. As India's second IIT, it was instrumental in advancing research and development. The Government of West Germany provided technical help to establish IIT Madras in 1959. It immediately became well-known for emphasising innovation and research. Then, in 1961, IIT Delhi was founded with support from the UK national government. It gained notoriety for its outstanding research and diverse methodology.

IITs were instrumental in assisting India's economic and technical development by creating highly qualified engineers, encouraging research partnerships, and funding national development initiatives. During a time of significant expansion and diversification in the 1960s and 1970s, more IITs were established, such as IIT Guwahati (1994), IIT Roorkee

(1847 as Thomason College of Civil Engineering), and IIT Kanpur (1959). As part of initiatives to increase access to high-quality technical education, several IITs were established in the 1980s and beyond, including IIT Bhubaneswar, IIT Gandhinagar, IIT Hyderabad, IIT Jodhpur, IIT Patna, IIT Ropar, IIT Indore, and IIT Mandi. IITs have developed into premier hubs for entrepreneurship, innovation, and research. They work with businesses, governmental organisations, and international organisations to address complex societal issues and promote technological innovation. India's IIT ecosystem was further enhanced by the creation of IIT Dhanbad (previously Indian School of Mines) and the transformation of Banaras Hindu University's Institute of Technology (BHU) into IIT (BHU) Varanasi. Academic quality, research output, and alumni accomplishments have earned the institute international respect. They draw the best talent worldwide and are frequently listed in international rankings. An incredible journey of vision, tenacity, and dedication to excellence in technical education and research is reflected in India's history of IIT development. In the 21st century, India's technological superiority, economic growth, and competitiveness have all benefited greatly from the founding and expansion of IITs.

4.4 IIT Growth and Development

From the establishment of the first IIT at Kharagpur in 1951, the network of IITs has expanded over the decades. Today, there are 23 IITs across India, including newer ones established in recent years. The growth and development of the Indian Institutes of Technology (IITs) have been remarkable since their inception. The IITs have evolved into premier institutions of higher education and research, contributing significantly to India's technological landscape and global reputation. IITs are renowned for their academic excellence, offering undergraduate (B.Tech.), postgraduate (M.Tech., M.Sc., Ph.D.), and dual-degree programs in engineering, science, technology, and management. The curriculum at IITs emphasises a strong foundation in fundamentals, practical learning through labs and projects, interdisciplinary studies, and exposure to cutting-edge technologies. Institutes made significant contributions to research and innovation across

various domains, including aerospace, biotechnology, computer science, energy, materials science, nanotechnology, and more. Faculty and students engage in collaborative research projects, publish research papers in reputed journals, file patents, and develop technologies that address societal challenges. Over the years, IITs have invested in state-of-the-art infrastructure, including advanced laboratories, research centres, computing facilities, libraries, and campus amenities. The growth and development of IITs reflect their commitment to excellence, innovation, and nation-building. These institutions continue to play a pivotal role in shaping India's future by nurturing talent, fostering research, and driving technological progress.

4.4.1 Factors Responsible for the Growth of IIT Libraries

The growth of IIT libraries is driven by a combination of strategic, technological, and user-centered factors. Foremost among these is Government and institutional support, with continuous funding and policy-level backing from the Government of India and IIT administrations enabling modernisation and infrastructural development. Significant advancements in Information and Communication Technology (ICT) have enhanced access to resources, streamlined cataloguing, and enabled comprehensive library automation, thus improving efficiency and service delivery. As research-intensive institutions, IITs face increasing demand for academic resources, necessitating regular updates to both print and digital collections. This expansion is supported by skilled and forward-thinking library professionals who actively engage in training, innovation, and policy implementation. A strong focus on user-centred service delivery ensures that libraries respond effectively to the evolving needs of students, faculty, and researchers through personalised services and feedback mechanisms. Participation in national and international consortia, such as INDEST-AICTE and e-ShodhSindhu, has expanded access to high-quality academic content at cost-effective rates. Furthermore, the emphasis on digitalisation and open access has widened the reach of scholarly content by reducing physical barriers. The strategic use of social media and marketing tools has also played a critical role in promoting library services and engaging users more effectively. Automation initiatives, including RFID technology, self-check kiosks, and integrated library management systems, have further improved operational efficiency and user satisfaction. Finally, the evolution of IIT libraries is closely aligned with the goals outlined in the National Education Policy (NEP) 2020 and global trends in academic excellence, positioning them for continued growth in the digital age.

4.5 Research Boundaries and Framework

The Institutes of Technology Act of 1961 governs the 23 Indian Institutes of Technology (IITs). This study, "Use of Social Media for Marketing of Library and Information Services in IITs: A Study," exclusively examined eight IITs located in North India.

Table 4.1

Year of Establishment of IITs and NIRF Score

Name of IIT	Year of Establishment	IIT Ranking 2024 (NIRF) &Score
IIT Delhi	1961	2 (86.66)
IIT Kanpur	1959	4 (82.79)
IIT Roorkee	2001	6 (76.00)
IIT(BHU)Varanasi	2012	10 (66.69)
IIT Ropar	2008	22 (61.56)
IIT Jodhpur	2008	28 (60.61)
IIT Mandi	2009	31 (59.86)
IIT Jammu	2016	62 (50.53)

Note: Eight IITs of North India with IIT ranking and Score as of 2024

Source: <https://www.nirfindia.org/Rankings/2024/EngineeringRanking.html>

The study's main focus will be on the states indicated in Table 4.1: Jammu & Kashmir, Himachal Pradesh, Panjab, Uttarakhand, Haryana, Delhi, Rajasthan, and Uttar Pradesh. IIT Jammu is a more recent institution, while IIT Kanpur, the oldest, was established in 1959. Researchers and students at eight IITs were the study's target consumers. Table 4.2 provides a summary of the organisations involved in this investigation. This table's "Social Media Marketing" section highlights each IIT's approach to leveraging social media platforms for communication, engagement, community building, and event marketing. The manner in which these universities use social media as part of their outreach strategies to communicate with students, faculty, alumni, and the greater academic community are compared in table 4.2.

Table 4.2*Eight IITs Information under study*

Aspect	IIT Delhi	IIT (BHU) Varanasi	IIT Kanpur	IIT Roorkee	IIT Ropar	IIT Jammu	IIT Mandi	IIT Jodhpur
Establishment Year	1961	1919	1959	1847	2008	2016	2009	2008
Location	Delhi	Varanasi (BHU)	Kanpur	Roorkee	Ropar	Jammu	Mandi	Jodhpur
Motto	Knowledge is the Supreme Goal	तमसो मा ज्योतर्गमय (From darkness, lead me to light)	तमसो मा ज्योतर्गमय (From darkness, lead me to light)	श्रमेव जयते (Hard work alone triumphs)	रेषा अस्मीन् तवश्चा भुवनातन ज्ञातातन (Knowledge is the Universe)	ज्ञानम् परमं ध्येयम् (Knowledge is the Supreme Goal)	ज्ञानम् परमं बलम् (Knowledge is the Ultimate Power)	ज्ञानं परमं ध्येयम् (Knowledge is the Ultimate Goal)
Academic Programs	Engineering Sciences, Management Humanities	Engineering Sciences, Humanities	Engineering, Sciences, Management, Humanities	Engineering, Sciences, Architecture	Engineering, Sciences	Engineering, Sciences	Engineering, Sciences	Engineering, Sciences
Research Focus	Interdisciplinary research, innovation	Engineering Sciences	Interdisciplinary research, innovation	Engineering, Technology, Applied Sciences	Engineering, Sciences	Engineering, Sciences	Engineering, Sciences	Engineering, Sciences
Campus Area	325 acres	1,300 acres	1,055 acres	365 acres	520 acres	159 acres	538 acres	852 acres

Aspect	IIT Delhi	IIT (BHU) Varanasi	IIT Kanpur	IIT Roorkee	IIT Ropar	IIT Jammu	IIT Mandi	IIT Jodhpur
Library Services	Extensive collection, Document Delivery, Digital Repository	Digital resources, Interlibrary Loan, Reference Services	Online Public Access Catalog, Reference Services	Specialised collections, Interlibrary Loan	Research support, Digital Resources	Multimedia Services, Research Guides	Study Spaces, Collaboration Rooms	Comprehensive library services
Social Media Marketing	Active presence on Twitter, Facebook, Instagram for updates and engagement with users	Active on social media platforms for outreach and engagement	Regular updates and engagement on Twitter, Facebook, LinkedIn	Utilises social media for event promotion and community engagement	Engages audience through Twitter, Facebook, LinkedIn	Active on Twitter, Facebook, and Instagram for announcements and engagement	Utilises social media for updates, event promotion, and student engagement	Engages community through Twitter, Facebook, Instagram
Web Site	http://www.iitkgp.ac.in/	https://iitbhu.ac.in/	https://www.iitk.ac.in/	http://www.iitr.ac.in/	https://www.iitrpr.ac.in/	https://www.iitjammu.ac.in/	https://www.iitmandi.ac.in/	https://www.iitj.ac.in/
Library webpage	http://www.library.iitkgp.ac.in/	https://www.iitbhu.ac.in/cf/lib	https://pkklib.iitk.ac.in/	http://www.mgcl.iitr.ac.in	https://www.iitrpr.ac.in/library/	https://www.iitjammu.ac.in/library	https://library.iitmandi.ac.in/	https://library.iitj.ac.in/

The official social media accounts of the IITs in North India (Twitter, Facebook, Instagram, LinkedIn, and YouTube) are directly linked in this extensive table. By allowing these institutions to interact with their stakeholders, disseminate information, advertise events, and highlight accomplishments, these platforms help them maintain a strong online presence in the academic and research communities. In addition to making major contributions to education, research, and innovation in their local communities, these IITs in North India are essential to the advancement of India's technological capabilities.

They work together with academic institutions and industry to address societal issues and promote economic progress, and they draw bright faculty and students from all across the nation. The diversity and quality of the Indian IIT system are enhanced by the distinct strengths and research areas of each IIT. Known for a number of unique characteristics, the Indian Institutes of Technology (IITs) stand out as India's top universities for research and higher education.

4.6 Profile of IITs Under Study Students

The numbers of students, i.e. undergraduates, postgraduates, and researchers in eight IITs, are mentioned in Table 4.3.

Table 4.3

Number of students on roll

S. No.	Institute	Undergraduate	Postgraduate	Researchers	Total
1.	IIT Delhi	4424	3395	3951	11770
2.	IIT Kanpur	4089	1897	2250	8236
3.	IIT Roorkee	4918	1484	2808	9210
4.	IIT (BHU) Varanasi	6494	913	1068	8475
5.	IIT Ropar	1442	424	780	2646
6.	IIT Mandi	1224	598	567	2389
7.	IIT Jodhpur	1222	455	509	2186
8.	IIT Jammu	1035	373	296	1704

Note: Number of UG, PG, and Research Scholars enrolled in Eight IITs of North India

(Source Annual Reports of IITs of 2022-23)

4.6.1 IIT Delhi

The Indian and British governments established an institute of technology in Delhi. Thus, it was decided to create an engineering and technology college in Delhi; with the assistance of the UK government, a trust known as the Delhi Engineering College Trust was created. On 28th January 1959, the College's foundation stone was set at Hauz Khas. IIT Delhi, one of India's leading engineering colleges, was established in 1961 and occupies 320 acres in New Delhi. It offers a wide range of undergraduate, graduate, and doctoral programs and is globally recognised for its research in subjects such as renewable energy, biotechnology, robotics, and artificial intelligence. Additionally, it provides postgraduate programs such as Master of Technology, Master of Science, Master of Science (Research), Master of Business Administration, Master of Design (Industrial Design), and a PhD program for conducting research in fundamental sciences like physical, chemical, and biological sciences, as well as nanoscience and nanotechnology, biomedical sciences, and bioengineering.

The IIT Delhi Library System supports the institute's teaching, research, and extension programs through a Central Library and roughly 34 Unit Libraries of departments, centres, schools, etc. Although there are presently over 10,000 registered members, anyone at IIT Delhi is welcome to use the library's resources. In 1968, it relocated to the institute's main building, and in 1988, it moved to its current location. The library is centrally air-conditioned and has a total covered space of 60,000 square feet (about) divided across three floors. Books, theses, periodicals, videos, and CDs in the domains of science, engineering, literature, management, and the humanities make up the Central Library's collection of more than 3 lakh documents. The LibSys software package, which also offers web-based access to the library's online catalogue, is used to fully computerise all internal activities. On the advice of an Expert Group that the Ministry convened, the Ministry of Human Resource Development (MHRD) established the "Indian National Digital Library in Engineering Sciences and Technology (INDEST) Consortium" in 2003. IIT Delhi has been appointed as the Consortium Headquarters to coordinate the INDEST consortium's activities. Chemistry, mathematics, physics, chemical engineering, civil engineering, computer science, electrical and electronics engineering, textile engineering, biochemical engineering, and biomedical engineering are among the many works on science and technology that are available at the library. Additionally, the library includes a strong collection of the social sciences and humanities.

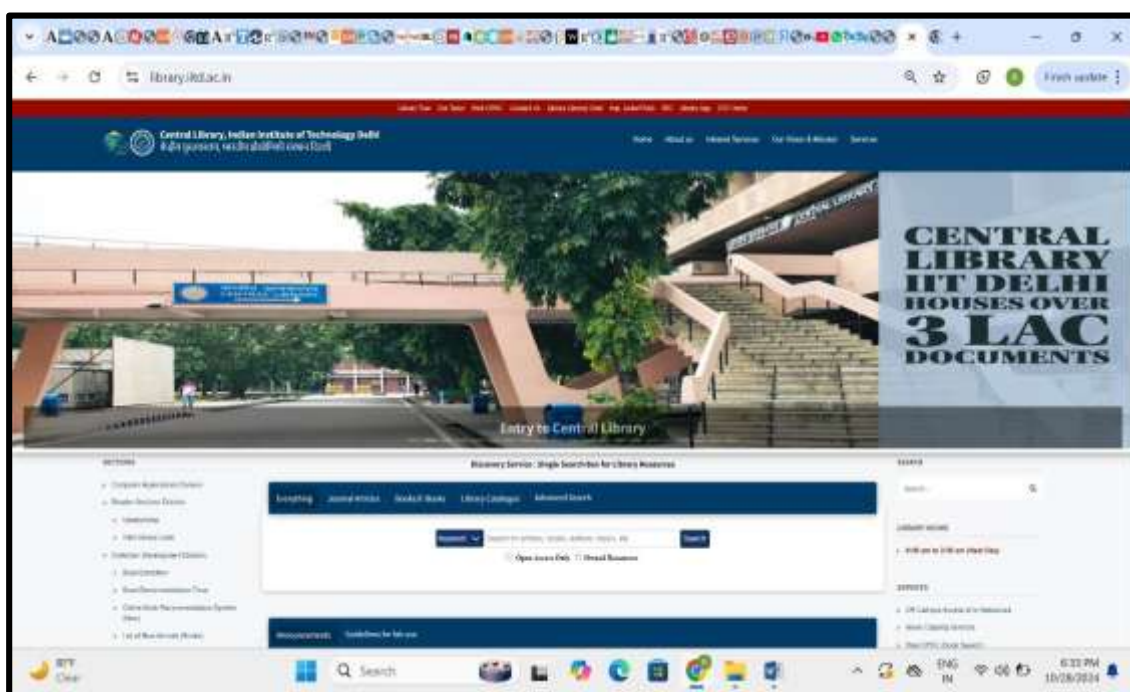


Figure 4.1: IIT Delhi library webpage

Document delivery, interlibrary loan, reference and information services, bibliographic and citation management tools, digital repository access, multimedia services, specialised research guides, data management and GIS support, workshops, and training programs are among the services provided by the IIT Delhi Library.

Social media is used by the IIT Delhi Library to enhance academic learning. Social media platforms are a dynamic way for the Central Library to interact with its user base, share information, and advertise its resources and services. New acquisitions, forthcoming events, workshops, and research findings are highlighted in frequent posts and updates on Facebook and Twitter. By showcasing library resources, behind-the-scenes operations, and customer reviews, visual material on YouTube and Instagram increases brand awareness and draws in new users. By connecting with researchers, industry experts, and alumni, LinkedIn engagement encourages information sharing and collaboration opportunities.

Real-time interaction with library users is made possible by interactive live sessions and webinars on platforms such as Facebook Live or Zoom, which answer questions and offer guidance on using the resources available to the library. Through social media, the library interacts with its audience by sharing information about future events, new acquisitions, and research materials. IIT Delhi's focus on multidisciplinary research, innovation, and entrepreneurship has kept it at the forefront of shaping the future of technology and education.

4.6.2 IIT Kanpur

One of India's top universities for engineering and technology education is IIT Kanpur, which was founded in 1959. A consortium of nine US universities (namely M.I.T, University of California, Berkeley, California Institute of Technology, Princeton University, Carnegie Institute of Technology, University of Michigan, Ohio State University, Case Institute of Technology and Purdue University) helped set up IIT Kanpur's research laboratories and academic programmes under the Kanpur Indo-American Programme (KIAP). The first Director of the Institute was P. K. Kelkar. IIT Kanpur was the first Institute in India to offer Computer Science education. The earliest computer courses were started at IIT Kanpur in August 1963. The initiative for computer education came from the Electrical Engineering department in 1971; the institute began an independent academic program in Computer Science and Engineering, leading to M.Tech. and Ph.D. degrees. The Uttar Pradesh-based institute is well known for emphasising academic quality, innovation, and research. Numerous undergraduate, graduate, and doctorate degrees in fields including engineering, science, and the humanities are available at IIT Kanpur.

The central library was renamed in 2002 after its first Director's name, P.K. Kelkar Library. It is housed with all modern amenities and is situated in a magnificent three-storied building covering an area of 5730 square meters. The mission of the library is to provide information services and access to bibliographic, full text both in digital and printed resources to support the scholarly and information needs of all students, faculty members and staff. The library has 274362 books, 15000 E-books, 1955 journals, 21 E-databases, 235545 Bound journals and more than 10000 e-journals through the INDEST consortium.



Figure 4.2: IIT Kanpur Library website

The Central Library at IIT Kanpur maintains flexible hours, facilitating round-the-clock access to resources for students, faculty, and researchers. The library houses a comprehensive collection of print and digital materials, including textbooks, research monographs, conference proceedings, and e-journals. The Library Services offered by IIT Kanpur include an Online Public Access Catalog (OPAC), Reference and Research Consultations, Current Awareness Services, E-resources Training, Digitization Services, Book Borrowing and Renewal Facilities, Copyright Clearance Assistance, Study Spaces and Collaborative Learning Rooms, Virtual Help Desk. The library leverages social media platforms to engage with users, promote events, and share research tips and resources. It continues its tradition of academic leadership and technical innovation, maintaining its position as one of the top-ranked institutions in India and the world.

4.6.3 IIT Roorkee

The Indian Institute of Technology Roorkee, Uttarakhand, India, was once the Thomason College of Civil Engineering (1853–1948) and the University of Roorkee (1948–2001). Sir James Thomason, the lieutenant governor at the time, founded the College of Civil Engineering in 1847. It was granted university status in 1949 and became the eighth Indian Institute of Technology (IIT) when it was renamed in 2001. Academic programs in engineering, technology, applied sciences, and management are available at IIT Roorkee. This university in Uttarakhand offers a range of undergraduate, graduate, and doctoral degrees in engineering, science, management, and the humanities.

The Mahatma Gandhi Central Library was recognised as an academic service centre by ISO 9001:2008 in 2015. In 1847, a tiny college library was founded with a few hundred books to serve the needs of roughly six teachers and thirty-four pupils. When the College Library merged with the Ganges Canal Library later in 1856, its holdings were significantly expanded, and it was renamed the Central Library. The whole East India Company collection from the Addiscombe Military College Library was added in 1862. In view of expansion and information technology-related changes, a new state-of-the-art building was proposed. The foundation stone of the present building was laid on 19th June 2004, and it was completed in June 2007. Central Library started functioning from the new building on 12th July 2007. On the first International Day of Non-Violence, i.e.

2nd October 2009, the Central Library was renamed Mahatma Gandhi Central Library (MGCL). The present building is a state-of-the-art structure that provides the best possible environment and facilities for the students and faculty of the institution. Its imposing dome, front elevation, and water fountain give it the look of a monumental structure. It occupies a total area of 90000 sq. ft., which is completely air-conditioned. More than 12,000 electronic journals and proceedings, nine full-text databases, five bibliographic/citation databases, sixty-four thousand e-books, and four standards databases are all available to the institute. Its collection, which began in 1848 with a few hundred donated books, has expanded to over 3,50,000 papers across all media. The primary goal of the library is to provide information through electronic resources. The library facility has 75 user terminals for devoted readers and is equipped with Wi-Fi.

The library offers a wide range of resources and services to its users, which include scholars, students, faculty, and tourists. On all four floors, there are dedicated computer terminals for searching the online library catalogue, reading areas, wi-fi connectivity, and digital surveillance. Additionally, it features a distinct user area on the bottom floor with a large number of the newest PCs for Internet resource browsing. The library offers services such as plagiarism check assistance, document delivery, document tracking, photocopying and printing, and research support (literature search assistance, reference management, Grammarly, etc.). The Main Library at IIT Roorkee operates on a structured schedule, offering extensive access to resources throughout the academic year. The library collection includes rare manuscripts, technical reports, e-books, and subscription-based databases catering to diverse research interests. The Library Services offered by IIT Roorkee are Citation Analysis and Reference Management, Online Document Delivery, Course Reserves and Reading Lists, Research Data Management Support, Multimedia Services, Thesis and Dissertation Support, Copyright Clearance Services, Library Orientation Sessions, Remote Access to Digital Resources.

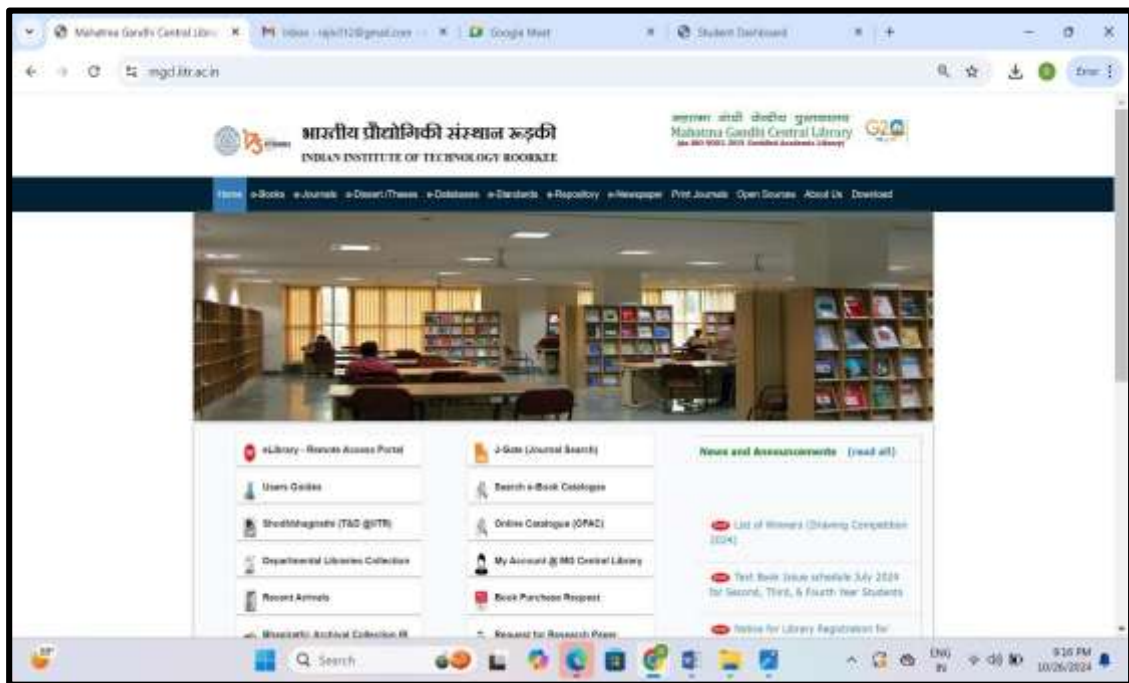


Figure 4.3: IIT Roorkee Library webpage

The library actively engages users through social media channels, disseminating information on library resources, workshops, and scholarly events. Graduates of IIT Roorkee have achieved success in a wide range of fields, including academia, Government, and industry. IIT Roorkee's dedication to entrepreneurship, innovation, and international cooperation guarantees that it will remain a leading hub for education and research in India and around the world.

4.6.4 IIT (BHU) Varanasi

Originally established as the Banaras Engineering College in 1919, IIT (BHU) Varanasi is one of the best engineering colleges in India. The Institute of Technology (ITBHU) was created in 1968 by the merger of BHU's former engineering institutions, BENCO, MINMET, and TECHNO. The former IT-BHU was frequently listed as one of the nation's best engineering schools. By a parliamentary act, IT-BHU changed its name to IIT (BHU)

Varanasi on June 29, 2012. It offers a range of undergraduate, graduate, and doctoral degrees in science, technology, and engineering. The institute is renowned for its research accomplishments in fields including metallurgy, electronics, and material sciences, and it promotes innovation in more modern fields like data science and renewable energy. IIT (BHU) boasts state-of-the-art research facilities, a lively student body with several technical and cultural festivals, and an entrepreneurial mindset

promoted by incubation centres. With its vibrant campus community and rich history, IIT (BHU) maintains strong international linkages and a robust alumni network while making a significant impact on academics, industry, and research worldwide.

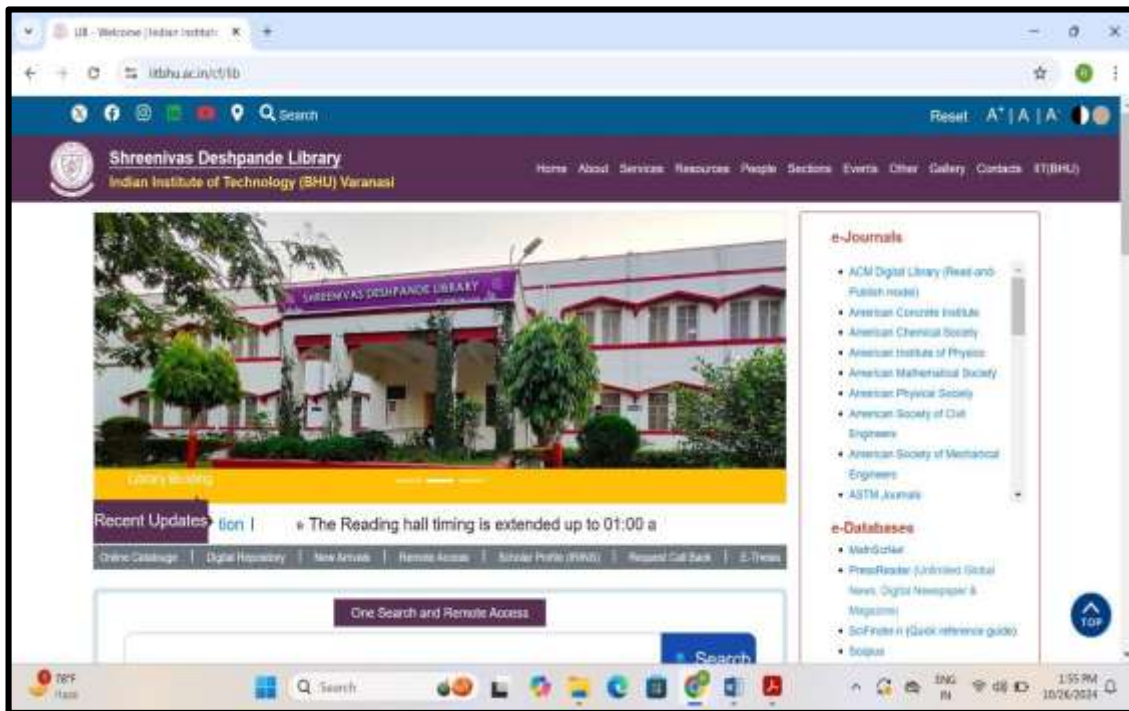


Figure 4.4: IIT (BHU) Varanasi Library webpage

Together, the Shreenivas Deshpande Library and five departmental libraries make up the Indian Institute of Technology (Banaras Hindu University), Varanasi library system, which supports the institute's outreach, research, and teaching initiatives. By becoming a member, all institute staff, faculty, and students are eligible to use the library's resources; corporate bodies and independent researchers can also access membership services. The library offers access to more than 10,000 electronic journals, more than 3500 (text and reference books) electronic books, and databases in the fields of science, engineering, and technology, in addition to its superior print collection of more than 1,42,000 volumes of books, journals, theses, reports, standards, and pamphlets. The hours of the library are 8:00 a.m. to 1:00 a.m., including Saturday and Sunday. They also plan to stay open late during midterm and semester exams.

Social media is used by the IIT Library to enhance academic learning. Social media platforms are a dynamic tool that the Central Library actively uses to interact with its user base, provide information, and advertise its resources and services. IIT (BHU) Varanasi has created a state-of-the-art library with cutting-edge technology and extensive services

to meet the changing demands of both teachers and students. Computer labs, digital repositories, and dedicated study areas are also features of contemporary facilities. Customised services include copyright support, database training, and research consultations, combining mobile apps with social networking sites to improve outreach and user engagement.

4.6.5 IIT Ropar (IITRPR)

IIT Ropar is one of the prestigious IITs of India located in Rupnagar, in the state of Punjab. The institute was established in 2008. The institute offers undergraduate (B.Tech.), postgraduate (M.Tech., Ph.D.), and dual-degree programs in engineering and science. The institute's focus areas include computer science, electrical engineering, mechanical engineering, and materials science.

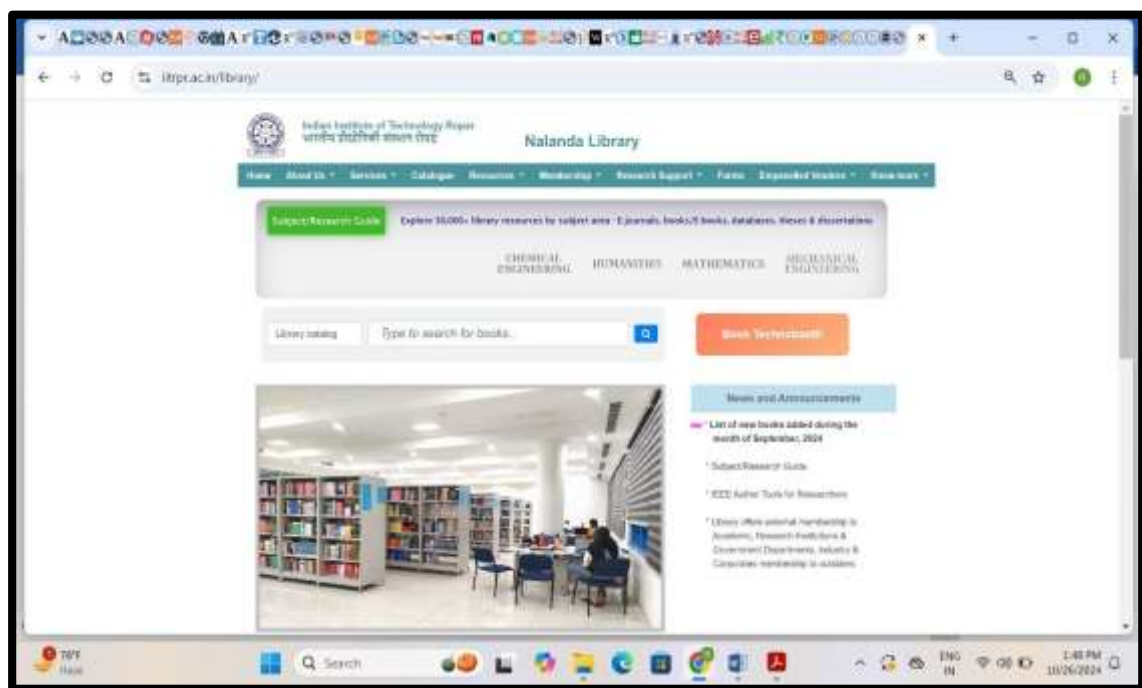


Figure 4.5: IIT Ropar Library webpage

IIT Ropar, one of the most recent Indian Institutes of Technology, was established in Punjab in 2008 and is rapidly gaining recognition for its contributions to academic achievement and research. The institute offers undergraduate, graduate, and doctoral studies in a variety of subjects, including engineering, the sciences, and the humanities. IIT Ropar is well known for its cutting-edge studies in artificial intelligence, nanotechnology, biomedical engineering, and renewable energy. Modern facilities, state-of-the-art research labs, and strong corporate connections are all features of the campus. IIT Ropar, which promotes technological undertakings and firms, also places a high value

on innovation and entrepreneurship. Because of its growing reputation, vibrant student body, and focus on interdisciplinary research, IIT Ropar is emerging as a significant player in India's higher education landscape.

For the institute's teaching and research activities, the Nalanda Library serves as the main information resource centre and storehouse of printed and digital materials. The library has an expanding collection of research monographs, reports, multi-volume reference works, dictionaries, encyclopaedias, handbooks, and other materials, in addition to textbooks and suggested readings for every course given at the institute. Through its involvement in consortiums like e-ShodhSindhu, the library makes electronic journals more accessible. The library also has subscriptions to a number of e-journals, both directly from publishers and through reputable subscription services. Thousands of electronic books and journals are currently accessible to users, in addition to over 24,000 items that are physically on shelves. Additionally, economic and political databases and scientometric databases like MathSciNet, Scopus and Web of Science.

Social media is used by the IIT Library to enhance academic learning. Social media sites like Facebook and X (Twitter) are actively used by the Central Library as a dynamic way to interact with its user base, share information, and advertise library resources and services. IIT Ropar has created a state-of-the-art library with cutting-edge technology and extensive services to meet the changing demands of both teachers and students. The library's goal is to give users the information, resources, and assistance they need by providing up-to-date services that are connected with research, teaching, and learning activities.

4.6.6 IIT Mandi

Established in 2009 in the charming Himalayan town of Mandi, Himachal Pradesh, IIT Mandi is one of the newest Indian Institutes of Technology. Despite being founded relatively recently, IIT Mandi has already made an impact with its concentration on cutting-edge research, sustainable development, and technology-driven solutions. With an emphasis on data science, materials engineering, robotics, and sustainable energy, the institute offers undergraduate, graduate, and doctoral studies in a variety of subjects. IIT Mandi is well known for its multidisciplinary research approach and commitment to finding workable solutions, particularly in the areas of environmental sustainability and rural development. The campus is full of contemporary conveniences, and a vibrant student body is fostered by a variety of technical and cultural events. IIT Mandi is rapidly

gaining a national and international reputation because of its academic excellence and forward-thinking initiatives.

The Central Library gives users access to a variety of e-journal databases. This includes having access to hundreds of journal titles covering various topics. The Central Library is fully automated through the use of KOHA, an open-source library management system. The RFID technology is activated on all documents. Book transactions are also automated. All of the documents are equipped with RFID. Moreover, book transactions are automated. CAS/SDI, online ILL status, online book reservations, remote resource access, and other cutting-edge services have been made available by the library. Online users can verify their borrowing details by utilising Web OPAC. The library's holdings can be accessed from two workstations. With its own website (<http://library.iitmandi.ac.in/>), the Central Library offers web-based access to its resources and has acquired 21774 electronic books and databases in addition to over 50,000 electronic resources.

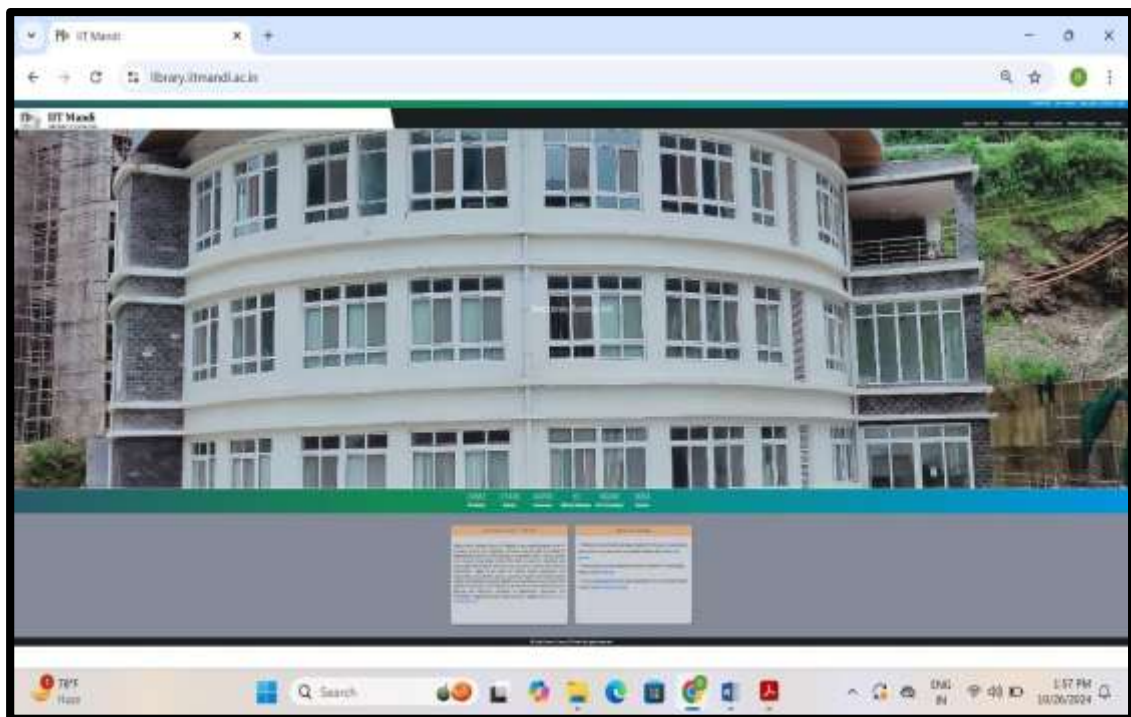


Figure 4.6: IIT Mandi Library webpage

IIT Mandi uses social media to improve student learning. The organisation aggressively uses social media platforms like Facebook, YouTube, and X (Twitter) as a dynamic means of communicating with its user base and sharing information. To satisfy the evolving needs of educators and learners, IIT Mandi has developed a state-of-the-art library with cutting-edge technology and a wide range of services. By offering current services that are related

to research, teaching, and learning activities, the library hopes to provide users with the information resources and support they require.

4.6.7 IIT Jodhpur

Founded in 2008, IIT Jodhpur is one of India's more recent IITs and is located in the historic city of Jodhpur, Rajasthan. With a focus on interdisciplinary research and innovation in fields like materials engineering, robotics, data science, and artificial intelligence, the institution offers a broad range of undergraduate, graduate, and doctoral degrees. IIT Jodhpur is well known for its state-of-the-art campus, which is equipped with state-of-the-art research labs, incubation centres, and technological infrastructure. By emphasising collaboration with companies and international organisations, the institute encourages students to be innovative and entrepreneurial. IIT Jodhpur is emerging as one of India's leading hubs for technological education and research thanks to its emphasis on cutting-edge research, academic excellence, and industry partnerships. The institute offers undergraduate (B.Tech.) and postgraduate (M.Tech., Ph.D.) programs in engineering. Rapidly growing institution with a focus on expanding academic programs and research activities.

The library, also known as the S. R. Ranganathan Learning Hub, facilitates the gathering, arrangement, and sharing of knowledge resources and offers library and information services to the IIT Jodhpur community, supporting the institute's teaching and research operations. It is run by the Library Committee, which is composed of student representatives and members from every department. The library includes a vast and expanding collection of about 18,000 volumes of print and electronic literature, including reference and general books as well as textbooks. In order to manage the library effectively and provide enhanced services like self-check-out, self-check-in (book drop), material security, inventory management and lost item recovery, stock verification, visitor counter, smart card issuance, etc., the library uses biometrics-enabled RFID technology to automate its operations. The library is open Monday through Saturday from 9 a.m. to 8 p.m., and its reading room is available to researchers, teachers, and students around the clock. Textbooks, research monographs, conference proceedings, and e-journals are among the extensive print and digital resources available at the library.

In every academic and research thrust area of the institute, the library has subscriptions to a vast array of intellectual resources, including journals, citation, indexing, and scientometric resources.

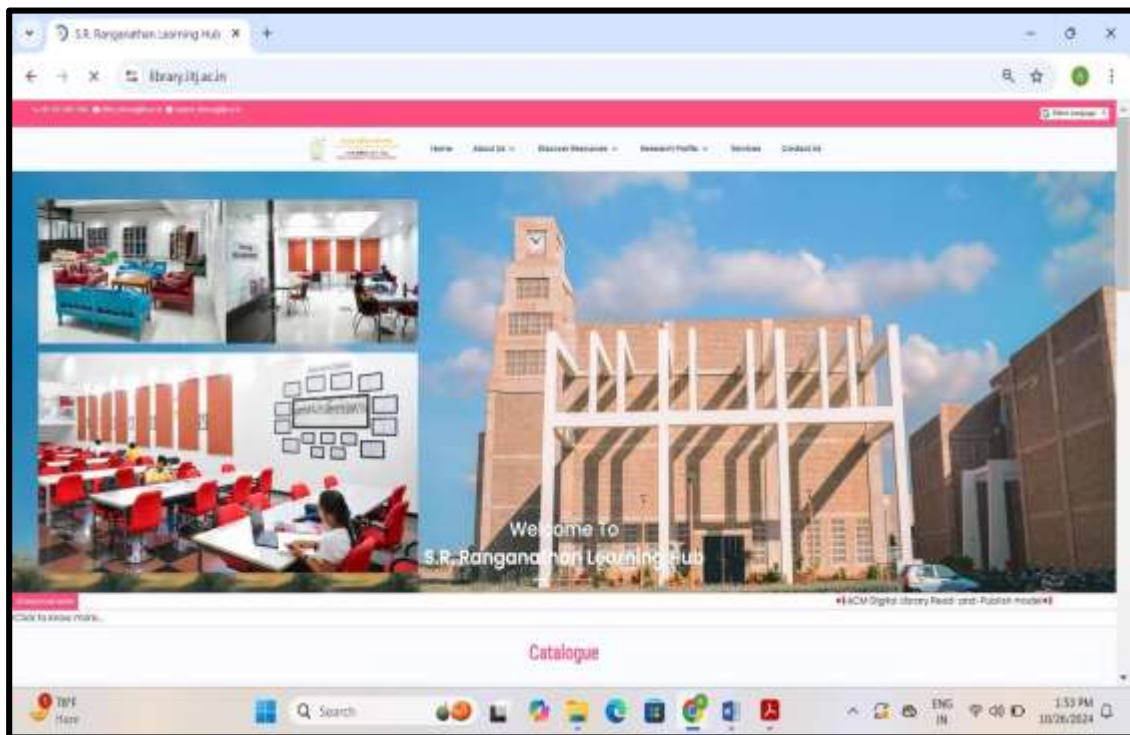


Figure 4.7: IIT Jodhpur Library webpage

databases. Additionally, users can access off-campus resources, read current and leisure literature, identify plagiarism, and subscribe to and use tools for academic and writing support. The library maintains a comprehensive website that is easy to use and responsive, making these materials available. Additionally, the website offers lists of helpful resources that are available in the public domain, such as open-access books, journals, repositories, video lectures, and open courseware, and it is updated on a regular basis.

Social media is used by IIT Jodhpur to enhance student learning. Social media sites like Facebook, YouTube, and X (Twitter) are used by the library as a dynamic way to share information and communicate with its user base. IIT Jodhpur has created a state-of-the-art library with cutting-edge technology and a variety of services to meet the changing demands of instructors and students. The library aims to give users the information, resources, and assistance they need by providing up-to-date services that are associated with research, teaching, and learning activities. The institute continues to evolve and expand its academic programs, research activities, and industry collaborations to make significant contributions to the field of engineering and technology.

4.6.8 IIT Jammu

One of India's newest IITs, IIT Jammu, was founded in 2016 and is situated in Jammu and Kashmir. The Government of Jammu and Kashmir allocated 400 acres of verdant

land in Jagti village, just outside of Jammu city, for the establishment of IIT Jammu's main campus, where the university moved its core operations in 2018. Undergraduate, graduate, and doctoral degrees in a range of engineering and technology fields are available at the institute. IIT Jammu is well-known for its quickly expanding academic atmosphere and infrastructure. It has state-of-the-art research facilities and places a high priority on industrial partnership, interdisciplinary learning, and innovation. The institute supports research in cutting-edge areas such as cybersecurity, energy technology, artificial intelligence, and data science.

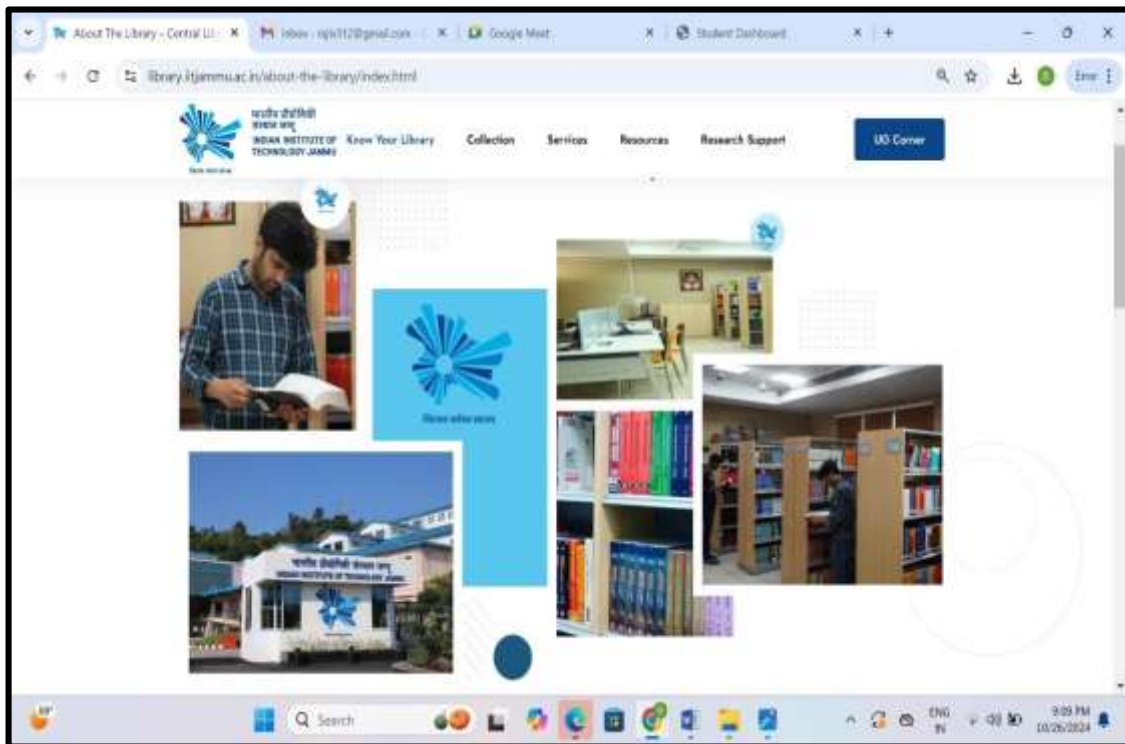


Figure 4.8: IIT Jammu Library webpage

With incubation facilities assisting student-led businesses, IIT Jammu also promotes entrepreneurship and a startup culture. IIT Jammu is rapidly establishing itself as a hub of academic and scientific excellence in northern India despite its recent founding. IIT Jammu is one of the esteemed institutes of North India located in Jammu, in the state of Jammu and Kashmir. The institute was established in 2016 as one of the new IITs. The institute offers undergraduate (B.Tech.), postgraduate (M.Tech., Ph.D.), and dual-degree programs in engineering. Rapidly growing institution with a focus on expanding academic programs and research activities.

There are more than 80 e-book titles and 4358 physical books in the Central Library at IIT Jammu. Textbooks, reference books, literature books, theses, and other types of collections

are available. The library keeps a distinct reference collection up to date, which includes encyclopaedias, dictionaries, handbooks, bibliographies, technical data, almanacs, and atlases.

The Central Library has a large collection of excellent Hindi novels. In addition to books on many subjects that are taught and studied at the institute, there is a collection of literature works in Hindi. To promote the use of Rajbhasha Hindi books, they are placed prominently in the library's reference section. General books improve knowledge, spark the imagination, and provide amusement for readers of all ages. IIT Jammu uses social media to improve student learning. The university uses social media platforms, including Facebook, X (Twitter), YouTube, and WhatsApp, as a dynamic means of communicating with its user base and sharing information. To satisfy the evolving needs of educators and learners, IIT Jammu has developed a state-of-the-art library with cutting-edge technology and a range of services.

4.7 Conclusion

A parliamentary law has identified a number of institutions as being of national significance in order to provide a workforce of highly qualified engineers and scientists to aid in the socioeconomic growth of India. Good research and a critical attitude to issues lead to new ways of thinking, learning, and understanding. For training, research, and development in science, engineering, and technology, India's IITs were created as Centres of Excellence. In addition to the academic departments and centres mentioned above, IITs have popularised the idea of interdisciplinary programs, which treat schools as distinct entities based on the patterns of emerging new fields.

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CHAPTER 5

DATA ANALYSIS

Overview

This chapter presents a descriptive analysis of responses collected from librarians and users of IIT libraries in North India regarding the use of social media for marketing library services. Data has been analyzed using SPSS and Microsoft Excel, employing statistical tools such as percentage distribution, chi-square tests, and p-values. The results are organized into two main sections to clearly interpret user perceptions and institutional practices, with tables and figures used to support the findings.

5.1. Data Analysis of Librarians' Response

5.2. Data Analysis of Users' Response

5.1. Data Analysis of Librarians' Response

The survey was conducted on eight IITs, and the table 5.1 shows how different Indian Institutes of Technology (IITs) were represented. IIT Delhi, IIT Kanpur, IIT Roorkee, IIT (BHU) Varanasi, IIT Ropar, IIT Mandi, IIT Jodhpur and IIT Jammu all received just one response on average from librarians, data was gathered via websites, annual reports and other sources. The findings drawn from this data may represent a wide range of experiences and viewpoints since this consistent distribution highlights a balanced representation throughout the eight IITs that participated in the study. The survey's equal representation emphasizes how the information gathered will give a thorough picture of the academic assistance and library services provided by these IITs. As a result, this well-rounded dataset will make it easier to compare and analyze user experiences and satisfaction levels across the different institutes, strengthening the validity of the study's conclusions.

Table 5.1*General Information of the Libraries*

Sr. No.	Name of the IITs	Year of Establishment	Library Area (Sq. ft.)	Name of the Library	Opening Hours
1	IIT Roorkee	1847	85000	Mahatma Gandhi Central Library	8.30 AM-12 PM
2	IIT Kanpur	1959	61677	P K Kelkar Library	8 AM-12PM
3	IIT Delhi	1961	45000	Central Library	9 AM – 9 PM
4	IIT Jodhpur	2008	---	S. R. Ranganathan Learning Hub	9 AM-8.00 PM
5	IIT Ropar	2008	30000	Nalanda Library	24X7
6	IIT BHU	2008	48000	Shreenivas Deshpande Library	8 AM-11 PM
7	IIT Mandi	2009	---	Central Library	8 AM-12 PM
8.	IIT Jammu	2016	---	Central Library	9 AM-8.00 PM

Note : General Information regarding the hours of operation for the eight IIT libraries in North India

The table 5.1 displays the distribution of responses regarding the year that certain institutes were founded; eight responses in all were received. Of the years listed, 2001 and 2008 were the most represented, each with two responses. IIT Jammu was the newest in the area, whereas IIT Roorkee, which was established in 1847, is the oldest. showing a period of growth and progress for undergraduate education in the IIT system, with a discernible peak in the early 2000s. All things considered, the data in this table contributes to a comprehensive understanding of the institutes' founding dates and provides a framework for analysing the evolution of academic programs and library services throughout time. With a total of eight replies, the table 5.2 provides an overview of how different libraries were represented in the survey. The equal representation of the libraries suggests a varied landscape of library services available to users. Understanding user preferences and developing strategies to improve library services and outreach initiatives at all of the institutions that participated in the survey are made easier with the help of these insights.

Table 5.2

Staff in IIT Libraries

Library Professional	IIT Delhi	IIT Jammu	IIT Jodhpur	IIT Kanpur	IIT Mandi	IIT Roorkee	IIT Ropar	IIT (Bhu), Varanasi	Total
Librarian	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	4.00
Deputy Librarian	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	7.00
Assistant Librarian	5.00	1.00	2.00	2.00	0.00	4.00	3.00	1.00	18.00
Junior Librarian/Ref. Asst	0.00	0.00	3.00	1.00	0.00	6.00	1.00	0.00	11.00
Professional Asst. Gr I/ Technical Asst.	1.00	0.00	2.00	2.00	3.00	2.00	0.00	0.00	10.00
Professional Asst. Gr II / Library Asst.	8.00	2.00	1.00	12.00	0.00	7.00	0.00	6.00	36.00
Non-Professionals	3.00	1.00	0.00	4.00	3.00	2.00	2.00	10.00	25.00

Note : Library Professionals and Non Professionals working in eight IIT Libraries of North India.

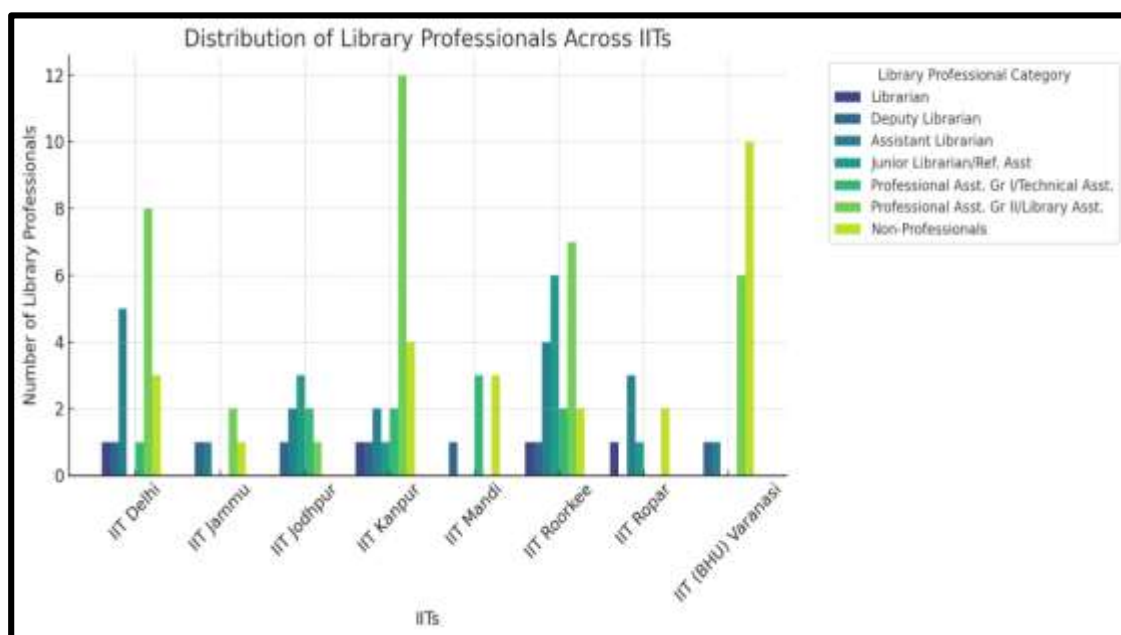


Figure 5.1 : Distribution of Library professionals by Institute

The distribution of library professionals among the several Indian Institutes of Technology (IITs), such as IIT Delhi, IIT Jammu, IIT Jodhpur, IIT Kanpur, IIT Mandi, IIT Roorkee, IIT Ropar, and IIT (Bhu), Varanasi, is broken down in detail in the table 5.2. Important information about these libraries' employment arrangements can be gleaned from the overall number of library professionals in each category. There are four professionals in the librarian category, and one response is provided by each institute. Since every institute has at least one deputy librarian, the category with seven responses highlights the crucial support function that these individuals serve. IIT libraries employ a varied workforce in addition to senior professionals to support library operations and maintain a critical mass of support staff on hand to assist users. Overall, the data shows a thorough staffing strategy throughout these IIT libraries, with some institutions having a greater representation in particular professional categories. This could have an impact on the variety and calibre of services provided to users. This knowledge is crucial to comprehending these libraries' operational capacities and their capacity to successfully satisfy user requests.

Table 5.3

Number of Registered Students in IITs

	IIT Delhi	IIT Jammu	IIT Jodhpur	IIT Kanpur	IIT Mandi	IIT Roorkee	IIT Ropar	IIT (Bhu), Varanasi	Total
Students									
Total									
Number of Registered Students	11770	1704	2186	8236	2389	9210	2646	8475	46616
UG	4424	1035	1222	4089	1226	4918	1442	6494	24850
PG	3395	373	455	1897	601	1484	424	913	9542
Research Scholar	3951	296	509	2250	562	2808	780	1068	12224

Note : Number of registered UG, PG and Research scholars in eight IITs of North India

The chart offers a thorough summary of the student demographics of 46,616 registered students at different Indian Institutes of Technology (IITs), including IIT Delhi, IIT Jammu, IIT Jodhpur, IIT Kanpur, IIT Mandi, IIT Roorkee, IIT Ropar, and IIT (Bhu), Varanasi.

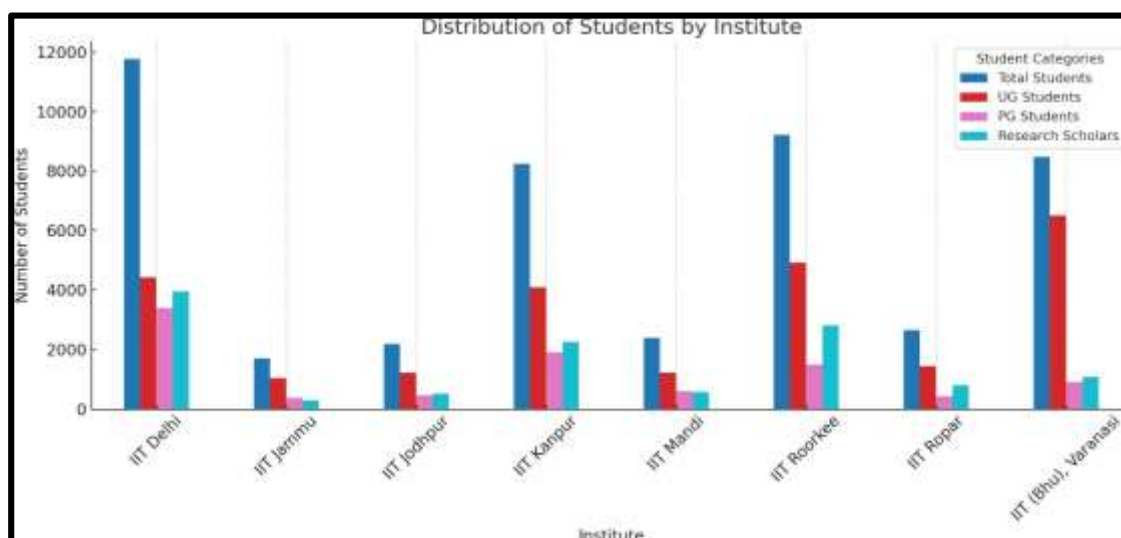


Figure 5.2: Distribution of Students by Institute

Undergraduate (UG) enrolment is highest at IIT (BHU) Varanasi (6,494), followed by IIT Roorkee (4,918) and IIT Delhi (4,424). These eight IITs collectively account for a substantial portion of the 24,850 undergraduate students enrolled at all IITs. IIT Kanpur has 1,897 enrolled students, while IIT Delhi tops the Postgraduate (PG) category with 3,395 students, totalling 9,542 PG students. Of the 12,224 students in the Research Scholar category, IIT Delhi has the largest presence (3,951), followed by IIT Roorkee (2,808). With substantial participation in undergraduate, graduate, and research programs, this data highlights the varied academic climate across various IITs. To better meet the unique demands of each student group within the IIT system and improve their educational experience and results, it is imperative to comprehend these demographics in order to provide academic assistance and library services.

Table 5.4

Supervision of Social Media Platform account owned by the Library

Supervisor	IITR	IITK	IITD	IITJODI	IITRPR	IITBHU	IITM	IITJUM	Total (n=8)
Librarian	---	---	✓	✓	✓	✓	✓	---	5
Staff Member	---	---	---	✓	---	---	---	---	1
Centralised									
Marketing Deptt.	✓	✓	---	---	---	---	---	---	2

Note: Supervision of Social Media Platform account owned by the Library in eight IIT libraries of North India.

With eight responses in all, the table 5.4 presents the distribution of answers about who is in charge of the library's social media accounts. Of those who responded, five (62.5%) said that a librarian oversees the accounts. This highlights how the library is utilising its knowledge of library science and information management to improve the standard and applicability of the content that is published on social media. Furthermore, one social media-focused employee was recognised as a supervisor, suggesting a specialised strategy in which assigned staff members are in charge of overseeing the library's online presence. Additionally, according to three respondents, a centralised marketing staff is in charge of managing the posting and overseeing the accounts. This illustrates an institutional approach in which marketing specialists may make sure that the library's social media initiatives complement more general organisational branding and communication objectives. A well-rounded and successful online presence that caters to the demands of library users may result from the data's overall discovery of a varied supervisory structure for the library's social media accounts, which combine librarianship with specialized roles and centralized marketing methods.

Table 5.5

Users' response to the Library related posts on Social Media Platforms

User response to library	IITR	IITK	IITD	IITJOD	IITRPR	IITBHU	IITM	IITJUM	Total (n=8)
Leave likes to posts	✓	✓	✓	✓	✓	✓	---	---	6
Share posts	✓	✓	✓	✓	✓	✓	---	✓	7
Comment posts	✓	✓	✓	✓	✓	✓	---	✓	7
Save Posts	---	✓	✓	✓	✓	---	---	✓	5
Download Posts	---	---	✓	✓	---	---	---	---	2
Tweet/Re-tweet posts	---	---	✓	✓	---	---	---	---	2
Message posts	---	---		---	---	✓	---	✓	2

The table 5.5 shows a study of eight reactions from users to posts about libraries on social media networks. The vast majority, which included six people, said they like posts, indicating that they generally agree with the information the library shares. Seven responders participated in the activities, demonstrating a high degree of participation in post sharing and commenting. This suggests that users value posting content from

the library as well as participating in conversations about its resources and sharing the content with their own networks. Five users also stated that they save posts, indicating that the shared content is thought to be helpful for future use. However, with only two responses per action, downloading postings and tweeting/retweeting content experienced relatively low engagement, suggesting that users are less likely to engage in these activities. Finally, two respondents said they message posters, indicating that some users would rather speak with the library directly about the material. Overall, the data shows that users interact positively with postings about libraries on social media, especially when they like, share, and comment on them. These findings demonstrate how well social media works as a medium for interaction and communication between the library and its users, showing that users are actively involved in the online presence of the library.

Table 5.6

Social media policy for your Library

Social Media Policy	IITR	IITK	IITD	IITJOD	IITRPR	IITBHU	IITM	IITJUM	Total (n=8)
Guidelines for both users and staff	---	---	---	---	---	✓	---	---	1
Guidelines for users	---	---	---	---	---	---	---	---	0
Guidelines for staff	---	---	---	---	---	---	---	---	0

Note: Social media policy for eight IIT libraries of North India.

An analysis of responses based on a total of eight responses about the library's social media policy is shown in the table 5.6. Only one of these respondents (one affirmative response) said that their library has a policy that includes rules for both staff and users. Notably, that none of replies in the patron and staff categories showed that there were no comments suggesting the existence of particular guidelines for either group. This information points to a possible weakness in the library's social media strategy since confusion about anticipated conduct and duties on social media platforms may result from a lack of clear policies for both staff and users. Effective communication and interaction in a digital setting may be hampered by the lack of customized standards, even though having a combined policy for both groups is advantageous. Overall, the

results point to the necessity for more thorough social media policies that sufficiently attend to the requirements of all parties involved, which will ultimately improve the library's capacity to successfully manage its online presence.

Table 5.7

Library services and resources are being marketed by the Library using SMPs

Library Services and resources	IITR	IITK	IITD	IITJD	IITRPR	IITBHU	IITM	IITJUM	Total (n=8)
Library awareness /orientation prog.	✓	✓	✓	✓	✓	✓	✓	✓	8
Library visits	---	✓	✓	✓	✓	✓	✓	---	6
Webinars/seminars	✓	✓	✓	✓	✓	✓	✓	✓	8
Training programs /workshops	✓	✓	✓	✓	✓	✓	✓	✓	8
Book exhibitions	---	✓	✓	✓	✓	---	✓	---	5
Special lectures	✓	---	✓	✓	✓	---	✓	✓	6
New Notices/ announcements	---	✓	✓	✓	✓	✓	✓	✓	7
Awareness of new resources	---	✓	✓	✓	✓	✓	✓	✓	7
Share pictures from library events	---	✓	✓	✓	✓	✓	✓	✓	7

Note : Library services and resources are being marketed by the Library using SMPs in eight libraries of North India.

Based on a total of eight responses, the table 5.7 offers a thorough summary of the kinds of library services and resources that the library is promoting through social media platforms (SMPs). It is noteworthy that all eight respondents agreed that social media is used to aggressively promote library awareness/orientation programs, webinars/seminars, and training programs/workshops. This demonstrates the library's dedication to raising patron knowledge of its services and increasing user involvement. Book displays received a frequency of 5, suggesting that these events are advertised but may not be as prominently featured, whereas library visits were cited by 6 of the respondents, indicating a moderate emphasis on encouraging users to interact with the library in person. Additionally, the response rate for special lectures was 6, indicating a high level of interest in promoting these scholarly gatherings. Seven respondents mentioned sharing photos from library events, promoting new notices and announcements, and raising

awareness of new resources, indicating a concerted effort to keep users updated on the library's offers and activities. Overall, the results show that social media is being used to market a wide variety of services and resources, with a particular focus on initiatives that encourage user interaction and education. This all-encompassing strategy not only increases awareness but also fortifies the library's contribution to the development of a strong academic community.

Table 5.8

Library services are being marketed by your Library through SMPs

Library services	IITR	IITK	IITD	IITJD	IITRPRI	IITBHU	IITM	IITJUM	Total (n=8)
Reference Service	---	---	---	---	✓	✓	✓	✓	4
Newspaper clipping service	---	✓	---	---	✓	---	✓	---	3
List of new additions	---	---	---	✓	✓	---	✓	---	3
Library guides	---	---	---	✓	✓	---	✓	✓	4
Reservation of books	---	---	---	✓	✓	---	✓	---	3
Renewal of books	---	---	---	✓	✓	---	✓	---	3
Referral service	---	---	---	✓	✓	---	✓	---	3
Document delivery service	---	---	---	✓	✓	---	✓	✓	4
Literature search service	---	---	✓	✓	✓	---	✓	---	4
Consultancy service	---	---	---	✓	✓	---	✓	---	3
Calendar of events, List of holidays and working hours	---	✓	✓	✓	✓	✓	✓	✓	7
Receive complaints, suggestions, enquiries and feedback	---	✓	✓	✓	---	✓	✓	✓	6

Note : Library services are being marketed by your Library through SMPs in eight libraries of North India.

Based on a total of eight responses, the table 5.8 offers an analysis of the library services being promoted on social media sites. Seven respondents indicated that the calendar of events, holiday list, and working hours are actively advertised, the highest answer rate among the listed services. This demonstrates the library's dedication to informing users about events and operational specifics, which is crucial for encouraging user participation. Six respondents also mentioned receiving complaints, recommendations, inquiries, and feedback, indicating a high value placed on user engagement and responsiveness. three people noted the referral service, indicating that the library values assisting users in connecting with the resources or knowledge they need. The newspaper clipping service was also acknowledged by three responders, demonstrating its significance in ensuring users are informed about pertinent news and advancements. As evidence of their role in advancing the library's informative and research capacities, four respondents also supported other services like library guides, document delivery, and literature search. Services like the list of new additions, book reservations, book renewals, and consulting services, on the other hand, had fewer answers (3), indicating that they may not be as widely advertised or used on social media. All things considered, the results show a wide variety of library services that are actively promoted on social media, with an emphasis on increasing user involvement and making sure that users are aware of the library's resources and operational specifics. This all-encompassing marketing strategy is essential for raising the library's profile and reaffirming its position as a key resource for the academic community.

Table 5.9

Research support services marketed by the IIT Library

Research support services	IITR	IITK	IITD	IITJD	IITRPR	IITBHU	IITM	IITJUM	Total (n=8)
Plagiarism Service	---	✓	✓	✓	✓	---	✓	✓	6
Translation Service	---	✓	✓	✓	✓	---	---	---	4
Paraphrasing Service	---	✓	✓	✓	✓	---	---	✓	5
Grammarly Service	---	✓	✓	✓	✓	---	---	✓	5
Publishing Ethics	---	✓	✓	✓	---	✓	✓	---	5
Reference Management	---	---	✓	---	---	✓	✓	---	3

Note: Research support services marketed by the IIT Library in eight libraries of North India.

The table 5.9, which is based on eight responses, offers a study of the research assistance services that the library is marketing on social media. The Plagiarism Service is the most publicly highlighted service among those named; six out of the respondents said that it is aggressively advertised. This high percentage indicates that the library cares a great deal about helping users uphold academic integrity, which is important when conducting research. Both the Grammarly and Paraphrasing services then earned a response rate of 5, suggesting that these resources are emphasised to assist users in enhancing their writing and guaranteeing clarity in their research outputs. Four respondents acknowledged the Translation Service, demonstrating the library's understanding of the importance of assisting multilingual users with research and resource access. The library's dedication to teaching users about ethical issues in academic publication is further demonstrated by the publication Ethics service, which was answered by four respondents. On the other hand, just two respondents indicated that the Reference Management service is marketed through social media, indicating a possible area for improvement in promotion. Overall, the results show a wide variety of research support services that are actively promoted on social media, with a particular focus on resources that uphold academic integrity and enhance the calibre of research outputs. This strategy is crucial for reaffirming the library's position as a useful tool for assisting users with their research.

Table 5.10

Frequently of posting Library related information on various SMPs

Frequently does your library post Library-related information on various SMPs	Daily	Weekly	Fortnightly	Monthly	Never	Total
Facebook	0	1	2	4	1	8
	0.0%	12.5%	25.0%	50.0%	12.5%	100.0%
Twitter	0	1	1	2	4	8
	0.0%	12.5%	12.5%	25%	50.0%	100.0%
Instagram	0	1	0	0	8	8
	0.0%	12.5%	0.0%	0.0%	100.0%	100.0%
YouTube	0	1	0	2	5	8
	0.0%	12.5%	0.0%	25%	62.5%	100.0%

Wikipedia	1	0	0	0	7	8
	12.5%	0.0%	0.0%	0.0%	87.5%	100.0%
LinkedIn	1	1	0	1	5	8
	12.5%	12.5%	0.0%	12.5%	62.5%	100.0%
WhatsApp	1	0	0	0	7	8
	12.5%	0.0%	0.0%	0.0%	87.5%	100.0%
Pinterest	0	0	0	0	8	8
	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Acadmemia.edu	1	0	0	0	7	8
	12.5%	0.0%	0.0%	0.0%	87.5%	100.0%
Answers.com	0	0	0	0	8	8
	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Research Gate	1	0	0	0	7	8
	12.5%	0.0%	0.0%	0.0%	87.5%	100.0%
Telegram	1	0	0	0	7	8
	12.5%	0.0%	0.0%	0.0%	87.5%	100.0%

Note: Frequently of posting Library related information on various SMPs in eight libraries of North India.

The frequency with which different libraries share library-related content on various social media platforms (SMPs) is summarised in the table 5.10, which is based on eight responses. The information shows clear engagement trends across the platforms under investigation. On Facebook, most posts are made every five days, two are posted every two weeks, and only one says the library never posts. Similarly, half of respondent 4 reported no postings at all on Twitter, while the majority of respondent 3 stated that posts are made every month, while one indicated that posts are made every two weeks. Instagram, on the other hand, has absolutely no posts, as none of the respondents said the library never posts anything on Instagram. Three respondents said the library posts on YouTube once a month, whilst a noteworthy five said they don't. One respondent indicated library engagement on Wikipedia, while a significant seven respondents reported no posts. In a similar vein, LinkedIn, WhatsApp, and Academia.edu show that

one respondent reported posting once a month, while the majority (between five and six) said they don't post at all. There was no activity on websites like Answers.com and Pinterest, suggesting that the library doesn't use them at all. Lastly, Telegram and ResearchGate showed that one responder reported activity, while the others reported no engagement. Overall, the results indicate that although some libraries are active on some social media sites, namely Facebook and Twitter, there is less engagement on others, such as Instagram and Pinterest. It is imperative that libraries reevaluate their social media strategies in order to increase visibility and interaction, especially on platforms where they are currently absent or hardly present.

Table 5.11

Purpose of using SMPs for marketing services and resources

Purpose of using SMPs for marketing services and resources	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
Communicating and interacting with Students	0 0.0%	0 0.0%	0 0.0%	5 62.5%	3 37.5%	8 100.0%
Providing a Platform for Online Learning	0 0.0%	0 0.0%	4 75.0%	2 12.5%	2 12.5%	8 100.0%
Updating the users about Library events and services	0 0.0%	0 0.0%	0 0.0%	2 25.0%	6 75.0%	8 100.0%
Facilitate getting Connected with Professional groups	0 0.0%	0 0.0%	2 25.0%	3 37.5%	3 37.5%	8 100.0%
Help in building communities.	0 0.0%	0 0.0%	2 25.0%	5 62.5%	1 12.5%	8 100.0%

Note : Purpose of using SMPs for marketing services and resources in eight libraries of North India.

Social media platforms (SMPs) are used for promoting library services and resources. Based on eight responses, the table 5.11 displays the responses. Diverse degrees of agreement on a number of important goals are revealed by the data. A considerable

majority of respondents five agreed with the purpose of talking and interacting with students, with three strongly agreeing. This suggests that SMPs are useful instruments for encouraging interaction and dialogue with the student body. Notably, four respondents were neutral about the goal of offering a platform for online learning, with two agreeing and two strongly agreeing. This suggests that although online learning is acknowledged as being important, opinions regarding the usefulness of SMPs in this context may be divided or underutilised.

There is broad agreement regarding informing users about library events and services; six respondents strongly concur that SMPs are essential for sharing information about library activities. More balanced responses were given to the objective of connecting with professional groups, with two disagreeing, three agreeing, and three strongly agreeing. This suggests that, although there is some support for this goal, it might not be the main emphasis of library social media initiatives. Last but not least, the goal of assisting in community development had similar responses, with five respondents concurring that SMPs can serve to foster community among library users. All things considered, the results show that although libraries use social media for a variety of reasons, the most important assistance is for informing students about library activities and services. Nonetheless, there is a definite chance to use social media even more for community development and online education, increasing user involvement and more successfully promoting library services.

Table 5.12

Perceived benefits of marketing Library services on the SMPs

Perceived benefits of marketing Library services on the Social media Platform	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
Social Media is helpful in satisfying the needs of the users	0 0.0%	0 0.0%	0 0.0%	6 75.0%	2 25.0%	8 100.0%
Easy to market resources and services to the users.	0 0.0%	0 0.0%	0 0.0%	6 75.0%	2 25.0%	8 100.0%
Easy to post information on social media platform.	0 0.0%	0 0.0%	0 0.0%	4 50.0%	4 50.0%	8 100.0%
Easy and quick access to the information.	0 0.0%	0 0.0%	0 0.0%	4 50.0%	4 50.0%	8 100.0%
Easy to market and	0	0	1	3	4	8

dissemination information to the users.	0.0%	0.0%	12.5%	37.5%	50.0%	100.0%
Marketing of information using SMP's is convenient and time saving	0	0	0	4	4	8
Social Media marketing has helped to improve the Library services	0.0%	0.0%	0.0%	50.0%	50.0%	100.0%
Easy Connectivity with users	0	0	0	4	4	8
Easy to market Information about events/ activities/ competitions/ workshops etc.	0.0%	0.0%	12.5%	37.5%	50.0%	100.0%
Marketing of library services and resources/activities help in promoting Library's good image.	0	0	0	4	4	8
	0.0%	0.0%	0.0%	50.0%	50.0%	100.0%

Note : Perceived benefits of marketing Library services on the SMPs in eight libraries of North India.

Based on a total of eight replies, the table 5.12 analyses the perceived advantages of promoting library services on social media sites. Overall, the data shows that respondents strongly agreed on the benefits of using social media for library marketing. The usefulness of these platforms in meeting user expectations is demonstrated by the significant six respondents who agreed and two who strongly agreed that social media is beneficial in addressing users' demands. Similarly, the replies reflected a common conviction in the accessibility of social media for promoting library items, with six agreeing and two strongly agreeing with the statement that it is simple to promote resources and services to users. Positive opinions regarding the ease of sharing information on social media platforms were also voiced by respondents; four agreed and four strongly agreed that it makes information sharing easier. Additionally, the idea that social media platforms enable effective contact with people was reinforced by the similar degree of support given to the belief that information can be accessed quickly and easily. Four respondents agreed and one was ambivalent about the ability to market and spread information to users, indicating a generally positive opinion of social media's function in information sharing. Four of the respondents acknowledged that marketing library

services as convenient and time-saving had advantages, four agreed, and four strongly agreed that social media marketing had improved library services. Four respondents also mentioned the possibility of simple interaction with users, indicating that social media improves user-library engagement. Finally, three respondents agreed with the statement that it is easy to market information about events, activities, competitions, and seminars, and four strongly agreed, suggesting that these platforms are useful for promoting library projects. Overall, the results show a clear understanding of the benefits social media marketing offers libraries, especially in terms of raising user happiness, fostering better communication, and advancing a favourable perception of library services.

Table 5.13

Major barriers faced by IIT Libraries in marketing on SMPs

Major barriers faced by IIT Libraries in marketing on SMPs	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
Lack of interest among library professionals.	2	3	1	2	0	8
	25.0%	37.5%	12.5%	25.0%	0.0%	100.0%
Limited knowledge of Social Media Platforms among library staff.	2	3	2	1	0	8
	25.0%	37.5%	25.0%	12.5%	0.0%	100.0%
Improper/No Policy for using SMP's for marketing of information products and services.	1	3	0	3	1	8
	12.5%	37.5%	0.0%	37.5%	12.5%	100.0%
Internet Issue	5	1	1	1	0	8
	62.5%	12.5%	12.5%	12.5%	0.0%	100.0%
Shortage of staff	2	3	1	2	0	8
	25.0%	37.5%	12.5%	25.0%	0.0%	100.0%
Library staff resistance to adopting change	2	3	1	2	0	8
	25.0%	37.5%	12.5%	25.0%	0.0%	100.0%

Note: Major barriers faced by IIT Libraries in marketing on SMPs in eight libraries of North India.

Based on eight responses, the table 5.13 lists the main obstacles IIT libraries encounter when trying to market their services on social media platforms (SMPs). The results show different degrees of agreement about the challenges faced. While some library professionals may not show interest, a sizable portion still acknowledge the value of social media engagement, as evidenced by the mixed responses to the barrier of lack of interest among library professionals: two respondents strongly disagree, three disagree, and two agree. The problem of library employees' lack of familiarity with social media platforms also exhibits a similar trend, with two strongly disagreeing, three disagreeing, two remaining neutral, and only one agreeing. This suggests that there may be knowledge gaps that might prevent effective promotional efforts. Responses were mixed on whether there should be a policy or not regarding the use of SMPs for marketing; three people disagreed, three agreed, and one strongly disagreed. This suggests that the lack of formal standards could make it more difficult to create marketing plans that work. Five out of five respondents strongly disagreed that Internet problems are a barrier, suggesting that most people are not as concerned about their connectivity. In contrast, the feedback regarding the obstacles of staff shortage and library staff resistance to change was similar, with two strongly disagreeing, three disagreeing, and two agreeing. This suggests that although these factors are acknowledged as potential obstacles, they are not universally regarded as significant barriers. The results show that opinions on the difficulties of promoting library services on social media are mixed, which emphasizes the need for more professional development and the formulation of policies to increase the efficacy of marketing initiatives in IIT libraries.

Table 5.14

Challenges affecting the usage of social media Platforms in IIT Libraries

Challenges affecting the usage of social media Platforms in IIT Libraries	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
The problem in Managing the Existing SMPs	2 25%	1 12.5%	4 50%	1 12.5%	0 0.0%	8 100.0%

Educating Users about usage on Social media platforms	1	3	1	2	1	8
	12.5%	37.5%	12.5%	25.0%	12.5%	100.0%
Limited understanding of all features of the Social media platform	1	3	3	1	0	8
	12.5%	37.5%	37.5%	12.5%	0.0%	100.0%
Limited understanding of user's needs	1	2	2	3	0	8
	12.5%	25.0%	25.0%	37.5%	0.0%	100.0%
Limited Social media Skills among staff	2	3	2	1	0	8
	25%	37.5%	25%	12.5%	0.0%	100.0%
	1	0	6	1	0	8
Challenges affecting the usage of social media Platforms in IIT Libraries. Fear of hacking the Social Media Account.						
Inconsistency in posting on SMPs	1	2	0	5	0	8
	12.5%	25.0%	0.0%	62.5%	0.0%	100.0%

The issues influencing the use of social media platforms (SMPs) at IIT libraries are examined in the table 5.14, which is based on eight responses. According to the findings, libraries face a number of significant challenges when attempting to properly use social media. Five respondents were neutral about the issue of managing current SMPs, one agreed, and one disagreed. This suggests that although some may view this as a challenge, there isn't broad agreement on how serious it is. Four respondents disagreed with the difficulty of educating users about usage on social media platforms, two agreed, and one remained neutral. This indicates that respondents acknowledged the need for user education. Staff familiarity with the social media platforms' features was perceived

differently by three respondents who were neutral, one who agreed, and three who disagreed. Three respondents agreed with the problem of having limited awareness of user demands, indicating that many library workers understand how important it is to match services with user expectations. The problem of staff members' lack of social media abilities received three indifferent and one agreement replies, showing that although staff skills are recognized as a potential obstacle, opinions on its effects are not strongly agreed upon. Six respondents said they were not concerned about the possibility of hacking their social media accounts, while only one said they were. This suggests that security concerns would not be a major obstacle to efficient use. Finally, according to five respondents, the The difficulty of inconsistent posting on SMPs is a significant problem that hinders libraries' capacity to maintain an active and engaging social media presence. Overall, the research shows a variety of obstacles to IIT libraries' successful use of social media, with a particular focus on the necessity of user education and engagement consistency. Improving the libraries' social media initiatives and ensuring they satisfy user requirements require addressing these issues.

Table 5.15

Relevant social media platform for Marketing Library Information Services

Relevant social media platform for Marketing Library Information Services?	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
	0	0	0	2	6	8
Facebook	0.0%	0.0%	0.0%	25.0%	75.0%	100.0%
	0	0	1	1	6	8
Twitter	0.0%	0.0%	12.5%	12.5%	75.0%	100.0%
	0	0	1	2	5	8
Instagram	0.0%	0.0%	12.5%	25.0%	62.5%	100.0%
	0	0	2	2	4	8
YouTube	0.0%	0.0%	25.0%	25.0%	50.0%	100.0%
Wikipedia	0	0	4	4	0	8
	0.0%	0.0%	50.0%	50.0%	0.0%	100.0%

	0	0	1	2	5	8
LinkedIn	0.0%	0.0%	12.5%	25.0%	62.5%	100.0%
WhatsApp	0.0%	0.0%	25.0%	37.5%	37.5%	100.0%
Pinterest	0.0%	0.0%	87.5%	12.5%	0.0%	100.0%
Academia.edu	0.0%	0.0%	37.5%	62.5%	0.0%	100.0%
Answer.com	0.0%	0.0%	87.5%	12.5%	0.0%	100.0%
Research Gate	0.0%	0.0%	25.0%	75.0%	0.0%	100.0%
Telegram	0.0%	0.0%	50.0%	50.0%	0.0%	100.0%

The table 5.15 displays the opinions of eight respondents about the best social media channels to use while promoting library information services. According to the results, Facebook is strongly preferred; two respondents agreed and six strongly agreed that it is an important platform for this reason, indicating that Facebook is thought to be very effective at reaching users. Though one respondent stayed neutral, Twitter also received positive comments, with six agreeing or strongly agreeing, suggesting that although it is acknowledged as relevant, perspectives on its efficacy may differ. With two respondents agreeing and five strongly agreeing on its relevance, Instagram emerged as another significant platform, highlighting its expanding influence in visually engaging people. On the other hand, YouTube received a less clear reaction, with two people remaining indifferent and four agreeing, indicating hesitancy regarding its role in promoting library services. Although Wikipedia is a widely utilised platform, it is not viewed as a key marketing tool for libraries, as evidenced by the equal agreement between four respondents who were neutral or agreed and none who strongly agreed on its relevance. With five respondents highly agreeing or agreeing on its relevance, respondents saw LinkedIn favourably, indicating its potential for networking and professional engagement. On the other hand, three respondents agreed with WhatsApp, while seven respondents were neutral or disagreed, indicating low perceived importance

for sites like Pinterest and Answers.com. ResearchGate, Academia.edu and Telegram results indicate that seven respondents agreed that these networks are relevant. However, they did not strongly agree, suggesting that these channels are acknowledged but not fully employed for marketing. The findings show that despite acknowledging the potential of Instagram and LinkedIn, Facebook and Twitter are preferred as the primary channels for marketing library information services. Nevertheless, there is still some doubt regarding the efficacy of other platforms, which presents chances for libraries to improve their marketing plans and increase their visibility on various social media platforms.

Table 5.16

Usefulness of SMPs to market information products and services

Usefulness of SMPs to market information products and services	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
Access to the library updates	0	0	0	2	6	8
anything anywhere.	0.0%	0.0%	0.0%	25.0%	75.0%	100.0%
Communication with a large number of users.	0	0	0	3	5	8
Engage the users by sharing valuable and relevant information.	0.0%	0.0%	0.0%	37.5%	62.5%	100.0%
Improved User satisfaction	0	0	1	2	5	8
Improve Library importance	0.0%	0.0%	12.5%	25.0%	62.5%	100.0%
Creation of an online community	0	0	1	2	5	8
Improved connectivity with the library user	0.0%	0.0%	12.5%	25.0%	62.5%	100.0%
	0	0	0	3	5	8
	0.0%	0.0%	0.0%	37.5%	62.5%	100.0%

Note : Usefulness of SMPs to market information products and services SMPs in eight libraries of North India.

Based on a total of 8 replies, the table 5.16 analyses how social media platforms (SMPs) are viewed as helpful for promoting information products and services. According to the results, there is broad agreement about the advantages of SMPs in several areas related to library engagement and communication. Notably, six respondents strongly agreed that SMPs make it easier for users to access library updates from any place, indicating that social media efficiently informs consumers about library offers no matter where they are. Five respondents also supported the capacity to communicate with many people, indicating that SMPs are valuable tools for reaching a broad audience. A similar degree of agreement was found for the ability to engage users by sharing valuable and relevant information, supporting the notion that social media improves user interaction in addition to information dissemination. Five of the respondents strongly agreed that there was an improvement in user happiness, highlighting the beneficial effects of social media marketing on customer satisfaction. Additionally, five respondents agreed that SMPs can increase the library's significance, suggesting that active participation on these platforms raises the library's profile and significance. Positive opinions were also expressed on establishing an online community, with five respondents agreeing that social media helps library users form communities. Lastly, five people agreed that improving connectivity with library users was possible, highlighting the significance of social media in fostering a closer bond between the library and its users. Overall, the results indicate that SMPs are considered valuable instruments for promoting library information services and products, improving user happiness, communication, and engagement, and raising the library's stature in the academic community.

5.2. Data Analysis of Users' Response Introduction

Statistical analysis comes after data collection in the research process since raw data is useless without interpretation and analysis. In addition to carefully reviewing and interpreting the data collected with the research instrument, the study's objectives must be maintained. Even though the research instrument collected the data, it will not be helpful until it becomes a text that makes sense. These unprocessed data were examined and subjected to statistical analysis to provide valuable information. In the context of this research, descriptive analysis is a fundamental element in comprehending the traits and actions of the study participants. This chapter sheds light on various demographic characteristics, usage trends, and attitudes about social media platforms (SMPs) and their function in academic engagement and support by methodically analysing and evaluating

the data gathered. This chapter will examine the participants' demographics, including age distribution, gender, and educational background, to contextualise the results. Furthermore, we will examine the responses concerning the academic objectives of SMP use, the variables affecting their utilisation, and the efficiency of the services offered by the IIT Library via these platforms. To improve clarity and ease of comprehension, the study will be presented using a variety of visual aids, including charts and graphs. In addition to highlighting significant trends and patterns, this descriptive study points out areas that require additional investigation and development, ultimately advancing our understanding of how social media affects the academic environment. This chapter thoroughly reviews the quantitative data gathered from respondents to guide future debates and conclusions about the efficient use of social media in educational settings.

Table 5.17

Demographic Profile of Respondents

Demographic Profile of Respondents		Frequency	Percentage
Name of the Institute	IIT Delhi	275	25.0%
	IIT Jammu	42	3.8%
	IIT Jodhpur	53	4.8%
	IIT Kanpur	194	17.6%
	IIT Mandi	59	5.4%
	IIT Roorkee	215	19.5%
	IIT Ropar	65	5.9%
	IIT (Bhu), Varanasi	198	18.0%
Programme/ course	UG	766	69.6%
	PG	219	19.9%
	Research Scholar	116	10.5%
Domain	Engineering	1068	97.0%
	Science	24	2.2%
	Social Science	9	.8%
Age Category	18-20 years	748	67.9%
	21-23 years	209	19.0%
	24-26 years	93	8.4%
	27-29 years	38	3.5%
	>=30 years	13	1.2%
Gender	Male	880	79.9%
	Female	221	20.1%
	Total	1101	100.0%

5.2.1 Demographic Profile of Respondents

A detailed summary of the study participants' demographics across several variables, such as the institute's name, program/course enrolment, study domain, age group, and gender, is given by the data in the table 5.17.

5.2.2. Institute-wise distribution of respondents

As shown in Table 5.18, it is clear that 275 students were from IIT Delhi, having the highest representation at 25%, while IIT Roorkee 215, IIT (BHU) Varanasi 198, and IIT Kanpur 194 participants also contributed significantly to the sample. It was found that 65 participants were from IIT Ropar, 59 from IIT Mandi, 53 from IIT Jodhpur and 42 from IIT Jammu participated in the survey.

Table 5.18

Institute-wise distribution of participants

Institute	Participants	Percentage
IIT Delhi	275	25.0%
IIT Jammu	42	3.8%
IIT Jodhpur	53	4.8%
IIT Kanpur	194	17.6%
IIT Mandi	59	5.4%
IIT Roorkee	215	19.5%
IIT Ropar	65	5.9%
IIT (Bhu), Varanasi	198	18.0%

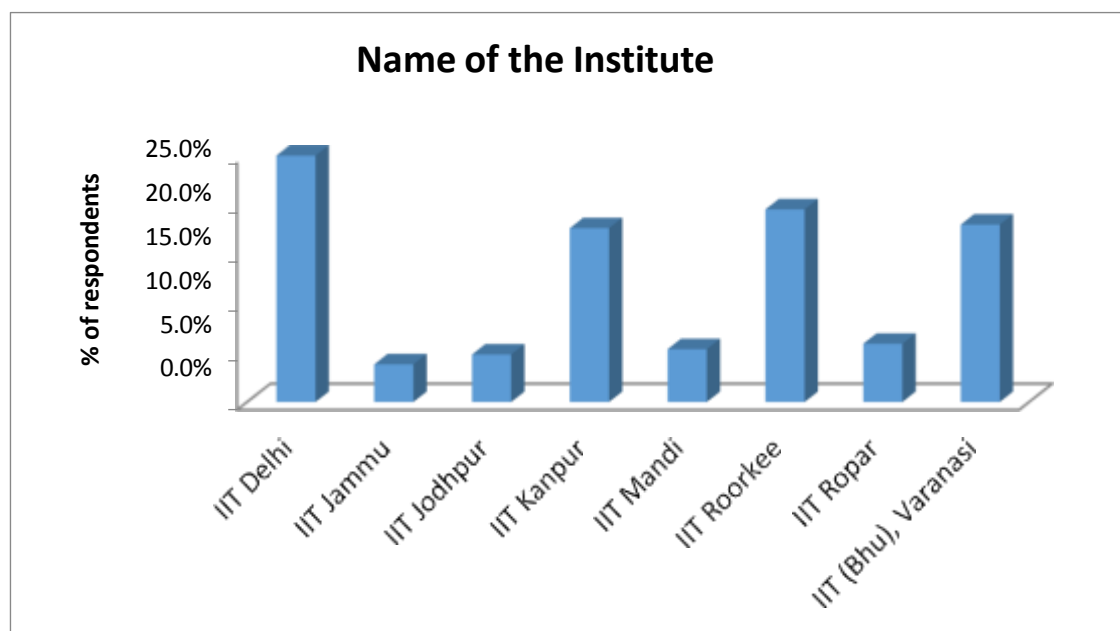


Figure 5.3: Institute-wise distribution of participants

Figure 5.3 depicts the respondents' distribution by affiliated Indian Institutes of Technology (IITs), which is depicted in a bar chart in the figure. With a quarter of the respondents, IIT Delhi is the most represented institution, demonstrating its popularity with the electorate.

Other institutions like IIT Roorkee, IIT Kanpur, and IIT (BHU) Varanasi exhibit noteworthy engagement despite having smaller percentages. In contrast, the representations of IIT Jammu, IIT Jodhpur, IIT Mandi, and IIT Ropar are smaller. This distribution shows how different IITs have different levels of engagement and offers important background information for comprehending the study's demographics.

5.2.3 Programme/Course wise distribution of Respondents

As shown in Table 5.19 below, it is clear that a significant majority of the respondents are enrolled in undergraduate (UG) programs, comprising 69.6% (766 participants). This is followed by

Table 5.19

Programme/Course wise distribution of respondents

Programme	Responses	Percentage
UG	766	69.6%
PG	219	19.9%
Research Scholar	116	10.5%
Total	1101	100%

Postgraduate (PG) students at 19.9% (219 participants) and research scholars at 10.5% (116 participants), indicating a strong emphasis on undergraduate education within the sample.

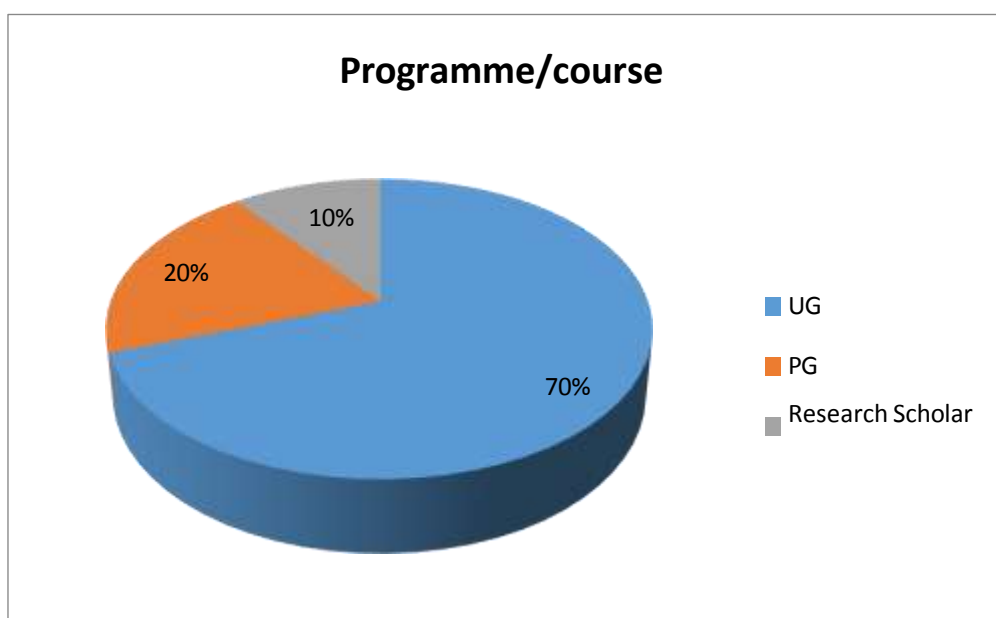


Figure 5.4: Programme/Course wise distribution of respondents

Figure 5.4 depicts that 70% of the respondents were recognised as undergraduates (UG), representing most of the surveyed population. This clearly illustrates the makeup of the respondents' academic programs is in the pie chart. Alternatively, 10% of the respondents are classified as Research Scholars, and 20% are Postgraduate (PG) students.

5.2.4. Domain-wise distribution of respondents

The data presented in the table 5.20 reveals the distribution of respondents based on their academic domains. A significant majority, 97.0% (1068 respondents), are enrolled in the Engineering domain, indicating that the survey predominantly captures perspectives from this field of study.

Table 5.20

Domain-wise distribution of respondents

	Domain	Responses	Percentage
Domain	Engineering	1068	97.0%
	Science	24	2.2%
	Social Science	9	0.8%

In contrast, the Science domain comprises only 2.2% (24 respondents), and the Social Science domain accounts for a mere 0.8% (9 respondents).

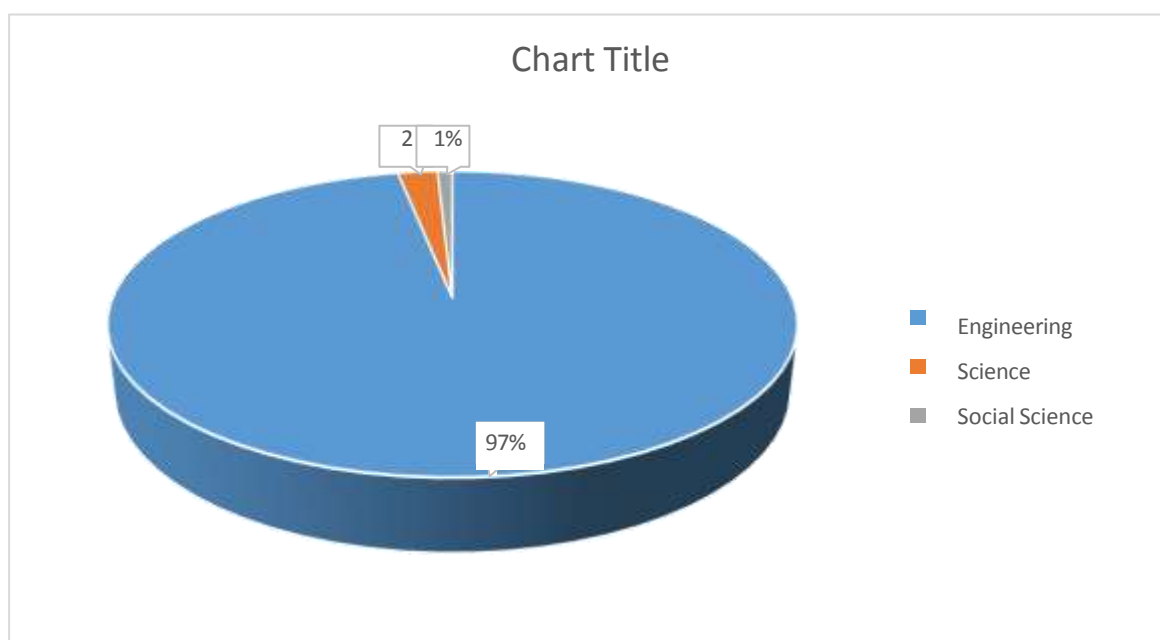


Figure 5.5. Domain-wise distribution of respondents

Figure 5.5 depicts that most respondents, 1068 (97%) of the sample population, were from engineering, while only 33, or 3%, were from science and social sciences backgrounds.

5.2.5 Age wise distribution of respondents

As shown in Table 5.21 below the data presented reveals the distribution of respondents based on their age group. The largest percentage of responders, or 68.9% (759 people), are in 18-20 years of age range. This implies that younger people's experiences and viewpoints of undergraduate students. The age group of 21–23 years comprises 17.9% of the total responses (198). Most often, these respondents were in their early postgraduate or late undergraduate years. The 24-26-year-old demographic, which makes up 8.4% of the sample (93 responders). Only 3.3% (37 respondents) of the sample were in the 27–29 age range and just 1.3% of respondents (14 respondents) are in the 30-year-old and older age category.

Table 5.21

Age wise distribution of respondents

Age Category	Responses	Percentage
18-20 years	748	67.9%

21-23 years	209	19.0%
24-26 years	93	8.4%
27-29 years	38	3.5%
>=30 years	13	1.2%
Total	1101	100%

Where as in the age category of 24-26 there were 93 (8.4%), in the age group of 27 -27 (3.3%) and above 30 years only 13 students participate in the survey.

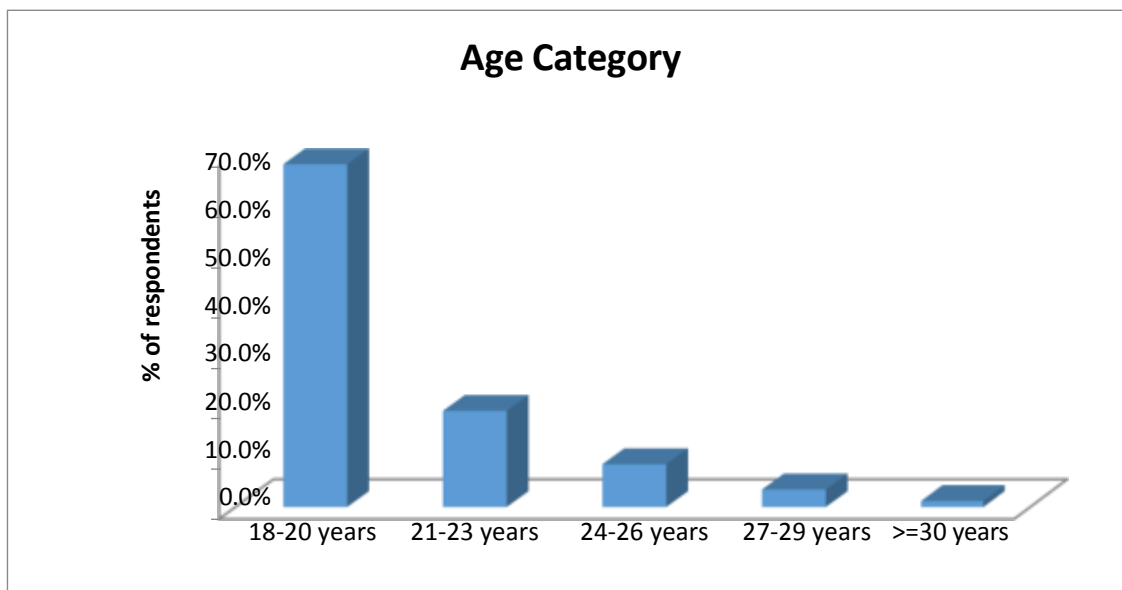


Figure 5.6 Age wise distribution of respondents

Figure 5.6 depicts that the majority of respondents, 748 (67.9%) of the sample population were Undergraduate students, 209 (19%) were from 21-23 years of age while above 30 contributed the lowest in the survey, with only 13(1.2%) respondents. This suggests that the sample predominantly includes younger individuals, likely aligning with the age profile of undergraduate students.

5.2.6 Gender-wise Distribution of Respondents

As shown in Table 5.22 below, the data presented reveals the distribution of respondents based on their gender. Most participants identified as male, making up 880 respondents (79.9%). On the other hand, 221 respondents, or 20.1%, identify as female.

Table: 5.22

Gender-wise distribution of respondents

Gender	Male	880	79.9%
	Female	221	20.1%
	Total	1101	100.0%

Figure 5.7 the survey's gender distribution of respondents is graphically depicted in the "Gender" pie chart. The fact that 79.9% of participants identify as male and 20.1% as female is evident from this chart.

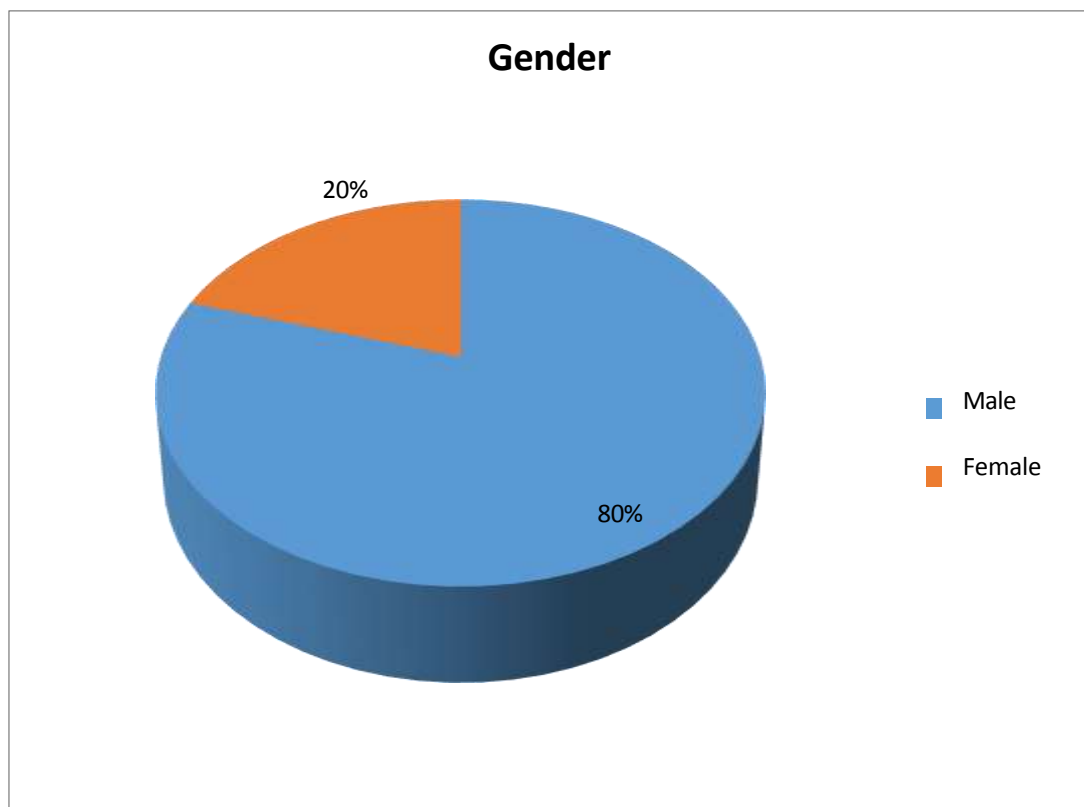


Figure 5.7 Gender wise distribution of respondents

Orange denotes females and blue denotes men in the chart, which employs different hues to distinguish between the sexes. This graphic differentiation improves the chart's readability and efficiency in displaying the gender composition quickly. Overall, the total number of respondents in this study is 1101, providing a robust dataset for analysis. This descriptive analysis outlines the demographic landscape of the participants, facilitating a deeper understanding of the sample characteristics relevant to the research objectives.

5.2.7 Descriptive Analysis of Social Media Platform Awareness

The descriptive analysis that follows is based on the data that was taken from the table 5.23 on the IIT Library's awareness of the different social media platforms (SMPs): The information in this table gauges respondents' familiarity with the many social media channels that the IIT Library uses. There are 1101 people in the entire sample size for this research.

Table 5.23

Social Media Platform (SMP) Awareness

SMP Awareness	Frequency	Percent
Facebook	1019	92.6%
Twitter	917	83.3%
Instagram	691	62.8%
YouTube	953	86.6%
Wikipedia	316	28.7%
LinkedIn	789	71.7%
WhatsApp	692	62.9%
Pinterest	462	42.0%
Academia.edu	324	29.4%
Answer.com	164	14.9%
Research Gate	375	34.1%
Telegram	473	43.0%
Total	1101	100.0%

Awareness of Social Media Platforms

Facebook is the most well-known platform, according to the results, with 92.6% (1019 respondents) reporting awareness. The next most popular platforms are LinkedIn (71.7%,

789 respondents), Twitter (83.3%, 917 respondents), and YouTube (86.6%, 953). According to these findings, channels for library involvement that are well-established include Facebook and YouTube. Significant awareness of WhatsApp is also demonstrated by the fact that 692 respondents, or 62.9%, acknowledged the library's use of the app. Instagram comes in second with 62.8% (691 respondents), underscoring its status as a widely used messaging app for information exchange and conversation among library users.

Conversely, platforms like Research Gate (34.1%, 375 respondents), Pinterest (42.0%, 462 respondents), and Telegram (43.0%, 473 respondents) show moderate levels of awareness. Lower awareness levels for Wikipedia (28.7%, 316 respondents), Academia.edu (29.4%, 324 respondents), and Answers.com (14.9%, 164 respondents) can be a result of their specialized use in academic settings.

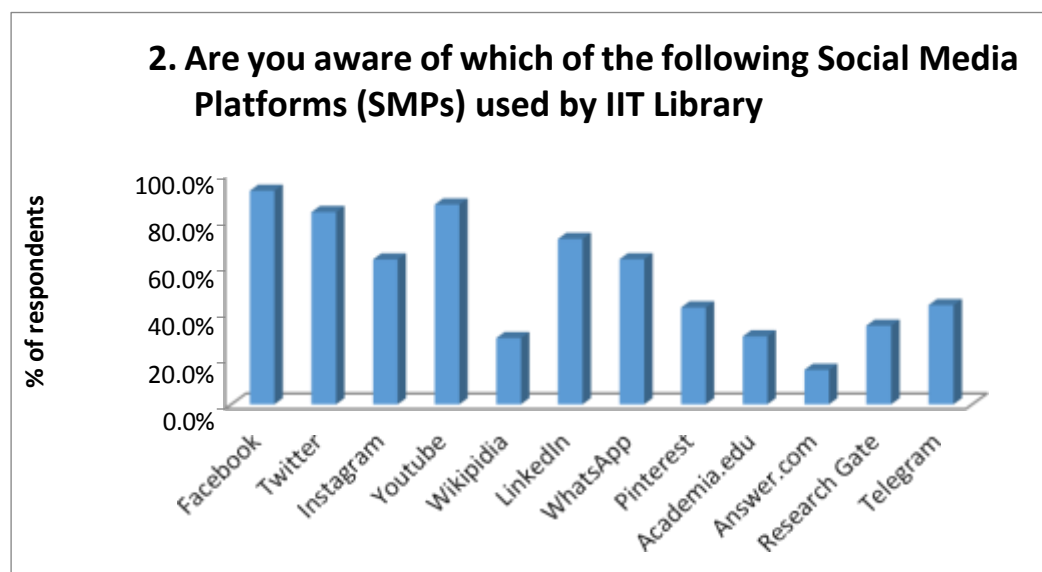


Figure 5.8: Awareness of Social Media Platforms

All things considered, the data shows that even while famous social media platforms are widely known, the IIT Library still has a great chance to boost participation and promote lesser-known platforms. The significance of using these media strategically to improve community participation, communication, and resource sharing among library users are highlighted by this analysis.

5.2.8 Descriptive Analysis of Time Spent on Social Media Platforms

Based on the information provided in the table 5.24 on the respondents' daily usage of

social media, the descriptive analysis that follows is based on the data that is currently available. With a total sample size of 1101 respondents, this table provides information on how much time participants spend on social media platforms each day.

Table: 5.24

Time spent on Social Media Platforms Daily

Time spend on Social media platforms daily	Frequency	Percent
1-3 hours	213	19.3%
4-6 hours	765	69.5%
7-9 hours	96	8.7%
>=10 hours	27	2.5%
Total	1101	100.0%

The results show that a sizable majority of participants 69.5%, or 765 respondents spend four to six hours a day on social media, suggesting that this is the most typical user time period. This high proportion implies that social media use is common among the participants, which may be a reflection of how important it is to their everyday life, especially in terms of social and academic relationships. A more moderate degree of participation is indicated by the 19.3% (213 respondents) who say they use these platforms for one to three hours per day. Instead of engaging in prolonged browsing, this group may use social media for specific objectives like chatting with peers or checking for changes.

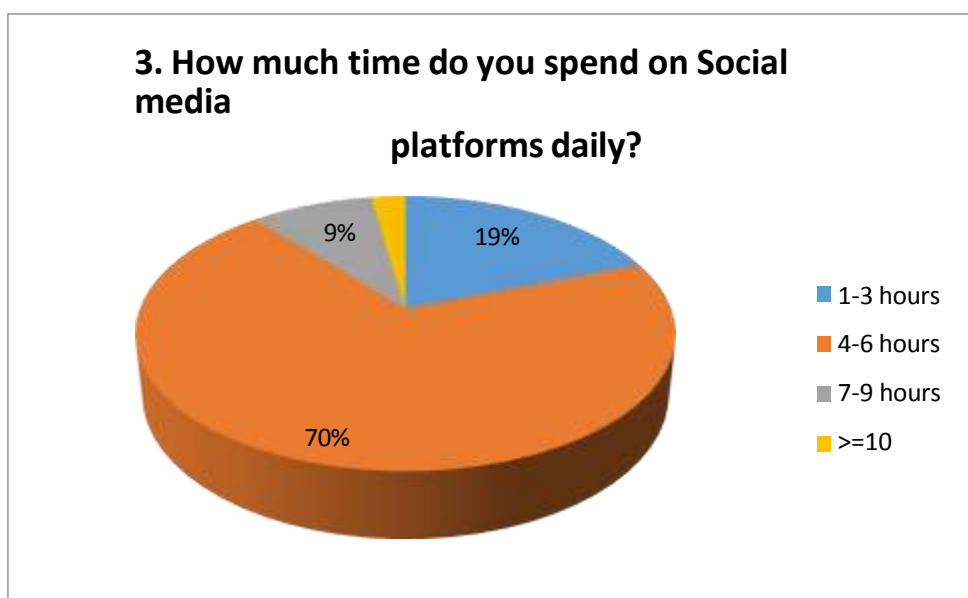


Figure 5.9 : Time spent on Social media Platforms Daily

All things considered, the data shows that a sizable percentage of respondents spend a lot of time on social media sites, mostly between four and six hours. This demonstrates the significance of social media as an essential instrument for user communication and information sharing.

5.2.9 Descriptive Analysis of Devices Used to Access Social Media Platforms

The following is a descriptive analysis based on the information in the table 5.25 about the devices that respondents used to access social media platforms (SMPs). With 1101 responses in all, this table gives a summary of the different devices that participants used to access social media platforms.

Table 5.25

Device use to access Social Media Platforms

Device	Frequency	Percent
Desktop	310	28.2%
Laptop	1074	97.5%
Smart Phone	1089	98.9%
iPad	223	20.3%
Total	1101	100.0%

According to the findings, 98.9% (1089 respondents) of participants accessed social media via smartphones, making them the most often utilized device. This high percentage indicates that cell phones, which are portable and convenient for users, have taken over as the main way that people use social media. Laptops come in second, with 97.5% of respondents (1074) stating that they use them to access social media. With the ability to interact with social media more thoroughly than mobile devices, this noteworthy statistic highlights the importance of laptops in both educational and leisure settings.

5.2.10. Device use to access Social Media Platforms

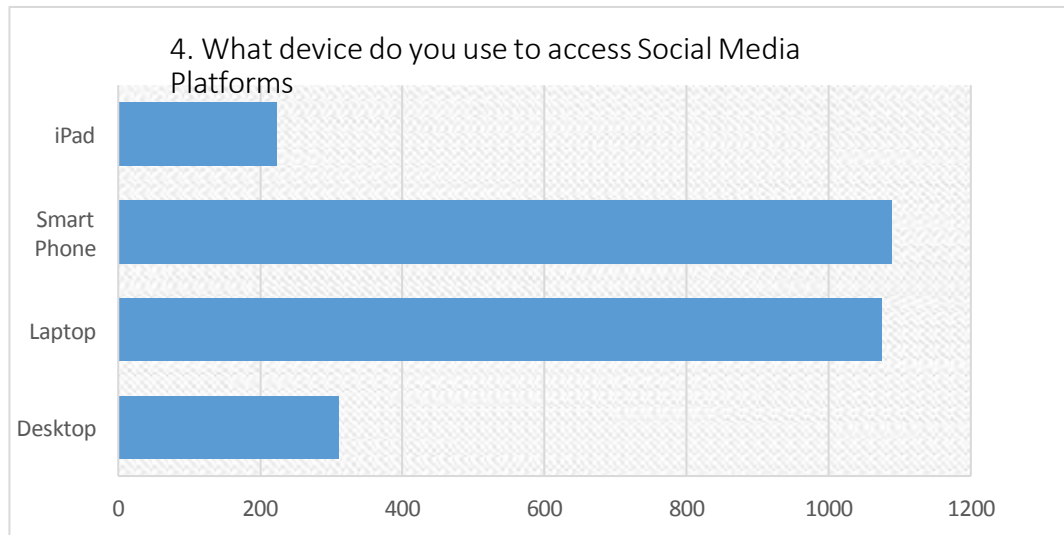


Figure 5.10 : Device used to access Social Media Platforms

The fact that 28.2% of respondents (310) use desktops suggests that social media activity is less dependent on this platform. Given that consumers frequently like the accessibility and flexibility provided by laptops and smartphones, this could be explained by the expanding trend of mobile usage. On the other hand, just 20.3% (223 respondents) said they use their iPads to access social media networks, making them the least used device. Despite having a specialized market, iPads are not as popular as other devices for social media interaction, as indicated by this comparatively low percentage. The data indicates that mobile devices, specifically smartphones and laptops, are clearly preferred as the main way to access social media networks. This pattern emphasizes how crucial it is to adapt social media material for mobile users in order to improve interaction and engagement. The results imply that in order to guarantee successful audience communication, libraries and organizations should take these usage trends into account when creating their social media strategy.

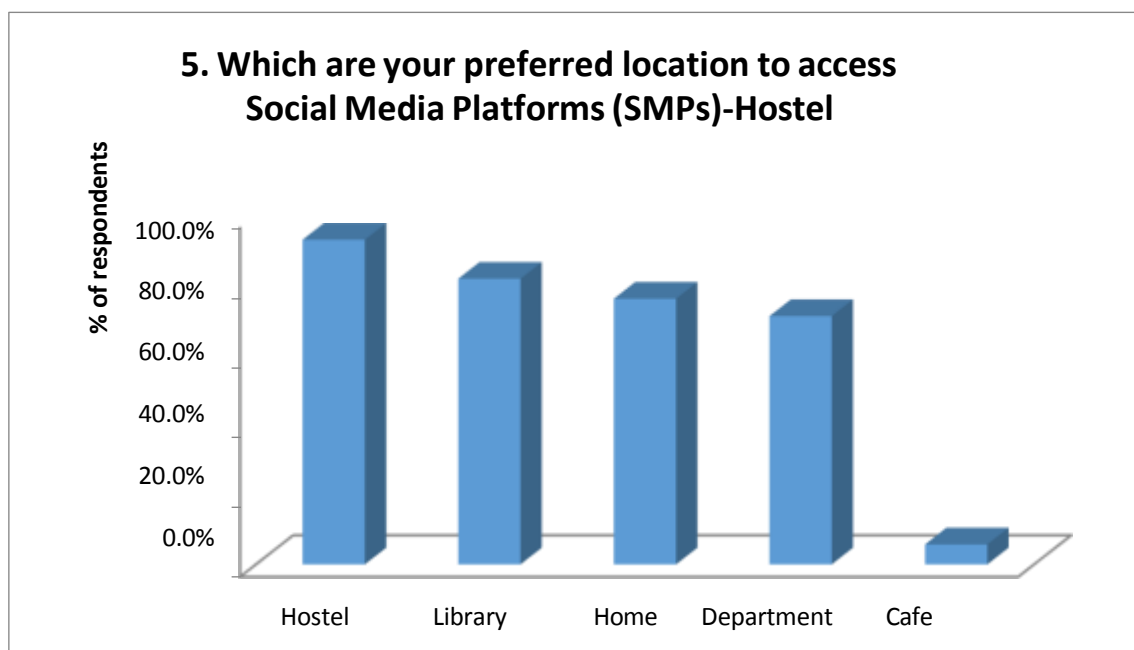
5.2.11 Descriptive Analysis of Preferred Locations for Accessing Social Media Platforms

The descriptive analysis that follows is based on the information that is included in the table 5.26 about the preferred locations for social media platform (SMP) access. The table, which includes 1101 responses overall, offers information on the participants' favourite locations for social networking platform access.

Table 5.26*Preferred Locations for Accessing Social Media Platforms*

Location	Frequency	Percent
Hostel	1024	93.0%
Library	901	81.8%
Home	838	76.1%
Department	783	71.1%
Cafe	63	5.7%
Total	1101	100.0%

The results show that, with an astounding 93.0% (1024 respondents) expressing this preference, the hostel is the most popular place to use social media. Because of the accessibility and social dynamics found there, this high percentage highlights the importance of the hostel setting as a key location for social media interaction. With 81.8% (901 respondents) preferring to browse social media from this academic setting, the library comes in second place after the dormitory. This implies that students are increasingly accessing library services for social engagement and knowledge sharing in addition to studying. 76.1% (838 respondents) of participants indicated that they use their homes to access social media, making them the third most popular destination. This suggests that although students use social media for academic purposes, they also cherish the familiarity and comfort of their home environment.

**Figure 5.11 Preferred Locations for Accessing Social Media Platforms**

The department comes in fourth, with 783 respondents, or 71.1%, saying they prefer to use social media from their academic departments. According to this research, departmental spaces serve as social hubs where students can interact with one another and exchange academic materials via social media. Only 5.7% (63 respondents) said they access social media from the café, making it the least favourite venue. This low percentage could be the result of a number of things, including noise levels, cafe surroundings, and perhaps restricted access to power supplies or Wi-Fi. To sum up, the data shows that people choose the hostel above academic places like the library and department as the main place to use social media sites. These results imply that social media is an essential tool for student communication and resource exchange in both academic and residential settings. Libraries and other institutions can better encourage students' use of social media by knowing these preferences.

5.2.12 Descriptive Analysis of Purposes for Using Social Media Platforms

The descriptive analysis is as follows, based on the information about the broad reasons people use social media platforms that is shown in the table 5.27. Based on replies from 1101 people, this table lists the wide range of reasons why participants use social media sites.

Table 5.27

General Purposes for Using Social Media Platforms

General purpose for using social media platforms	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
To get Current News/Information	4 0.4%	5 0.5%	38 3.5%	385 35.0%	669 60.8%	1101 100.0%
Communicating with friends/family	4 0.4%	7 0.6%	3 0.3%	568 51.6%	519 47.1%	1101 100.0%
For entertainment/recreation	5 0.5%	8 0.7%	36 3.3%	446 40.5%	606 55.0%	1101 100.0%
Participation in polls and discussions	12 1.1%	110 10.0%	324 29.4%	544 49.4%	111 10.1%	1101 100.0%

Join professional groups and communities	8	98	314	537	144	1101
	0.7%	8.9%	28.5%	48.8%	13.1%	100.0%
Searching products and Services	8	5	51	577	460	1101
	0.7%	0.5%	4.6%	52.4%	41.8%	100.0%
Posting news/information/ photograph/events	4	9	15	552	521	1101
	0.4%	0.8%	1.4%	50.1%	47.3%	100.0%

Obtaining current news and information is the most common reason students use social media, with 60.8% (669 respondents) strongly agreeing with this statement. This demonstrates the vital role social media plays in providing users with up-to-date news and updates, reaffirming its status as the main information source in the digital age. 51.6% (568 respondents) agreed and 47.1% (519 respondents) strongly agreed that talking to friends and family is a major motivator. This highlights the significance of platforms in preserving interpersonal interactions and shows their social nature. There is substantial support for using social media for leisure and amusement, with 40.5% (446 respondents) strongly agreeing and 55.0% (606 respondents) agreeing. This suggests that social media is widely used by users for leisure and fun, which may involve games, meme sharing, and video watching.

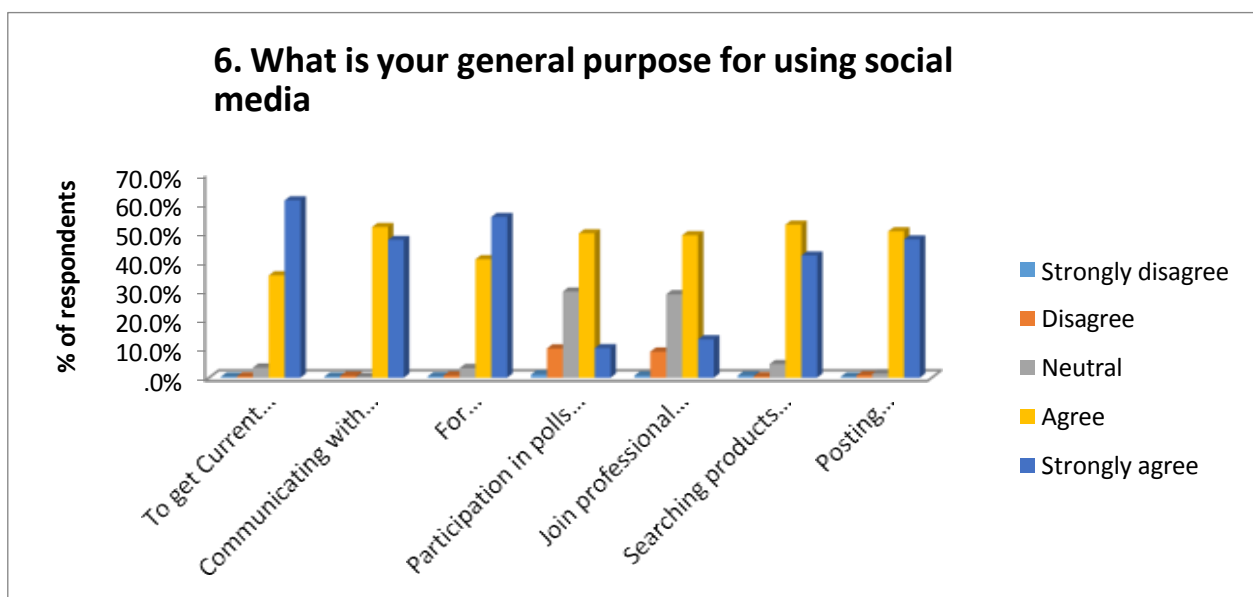


Figure 5.12 General Purposes for Using Social Media Platforms

Responses to surveys and conversations are more diverse, with only 10.1% (111 respondents) strongly agreeing. Nonetheless, 544 respondents, or 49.4%, concur, suggesting a moderate amount of interest in social media interactive material. Regarding participation in professional networks and groups, the agreement rate is 48.8% (537 respondents), with 13.1% (144 respondents) highly agreeing. This implies that social media is used for professional networking as well as personal networking. With 52.4% (577 respondents) admitting that participants use social media to search for goods and services, there is a definite tendency for these platforms to be used for business. According to the research, social media platforms are used for a variety of reasons, with users having a significant preference for finding amusement, keeping up with friends, and getting news and information. These results highlight the value of social media as a flexible tool in modern society that can be used for various purposes, including networking for jobs, leisure, and personal communication.

5.2.13 Descriptive Analysis of Academic Purposes for Using Social Media Platforms

The following descriptive analysis is based on the data shown in the table 5.28 on the academic reasons for using social media sites. A total of 1,101 respondents participated in the study, and their responses were used to construct a table outlining the various academic purposes for which they utilise social media platforms.

Table 5.28

Academic Purposes for Using Social Media Platforms

Academic purpose for using SMPs	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
Online Learning	5 0.5%	8 0.7%	96 8.7%	631 57.3%	361 32.8%	1101 100.0%
Meeting with subject experts	5 0.5%	94 8.5%	363 33.0%	522 47.4%	117 10.6%	1101 100.0%
Group Participating in professional activities	4 0.4%	103 9.4%	302 27.4%	556 50.5%	136 12.4%	1101 100.0%
Participating in group discussions	8 0.7%	88 8.0%	291 26.4%	574 52.1%	140 12.7%	1101 100.0%
Preparing Notes]	4	84	169	607	237	1101

	0.4%	7.6%	15.3%	55.1%	21.5%	100.0%
Supplement	8	96	461	474	62	1101
classroom learning	0.7%	8.7%	41.9%	43.1%	5.6%	100.0%
Understand Concepts	5	24	166	634	272	1101
	0.5%	2.2%	15.1%	57.6%	24.7%	100.0%
Preparing for exams	5	23	268	594	211	1101
	0.5%	2.1%	24.3%	54.0%	19.2%	100.0%
Searching and	4	5	39	682	371	1101
Sharing new						
information	0.4%	0.5%	3.5%	61.9%	33.7%	100.0%
Participate in	9	51	345	585	111	1101
Academic and						
research forums	0.8%	4.6%	31.3%	53.1%	10.1%	100.0%
Searching and	5	17	28	512	539	1101
Sharing Visual						
materials	0.5%	1.5%	2.5%	46.5%	49.0%	100.0%

Searching and sharing new information is the most common academic goal, as shown by 61.9% (682 respondents) who agreed and 33.7% (371 respondents) who strongly agreed. This demonstrates the importance of social media as a crucial instrument for student research and information sharing. Understanding concepts comes next, with 57.6% (634 respondents) agreeing and 24.7% (272 respondents) strongly agreeing, demonstrating substantial support. This suggests that students regularly use social media to improve and clarify their comprehension of academic subjects. Online learning is another crucial purpose, with 57.3% (631 respondents) agreeing and 32.8% (361 respondents) strongly agreeing that they use social media platforms to facilitate their online learning experiences. This substantial agreement suggests that social media is not only a supplementary resource but also plays a fundamental role in the educational process, allowing students to access learning materials, engage with peers, and participate in discussions outside traditional classroom settings.

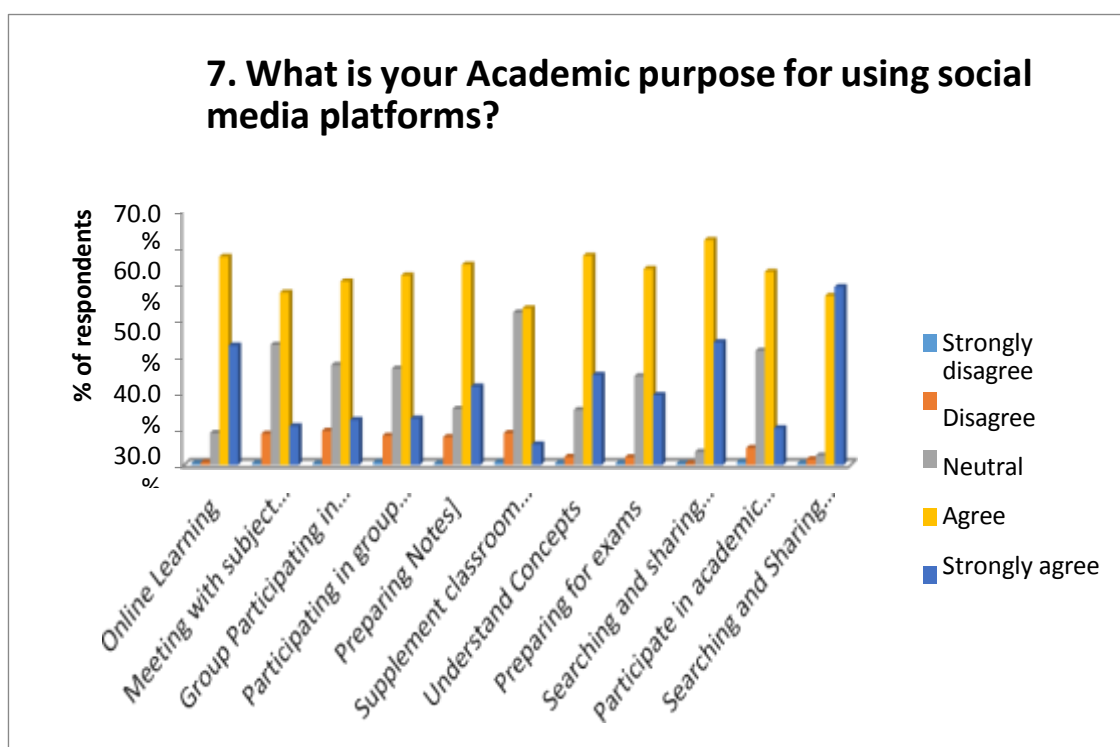


Figure 5.13 Academic Purposes for Using Social Media Platforms

Students use social media to successfully organise their study materials in addition to acquiring information, as indicated by the 55.1% (607 respondents) who agree and the 21.5% (237 respondents) strongly agree with the statement on note-taking. Significant interest is also generated by group discussion participation, as seen by the 52.1% (574 respondents) who agree and the 12.7% (140 respondents) who strongly agree. This illustrates how social media may foster collaboration by allowing students to have deep conversations with their friends. Social media is a supplemental resource for their education, according to 43.1% (474 respondents), while 41.9% (461 respondents) think it is used to augment classroom learning. Of the respondents, 47.4% (522) acknowledge the value of social media in connecting with subject matter experts, and 10.6% (117) strongly agree. This demonstrates how the platforms can be used to link students with experts in their respective fields. Social media is helpful for networking and professional engagement, as evidenced by the 50.5% (556 respondents) who agreed that group participation in professional activities is beneficial. Social media offers beneficial chances for academic collaboration, as seen by the 53.1% (585 respondents) who agree with the statement that participation in academic and research forums is important. Finally, there is moderate engagement with the goal of exam preparation, as

indicated by the 54.0% (594 respondents) who agree and the 19.2% (211 respondents) who strongly agree.

According to the research, social media platforms are mainly used for academic collaboration, idea understanding, and information exchange and search. The crucial significance that social media plays in enabling educational experiences is reflected in the important purpose that online learning emerges as. These results highlight how social media is crucial in improving educational opportunities and encouraging a cooperative learning environment. Educational institutions can better meet the needs and involvement of their students by customising their social media strategy and considering these academic aims.

5.2.14 Descriptive Analysis of Factors Influencing the Use of Social Media Platforms

The following descriptive study is predicated on the information presented in the table 5.29 about the variables influencing the use of social media platforms (SMPs). In order to generate the table that displays the many academic aims for which participants utilise social media platforms, a total sample size of 1101 respondents was used.

Table 5.29

factors that influence you to use social media platforms

Factors that influence you to use SMPs	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
SMPs are Alternative Communication tools	5 0.5%	4 0.4%	72 6.5%	719 65.3%	301 27.3%	1101 100.0%
Easy and free access	8 0.7%	7 0.6%	7 0.6%	422 38.3%	657 59.7%	1101 100.0%
User-Friendly applications	4 0.4%	5 0.5%	88 8.0%	667 60.6%	337 30.6%	1101 100.0%
Internet linking of	7	30	248	618	198	1101

social media Platforms	0.6%	2.7%	22.5%	56.1%	18.0%	100.0%
Information storage and sharing	5	47	110	669	270	1101
	0.5%	4.3%	10.0%	60.8%	24.5%	100.0%
Multimedia facility (text, graphics, audio, video)	5	10	108	613	365	1101
	0.5%	0.9%	9.8%	55.7%	33.2%	100.0%
Easy to connect with other users	3	7	24	685	382	1101
	0.3%	0.6%	2.2%	62.2%	34.7%	100.0%
Links to mobile application	5	48	345	577	126	1101
	0.5%	4.4%	31.3%	52.4%	11.4%	100.0%
Participate in social and cultural activities	5	91	315	591	99	1101
	0.5%	8.3%	28.6%	53.7%	9.0%	100.0%
Get Easy, fast current and updated information	7	6	15	541	532	1101
	0.6%	0.5%	1.4%	49.1%	48.3%	100.0%
Less expensive and time saving	12	8	29	526	time-saving	1101
	1.1%	0.7%	2.6%	47.8%	47.8%	100.0%

The perception of social media platforms as alternative communication tools is the most significant element influencing their use, with 65.3% (719 respondents) agreeing and 27.3% (301 respondents) strongly agreeing. This demonstrates how social media is crucial for communication, enabling users to establish fast and efficient connections. Another important issue is easy and free access, which 38.3% (422 respondents) strongly agreed with and 59.7% (657 respondents) agreed with. This suggests that social media platforms' cost-effectiveness and accessibility play a significant role in the users' extensive usage of them. Additionally noteworthy is the fact that 60.6% (667 respondents) agreed and 30.6% (337 respondents) strongly agreed that applications are user-friendly. This implies that promoting user engagement requires both intuitive design and simple navigation. The significance of connection and interoperability among platforms to improve user experience is highlighted by the 56.1% (618 respondents) who agree with the aspect of Internet linkage of social media platforms. Users value social media platforms' ability to support information management and cooperation, as seen by the 60.8% (669 respondents) who acknowledged the storing and sharing information.

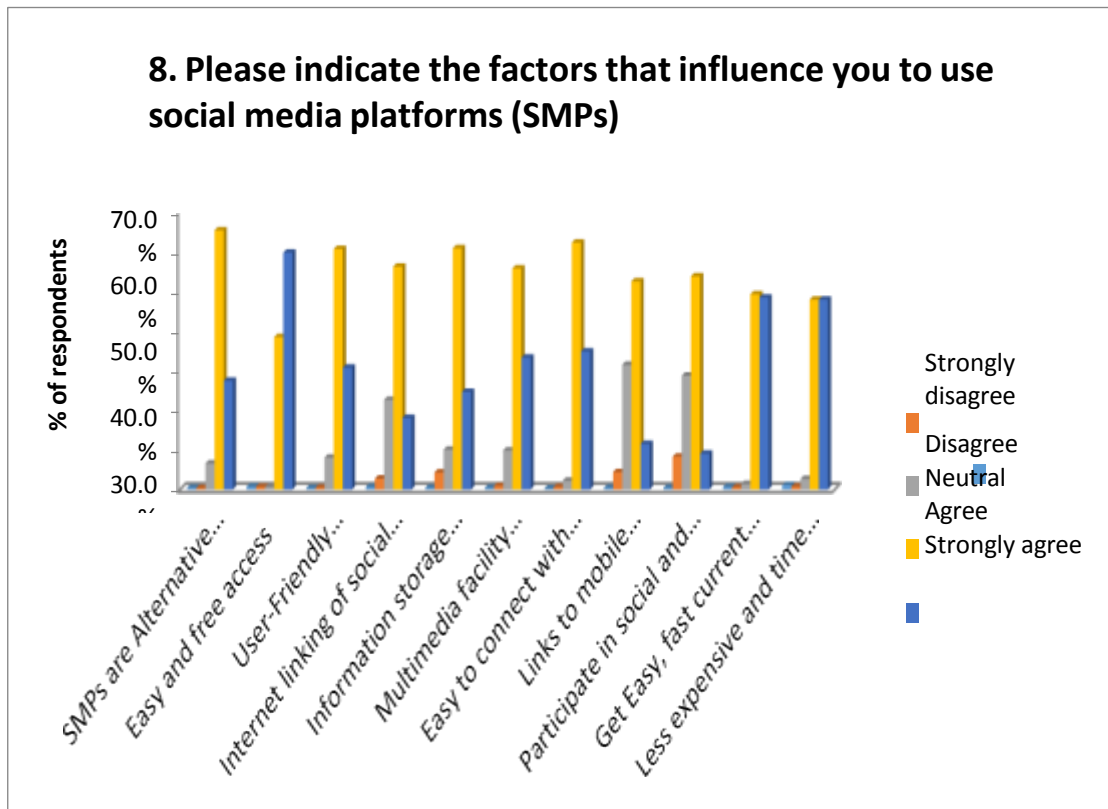


Figure 5.14 Factors that influence you to use social media platforms

Strong support is shown for the multimedia capability (text, images, audio, and video), with 33.2% (365 respondents) strongly agreeing and 55.7% (613 respondents) agreeing. This implies that social media's attractiveness for educational and recreational objectives is increased by its variety of material formats. 685 respondents, or 62.2%, acknowledged how easy it is to connect with other users, highlighting the social component of these platforms as crucial for communication and community development. According to 52.4% of respondents (577), links to mobile applications are considered, suggesting that smooth integration with mobile technology enhances user convenience and engagement. The fact that 53.7% of respondents (591) feel that social media is a good way to promote community involvement and cross-cultural interaction is evidence of this. The platforms' function in giving users timely and pertinent content is shown in the 49.1% (541 respondents) who favour the opportunity to obtain simple, quick, up-to-date, and current information. Finally, 47.8% of the 526 respondents agreed that it is less costly and time-consuming. This demonstrates the valuable benefits of social networking in efficiently managing expenses and time. The data shows that several elements, namely social media platforms' function as alternate communication tools, accessibility, usability, and

multimedia capabilities, have a significant impact on how often people use them. These findings highlight the significance of these platforms in promoting communication, information exchange, and community involvement. Developers and educational institutions can improve social media platforms to better serve user demands and increase participation by being aware of these variables.

5.2.15 Which kind of Academic support is provided by your Library on SMPs?

Analyzing the academic help IIT libraries offer on social media platforms shows that different services receive varying degrees of participation. It is noteworthy that most students (53.2%) use social media to keep up with new materials, highlighting how crucial rapid updates are for meeting academic needs. Further demonstrating the importance of social media in assisting students in making research decisions is the fact that 33.0% of respondents use these platforms to locate resources, reviews, and suggestions.

Table 5.30

Academic support is provided by your Library on SMPs

Academic support is provided by the Library on SMPs	Frequency	Percent (%)
Information about events/ activities/ competitions/ workshops, etc., available via SMPs	345	31.3%
Finding out about resources, including reviews and recommendations	363	33.0%
Awareness of new resources	586	53.2%
Connecting other users and sharing information	150	13.6%
Connect the Library resources/services	207	18.8%
Immediate access to information	288	26.2%
Facilitate Research and peer e-learning	259	23.5%
Improved Communication - Ask A Librarian service	274	24.9%
Encourage research and communication activities	327	29.7%
Total	1101	100.0%

Social media is a powerful tool for promoting extracurricular academic activities, as evidenced by the fact that 31.3% of students interact with information about events, workshops, and competitions. Furthermore, social media helps deliver real-time information, as evidenced by the fact that 26.2% of respondents depend on it for instant access to library updates and 29.7% value its role in promoting research and communication efforts. A piece of reasonable knowledge and utilisation of the "Ask A Librarian" service, which aims to improve communication with library staff, shows that 24.9% of respondents use it. Only 13.6% of students use social media for user connections and peer-to-peer information exchange, but 23.5% use it for research and peer e-learning. The final finding indicates the potential for improving digital library tools' integration into students' academic workflows, as 18.8% of users connect with particular library resources and services via social media. These findings show that although social media works well for sharing information and advertising events, there are ways to increase participation in areas like coordinated learning and individualised help.

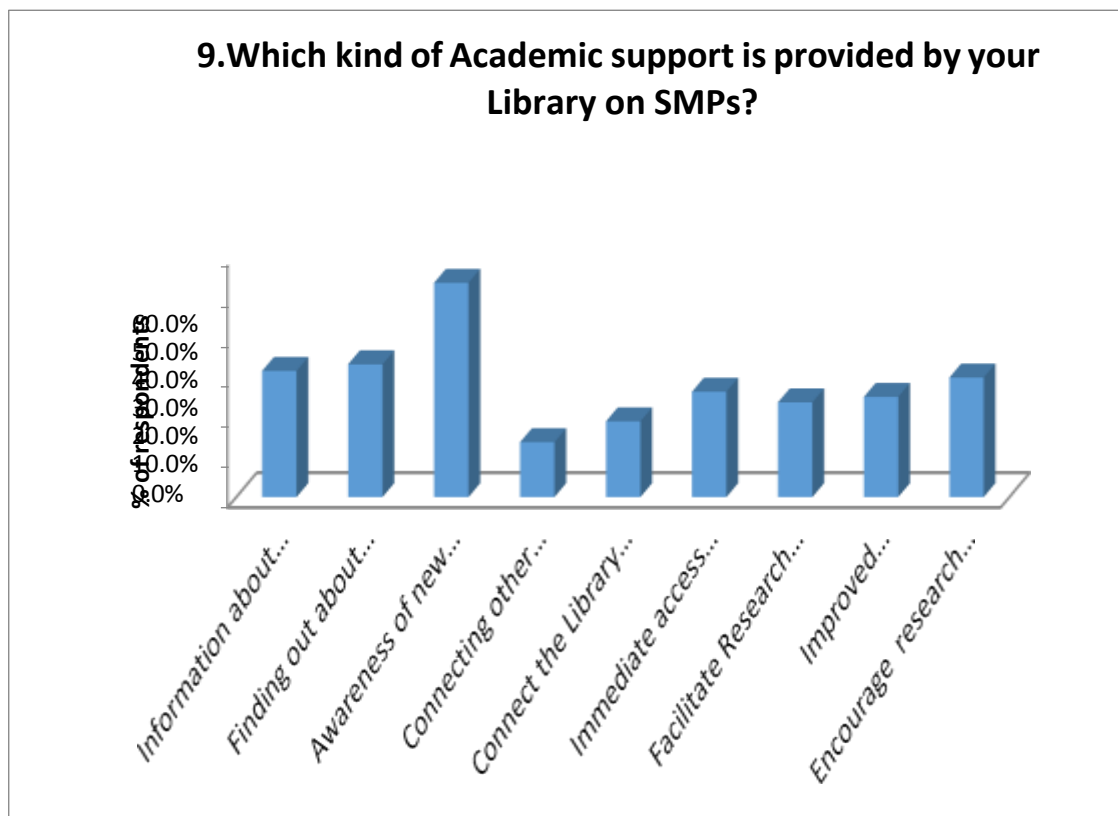


Figure 5.15: Academic support is provided by your Library on SMPs

5.2.16 How do you assess the academic support provided by the IIT Library using SMPs?

The table 5.31 displays the replies from 1,101 respondents about how they use social media platforms (SMPs) to acquire academic support offered by the IIT Library, indicating varying degrees of satisfaction. A substantial majority of respondents, 519 (47.1%), reported being content with regularly posting news, information, and events, whereas 24 users (2.2%) voiced intense unhappiness. This suggests that regular updates are essential for maintaining user engagement.

Table 5.31

Assessment of the academic support provided by the IIT Library using SMPs

Assessment of the academic support provided by the IIT Library using SMPs	Strongly dissatisfied	Dissatisfied	Neutral	Satisfied	Strongly satisfied	Total
Regular Posting of News/Information/Events by the Library on social media Platforms	24 2.2%	41 3.7%	77 7.0%	519 47.1%	440 40.0%	1101 100.0%
Library's posts meet the information needs.	23 2.1%	53 4.8%	264 24.0%	571 51.9%	190 17.3%	1101 100.0%
My purpose of using the Library's social media has been fulfilled.	23 2.1%	63 5.7%	285 25.9%	594 54.0%	136 12.4%	1101 100.0%
Availability of information regarding new resources and services.	16 1.5%	42 3.8%	363 33.0%	577 52.4%	103 9.4%	1101 100.0%
Connectivity with the information via SMP's	18 1.6%	38 3.5%	309 28.1%	606 55.0%	130 11.8%	1101 100.0%
Opportunity to interact with other follows/researchers/experts	22 2.0%	36 3.3%	300 27.2%	627 56.9%	116 10.5%	1101 100.0%

Regarding whether the library's posts satisfy users' information demands, most 571 respondents (51.9%) expressed satisfaction, while 23 (2.1%) expressed strong dissatisfaction shown in the table 5.31. This indicates that the library's information communication needs to be improved. The fact that 594 (54.0%) users were satisfied and 23 (2.1%) were highly unsatisfied with the library's ability to satisfy their reasons for using its social media accounts suggests that although many users find the service valuable, improvements are necessary to meet expectations fully. Although consumers appreciate the information supplied, they want more effective communication about new offers, as seen by the 577 (52.4%) happy and 16 (1.5%) highly unsatisfied users.

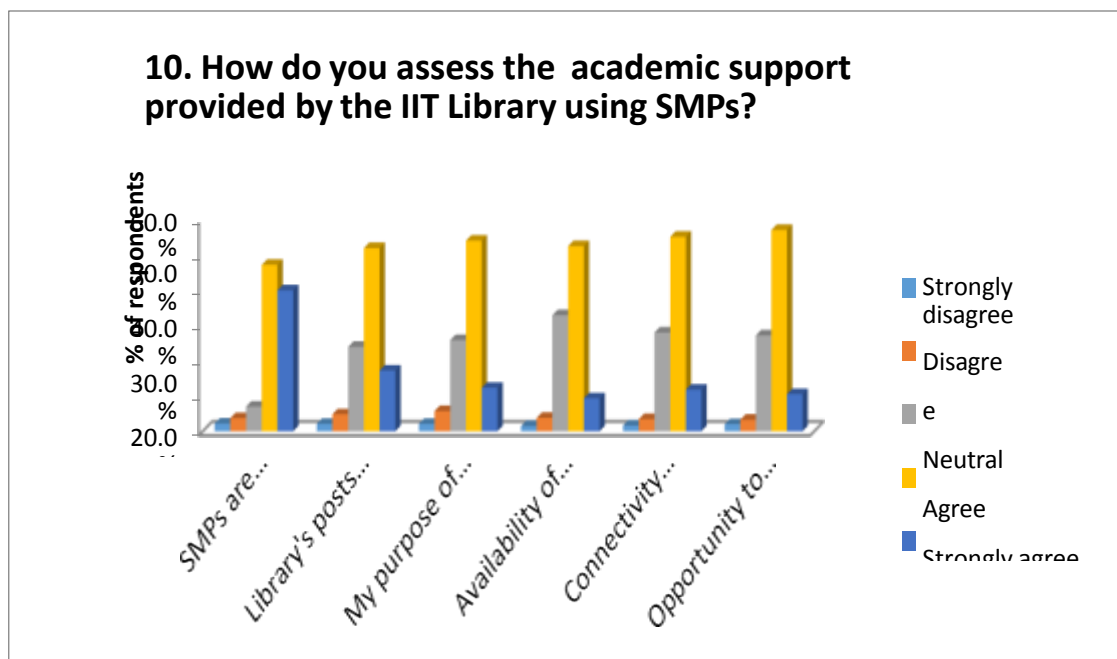


Figure 5.16: Assessment the academic support provided by the IIT Library using SMPs

A noteworthy 606 (55.0%) consumers expressed satisfaction with the information connectivity via SMPs, whereas 18 (1.6%) expressed strong dissatisfaction, indicating generally good accessibility. Finally, there was a good sentiment regarding involvement, even though 627 (56.9%) were happy and 22 (2.0%) were severely unsatisfied with the possibility to contact with other followers, researchers, and professionals. All things considered, the data shows a generally positive perception of academic assistance offered by the IIT Library through social media platforms, but it also points out a number of areas where enhancements could further increase user delight and engagement.

5.2.17 What is your opinion about Infrastructure and Library staff cooperation related to SMPs?

Based on input from 1,101 respondents, the table 5.32 displays user perceptions on social media platform (SMP) infrastructure and library staff collaboration. Users are generally satisfied with the availability of Wi-Fi, which is necessary for accessing library resources online. Only four users (0.4%) strongly disagreed with the availability of a free Wi-Fi facility, whereas a significant majority of 567 respondents (51.5%) agreed and 487 (44.2%) strongly agreed. A significant percentage of 229 users (20.8%) were ambivalent, indicating that users' experiences with Internet speed varied. Of those who responded, 641 (58.2%) agreed with the statement that the library offers high Internet bandwidth, while six users (0.5%) strongly disagreed. Users felt sufficiently supported in keeping access to SMPs during power outages, as evidenced by the responses of 668 respondents (60.7%) who agreed with the provision of proper power backup. In contrast, seven users (0.6%) severely objected.

Table 5.32

Opinion about Infrastructure and Library staff cooperation related to SMPs

Opinion about Infrastructure and Library staff cooperation related to SMPs	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
Free Wi-Fi facility available	4 0.4%	5 0.5%	38 3.5%	567 51.5%	487 44.2%	1101 100.0%
The library provides high bandwidth of the Internet to access SMPs	6 0.5%	16 1.5%	229 20.8%	641 58.2%	209 19.0%	1101 100.0%
The Library provides proper power backup to access SMPs	7 0.6%	8 0.7%	272 24.7%	668 60.7%	146 13.3%	1101 100.0%
I get to know about newly added resources and services in the	8 0.7%	38 3.5%	84 7.6%	648 58.9%	323 29.3%	1101 100.0%

Library through social media						
The library staff is well-trained in providing information about library sources and services on SMPs	8	12	53	881	147	1101
	0.7%	1.1%	4.8%	80.0%	13.4%	100.0%

A total of 648 respondents (58.9%) agreed, 323 (29.3%) strongly agreed with the library's use of social media to communicate new resources and services, and 8 users (0.7%) strongly disagreed. These results indicate that users are generally satisfied with the library's use of social media to communicate about new offerings.

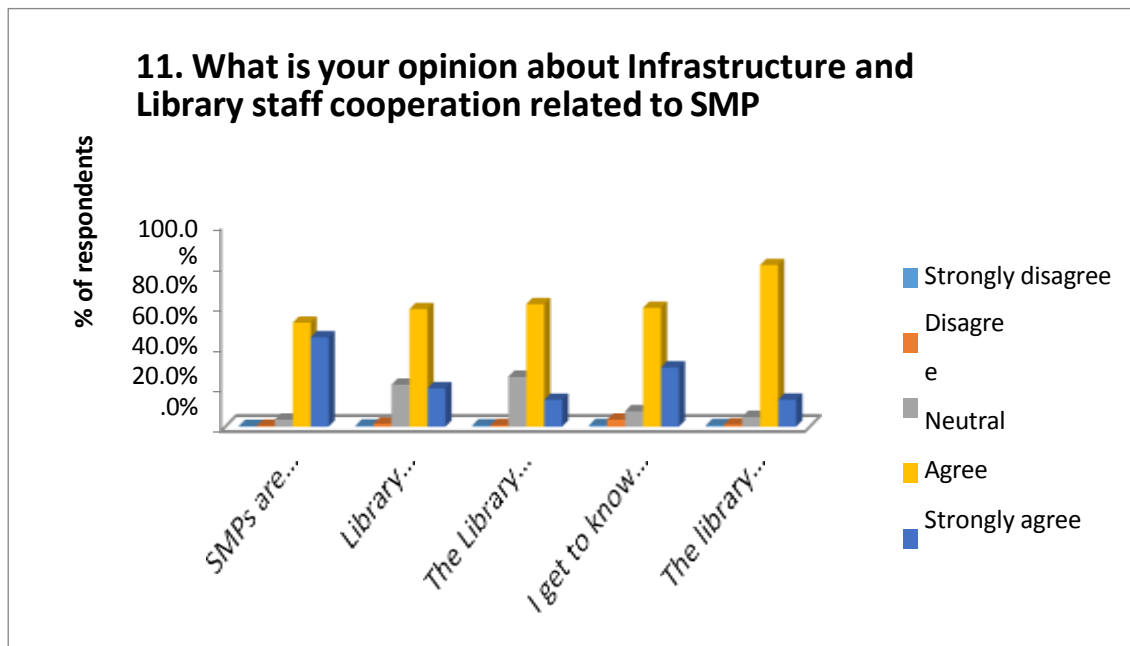


Figure 5.17: Opinion about Infrastructure and Library staff cooperation related to SMP

Finally, 881 users (80.0%) agreed that library staff are skilled at helping users through SMPs. In contrast, 8 respondents (0.7%) strongly disagreed with the statement that library staff are well-trained in providing information about library sources and services on SMPs. This overwhelmingly positive reaction highlights how well-trained and capable library employees are at answering questions and encouraging user interaction. Most respondents expressed satisfaction with resource availability, staff training, and communication about library services, indicating an overall positive perception of the

infrastructure and collaboration of library staff about social media platforms. The existence of neutral answers, especially about Internet bandwidth, suggests areas requiring additional development to improve user experiences.

5.2.18 Challenges faced while using Social Media Platforms (SMPs)

The table 5.33 presents responses regarding user opinions on various challenges associated with accessing academic support through social media platforms (SMPs) based on feedback from 1,101 respondents. In terms of distraction and Internet addiction, a significant majority of 715 users (64.9%) agreed that these issues are prevalent, indicating a notable concern among library users. Regarding exposure to trolling and cyberbullying, 589 respondents (53.5%) acknowledged experiencing these negative interactions, which further emphasises the risks associated with social media use.

Table 5.33

Challenges faced while using Social Media Platforms

Challenges	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
Distraction/ Internet addiction	8 0.7%	44 4.0%	76 6.9%	715 64.9%	258 23.4%	1101 100.0%
Exposed to trolling/cyber-bullying	15 1.4%	72 6.5%	219 19.9%	589 53.5%	206 18.7%	1101 100.0%
Irrelevant or annoying information	9 0.8%	82 7.4%	279 25.3%	621 56.4%	110 10.0%	1101 100.0%
Limited period of use while on campus.	13 1.2%	201 18.3%	360 32.7%	411 37.3%	116 10.5%	1101 100.0%
The potential for unwanted information /spamming	8 0.7%	25 2.3%	254 23.1%	689 62.6%	125 11.4%	1101 100.0%
Social Media Feeds are not updated regularly.	8 0.7%	155 14.1%	346 31.4%	526 47.8%	66 6.0%	1101 100.0%
Exposes to Cybercrime	15 1.4%	21 1.9%	177 16.1%	660 59.9%	228 20.7%	1101 100.0%
Connectivity issue	11 1.0%	213 19.3%	257 23.3%	578 52.5%	42 3.8%	1101 100.0%

A gap in the relevancy of shared materials was highlighted when 621 users (56.4%) evaluated useless or irritating information and said that the content frequently did not fulfil their demands. 411 respondents (37.3%) agreed that time limits affect their access to library services, highlighting the difficulty of having limited time to use the library while on campus. The possibility of spam and harmful content was also acknowledged by 689 users (62.6%), indicating that this is a serious issue. The regularity of social media feed updates has irritated users; 526 respondents, or 47.8%, agreed that updates are frequently insufficient. 660 users (59.9%) reported feeling exposed to security dangers regarding cybercrime, and 578 respondents (52.5%) reported experiencing connectivity problems, suggesting that technological obstacles impede their experiences.

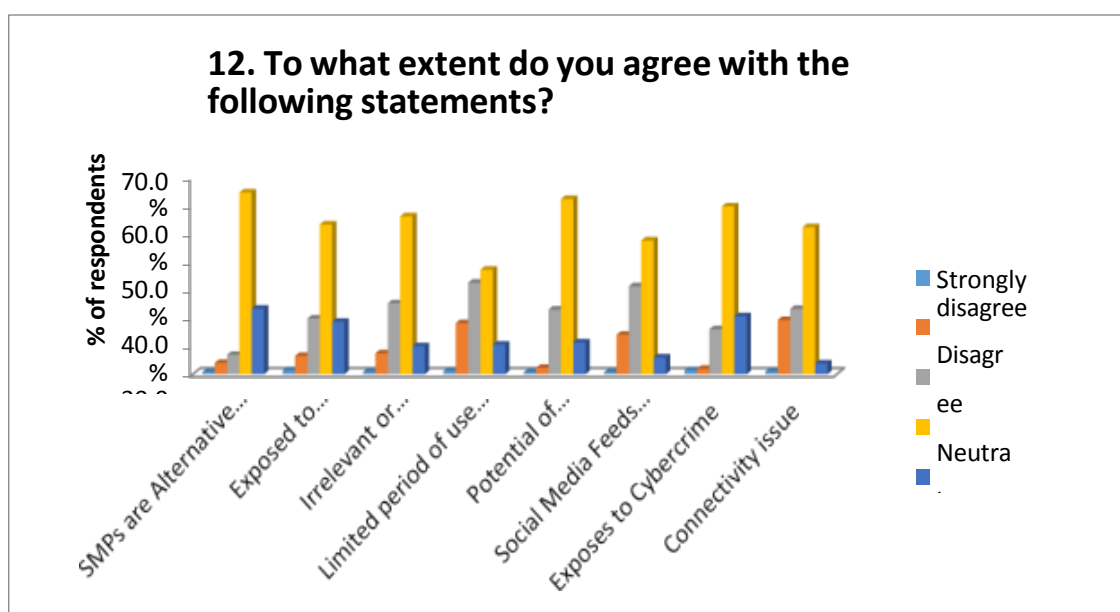


Figure 5.18: Challenges faced while using Social Media Platforms

In general, even though many users value the academic assistance the library offers through social media, these issues highlight the necessity for the library to improve its methods for dealing with distractions, enhancing the relevancy of its content, and guaranteeing user security in order to create a more encouraging online environment.

CHAPTER 6

FINDINGS AND DISCUSSIONS

Overview

The Findings and Discussion chapter synthesises the key results obtained from the analysis of data related to social media marketing in IIT libraries. It interprets user engagement trends, platform preferences, and challenges in adopting digital outreach tools. The discussion connects these findings to existing literature, highlighting patterns of effective practice and areas for improvement in service visibility and user interaction. This chapter critically evaluates the implications for library strategy, user satisfaction, and institutional digital presence.

6.1. Introduction

6.2. Research Objectives

6.3. Hypothesis of the Study

6.4. Interpretation and Key Findings

6.5. Testing of Hypothesis

6.6. Discussion of Results

6.1 Introduction

The study's conclusions can be drawn after a thorough and critical review and interpretation of the data gathered research is a methodical research to find answers to specific questions, a fact-finding inquiry. The entire research project that will be carried out in order to accomplish specific goals was conducted by the researcher using a research methodology. The results of the study would benefit society overall, other researchers, and policymakers in their decision-making on adopting new technologies. The abstract, interpretation of the study in light of the goals, research questions, and hypotheses, as well as the results, implications, ideas for further research, and recommendations, are all included in this chapter.

This study examines how library users use, perceive, and are aware of social media sites. A brief overview of the ongoing research study is provided below. The current study's objective is to assess library users' knowledge, attitudes, and usage of social media platforms within libraries. A research instrument had been created and standardised by the researcher specifically for that use. Utilising questions on social media platform awareness and usage in libraries, the influence of several factors on the views of library users is investigated.

6.2 Research Objectives

The research aims to contribute to the literature by considering the primary purpose of the study, such as how social media marketing enhances the library services of IITs. The objectives to be fulfilled are as follows:

1. To identify the major social media platforms being used by the IIT Libraries to market library information sources and services.
2. To evaluate the acquaintance of the users with the social media platforms being used by the IIT Libraries.
3. To examine the purpose and ease of use of social media platforms being used by the IIT Libraries.
4. To analyse the hindrances and problems being faced while accessing social media platforms.
5. To investigate the various challenges surrounding the libraries' strategies in marketing the information sources and services and provide recommendations

6.3 Hypothesis of the Study

The following hypotheses are formulated to investigate this study

- H1. Social Media Tools used by the IIT Libraries have enhanced the awareness and usage of information sources and services.
- H2. Library Users frequently use social media platforms to access information sources and services offered by their respective libraries.

H3. Library users face very few challenges while accessing information through Social Media networks.

H4. Library users are satisfied with the information sources and services provided by the IIT libraries through social media platforms.

The Indian Institute of Technology (IIT) of North India is the focus of this investigation. The survey included undergraduate, postgraduate, research scholars, and librarians from these eight institutes. The current study thus covers the 1101 responses.

6.4 Interpretation and Key Findings:

Here, the researcher has given the interpretation and findings of the study in the context of the objectives, research questions and hypotheses. The researcher had constructed five objectives for the present study. The objective-wise interpretation and conclusion of both parts of the research tool are given below.

Interpretation of research questions and findings about objectives:

The researcher developed research questions for objectives 1 through 5 and obtained the following interpretation under those questions:

Objective 1: To identify the major social media platforms being used by the IIT Libraries to market library information sources and services.

The researcher constructed the following research question to identify the major social media platforms used by IIT libraries in North India.

Research Question: How frequently is library-related information posted on SMPs?

Observation: As per Table (5.1.10), In the context of utilisation of social media platforms, the majority (62.5 %) of the IIT libraries are using Facebook as the leading social media platform, followed by X (Twitter) and YouTube for information dissemination.

Conclusion: Most of the IIT Libraries users were aware of the existence of social media platforms, while very few were unaware.

Objective 2: To evaluate the acquaintance of the users with the social media platforms

being used by the IIT Libraries

The researcher constructed the following research question to assess the user familiarity with the social media platforms that the IIT Libraries utilise.

Research Question: Are you aware of the following Social Media Platforms (SMPs) used by IIT Library

Observation: As per Table (5.2.6) In the context of awareness regarding the existence of social media applications, the majority (92.6 %) of the library users were aware that IIT libraries are using Facebook as the leading social media platform for information dissemination, followed by YouTube, X(Twitter), LinkedIn, WhatsApp and Instagram.

Conclusion: Most of the IIT Libraries users were aware of the existence of social media platforms, while very few were unaware.

Objective 3: To examine the purpose and easy to use social media platforms being used by the IIT Libraries.

To know the purpose of the users for using social media platforms in IIT libraries of North India, the researcher constructed the following research questions. **Research Question:** What is your General purpose for using Social Media Platforms (SMPs) and

What is your Academic purpose for using Social Media Platforms?

Observation: As per Tables (5.2.10) and (5.2.11), the majority of the respondents, i.e. 669 (60.8%), stated that they were using it for the general purpose of current news and information, followed by for entertainment/ recreation, posting news/ Information/ photographs/ events and Communicating with friends/family, etc., respondents using social media applications for general purposes. For academic purposes, the majority of the respondents, 682(61.9%), Searching and shared new information is the most common academic goal, followed by understanding concepts and online Learning.

Conclusion: Most users were using social media platforms for academic purposes, such as online study and information searching, and for general purposes, such as photos, events, and news, as well as for communication with friends and family.

Objective 4: To analyse the hindrances and problems being faced while accessing social media platforms.

The researcher constructed the following research question to analyse the challenges and problems faced while accessing social media platforms in IIT libraries in North India.

Research Question: Challenges faced while using Social Media Platforms

Observation: As per Table (5.2.16) majority of the respondents, i.e. 715 (64.9%), stated that they were Distraction/Internet-addicted, followed by 689 (62.6 %) Potential of unwanted information /spamming, 660 (59.9 %) Exposes to Cybercrime, 621(56.4%) Irrelevant or annoying information, 589(53.5%) Exposed to trolling/cyber-bullying etc., of the library user were aware facing these challenges during using social media platform for information searching and dissemination.

Conclusion: Most of the IIT Libraries users were facing hindrances and problems while accessing social media platforms.

Objective 5: To investigate the various challenges surrounding the libraries' strategies in marketing the information sources and services and provide recommendations

To know the various challenges surrounding the libraries' strategies in marketing the information sources and services towards the use of social media platforms in IIT libraries of North India, the researcher constructed the following research question.

Research Question: Challenges affecting the usage of social media Platforms in IIT Libraries

Observation: As per Table (5.1.14) the majority of the respondents stated that inconsistency in posting on SMPs (62.5%) was a main challenge, followed by a limited understanding of user needs (37.5%) etc. facing these challenges while using social media platforms for information searching and dissemination.

Conclusion: Most of the IIT Libraries faced significant challenges of inconsistency in posting, limited understanding of users' needs, educating users and Improper/No Policies for using SMPs for marketing information products and services.

6.5 Testing of Hypothesis

H1. Social Media Tools used by the IIT Libraries have enhanced the awareness and usage of information sources and services.

Table 6.1

SMPs Used to enhance awareness and usage of Information sources and services

Social media Platform	Chi-Square	p-value
Facebook	17.116	.017*
Twitter	15.971	.025*
Instagram	60.663	.0001**
YouTube	30.839	.0001**
wikipedia	108.074	.0001**
LinkedIn	28.783	.0001**
WhatsApp	69.843	.0001**
Pinterest	32.616	.0001**
Academia.edu	16.996	.018*
Answers.com	1.228	.990
ResearchGate	14.924	.037*
Telegram	29.804	.0001**

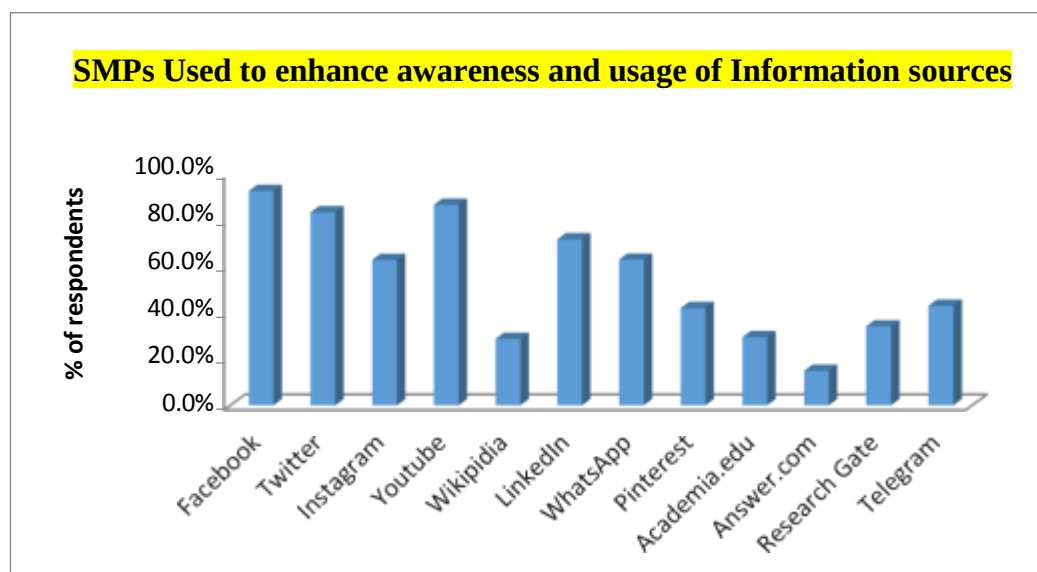


Figure 6.1: Awareness of Social Media Platforms

The results of the Chi-Square tests conducted to assess the effectiveness of various social media platforms used by IIT Libraries in enhancing awareness of information sources and services reveal significant findings across multiple platforms. The analysis demonstrated that all platforms, except for Answers.com, show a statistically significant association with the awareness of information sources and services provided by IIT Libraries. Notably, platforms such as Instagram, YouTube, Wikipedia, and WhatsApp yielded exceptionally high Chi-Square values (60.663, 30.839, 108.074, and 69.843, respectively) with p-values less than .0001, indicating a robust relationship between the usage of these platforms and the enhancement of user awareness. This suggests that the interactive and visually engaging nature of these platforms contributes significantly to information dissemination and user engagement. Additionally, Facebook ($p = .017$), Twitter ($p = .025$), and LinkedIn ($p = .0001$) indicate significant relationships, albeit with lower Chi-Square values compared to the aforementioned platforms. This highlights these platforms' effective role in promoting library resources and services, although their impact is somewhat less pronounced than that observed on Instagram, YouTube, and WhatsApp. Conversely, the only non-significant result was found for Answers.com, which exhibited a Chi-Square value of 1.228 and a p-value of .990, suggesting that its usage does not meaningfully impact enhancing user awareness regarding information sources and services offered by IIT Libraries. Overall, the significant p-values across the majority of platforms underscore the hypothesis that the utilisation of social media tools by IIT Libraries has successfully enhanced awareness of information sources and services.

Table 6.2

Factors that influence the use of social media platforms

Factors that influence the use of social media platforms	Chi-Square	p-value
SMPs are Alternative Communication tools	28.301	0.449
Easy and Free access	32.891	0.24
User-friendly applications	52.438	.003**
Internet linking of social media Platforms	85.351	.0001**
Information storage and sharing	115.669	.0001**

Multimedia facility (text, graphics, audio, video)	70.975	.0001**
Easy to connect with other users	44.028	.028
Links to mobile application	59.690	.0001**
Participate in social and cultural activities	114.888	.0001**
Get Easy, fast, current and updated information	61.347	.0001**
Less expensive and time-saving	59.590	.001**

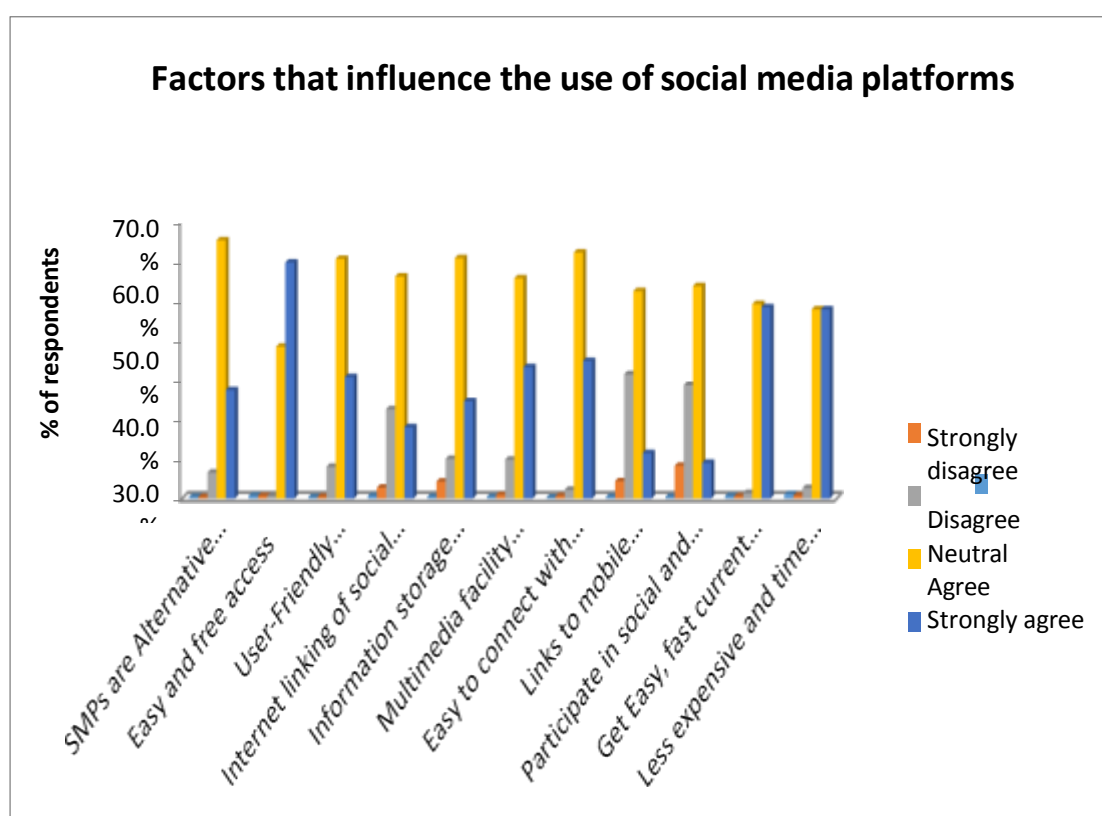


Figure 6.2: Factors that influence the use of social media platforms

The results of the Chi-Square tests conducted to evaluate the hypothesis that social media tools used by IIT Libraries have enhanced the awareness of information sources and services reveal a strong correlation between various factors influencing users to engage with these platforms and their awareness of library resources. Notably, the factor of information storage and sharing shows a Chi-Square value of 115.669 with a p-value of .0001, highlighting its critical role in facilitating users' ability to access and disseminate information effectively. Similarly, the multimedia facility, which

encompasses text, graphics, audio, and video, demonstrates a Chi-Square value of 70.975 and a p-value of .0001, indicating that the diverse content formats available on social media significantly contribute to user engagement and awareness of library services. Additionally, the factor of Internet linking of social media platforms yielded a high Chi-Square value of 85.351 with a p-value of .0001, reinforcing the notion that integrated access to information through social media enhances user awareness. The ability to participate in social and cultural activities (Chi-Square = 114.888, $p = .0001$) further emphasises the role of social media in fostering community engagement and promoting library events, which heighten awareness of available services. Other significant factors include user-friendly applications (Chi-Square = 52.438, $p = .003$), which indicate that ease of use directly impacts engagement and links to mobile applications (Chi-Square = 59.690, $p = .0001$), demonstrating that accessibility via mobile devices enhances awareness. Furthermore, the ability to obtain easy, fast, current, and updated information (Chi-Square = 61.347, $p = .0001$) and being less expensive and time-saving (Chi-Square = 59.590, $p = .001$) also contribute significantly to users' motivation to utilise social media for library-related information. However, the factors of social media platforms being alternative communication tools (Chi-Square = 28.301, $p = 0.449$) and easy and free access (Chi-Square = 32.891, $p = 0.24$) did not yield significant results, suggesting that while these aspects may influence usage, they do not strongly correlate with enhanced awareness of information sources and services. Overall, the significant p-values associated with these various factors indicate that social media tools employed by IIT Libraries play a substantial role in enhancing users' awareness of library information sources and services. Highlighting the significance of using social media as a powerful instrument for communication in order to raise awareness and encourage participation within the library community. ***Therefore, the Hypothesis 1 (H1) is accepted.***

H2. Library Users frequently use Social Media platforms to access library information sources and services offered by their respective Libraries.

To analyse the hypothesis that library users frequently use social media platforms to access library information sources and services, this research categorises usage into two distinct types: general use and academic use. General use encompasses activities such as seeking to get Current News/Information and communicating with friends/family for entertainment/recreation. In contrast, academic use focuses on Online Learning, meeting with subject experts, Group participation in professional activities and Participating in

group discussions with professional communities relevant to library services. This dual approach allows for a comprehensive understanding of how different purposes for social media engagement influence user access to library information.

Table 6.3

General purpose use of social media platforms

General Purpose	Chi-Square	p-value
To get Current News/Information	59.614	.0001**
Communicating with friends/family	28.496	0.438
For entertainment/recreation	40.624	0.058
Participation in polls and discussions	108.413	.0001**
Join professional groups and communities	122.699	.0001**
Searching products and Services	60.586	.0001**
Posting News/ Information/ Photographs/ Events	45.871	.018*

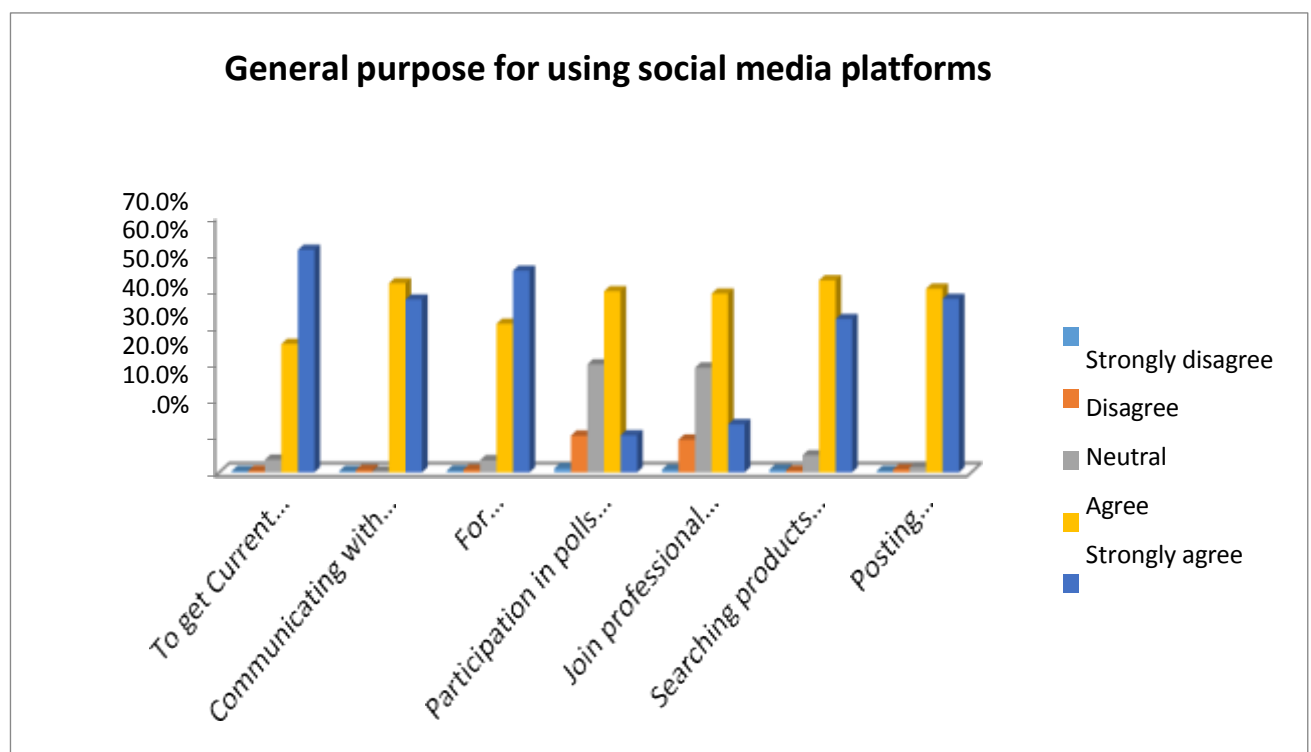


Figure 6.3: General Purpose for using social media platforms

The results of the Chi-Square tests conducted to assess the usage of social media platforms by library users in accessing library information sources and services reveal significant insights into user behavior. The analysis indicates that specific purposes for which users engage with social media are strongly associated with their access to library resources. Notably, accessing current news and information yielded a Chi-Square value of 59.614 with a p-value of .0001, indicating a highly significant relationship. This finding suggests that library users actively utilise social media platforms to stay informed about the latest developments and resources available through their libraries, reinforcing the role of social media as a crucial channel for disseminating library information. Furthermore, participation in polls and discussions, along with joining professional groups and communities, showed Chi-Square values of 108.413 and 122.699, respectively, both with p-values of .0001. These results highlight that library users seek not only information but also interactive and collaborative spaces provided by social media, enhancing their connection to the library community and fostering a sense of belonging. In contrast, the purpose of communicating with friends and family revealed a Chi-Square value of 28.496 with a p-value of 0.438, indicating a non-significant association. Similarly, the purposes of entertainment/recreation (Chi-Square = 40.624, p = 0.058) and posting news/information/ photographs/events (Chi-Square = 45.871, p = .018) exhibited mixed results, with the latter showing marginal significance. This implies that while users may occasionally use social media for recreational purposes, it is not their primary motivation for accessing library information. Additionally, searching for products and services yielded a Chi-Square value of 60.586 with a p-value of .0001, further reinforcing that social media serves as an effective platform for library users to locate and access library resources and services. Overall, the significant p-values associated with various purposes of social media usage support the hypothesis that library users frequently engage with social media platforms to access library information sources and services.

Table 6.4

Academic Purpose: Use Social Media Platforms

Academic Purpose	Chi-Square	p-value
Online Learning	37.900	.0001**
Meeting with subject experts	126.844	.0001**
Group Participating in professional activities	94.603	.0001**

Participating in group discussions	82.991	.0001**
Preparing Notes	133.255	.0001**
Supplement classroom learning	118.569	.0001**
Understanding Concepts	65.643	.0001**
Preparing for exams	93.081	.0001**
Searching and sharing new information	52.705	.003**
Participate in academic and research forums	136.281	.0001**
Searching and Sharing Visual materials	65.949	.0001**

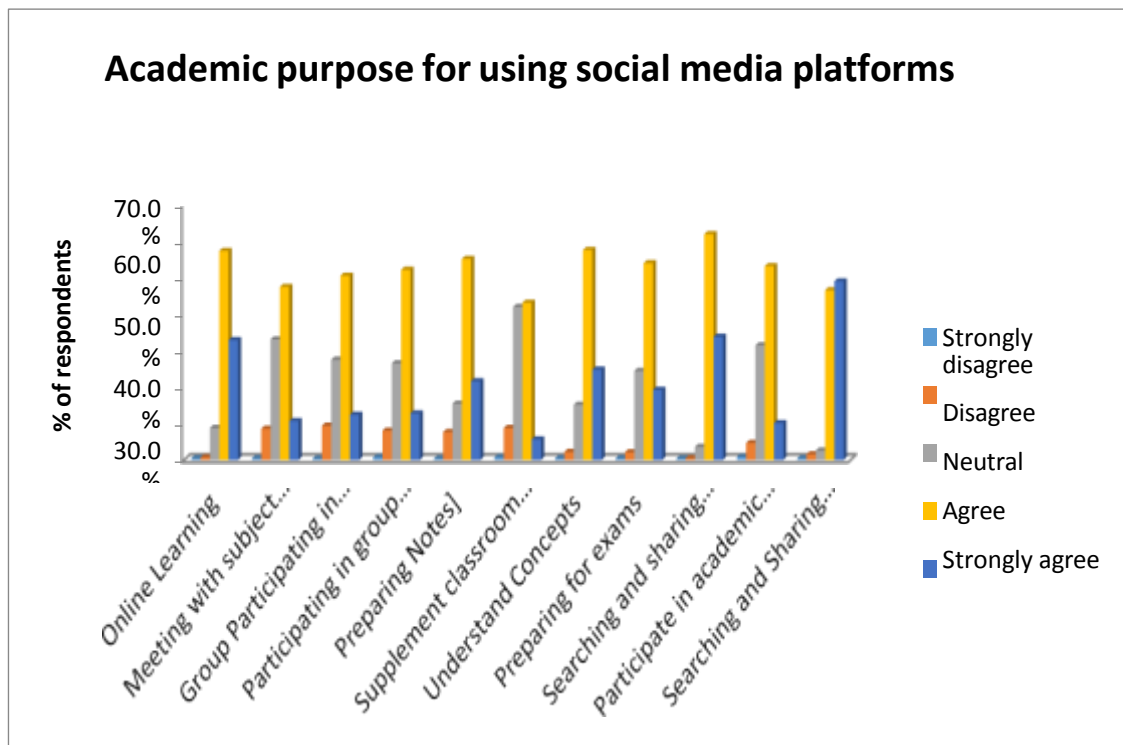


Figure 6.4: Academic Purpose for using social media platforms

The results of the Chi-Square tests conducted to evaluate the hypothesis that library users frequently use social media platforms to access library information sources and services reveal compelling evidence in support of this claim. Each academic purpose assessed demonstrates a statistically significant relationship with social media usage, underscoring the crucial role these platforms play in enhancing academic engagement among library users. Notably, the Chi-Square value for meeting with subject experts stands out at 126.844, with a p-value of .0001, indicating that library users actively seek out social

media to connect with professionals in their fields. Additionally, purposes such as preparing notes (Chi-Square = 133.255), participating in academic and research forums (Chi-Square = 136.281), and supplementing classroom learning (Chi-Square = 118.569) exhibit equally significant Chi-Square values, all at or below .0001. This suggests that social media is essential for collaborative Learning and professional networking, enriching the educational experience. Furthermore, the significance of participating in group discussions (Chi-Square = 82.991) and preparing for exams (Chi-Square = 93.081) reinforces the idea that social media is a vital tool for library users to engage effectively with peers and resources. The purpose of searching and sharing new information (Chi-Square = 52.705, $p = .003$) indicates that users not only consume content but also actively curate and disseminate academic knowledge, fostering a collaborative academic environment. Overall, the consistently significant p-values associated with these various academic purposes strongly support the hypothesis that library users frequently utilise social media platforms to access library information sources and services. Confirming social media's critical significance in promoting academic participation and library users' access to resources.

Therefore, the Hypothesis 2 (H2) is accepted.

H3. Library users face very few challenges while accessing information through Social Media networks.

Table 6.5

Challenges of connecting the Library via SMPs

Challenges of connecting the Library via SMP	Chi-Square	p-value
Distraction/ Internet addiction	85.345	.0001**
Exposed to trolling/cyber-bullying	104.698	.0001**
Irrelevant or annoying information	88.400	.0001**
Limited period of use while on campus	101.477	.0001**
Potential of unwanted information /spamming	59.453	.0001**
Social Media Feeds are not updated regularly	121.479	.0001**
Exposes to Cybercrime	70.210	.0001**
Connectivity issue	115.453	.0001**

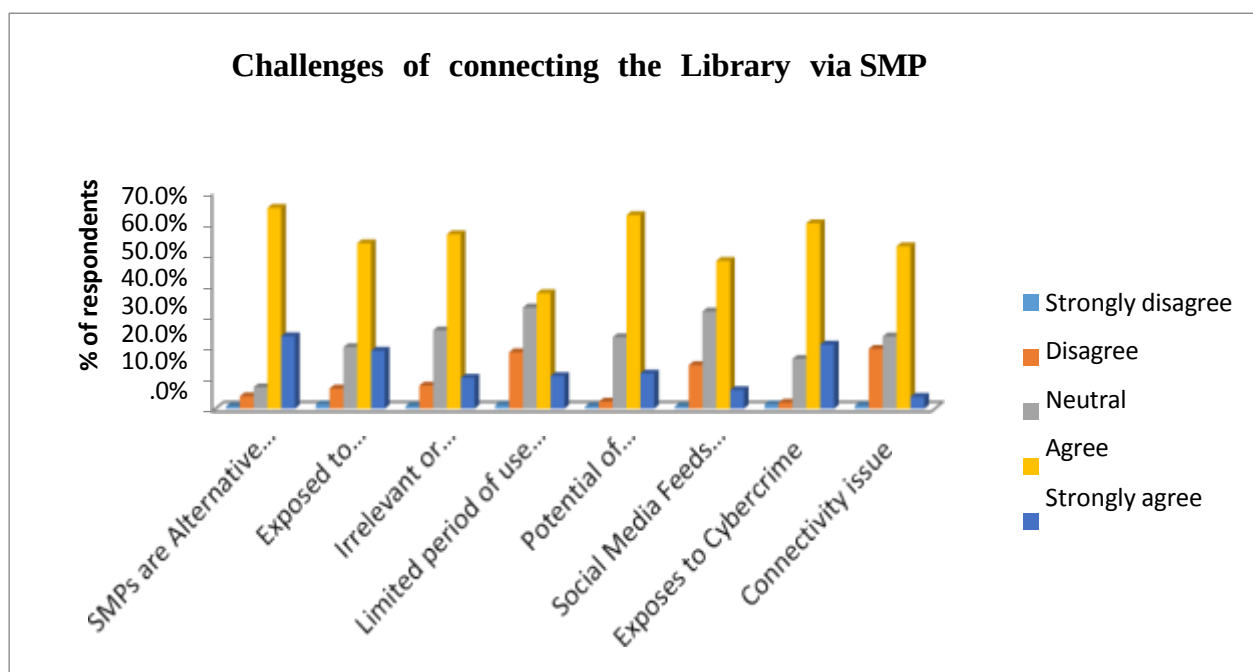


Figure 6.5: Challenges of connecting the Library via SMP

The results of the Chi-Square tests conducted to evaluate the hypothesis that library users face very few challenges while accessing information through social media networks reveal significant evidence of various challenges encountered by users. Each challenge assessed demonstrates strong statistical significance, indicating that library users experience notable obstacles when utilising social media platforms for accessing library information. For instance, the challenge of social media feeds not being updated regularly yielded a Chi-Square value of 121.479 with a p-value of .0001, underscoring how infrequent updates can hinder users' ability to stay informed. Additionally, connectivity issues, with a Chi-Square value of 115.453 ($p = .0001$), highlight the technical difficulties that can impede access to valuable information. The issue of distraction and Internet addiction, reflected by a Chi-Square value of 85.345 ($p = .0001$), suggests that the nature of social media can lead to decreased focus and engagement with library resources. Furthermore, users are exposed to trolling and cyber-bullying (Chi-Square = 104.698, $p = .0001$), creating an uncomfortable environment for those seeking academic information. The challenge of irrelevant or annoying information (Chi-Square = 88.400, $p = .0001$) indicates that users often must sift through content that does not pertain to their academic needs. Other significant challenges include limited use while on campus (Chi-Square = 101.477, $p = .0001$) and the potential for unwanted information and spamming (Chi-Square = 59.453, $p = .0001$), both of which frustrate users and limit the effectiveness of social media as a tool for accessing library services. Finally, the risk

of exposure to cybercrime (Chi-Square = 70.210, $p = .0001$) highlights security concerns that can deter users from fully engaging with library resources via social media. Overall, the consistently significant p -values associated with these various challenges indicate that library users face substantial obstacles in accessing information through social media networks. The data points to important obstacles that prevent social media from being used effectively to obtain library information. In order to improve user engagement and the overall experience of using social media platforms to access library services, libraries must address these issues.

Therefore, the Hypothesis 3 (H3) is not accepted.

H4. Library users are satisfied with the information sources and services provided by the IIT libraries through social media platforms.

To analyse the hypothesis that library users frequently use social media platforms to access library information sources and services, this research categorises usage into three key areas: the types of academic support provided by the library on social media platforms, how users access this academic support, and their opinions regarding the infrastructure and cooperation of library staff related to these platforms. This structured approach allows for a comprehensive understanding of user engagement and satisfaction with library services accessed via social media.

Table 6.6

Academic support provided by the IIT Library using SMPs

How do you access the academic support provided by the IIT Library using SMPs	Chi-Square	p-value
Regular Posting of News/Information/Events by the Library on SMPs	191.530	.0001**
Library's posts meet the information needs	190.573	.0001**
My purpose of using the library's social media has been fulfilled	132.791	.0001**
Availability of information regarding new resources and services	122.160	.0001**
Connectivity with the information via SMPs	125.544	.0001**
Opportunity to interact with other fellows/researchers/experts	107.681	.0001**

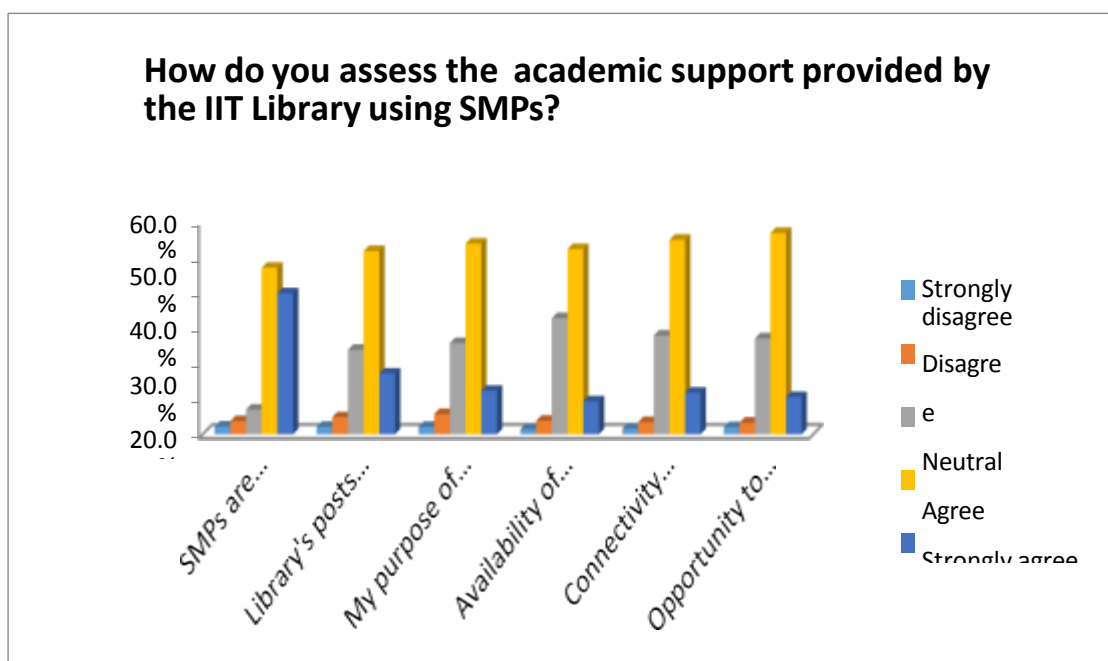


Figure 6.6: Academic support provided by the IIT Library using SMPs

The results of the Chi-Square tests conducted to evaluate the hypothesis that library users are satisfied with the information sources and services provided by the IIT libraries through social media platforms present compelling evidence of user satisfaction across several key areas. Each measure of academic support assessed shows strong statistical significance, indicating that users find the information and services provided via social media effective and aligned with their needs. For example, the regular posting of news, information, and events by the library resulted in a Chi-Square value of 191.530 with a p-value of .0001, suggesting that users highly value the consistent updates shared through the library's social media channels. This underscores the importance of regular communication in keeping users informed and engaged with library offerings. Similarly, the finding that the library's posts meet users' information needs yielded a Chi-Square value of 190.573 ($p = .0001$), reinforcing that the content shared is relevant and useful to users, thereby contributing to their overall satisfaction. Furthermore, users expressed that their purposes for utilising the library's social media have been fulfilled, as indicated by a Chi-Square value of 132.791 ($p = .0001$). This highlights the library's effectiveness in addressing user expectations. Additionally, the availability of information regarding new resources and services showed a Chi-Square value of 122.160 ($p = .0001$), suggesting that users appreciate being informed about new offerings that enhance their academic experience. Connectivity with information via social media platforms also demonstrated

significance, with a Chi-Square value of 125.544 ($p = .0001$), indicating that social media effectively links users to the information they seek. Finally, the opportunity to interact with other followers, researchers, and experts yielded a Chi-Square value of 107.681 ($p = .0001$), emphasising the importance of community engagement and networking facilitated by the library's social media presence. Overall, the consistently significant p -values associated with these various measures of academic support strongly indicate that library users are indeed satisfied with the information sources and services provided by the IIT libraries through social media platforms.

Table 6.7

Opinion about Infrastructure and Library staff cooperation related to SMPs

What is your opinion about Infrastructure and Library staff cooperation related to SMPs	Chi-Square	p-value
Free Wi-Fi facility available via SMPs	66.056	.0001**
The library provides high bandwidth of the Internet to access SMPs	74.428	.0001**
The library provides proper power backup to access SMPs	59.033	.001**
I get to know about newly added resources and services in the Library	108.538	.0001**
The library staff is well-trained in providing information about Library	70.480	.0001**

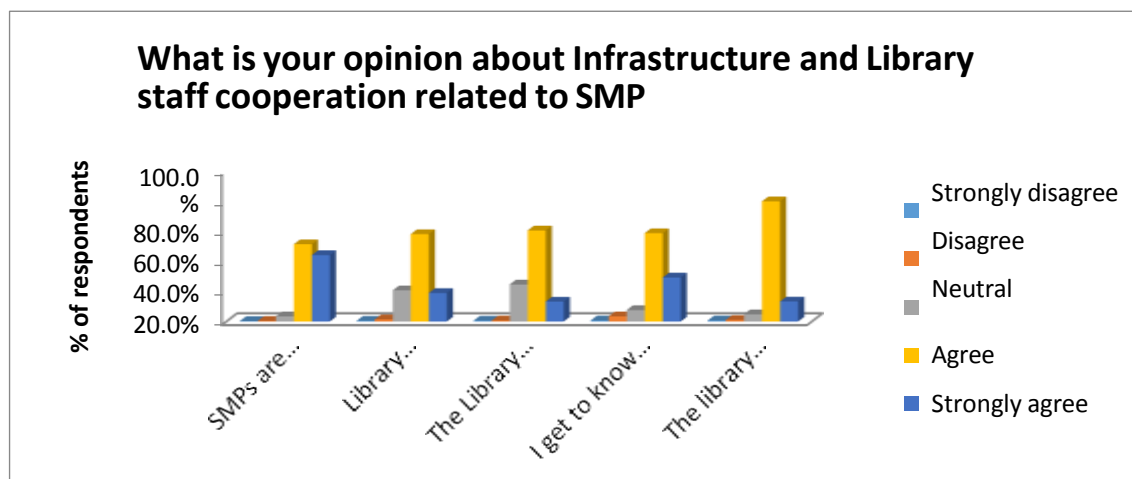


Figure 6.7: Opinion about Infrastructure and Library staff cooperation related to SMP

The results of the Chi-Square tests conducted to evaluate the hypothesis that library users are satisfied with the information sources and services provided by the IIT libraries through social media platforms provide compelling evidence of user satisfaction, particularly in relation to infrastructure and library staff cooperation. Each measure assessed shows significant statistical relationships, suggesting that users feel positive about the support they receive in accessing library resources through social media. For instance, the availability of a free Wi-Fi facility via social media platforms yielded a Chi-Square value of 66.056 with a p-value of .0001, highlighting the critical role of accessible Internet connectivity in enhancing user engagement. Additionally, the library's provision of high bandwidth for Internet access, reflected in a Chi-Square value of 74.428 ($p = .0001$), reinforces the importance of reliable infrastructure for user satisfaction when accessing online resources. The library's commitment to ensuring continuous access to social media platforms through proper power backup also demonstrated significance, with a Chi-Square value of 59.033 and a p-value of .001, indicating that users value uninterrupted service. Furthermore, users expressed that they become aware of newly added resources and services in the library through social media, as evidenced by a Chi-Square value of 108.538 ($p = .0001$). This underscores the effectiveness of social media in keeping users informed about new offerings. Finally, the training of library staff to provide information about library sources and services on social media is highlighted by a Chi-Square value of 70.480 ($p = .0001$), emphasising that well-trained staff significantly enhance users' perceptions of service quality. The consistently significant p-values associated with these various aspects of infrastructure and library staff cooperation indicate that library users are indeed satisfied with the information sources and services provided by the IIT libraries through social media platforms.

Overall, the consistently significant p-values across these various measures strongly indicate that library users are satisfied with the information sources and services provided by the IIT libraries through social media platforms.

Therefore, the Hypothesis 4 (H4) is accepted.

6.6. Discussion of Results

The results of the descriptive analysis carried out in the previous chapter are presented in this chapter along with a thorough discussion of the findings in light of the goals of the study. Based on the information gathered from IIT students, this analysis investigates

how social media platforms are used to interact with library services, what motivates this interaction, and what kind of academic assistance users look for on these platforms. Aspects of social media usage, such as demographic trends, preferred platforms, frequency of use, and the reasons people use social media, were examined in Chapter 5. According to important findings, students are well aware of popular websites like Facebook, YouTube, and LinkedIn, which are widely utilised for both academic and personal communication. According to the analysis, social media is seen as necessary for networking, staying informed, and engaging in academic activities, even though it provides an alternate means of communication. The results also showed the advantages and difficulties of using social media to help academic work. While challenges like distraction and insecurity worries were also prevalent, the data showed strong preferences for convenient, user-friendly solutions. These results provide insight into how IIT libraries might enhance their social media presence to better meet the academic demands of students and boost participation. A more thorough interpretation of these findings and an analysis of their significance for library and information services marketing strategies will be covered in this chapter. Through this conversation, we hope to offer practical advice that will help IIT libraries better use social media to promote student participation in the classroom and improve the availability of library materials.

6.6.1 Awareness and Engagement with Social Media Platforms

According to a study on social media awareness and usage among IIT students, more than 70% of respondents said they were aware of popular sites, including Facebook, YouTube, Twitter, LinkedIn, and WhatsApp. With 92.6% awareness, Facebook topped the list, closely followed by YouTube (86.6%) and Twitter (83.3%). The broad use of these well-known social media sites for both academic and personal objectives is supported by earlier research, which is consistent with this trend. The popularity of Facebook, YouTube, and LinkedIn as networking and information-sharing platforms is in line with Research by Al-Daihani and Abrahams (2018), who discovered that university students all over the world rely significantly on Facebook for social connections and academic updates. In a similar vein, Research by Khan et al. (2021) and Manca & Ranieri (2017) emphasises LinkedIn's expanding function in academic partnerships and professional networking as students come to appreciate its importance for scholarly networking and career advancement. Given that a sizable percentage of IIT students reported being aware of LinkedIn, our findings are consistent with similar studies

and point to a global trend in students' usage of social media for both academic and professional purposes.

On the other hand, there are some discrepancies in the popularity and interaction of sites like ResearchGate and Instagram. Our findings revealed moderate interaction with Instagram (62.8%) and reduced awareness of academically focused platforms like ResearchGate (34.1%), in contrast to a previous study that indicated Instagram to be a popular tool for exchanging visual and intellectual information among younger demographics (Alhumaid, 2020). This would indicate that IIT students use social media more functionally, giving priority to sites that directly assist their academic and professional objectives. While Instagram is frequently used for recreational purposes and its aesthetic appeal to other student populations, IIT students seem to be more interested in sites like YouTube and LinkedIn that directly assist academic and career-oriented activities. Another noteworthy finding is that 62.9% of respondents are aware of WhatsApp and its function in promoting library involvement. Previous research, including that conducted by Baishya and Maheshwari (2020), has emphasised WhatsApp's function in promoting academic group interactions by allowing students to exchange educational-related resources and debate course content in an easy-to-use format. Our results support this, showing that IIT students are using WhatsApp as a rapid communication method to keep up with materials and updates from the library. The popularity and widespread use of WhatsApp highlight how easy it is to use and how accessible it is, which makes it perfect for exchanging knowledge and providing real-time academic support.

6.6.2 Usage Patterns and Purposes of Social Media Engagement

Key insights into user engagement patterns that combine academic and recreational applications are revealed by analysing the amount of time IIT students spend on social media and their preferred devices. With cell phones (98.9%) and Laptops (97.5%) serving as the main access points, the majority of respondents said they spent four to six hours a day on social media. This finding is in line with research showing that university students frequently spend several hours a day on social media, using these platforms for both academic and personal objectives (Junco, 2012; Karpinski et al., 2013). The dependence on mobile devices is consistent with worldwide patterns in student conduct, which reflects the demand for constant and convenient access to information via user-

friendly mobile interfaces. The significant amount of time spent on social media highlights how adaptable these platforms are in meeting a range of demands as compared to earlier studies. Research by Tess (2013) and Moghavvemi et al. (2017) also revealed that students combine social and academic purposes, frequently using these platforms to communicate with friends, obtain information, and keep up with current affairs. However, our study offers a distinct viewpoint by concentrating on the particular requirements of IIT students, who use social media to support studying, cooperate with peers, and access academic materials in addition to remaining informed. Similar studies have shown that social media promotes both academic and recreational participation, and this usage pattern implies that IIT students view social media as an extension of their academic environment.

A combination of general and academic incentives can be seen in our findings when examining the specific goals of social media activity. Most students use social media for news, entertainment, and to communicate with friends and family. However, a sizable percentage also mentioned using it for academic purposes, like online Learning, concept comprehension, and test preparation. This harmony between personal and academic purposes is consistent with findings from Park and Lee (2014), who noted that students frequently utilise social media to balance their academic and social connections, resulting in a well-rounded digital experience. Given that IIT students reported utilising social media for particular educational reasons, such as joining professional organisations, getting expert views, and enhancing classroom instruction, our data does, nevertheless, point to a little more academic tilt. The platforms' function as academic tools in their daily lives may be reinforced by this pattern, which would indicate a particular need among IIT students for constant access to educational content. Interestingly, IIT students' significant academic use is considerably different from previous findings on integrated social and academic engagement, even if these results are consistent with them. Academic purposes are secondary to recreational demands as the primary motivator for students' use of social media, according to earlier Research (Ahmed & Qazi, 2011). However, according to our Research, IIT students place a higher value on academically useful applications than on merely social ones, pointing to a focused strategy for using social media that meets certain learning objectives. In the IIT community, social media acts as a conduit to academic materials, library services, and possibilities for knowledge

exchange, as this distinction demonstrates.

6.6.3 Academic Support Sought from Libraries on Social Media

According to the analysis, IIT students actively look to library social media channels for various academic help, with their primary goals being to obtain resource updates, event details, and chances to interact with specialists. A sizable percentage of students indicated that they would instead use social media to keep up with library events, workshops, and newly released materials. This is consistent with Research by Boateng & Liu (2014) and Ali & Nisha (2011), which found that students commonly use social media to get timely academic updates, especially for library services and study aids. According to these surveys, IIT students showed a demand for consistent, pertinent information that combines real-time access to library resources and activities with academic help. According to our Research, resource-sharing is a highly valued feature since many students mentioned that they rely on the library's social media accounts to stay informed about new resources, including academic tools, e-books, and articles. Chu & Du (2013) found that students frequently use social media to obtain new learning resources and improve their study tools, which aligns with this outcome. The tendency shown in earlier research that library users gain from resource-sharing on social media to enhance their academic engagement and resource accessibility is reinforced by IIT students' pursuit of timely information via Facebook and WhatsApp.

The demand for expert access is a distinctive feature of our findings, as students indicated that they use social media to engage in academic conversations and establish connections with subject matter experts. Fewer studies highlighted the significance of expert interaction, even while earlier research, such as that conducted by Minocha & Petre (2012), noted that students use social media for informal learning and peer exchanges. IIT students' strong desire to network with professionals may reflect their greater need for specialised mentoring and advice in demanding academic settings. This implies that although the library's social media channels are fulfilling users' general information demands, they might be able to do a better job of offering organised expert interactions, like webinars or virtual Q&A sessions conducted by academics and subject matter experts.

The results demonstrate that IIT libraries are successfully using social media to tell students about events, which the majority of respondents found to be beneficial.

Updates and library service awareness. According to studies by Shiri & Rath (2013), library users value social media event advertising since it gives them access to workshop schedules, lectures, and academic networking opportunities. This alignment with earlier studies highlights how well IIT libraries use social media to promote events. However, it also points to a possible avenue for greater participation by moving beyond straightforward announcements to more interactive event formats, like live-streamed events or post-event discussions. Although IIT libraries have used social media to effectively address certain academic demands, our research identifies areas that could use more strategic development. Since several students indicated a wish for more individualised content that directly relates to their field of study, the lack of tailored, comprehensive academic support is a noteworthy deficiency. Libraries that target their social media material to particular user groups, such as academics or graduate students, may see better levels of interaction, according to earlier Research by Luo et al. (2019). By meeting the various academic needs of engineering, scientific, and social science students, IIT libraries could improve relevance and user pleasure by implementing similar tactics.

6.6.4 Motivators for Social Media Usage among IIT Students

Key factors that are in line with well-established library marketing strategies are accessibility, usability, and multimedia capabilities, according to an analysis of IIT students' main social media motivations. The fact that many respondents cited simplicity of use and free access as the main drivers of involvement indicates that IIT students respect social media sites for their accessibility and convenience. According to Research by Kim et al. (2011) and Mahmood & Richardson (2013), students are frequently lured to social media because of its ease of use and smooth integration into everyday schedules, which makes it a logical extension for Learning and informational reasons. With students praising social media networks for their user-friendly apps and smart interfaces, usability also emerged as a key incentive. This conclusion is supported by earlier Research by Huang et al. (2020), which demonstrates that students choose systems with low learning curves and easy navigation. The selection of popular social media sites like Facebook, WhatsApp, and YouTube by IIT libraries appears to be well-suited to satisfy user expectations, given this preference for usability. These platforms include easy-to-use

navigation and well-known features that make interacting with library content effortless. IIT libraries can further exploit usability as a means to reduce barriers to access and boost engagement with their resources by selecting platforms that are currently commonly used by students. IIT students are also highly motivated to utilise social media because of its multimedia features, which allow them to share a variety of content formats, including text, photos, audio, and video. According to earlier Research by Moghavvemi et al. (2017) and Al-Khalifa and Garcia (2016), students are more likely to interact with educational materials that incorporate multimedia components because these formats improve understanding and memory. This finding is consistent with those findings. This is an opportunity for IIT libraries to add interactive media, movies, and infographics to their social media campaigns in order to vary the way they provide content. Multimedia initiatives like these have the potential to raise students' interest in difficult subjects, make the library more visible, and make it seem like a resource-rich place.

The popularity of multimedia on social media is consistent with other studies and broader patterns in digital engagement, where visually rich information frequently garners greater interaction rates. Although Research by Hamid et al. (2016) highlights that multimedia boosts engagement, our results imply that academic content that blends multimedia with concise, goal-oriented messages may also be advantageous to IIT students. IIT students mainly use social media for academic support, so libraries could improve user experience by producing multimedia content that caters to students' individual academic needs. Examples of this type of content include research tips, tutorials, and expert Q&A sessions, all presented in an eye-catching manner. Many IIT students also mentioned the simplicity of establishing academic communities and interacting with other users on social media platforms as an incentive. This element is consistent with earlier Research by Tess (2013), who discovered that students appreciate social media because it gives them the opportunity to connect with professionals, instructors, and peers, thereby fostering a sense of community. IIT libraries can utilise this drive by providing collaborative and interactive content on their social media channels, such as group debates, study groups, or online workshops. The library may provide a welcoming and encouraging atmosphere that improves students' academic experiences by encouraging a sense of community.

6.6.5 Challenges and Concerns in Social Media Use

According to the analysis, IIT students have a number of difficulties when utilising social media for academic purposes, such as cyberbullying, distractions, and worries about the relevance of the content. The prevalence of Internet addiction and distraction was high, and many students reported having trouble managing their time when using social media, which is consistent with Research by Junco (2012). These studies also show that students frequently spend more time than they expected due to social media's openness and highly compelling content, which lowers productivity. Maintaining students' attention on academic material while avoiding adding to these distractions is a problem for IIT libraries. Concerns about cyberbullying and online harassment also surfaced, as many students expressed apprehension about running into unfavourable interactions on social media. This problem is consistent with Research by Alhabash & Ma (2017), who found that students are occasionally subjected to cyberbullying on social media, which can prevent students from actively participating and even from using library resources. These dangers highlight how crucial it is for libraries to establish a welcoming and safe space on social media where students can participate in scholarly conversations. In order to maintain polite and encouraging conversations, libraries may need to establish explicit policies and moderation procedures on their platforms. Since many students reported finding useless or irrelevant information on social media sites, the problem of content relevancy is another major worry. This problem is in line with Research by Rowlands et al. (2011), who found that students frequently feel overloaded with non-academic content on the Internet, making it difficult to access useful resources. If the library doesn't regularly provide pertinent and helpful information, IIT students who need targeted academic support may find general social media content annoying and irrelevant to their needs, which would reduce the library's perceived value.

These issues affect the library's social media strategy, underscoring the necessity of a well-rounded plan that optimises academic support while reducing the possibility of unfavourable experiences. Libraries might put policies in place that promote deliberate engagement with academic information in order to reduce distractions. They could think about employing timed posts, reminders, or organised content, such as "Study Tips of the Day," to assist students in staying focused. The possibility of pupils becoming distracted

by non-academic content may also be decreased by setting up special library channels or groups devoted exclusively to academic content. Libraries can actively manage social media interactions and implement community rules to address cyberbullying issues and create a welcoming environment. According to earlier Research by Madden et al. (2013), helping students feel safe online entails keeping an eye on conversations and providing channels for reporting inappropriate behaviour. IIT libraries should consider offering workshops on digital literacy to teach students about safety procedures and online etiquette, enabling them to use social media appropriately. IIT libraries can take a focused approach to providing content that satisfies students' academic demands regarding subject relevancy. Libraries can offer more specialised content that appeals to their users by dividing their audience into groups according to interests or study areas. This could entail setting up distinct groups or channels for various departments or programs so that students can access the information and updates that are most relevant to their coursework. Furthermore, using feedback tools like polls or surveys could assist libraries in determining the applicability of their material and modifying it according to student preferences.

6.6.6 Perceived Value of Library Services on Social Media

According to an analysis of IIT students' opinions about the importance of library services on social media, these sites are valued as vital resources for information exchange and academic support. Due to the apparent ease and accessibility of these services, a sizable percentage of students expressed pleasure with the library's use of social media to provide updates on new resources, academic activities, and study materials. This result is consistent with research done by Chu & Du (2013), which highlights how students appreciate libraries' social media presence since it offers up-to-date academic materials and information about events. These results are supported by the high satisfaction among IIT students, which indicates that the library's efforts to maintain a strong social media presence satisfy their needs for easily accessible and pertinent material. It is also significant that social media is thought to help provide real-time updates on library events and seminars. Students said the library keeps students informed and involved by promoting events on social media sites like Facebook and WhatsApp. This result is consistent with the study by Shiri & Rathi (2013), who observed that

students are increasingly using social media to stay up to date on networking opportunities and academic events. The importance of social media as a dynamic avenue for interaction is further supported by IIT libraries' frequent publishing of event updates, which satisfy students' increasing desire for easy access to event information. Ease of access to library resources via social media is another aspect of perceived value; many students report that they find it easy to obtain study materials, e-resources, and information about new collections. This finding aligns with the findings of Moghavvemi et al. (2017), who emphasised that social media enables libraries to address the needs of a mobile and digital-first population by expanding their digital resource offerings outside traditional library settings. Social media expands the library's reach and allows users to obtain academic materials whenever they want, as confirmed by the favourable opinion of IIT students.

Interestingly, although students appreciate the educational value of the library's social media accounts, our research indicates that certain sections can fall short of their expectations. Several students, for instance, said that they would want more department-specific, personalised content, suggesting that although general updates are appreciated, more specialised information may boost perceived value. This result is consistent with earlier studies by Luo et al. (2019), which demonstrated that when library information is pertinent to their particular academic interests, students are more inclined to interact with it on social media. This is a chance for IIT libraries to improve their social media strategy by focusing on distinct user demographics and providing information closely related to various academic subjects.

Furthermore, even though the library is known for being active on social media, posts might be more interactive. According to Aharony's (2012) research, interactive materials, including surveys, Q&A sessions, and live discussions, can significantly increase students' use of library services on social media. Likewise, a few IIT students wished for more dynamic and captivating formats, implying that the library may promote greater involvement by integrating these components. The library could become more valuable to students by improving interactivity and turning social media from a platform for informational purposes to one for scholarly discussion and community development.

In conclusion, the findings reaffirm the growing significance of social media as a strategic tool for enhancing library services and user engagement in academic institutions like the IITs. The analysis underscores the importance of aligning content with user preferences and addressing infrastructural and behavioural barriers. These insights offer valuable direction for refining social media strategies to foster greater visibility, responsiveness, and academic support in digital library environments.

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CHAPTER 7

CONCLUSION AND RECOMMENDATIONS

Overview

This chapter provides a comprehensive synthesis of the study by presenting key recommendations, practical implications, limitations, and future research directions. It begins with evidence-based suggestions for enhancing social media strategies in IIT libraries, aligning them with user preferences and digital trends. These recommendations are supported by findings and illustrated through practical examples. The chapter further outlines the broader academic and institutional implications, emphasising how social media can reshape library engagement. It also acknowledges the study's limitations, such as sample constraints and technological diversity across institutions, and concludes by proposing future research directions to explore emerging tools, user behaviour, and digital engagement models.

7.1 Recommendations of the Study

7.2 Implications of the Study

7.3 Limitations of the Study

7.4 Direction for Future Research

7.5 Conclusion

7.1 Recommendations of the Study

7.1.1 Enhancing Social Media Strategy

The study findings underscore the importance of targeted social media platform selection in engaging IIT students effectively. Platforms such as Instagram and YouTube, particularly popular among students, provide an ideal medium for libraries to enhance their outreach. The descriptive analysis revealed that 92.6 per cent of respondents are aware of Facebook, 86.6 per cent of YouTube, and 62.8 per cent of Instagram, while WhatsApp and LinkedIn also demonstrated notable engagement. Given these preferences, libraries should prioritise platforms that align with students' interests and

browsing habits. Instagram's visual appeal makes it well-suited for promoting library events, resource highlights, and academic workshops through visually captivating content. Similarly, YouTube offers an excellent platform for delivering longer, informative content such as tutorial videos, book reviews, and interviews with academic experts, catering to students' need for in-depth learning materials.

The study also highlights students' preference for multimedia content, with 98.9 per cent accessing social media via smartphones. This indicates a strong propensity for engaging with visually rich, mobile-optimised content. Libraries can capitalise on this by creating dynamic and interactive content that resonates with students. For instance, Instagram Stories can be utilised to share brief updates, conduct interactive polls (e.g., "Which new book would you like to see added?"), and gather feedback on library services. These interactive features not only enhance student engagement but also provide actionable insights to help libraries tailor their offerings to better meet user needs.

Additionally, a weekly YouTube content series, such as "Library Resources of the Week," could effectively showcase available resources and tools. Short, three- to five-minute videos highlighting topics like new book arrivals, citation tools, or navigating e-journals would be both informative and engaging, ensuring students remain aware of and connected to the library's resources. By focusing on visually engaging and interactive content, IIT libraries can strengthen their social media presence, increase student engagement, and position themselves as a dynamic and indispensable part of the academic environment.

7.1.2. Promoting Library Events, Resources, and Services Effectively

The study revealed that 31.3% of students highly valued library announcements regarding events, workshops, and activities shared on social media, emphasising the importance of effective event promotion in engaging the student community. Libraries can enhance their outreach by incorporating features such as event countdowns, live streaming, and video highlights to maximise participation and extend their reach. For example, Instagram's countdown feature can be used to notify students about upcoming webinars, orientations, or library workshops, ensuring these events remain at the top of their minds. This feature not only keeps students updated but also enables them to set reminders directly within the platform, increasing the likelihood of attendance. Additionally, live

streaming events such as research workshops or guest lectures and uploading video highlights to platforms like YouTube can further extend the reach of these activities. This ensures that students unable to attend in real-time can still benefit from the content at their convenience. By adopting these strategies, libraries can effectively promote their events, resources, and services, fostering greater engagement and enhancing their visibility within the student community.

Moreover, with 69.5 per cent of respondents spending four to six hours daily on social media, incorporating visually appealing and interactive content can significantly enhance engagement with library services.

Table 7.1

Channels on Priority

Sr. No.	Library Services	Objective	Channels on Priority	Target Audience	Content-Type
1	To promote events, guides, and exhibitions	Enhance visibility and participation	1st Instagram, 2nd Facebook, 3rd Twitter	Students, Faculty, Alumni	Event flyers, live updates, announcements
2	To promote resources, collections, and services	Increase awareness of library assets	1st Facebook, 2nd Instagram, 3rd YouTube, 4th Twitter,	Students, Faculty, Researcher s	Tutorials, highlights, infographics
3	To engage with the academic community	Foster collaboration and academic networking	1st Twitter, 2nd Facebook, 3rd LinkedIn, 4th YouTube,	Faculty, Research Scholars, Students	Discussion threads, academic achievements
4	To connect with distant learners	Provide accessible resources and communication	1st YouTube, 2nd WhatsApp/Telegram, 3rd Facebook,	Distance Learners, Online Program Students	Recorded webinars, quick guides
5	As a customer services tool (complaints, suggestions, inquiries, feedback)	Improve user satisfaction and responsiveness	1st WhatsApp/Telegram, 2nd Facebook, 3rd Instagram	All Users	Polls, FAQs, quick responses

6	To highlight subject-specific information	Support specialised academic needs	1st Blogs, 2nd Facebook, 3rd Instagram, 4th LinkedIn	Faculty, Research Scholars, Students	Articles, expert interviews, resource reviews
7	To connect with users beyond the campus	Build a wider community	1st LinkedIn, 2nd Facebook, 3rd YouTube,	Alumni, International Scholars	Institution highlights, networking events
8	To connect with new students of the institution	Welcome and familiarise them with services	1st Instagram, 2nd YouTube 3rd Facebook	New Students	Orientation videos, resource introductions
9	To promote library workshops	Boost participation and skill development	1st YouTube, 2nd Instagram, 3rd Facebook	Students, Faculty	Recorded tutorials, event links, testimonials
10	To share research tools and strategies	Enhance research productivity	1st YouTube, 2nd Blogs, 3rd Facebook, 4th LinkedIn	Faculty, Research Scholars	Toolkits, video demos, step-by-step guides
11	To promote alumni engagement	Strengthen alumni-library relationships	1st LinkedIn, 2nd Facebook, 3rd YouTube	Alumni	Success stories, networking updates
12	To create awareness about job opportunities	Support career development	1st LinkedIn, 2nd Facebook, 3rd Instagram,	Students, Alumni, Job Seekers	Job postings, skill-building workshops
13	To encourage feedback on library services	Improve services based on user insights	1st WhatsApp/Telegram, 2nd Twitter, 3rd Facebook	All Users	Surveys, polls, feedback forms
14	To highlight library policies and updates	Ensure compliance and awareness	1st Facebook, 2nd Blogs, 3rd WhatsApp	Students, Faculty, Staff	Infographics, FAQs, policy highlights

Interactive features such as Instagram Q&A sessions can be utilised to address common academic queries, provide guidance on resource access, and share study tips in a responsive and approachable manner. These sessions create opportunities for students to interact directly with library staff, fostering a sense of accessibility and immediacy. Similarly, YouTube "Ask Me Anything" sessions with library staff can serve as a

platform to address frequently asked questions about library resources, digital tools, and academic support. These sessions not only leverage YouTube's popularity among students but also provide a valuable repository of information that students can revisit as needed.

By integrating these strategies, libraries can align their social media presence more closely with students' digital habits, making their outreach efforts both engaging and informative. These approaches aim to position social media as a crucial channel for academic support, ensuring that libraries remain visible, accessible, and relevant in students' academic lives. Through visually engaging and interactive content, IIT libraries can strengthen their role as vital academic resources, ultimately enhancing their impact on the student community.

7.1.3. Improving User Engagement

To enhance user engagement, IIT libraries should actively involve students through interactive content tailored to their high engagement levels on social media. The study found that 51.6 per cent agreed and 47.1 per cent of respondents strongly agreed that communicating with friends and family, highlighting the platforms' role in fostering interaction and connection. By leveraging this preference for interactive and community-driven experiences, libraries can introduce content that encourages student participation and creates a more collaborative digital space.

Table 7.2

Content Strategy for user engagement on Social media platforms

Sr. No.	Platforms / Channel	Most Popular Audience	Type of Content	Best Practices Followed	Key Metrics to Track	Examples of Content
1	Facebook	Students, Research Scholars, Faculty, Staff	Long-form posts, event announcements, videos, live streams	- Post 1-2 times daily between 1-4 PM Use images or questions to increase engagement - Minimise hashtags for better reach	Engagement rate, post reach, click-through rates	Event updates, resource highlights, live workshops
2	Instagram	Students, Research Scholars, Faculty	High-quality visuals (images, reels), motivational quotes, resource highlights	- Post 1-2 times daily (9-10 AM, 2 PM) Use relevant hashtags. Focus on Visual storytelling	Likes, shares, follower growth, story views	Behind-the-scenes tours, motivational posts
3	Twitter	Students,	Real-time	- Tweet 5-	Retweets,	Discussion

		Faculty, Research Scholars	updates, trending topics, academic discussions	10 times daily (active hours: 8 AM-10 PM) - Keep tweets concise with visuals. Use polls to boost engagement	replies, hashtag performance	threads, quick research tips
4	YouTube	Students, Research Scholars, Faculty	Tutorials, recorded webinars, virtual tours, video guides	- Post 1-2 videos weekly - Optimise titles and thumbnails for visibility Schedule during peak hours (2-4 PM) uploads	Watch time, likes, subscribers, video shares	“How-to” guides, recorded lectures, resource tours
5	LinkedIn	Faculty, Alumni, Research Scholars	Professional insights, academic achievements, networking content	- Post 2-3 times weekly - Share long-form articles or posts on research - Use targeted hashtags for visibility	Profile views, post impressions, comments	Research highlights, academic discussions
6	WhatsApp/Telegram	Students, Research Scholars, Faculty	Instant notifications, updates on resources and events, direct communication	- Send concise messages with links to detailed content - Use broadcast lists for important updates	Message open rate, response rate	Event reminders, new resource alerts
7	TikTok/YouTube Shorts	Students	Short, visually engaging videos, quick tutorials	- Post daily or alternate days - Focus on trending hashtags and challenges - Keep videos under 60 seconds	View count, likes, shares, follower growth	Quick research tips, “Did You Know?” videos
8	Pinterest	Students, Research Scholars, Faculty	Infographics, study plans, motivational content	- Post 2-3 pins daily - Use keyword-rich descriptions - Create themed boards	Pin saves, follower growth, link clicks	Study hacks, resource guides
9	Snapchat	Students	Behind-the-scenes content, quick event previews	Post daily snaps Use filters for library branding - Focus on casual and fun content	Snap views, engagement, follower count	Library walkthroughs, event teasers

Features like polls and live webinars can significantly enrich the user experience, making the library's social media presence more engaging and aligned with students' academic needs. For example, weekly polls on Instagram or Facebook can ask students to vote on topics such as “What kind of resources would you like to see highlighted next week?” or “Vote for the upcoming e-book addition!” These polls not only provide real-time insights into student preferences but also make students feel heard and involved in shaping library offerings. Similarly, hosting interactive sessions on Instagram Stories on a weekly or bi-weekly basis allows students to directly ask questions about available resources, research strategies, or library events. These sessions offer an opportunity to clarify student inquiries quickly, foster a sense of community, and promote the library's accessibility. Additionally, addressing frequently asked questions during these sessions can provide transparency about specific library services and encourage greater utilisation of resources.

By incorporating interactive features into their social media strategy, IIT libraries can create a dynamic and engaging online presence that resonates with students, fosters collaboration, and ensures that the library remains an integral part of their academic journey.

7.1.4. Live Webinars and Event Streaming

Live webinars and event streaming provide an innovative approach for IIT libraries to engage students more effectively, particularly in light of the 47.1 per cent of respondents who expressed satisfaction with the regular posting of library news and events. This indicates that students value timely and relevant updates, and hosting live events on platforms like YouTube or Instagram can extend these offerings to a broader audience, including those unable to attend in person. Monthly live research workshops focusing on topics such as research tools, citation management, or database navigation could serve as a valuable resource for academic development. These interactive sessions would not only provide real-time support but also enable students to ask questions and directly engage with library staff. Additionally, recording these webinars and saving them as videos for future access would enhance their utility, ensuring that students can benefit from the content at their convenience.

In addition to academic-focused webinars, live book club discussions could foster a sense of community and shared intellectual curiosity. By facilitating live discussions on new or popular titles, libraries can create a space for students to engage with one another, exchange ideas, and build connections. These “book club” sessions could encourage regular visits to the library’s social media pages, transforming the library’s online presence into an interactive hub for both academic and social engagement. By incorporating live webinars and book club discussions into their social media strategy, IIT libraries can address students’ needs for accessible, interactive, and engaging content, ultimately strengthening their role in students’ academic and intellectual growth.

7.1.5. Regular Content Updates and Responsiveness

To maintain strong engagement, it is essential for libraries to be both consistent and responsive on social media. The study revealed that regular updates and timely availability of information on new resources were highly valued, with 52.4 per cent of respondents expressing satisfaction with updates on new resources. By setting a schedule for regular content updates, libraries can ensure a steady stream of fresh and relevant information that keeps students informed and engaged. For example, weekly resource highlights could feature posts about new or popular e-books, journals, or databases, keeping students aware of the tools available to them. These posts could also incorporate testimonials or usage tips from students, adding a peer-to-peer element that fosters a sense of community and relevance.

Additionally, active monitoring of comments and direct messages is crucial to maintaining a responsive social media presence. Promptly replying to student inquiries and feedback demonstrates that the library values student input and is committed to being accessible and supportive. This responsiveness can enhance students' trust in the library as a reliable academic partner, encouraging more frequent interactions. By prioritising consistent updates, interactive content, and responsiveness, IIT libraries can strengthen their social media presence and foster a more engaged academic community. These efforts align with students' desire for accessible and collaborative spaces, transforming social media into an essential tool for library support and academic enrichment. Through these strategies, libraries can enhance their visibility, build meaningful connections, and contribute more effectively to students’ academic success.

7.1.6. Strategies for Addressing Core Issues

To enhance the effectiveness of social media as a tool for library support, IIT libraries must address several challenges identified in the study. While social media usage among students is high, it is accompanied by concerns such as distractions and content irrelevance, with 64.9 per cent of respondents indicating that distractions or Internet addiction were significant challenges and 56.4 per cent expressing dissatisfaction with irrelevant content. Additionally, the need for reliable infrastructure, including consistent Internet access and power backup, was highlighted as essential to ensuring uninterrupted access to library resources. To mitigate distractions and address content irrelevance, libraries can curate focused and purposeful content that directly aligns with academic and library-related objectives. One practical approach could be the creation of dedicated library channels or groups, such as a Telegram group or WhatsApp broadcast list specifically for academic updates and library announcements. By separating these updates from general social media feeds, libraries can provide students with a focused, distraction-free platform that minimises exposure to irrelevant material while keeping them informed about essential resources and events.

Additionally, developing strong information management approaches can help ensure that library posts stay meaningful and useful to students. Libraries should periodically review and refine their social media content to prioritise posts that cater to students' academic needs, such as resource highlights, announcements of upcoming workshops, and practical research tips. This targeted approach would help minimise content overload and ensure that social media serves as a meaningful and productive extension of the library's support services. By addressing these challenges through focused channels and thoughtful content strategies, IIT libraries can create a more effective and engaging social media presence. This approach not only aligns with students' academic priorities but also enhances their overall experience with library services, reducing distractions while maximising the value of digital engagement.

7.1.7. Enhancing Infrastructure for Uninterrupted Access

Enhancing infrastructure is crucial for ensuring uninterrupted access to library resources on social media; few students expressed a need for better Internet bandwidth and the importance of reliable power backup to maintain continuous access. Addressing these

infrastructure-related issues could significantly improve students' ability to utilise library resources online without facing technical hindrances.

Upgrading Wi-Fi capabilities within library facilities is a key step toward providing reliable, high-bandwidth Internet access. Dedicated bandwidth for high-demand areas, such as study zones or computer labs, could ensure smoother browsing and faster content loading for students accessing resources on social media. This would enable seamless participation in activities like streaming live library events, attending webinars, or downloading educational materials shared on social media platforms. Enhanced Internet connectivity would also support interactive engagement, allowing students to actively participate in live sessions without disruptions.

Additionally, robust power backup solutions are essential to maintaining uninterrupted access to library resources, particularly during peak study hours. Libraries should invest in reliable power backup systems to prevent service interruptions caused by power outages. This would ensure that students who depend on electronic devices to access social media for academic resources can do so without relying on external power sources. Continuous access to power and Internet connectivity would create a more dependable and supportive environment for students, enhancing their overall academic experience.

By addressing these infrastructure challenges, IIT libraries can ensure a seamless digital experience for students, strengthening their ability to engage with library services on social media. Improved Internet bandwidth and power backup systems would not only support uninterrupted access but also position the library as a reliable hub for academic support and resource-sharing in the digital age.

7.1.8. Dedicated Quiet Zones for Social Media Access

To address the concern of distractions while using social media for academic purposes, IIT libraries could consider designating dedicated “quiet zones” within their facilities. These zones would provide students with a noise-free environment specifically designed for focused engagement with social media for academic purposes. Equipped with enhanced Internet speed and seamless access to digital library resources, these quiet zones would create an optimal setting for students to interact with library content without interruptions. By offering a calm and technology-enabled space, the library can cater to

students' needs for both concentration and accessibility, ensuring a more productive academic experience.

By implementing such dedicated spaces alongside improvements in infrastructure, IIT libraries can foster a more conducive digital environment for academic engagement. This approach minimises the risk of distractions while ensuring that students have the necessary support for uninterrupted access to digital resources. These recommendations directly address the needs identified in the study, demonstrating the library's commitment to supporting students effectively through social media and other digital platforms. Through these efforts, libraries can strengthen their role as pivotal academic hubs, aligning their services with students' evolving preferences and technological requirements.

7.1.9. Training and Capacity Building

To fully leverage the potential of social media for engaging and supporting students, IIT libraries should invest in training and capacity building for their library staff. While the study revealed that 80 per cent of respondents agreed that library staff were well-trained in providing information through social media, the dynamic nature of social media platforms and evolving user expectations necessitate ongoing professional development. Enhancing the skills of library staff in areas such as digital content creation, community management, and handling academic inquiries is essential to maintaining and improving the quality of support offered through these platforms. Training in digital content creation can equip library staff with the skills needed to produce visually engaging and academically relevant content that aligns with student preferences. The study highlighted the popularity of visually-driven platforms like Instagram and YouTube among students, emphasising the importance of utilising images, videos, and infographics to enhance engagement (Zhao et al., 2019). Workshops on graphic design and video editing, using tools like Canva or Adobe Spark, could empower staff to create simple yet compelling graphics and videos. For instance, they could design posts announcing new arrivals, upcoming events, or research tips, presenting information in a digestible and visually attractive format tailored to student interests.

Additionally, training in social media content planning and scheduling would help library staff ensure that updates are consistent and strategically timed. Learning to use content management tools such as Buffer or Hoot suite can streamline the posting process and

enable staff to schedule updates during peak student activity hours, maximising reach and engagement. This proactive approach would not only enhance the library's presence on social media but also ensure that students receive timely and relevant updates that support their academic needs. By investing in these training initiatives, IIT libraries can ensure that their staff remains adept at navigating the evolving social media landscape, ultimately enhancing their ability to engage and support students effectively. This commitment to professional development aligns with the findings of the study and underscores the library's role as a dynamic, student-focused resource in the digital age.

7.1.10. Community Management and Engagement Skills

To strengthen community engagement and responsiveness on social media, IIT libraries should focus on equipping their staff with community management and engagement skills. The study revealed that 51.6 per cent of students valued regular interactions with the library on social media, emphasising the importance of meaningful communication and trust-building. Training library staff in community management would enable them to respond promptly to student queries, foster a welcoming online environment, and establish the library as a trusted academic partner. One key area of training is managing online interactive sessions. Library staff could benefit from workshops on effectively hosting real-time interactive sessions, such as weekly or bi-weekly “Ask the Librarian” events on platforms like Instagram or Facebook. These sessions would allow students to ask questions about academic resources, research methods, or library policies, fostering a sense of accessibility and connection. Training in best practices for moderating these sessions—such as managing time effectively, addressing a wide range of topics, and maintaining a professional yet approachable tone—would ensure their success and enhance student engagement.

Another important aspect of community management is handling feedback and inquiries. Library staff should be trained to respond to both positive and constructive feedback on social media, demonstrating the library's commitment to student needs and maintaining its online reputation. This could involve guidance on acknowledging comments, providing professional and helpful responses to inquiries, and routing complex academic questions to subject specialists when necessary. By effectively managing student interactions, library staff can ensure that social media becomes a reliable and responsive channel for academic support. By investing in training for community management and

engagement, IIT libraries can create a more interactive and student-centred social media presence. This approach not only aligns with the expectations of students but also enhances the library's role as a supportive and responsive academic resource in the digital landscape.

7.1.11 Incorporating Student Feedback

To ensure that social media strategies remain responsive and relevant, IIT libraries should prioritise incorporating student feedback into their digital engagement efforts. The study highlighted a high level of student engagement with library services online, but as needs and expectations evolve, regularly gathering feedback can help libraries adapt and refine their approach. Periodic feedback collection allows libraries to align their social media content and strategies with students' changing preferences, ensuring continued relevance and effectiveness. One effective method for gathering feedback is conducting short surveys or polls on platforms like Instagram or Twitter. These tools provide real-time insights into what students value most in the library's social media presence. For instance, a poll asking, "What content would you like to see more of?"—with options such as tutorials, event announcements, or research tips—can guide library staff in tailoring their content to meet specific demands. These quick and engaging feedback mechanisms not only help libraries refine their focus but also foster a sense of involvement among students, making them feel heard and valued.

Additionally, organising small focus groups can offer deeper insights into student preferences and social media usage patterns. By engaging directly with a representative sample of students, library staff can gain qualitative feedback on topics such as preferred platforms, desired content types, and areas for improvement. The insights gathered from these discussions can then be used to develop new content ideas, enhance response times, or even expand the library's presence to other popular platforms that resonate with students. By combining ongoing staff training with regular incorporation of student feedback, IIT libraries can ensure their social media strategies remain dynamic, responsive, and aligned with student needs. Empowering staff to adapt and innovate based on this feedback will strengthen the library's role as a supportive academic resource, fostering meaningful engagement with students in ways that resonate with their evolving expectations. This continuous feedback loop will ensure that the library's digital presence remains a vital part of the academic experience.

7.1.12. Integration of User-Centric Content and Personalization

To enhance the effectiveness of social media strategies, IIT libraries should focus on integrating user-centric content and personalisation into their digital communication efforts. The study findings already highlight students' high engagement with visually rich content; building on this, libraries can adopt data-driven strategies to tailor content to individual user preferences. For instance, personalised recommendations for resources such as “Books You May Like” or “Research Databases for Your Subject Area” can be shared via direct messages, targeted posts, or stories based on users' past interactions or academic disciplines. Additionally, segmenting content based on user categories such as undergraduates, postgraduates, researchers, and faculty can ensure that each group receives information most relevant to their needs. Libraries can use insights from analytics tools or feedback polls to understand content consumption patterns and deliver more relevant updates. By shifting towards a more personalised communication model, libraries can improve user satisfaction and ensure that social media engagement feels meaningful and tailored to individual academic journeys.

7.1.13. Collaborative Content Creation with Students and Faculty

Encouraging the co-creation of content by involving students and faculty can significantly enrich the library's social media presence and foster a sense of community ownership. This participatory approach not only enhances engagement but also ensures content diversity and authenticity. For example, students can contribute by creating short videos or reels on how they use specific library resources, offering peer-driven study hacks, or sharing testimonials about library support during research projects. Faculty members can be invited to share expert tips, reading lists, or commentary on academic resources through short video clips or written posts. Such collaborative initiatives can be promoted under dedicated campaigns like Voices From The Library or Faculty Features. Hosting monthly content creation contests or student-led Instagram takeovers can also bring fresh perspectives and promote active involvement. By integrating content contributions from the academic community, libraries can position themselves as inclusive, vibrant, and co-owned spaces that reflect the diverse needs and voices of their users.

7.2 Implications of the Study

7.2.1. Theoretical Implications

This study offers significant theoretical contributions by deepening the understanding of social media's dual role as both an academic tool and a marketing channel for library services. In exploring how IIT libraries utilise social media to engage students, the study highlights the platform's potential to enhance academic support and facilitate the dissemination of information. The findings reveal that over 93 per cent of respondents preferred using social media from accessible locations such as hostels, libraries, and homes, underscoring the integral role these platforms play in students' daily academic routines. This insight advances existing literature by establishing social media as an embedded resource within academic settings, extending its influence beyond traditional library spaces and reinforcing its significance as a core component of the academic experience. By focusing on the Indian IIT context, this study also addresses a critical gap in the literature concerning social media engagement within academic libraries in developing countries. Previous research has predominantly centred on Western or global contexts, leaving region-specific engagement patterns underexplored. This study contributes to filling that gap by uncovering unique trends within the IIT system in India. For instance, the high popularity of platforms like YouTube and Instagram, reported by 86.6 per cent and 62.8 per cent of students, respectively, underscores their relevance in disseminating academic information and supporting student learning. These findings highlight the importance of understanding local preferences in platform choice and content style, which may differ significantly from trends observed in Western institutions. Such insights emphasise the need for region-specific strategies to maximise the effectiveness of social media in academic libraries.

Moreover, the study's findings on preferred content types, such as live webinars, tutorials, and resource highlights, demonstrate social media's function as more than a communication tool—it serves as an interactive academic resource that supports students' learning journeys. This aligns with emerging theories on digital engagement, which view social media as part of an interconnected digital learning ecosystem. By contextualising these theories within the IIT library system, the study provides a valuable foundation for future research on region-specific digital academic practices. It also lays the groundwork for theoretical advancements that recognise social media's localised impact within

academic libraries, offering insights into how these platforms can be tailored to meet the unique needs of diverse academic communities.

7.2.2. Practical Implications

The findings from this study provide actionable insights for IIT libraries to refine their social media strategies, enhancing both their relevance and engagement with students. According to the study, 52.4 per cent of respondents expressed satisfaction with the regular posting of updates and information on new resources, indicating that students rely on timely and relevant communication from their libraries. To build on this, libraries can curate content that aligns more closely with students' academic needs, such as resource highlights, research tips, and academic event announcements. By consistently delivering such targeted content, libraries can position social media as a core channel for communication and support, reinforcing their role as indispensable academic partners.

To maximise the impact of these refined strategies, integrating social media training into staff development programs is essential. The study showed that 80 per cent of students found library staff well-trained in handling inquiries on social media, but continuous training is necessary to keep pace with evolving digital tools and student expectations. Social media platforms evolve rapidly, introducing new features such as Instagram Stories and YouTube Shorts that resonate with students. Training in areas like digital content creation, community management, and analytics can ensure staff remain proficient and responsive. For example, workshops on creating visually engaging posts or utilising analytics to understand student preferences would empower staff to craft content that resonates with the student audience, further enhancing the library's digital presence. Strengthening a library's social media strategy can also benefit from strategic collaborations with other departments, particularly IT and communications. The study highlighted connectivity issues as a concern for respondents, underscoring the importance of reliable infrastructure for digital library engagement. Collaborating with the IT department could address these challenges by optimising Wi-Fi bandwidth within library spaces or establishing dedicated access points for educational platforms. Similarly, partnerships with communications teams could ensure a unified and professional approach to content across IIT's social media channels, enhancing both consistency and reach.

Engaging with other academic departments can further enrich the library's social media offerings. Faculty from various disciplines could participate in guest lecture sessions hosted on the library's social media channels, adding value for students across multiple fields of study. Collaborations with the IT department could also support digital content production by providing technical expertise in video creation or graphic design. This interdisciplinary support system would not only enhance the quality of content but also align the library's social media strategy with the broader academic objectives of IITs, ensuring a dynamic and well-rounded approach. By applying these findings, IIT libraries can create a more robust and relevant social media presence. A strategic focus on targeted content, continuous staff training, and interdisciplinary collaboration will enable libraries to better serve the academic needs of students. These efforts will help foster a vibrant digital community that extends beyond traditional library walls, positioning social media as a vital tool for academic engagement and support.

7.2.3. Managerial Implications

The findings of this study provide valuable managerial insights for enhancing the effectiveness of social media as a channel for student engagement and academic support in IIT libraries. A key finding revealed that 64.9 per cent of respondents identified distractions and irrelevant content on social media as barriers to academic use. Library managers can address these challenges by developing a clear and focused content strategy that aligns with students' academic priorities. By minimising distractions and fostering a purpose-driven digital environment, managers can ensure that social media platforms serve as effective extensions of the library's academic resources. Strategic content planning and moderation should be prioritised to maintain relevance and consistency in social media updates. Managers could implement a content calendar structured around academic themes, such as "Research Tip Tuesdays" or "Resource Review Fridays," to provide timely and purposeful posts. This structured approach ensures that students receive consistent updates tailored to their academic needs, such as resource highlights, research tools, and study-related events. Additionally, moderating content for academic relevance and promptly responding to student inquiries can create a supportive digital space that enhances student trust and engagement.

Resource allocation for staff training and development is another crucial area for managerial focus. The study found that 80 percent of respondents were satisfied with the

support provided by library staff on social media, indicating a strong foundation to build upon. By investing in ongoing training programs, managers can equip staff with advanced skills in digital content creation, social media engagement, and analytics. For example, training in analytics tools would enable staff to monitor engagement trends and adapt strategies based on data-driven insights, ensuring that content remains responsive to evolving student preferences. These efforts would elevate the overall quality of social media engagement, reinforcing the library's role as a reliable academic resource. Addressing infrastructure challenges is also essential, few respondents highlighted connectivity issues as a barrier to social media engagement. Collaborating with IT departments to improve Internet accessibility within library spaces can ensure uninterrupted access to online resources and social media updates. Cross-departmental collaborations with IT and communications teams can further enhance the library's digital presence. For instance, IT support for better Wi-Fi coverage and data analytics can ensure reliable infrastructure, while partnerships with communications departments can amplify the reach and impact of library campaigns, making them more visible to the broader student community.

To stay aligned with student expectations, library management should also implement student-centric policies that incorporate regular feedback mechanisms. Conducting quarterly feedback surveys would enable managers to gauge student satisfaction with social media services and identify areas for improvement. This feedback-driven approach not only enhances library services but also fosters trust, as students feel their input is valued in shaping the resources they use. By addressing these managerial implications, IIT library management can optimise their social media strategies, resource allocation, and cross-departmental collaboration, creating a more responsive and effective academic resource for students. This proactive approach bridges the gap between traditional library services and modern digital engagement, ensuring that libraries continue to play a central role in students' academic success.

7.3. Limitations of the Study

While this study provides valuable insights into the use of social media for marketing library and information services within IITs, certain limitations highlight opportunities for future research. The focus on IITs, renowned for their unique academic environment and high student engagement on digital platforms, offers a specific context that may not

fully represent other educational institutions. This specificity could impact the generalizability of the findings, as institutions with differing student demographics, technological resources, or academic cultures may exhibit varying social media dynamics. However, this targeted scope also opens avenues for comparative studies across diverse institutions, allowing for a broader understanding of library marketing strategies in varied educational contexts.

Additionally, the study's cross-sectional design captures insights at a single point in time, providing a snapshot of social media usage and engagement patterns. While valuable, this approach does not account for changes over time, such as evolving platform preferences, the impact of emerging technologies, or shifts in student expectations. Future research could adopt a longitudinal design to track these changes, offering a deeper exploration of how social media strategies evolve and adapt to dynamic digital landscapes. By examining trends in engagement, content effectiveness, and platform innovations over an extended period, longitudinal studies could provide richer insights into the long-term impact of social media on academic support and library marketing. These directions for future research would enhance our understanding of how libraries can effectively leverage social media in diverse and changing academic environments.

7.4. Direction for Future Research

7.4.1. Expanding to Other Academic Institutions

This study provides a focused exploration of social media's role in marketing library services within IITs, institutions renowned for their high engagement with digital platforms and academic resources. Future research could expand on them by exploring social media strategies in other academic environments, such as universities or specialised colleges, where usage patterns may differ due to variations in institutional culture, available resources, and student demographics.

IITs reflect a primarily technology-focused student body, which shapes their platform preferences and content needs. In contrast, universities with a more diverse academic mix may demonstrate distinct preferences for platforms and content types that align with broader academic interests. Similarly, specialised colleges, such as those focused on the arts or medicine, may engage with niche platforms or prefer tailored content such as webinars, video tutorials, or online discussion groups. Investigating these differences

through comparative studies across varied institutions could provide valuable insights into how social media strategies can be customised to meet diverse academic needs, enhancing the effectiveness of library marketing efforts. Expanding this research to other academic institutions would deepen our understanding of social media's potential to connect students with library resources in diverse educational settings. Such studies would contribute to the development of a more comprehensive framework for social media strategies in higher education, offering actionable recommendations for libraries seeking to optimise their digital presence and engagement across different academic contexts.

7.4.2. Longitudinal Studies

The current study, with its cross-sectional design, provides a valuable snapshot of IIT students' engagement with social media for library services, highlighting high daily usage patterns and strong platform preferences, particularly for Instagram 62.8 per cent and YouTube 86.6 per cent. However, social media trends and user behaviours are dynamic, shaped by rapid technological advancements and evolving digital preferences. Longitudinal studies are recommended to better understand these changes and their impact on library engagement. Such studies would allow researchers to track how sustained social media efforts by libraries influence user engagement, library resource usage, and even students' academic outcomes over time. For instance, tracking engagement levels with interactive content sessions on Instagram or instructional videos on YouTube could provide insights into whether consistent exposure to library resources enhances students' academic satisfaction or changes their frequency of resource usage over semesters.

Additionally, a longitudinal approach could evaluate the effectiveness of specific content types, such as informational posts and event updates, in maintaining student engagement across various stages of their academic journey, from undergraduate to postgraduate levels. This approach would help identify patterns and shifts in content preferences, offering actionable insights for improving long-term engagement strategies. Researchers could develop more robust recommendations on content timing, platform adaptation, and strategies that align with students' evolving needs by studying these patterns over time. A longitudinal perspective promises to deepen our understanding of social media's role in academic libraries, enabling institutions to craft more adaptable and impactful digital outreach strategies that effectively support students throughout their academic journey.

7.4.3. Comparative Analysis Across Platforms

The study indicates that students at Indian Institutes of Technology (IITs) actively engage with diverse social media platforms to access library services. Among these, Facebook demonstrated the highest level of awareness, with 92.6 per cent of respondents acknowledging its use, followed by YouTube at 86.6 per cent and Instagram at 62.8 per cent. These findings highlight the prominence of visual and interactive platforms in shaping students' engagement with academic library services. The results underscore the potential of leveraging popular social media channels to enhance the visibility and accessibility of library resources within the academic community. Given the unique functionalities and differing levels of engagement these platforms offer, a comparative analysis could provide valuable insights into optimising content delivery and user engagement. For instance, YouTube is particularly suitable for detailed instructional videos and workshops, while Instagram's visual and interactive features, such as Stories and polls, excel in delivering quick updates and gathering student feedback. By analysing metrics like viewership, click-through rates, and engagement indicators (e.g., likes, shares, and comments), future research could identify which types of content, such as video tutorials, infographics, or live Q&A sessions, perform best on each platform. Understanding these nuances would enable libraries to tailor their social media strategies, maximising their impact and engagement with students.

Furthermore, a comparative analysis could explore how specific platform features influence engagement differently. For example, Facebook's group functionalities may effectively foster community discussions, while YouTube's comment section could encourage academic-focused inquiries and dialogue. These insights could guide libraries in leveraging each platform's unique strengths to enhance student interaction and satisfaction with library services. Such research would provide actionable recommendations for libraries to develop tailored approaches for each platform, aligning their digital presence with students' preferences, improving resource accessibility, and fostering more meaningful engagement across diverse social media spaces.

7.4.4. User Behaviour and Social Media Trends

This study highlights the high awareness levels of platforms such as Facebook 92.6 per cent, YouTube 86.6 per cent, and Instagram 62.8 per cent, indicating that these channels

currently dominate social media engagement among IIT students in their interaction with library services. However, social media platforms and user behaviours are continually evolving, with emerging technologies and trends reshaping how students interact online. To ensure that library marketing efforts remain relevant and effective, future research should explore the impact of new platforms and trends, such as short-form video apps, AI-driven recommendation systems, and private messaging channels, on student engagement with library services. The growing popularity of short-form video content on platforms like TikTok and YouTube Shorts reflects students' increasing preference for quick, visually engaging content. Libraries could capitalise on this trend by creating bite-sized tutorials, resource highlights, or research tips to align with these consumption patterns. Additionally, as AI-driven personalisation becomes more prevalent, understanding how algorithms affect content visibility and student interaction will be critical for tailoring social media strategies to individual preferences. Future research could focus on analysing the effectiveness of these emerging trends in sustaining engagement by evaluating metrics such as user retention, satisfaction, and content visibility. By tracking the adoption of new social media technologies and their impact on library interactions, libraries can adapt proactively, ensuring their content remains accessible, relevant, and appealing to evolving student behaviours. This approach would enhance library reach, improve resource accessibility, and strengthen the library's role as a dynamic academic resource in the digital age.

To sum up, this study establishes that social media marketing plays a vital role in transforming academic libraries into interactive, user-centred spaces. By strategically leveraging platforms like Facebook, YouTube, and Instagram, IIT libraries can enhance service awareness, foster user engagement, and strengthen their digital presence. Social media acts as a marketing and engagement tool for IIT libraries, effectively connecting students with valuable academic resources and services. The findings reveal that platforms like Facebook 92.6 per cent awareness, YouTube 86.6 per cent, and Instagram 62.8 per cent are the most recognised and utilised channels for library engagement, emphasising the importance of targeting popular platforms that resonate with students. Among these, YouTube and Instagram stand out for their visual appeal and interactivity, which align well with students' preferences for multimedia content, as evidenced by high engagement levels on these platforms. Additionally, the study highlights how social media facilitates academic support beyond traditional methods, with 60.8 per cent of

respondents regularly using these platforms to access current news and information and valuing them for maintaining social connections. This dual utility academic and social positions social media as an essential part of students' daily lives, providing libraries with a powerful tool to reach students where they are most active online. Furthermore, the diverse ways students engage with library services on social media, from participating in academic discussions to accessing tutorials and resource updates, underscore the need for a targeted strategy that leverages each platform's unique features to effectively meet students' academic needs. In conclusion, this study confirms that an active and strategic social media presence enhances library engagement, suggesting that IIT libraries and other academic institutions can significantly benefit from integrating social media into their core outreach efforts.

This study reaffirms the critical role of social media in enhancing academic support, expanding access to resources, and fostering a collaborative academic environment for IIT students. With high awareness of platforms like Facebook, YouTube, and Instagram, social media has become an indispensable tool in students' academic lives. Its ability to provide timely updates, promote library events, and facilitate access to academic resources extends the reach of library services beyond physical spaces, positioning it as a powerful medium for academic engagement. The findings reveal that students regularly use these platforms not only to stay informed but also to engage in academic discussions, participate in virtual events, and connect with peers and library staff. This interactive and collaborative nature of social media fosters a sense of community, enabling students to actively engage in their academic journeys. By addressing both informational and social needs, social media bridges the gaps in traditional academic support, offering a dynamic and responsive platform for student engagement. This study underscores that a well-structured social media presence enables IIT libraries to create a more connected academic environment where students have real-time access to resources and opportunities for collaboration, ultimately enriching their academic experience and supporting their success. Social media has transformed academic engagement by breaking barriers of space and time and offering accessible platforms for learning and collaboration. In the context of IIT libraries, social media serves as a complementary resource, connecting students, researchers, and faculty with academic materials, discussions, and updates in real time. However, while platforms like Facebook, YouTube, and Instagram enhance knowledge-sharing, stakeholders must address

potential issues such as distractions and overuse by establishing meaningful checks and balances. By fostering responsible and purposeful use, IIT libraries and higher educational institutions in India can maximise social media's potential to enrich academic development and create a connected, resourceful learning environment.

7.4.5. Area of further study

Areas for further research in the domain of social media marketing of Library and Information Services (LIS) in IIT libraries offer rich opportunities for academic exploration. A comparative analysis across different IITs can help evaluate the relative effectiveness of various social media platforms (such as Facebook, Instagram, X, and YouTube) in promoting library services and resources. Additionally, adopting a user-centred approach could provide deeper insights into the preferences, information-seeking behaviours, and engagement patterns of students, faculty, and researchers—enabling libraries to tailor their digital content more effectively. In-depth case studies of IIT libraries with successful social media strategies could further illuminate best practices and innovative outreach methods. Moreover, investigating the role and influence of formal social media policies within academic institutions may shed light on how governance structures either facilitate or hinder the strategic use of social platforms for library marketing. These future research directions would contribute significantly to the optimisation and institutionalisation of social media practices in academic libraries.

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ANNEXURES – 1

Questionnaire for User

Part A: General Information

1. About User

a. Name of the Institution	
b. Name	
c. Programme/Course	☐ UG ☐ PG ☐ Research Scholar
d. Domain	☐ Engineering ☐ Science ☐ Social Science
e. Age Category	☐ 18 years to 20 years ☐ 21 years to 23 years ☐ 24 years to 26 years ☐ 27 years to 29 years ☐ 30 years & Above
f. Gender	☐ Male ☐ Female ☐ Transgender

Part B: User Awareness and Usage of Social Media Platforms (SMPs)

2. Are you aware of the following Social Media Platforms (SMPs) used by IIT Library (you can tick more than one option)

☐ Facebook	☐ Twitter	☐ Instagram	☐ YouTube	☐ wikipedia
☐ LinkedIn	☐ WhatsApp	☐ Pinterest	☐ Academia.edu	☐ Answers.com
☐ ResearchGate	☐ Telegram			

3. How much time do you spend on Social Media Platforms on a daily basis. ?

☐ 1-3 hours	☐ 4-6 hours	☐ 7 -9 hours	☐ 10 or more hours
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4. What device do you use to access Social Media Platforms (SMP)?

(you can (✓) tick more than one option)

Device	Tick mark (✓)
a. Desktop	
b. Laptop	
c. Smartphone	
d. iPad	

5. Which are your preferred locations to access Social Media Platforms (SMP)? (you can (✓) tick more than one option)

Location	Tick mark (✓)
a. Hostel	
b. Library	
c. Home	
d. Department	
e. Café	

6. What is your General purpose for using Social Media Platforms?

Please tick [✓] **SD**-StronglyDisagree(1), **D**-Disagree(2), **N**-Neutral(3),

A-Agree(4), **SA**-Strongly Agree(5)

General Purpose	SD (1)	D (2)	N (3)	A (4)	SA (5)
a. To get Current News/Information					
b. Communicating with friends/family					
c. For entertainment/recreation					
d. Participation in polls and discussions					
e. Join professional groups and communities					
f. Searching products and Services					
g. Posting News/ Information/ Photographs/ Events					

7. What is your Academic purpose for using Social Media Platforms?

Please tick [✓] **SD**-StronglyDisagree(1), **D**-Disagree(2), **N**-Neutral(3), **A**-Agree(4), **SA**-Strongly Agree(5)

Academic Purpose	SD (1)	D (2)	N (3)	A (4)	SA (5)
a. Online Learning					
b.Meeting with subject experts					
c. Group Participating in professional activities					
d. Participating in group discussions					
e. Preparing Notes					
f. Supplement classroom learning					
g. Understanding Concepts					
h. Preparing for exams					
i. Searching and sharing new information					
j. Participate in academic and research forums					
k. Searching and Sharing Visual materials					

8. Please indicate the you to use Social Media Platforms (SMPs)

Please tick [✓] **SD**-StronglyDisagree(1), **D**-Disagree(2), **N**-Neutral(3), **A**-Agree(4), **SA**-Strongly Agree(5)

Factors	SD (1)	D (2)	N (3)	A (4)	SA (5)
a. SMPs are alternative Communication tools					
b. Easy and free access					
c. User-friendly applications					
d. Internet linking of social media Platforms					
e. Information storage and sharing					
f. Multimedia facility (text, graphics, audio, video)					
g. Easy to connect with other users					

h. Links to mobile application					
i. Participate in social and cultural activities					
j. Get Easy, fast current and updated information					
k. Less expensive and time saving					

Part C: Infrastructure and Library Services

9. Which kind of Academic support is provided by your Library on SMPs? (You can(√) tick more than one option)

Academic support provided by IIT Library	Tick mark (√) Yes No	
a. information about events/activities/competitions/ workshops etc., available via SMPs		
b. Finding out about resources, including reviews and recommendations		
c. Awareness of new resources		
d. Connecting other users and sharing information		
e. Connect the Library resources/services		
f. Immediate access to information		
g. Facilitate Research and peer e-learning		
h. Improved Communication - ask a Librarian service		
i. Encourage research and communication activities		

10. How do you assess the academic support service provided by the IIT Library using SMP?

Please tick [√] **SD**-Strongly Dissatisfied(1), **D**-Dissatisfied(2), **N**-Neutral(3), **S**-Satisfied(4),**SS**- Strongly Satisfied(5)

User Assessment of Academic Support on SMPs	SD (1)	D (2)	N (3)	S (4)	SS (5)
a. Regular Posting of News / Information/ Events by the Library on Social Media Platforms					
b. Library's social media posts meet the information needs.					
c. My purpose of using the Library's social media has been fulfilled					
d. Availability of information regarding new resources and services					
e. Connectivity with the information via SMPs					
f. Opportunity to interact with other fellows/researchers/experts					

11. What is your opinion about Infrastructure and Library staff cooperation related to SMPs

Please tick [✓] **SD**-StronglyDisagree(1), **D**-Disagree(2), **N**-Neutral(3),
A-Agree(4), **SA**-Strongly Agree(5)

Opinion statement	SD (1)	D (2)	N (3)	A (4)	SA (5)
a. Free Wi-Fi facility available					
b. Library provides high bandwidth of the Internet to access SMPs					
c. The Library provides proper power backup to access SMPs					
d. I get to know about newly added resources and services in the Library through social media					
e. The library staff is well-trained in providing information about library sources and services on SMPs					

Part D: Challenges faced while using Social Media Platforms (SMPs)

12. To what extent do you agree with the following statements?

Please tick [✓] **SD**-Strongly Disagree(1), **D**-Disagree(2), **N**-Neutral(3),
A-Agree(4), **SA**-Strongly Agree(5)

Challenges of connecting the Library via SMPs.	SD (1)	D (2)	N (3)	A (4)	SA (5)
a. Distraction/Internet addiction					
b. Exposed to trolling/cyber-bullying					
c. Irrelevant or annoying information					
d. Limited period of use while on campus.					
e. Potential of unwanted information /spamming					
f. Social Media Feeds are not updated regularly.					
g. Exposes to Cybercrime					
h. Connectivity issue					

Part E: User Expectation

13. Any other information.

14. Please give your opinion about the service offered through SMPs by the IIT Library.

Thank you for spending your valuable time and providing the response.

ANNEXURES – 2

Questionnaire for Librarian

PART–A: General Information

1. About Institution

a. Name of the Institution	
b. Year of Establishment	
c. Name of the Library	
d. Website	
e. Contact No.	
f. E-mail	
g. Total Number of Registered Students	 _____ UG___ PG___ Research Scholar

2. Present Strength of library staff:

Designation	Numbers
a. Librarian	
b. Deputy Librarian	
c. Assistant Librarian	
d. Junior Librarian/Ref.Asst	
e. Professional Asst. Gr.I/Technical Asst.	
f. Professional Asst Gr.II/Library Asst.	
g. Non-Professionals	

PART– B: Social Media Platforms Usage and Frequency

3. Which Social Media Platforms (SMPs) are being used by the Library to provide academic support to the users? Please tick [√]

Mode	Account/Page Manage by the Institution		Account/Page Manage by the Library	
	Yes	No	Yes	No
a. Facebook				
b. Twitter				
c. Instagram				
d. YouTube				
e. Wikipedia				
f. LinkedIn				
g. Whatsapp				
h. Pinterest				
i. Acadmemia.edu				
j. Answer.com				
k. Research Gate				
l. Telegram				

4. How frequently do you post Library-related information on SMPs? Please tick [√]

Frequency of Posting on SMPs	Daily	Weekly	Fortnightly	Monthly	Never
a. Facebook					
b. Twitter					
c. Instagram					
d. YouTube					
e. Wikipedia					
f. LinkedIn					
g. Whatsapp					
h. Pinterest					
i. Acadmemia.edu					
j. Answers.com					
k. Research Gate					
l. Telegram					

5. If Social Media Platform accounts are managed by Library, who supervises them?
Please tick [√]

Manager of Social media platforms	Please tick[√]
a. Librarian	
b. Staff member focused on social media	
c. Staff member with other roles	
d. Distributed - multiple staff trained to contribute with some autonomy	
e. Centralised – marketing department manages posting	

6. What is the users' response to the Library related posts on Social Media Platforms?
Please tick [√]

Response	Yes	No
Leave "likes" to posts		
Share posts		

Comment posts		
Save posts		
Download posts		
Tweet / Re-tweet posts		
Message posts		

7. Do you have a Social Media Policy for your Library? Please tick [√]

Availability of social media policy	Yes	No
a. Guidelines for both users and staff		
b. Guidelines for users		
c. Guidelines for staff		

PART– C: Purpose, Promotion and Library Services

8. What is the purpose of using social media platforms (SMPs) for marketing services and resources?

Please tick [√] SD-StronglyDisagree(1), D-Disagree(2), N-Neutral(3), A-Agree(4), SA-Strongly Agree(5)

Purpose	SD (1)	D (2)	N (3)	A (4)	SA (5)
a. Communicating and interacting with Students					
b. Providing a platform for Online Learning					
c. Updating the users about Library events and services					
d. facilitate getting Connected with Professional groups					
e. Help in building communities.					

9. What kind of Library services and resources are being marketed by the Library using SMPs. Please tick [√]

Promotional activities	Yes	
a. Library awareness/orientation programs		
b. Library visits		
c. Webinars/seminars		
d. Training programs/workshops		
e. Book exhibitions		
f. Special lectures		
g. New Notices/announcements		
h. Awareness of new resources		
i. Share pictures from library events		

10. Which Library services are being marketed by your Library through Social Media Platforms? Please tick [√]

Availability of Library Services	Yes	No
a. Reference Services		
b. Newspaper clipping service		
c. List of new additions		
d. Library guides / Subject guides		
e. Reservation of books		

f. Renewal of books		
g. Referral service		
h. Document delivery service		
i. Literature search service		
j. Consultancy service		
k. Calendar of events, List of holidays and working hours		
l. Receive complaints, suggestions, enquiries and feedback		

11. Which Research support services are being marketed by your Library through Social Media Platforms? Please tick [√]

Availability Research Support Services	Yes	No
a. Plagisum Service		
b. Translation service		
c. Paraphrasing service		
d. Grammarly service		
e. publishing ethics		
f. Reference management		

PART–D: Benefits of Social Media Platforms

12. What are the perceived benefits of marketing Library services on Social Media Platforms?

Please tick [√] **SD**-StronglyDisagree(1), **D**-Disagree(2), **N**-Neutral(3), **A**-Agree(4), **SA**-Strongly Agree(5)

Perceived benefits	SD (1)	D (2)	N (3)	A (4)	SA (5)
a. Social Media is helpful in satisfying the needs of the users					
b. Easy to market resources and services to the users.					
c. Easy to post information on social media platforms					
d. Easy and quick access to the information					
e. Easy to market and dissemination information to the users.					
f. Marketing of information using SMPs is convenient and time-saving					
g. Social Media marketing has helped to improve the Library services					
h. Easy connectivity with users					
i. Easy to market information about events/ activities/ competitions/ workshops etc.					
j. Marketing of library services and resources/activities help in promoting Library's good image.					

PART- E: Barriers and Challenges being faced on Social Media Platforms in IIT Libraries

13. Major barriers faced by the IIT Libraries in marketing on SMPs.

Please tick [✓] SD-StronglyDisagree(1), D-Disagree(2), N-Neutral(3), A-Agree(4), SA-Strongly Agree(5)

Barriers affecting service quality on SMPs	S D (1)	D (2)	N (3)	A (4)	S A (5)
a. Lack of Interest among library professionals					
b. Limited knowledge of Social Media Platforms among library staff					
c. Improper/No policy for using SMPs for marketing of information products and services					
d. Internet issues					
e. Shortage of Staff					
f. Library staff resistance to adopting change					

14. Challenges affecting the usage of social media Platforms in IIT Libraries

Please tick [✓] SD-StronglyDisagree(1), D-Disagree(2), N-Neutral(3), A-Agree(4), SA-Strongly Agree(5)

Challenges on Social Media Platforms	SD (1)	D (2)	N (3)	A (4)	SA (5)
a. Problem in Managing the Existing SMPs					
b. Educating users about usage on Social Media Platform					
c. Limited Understanding of all features of the Social media platform					
d. Limited understanding of user's needs					
e. Limited Social Media Skills among Staff					
f. Fear of hacking the Social media Account					
g. Inconsistency in posting on SMPs					

15. In your opinion, which is the most relevant social Media Platform for Marketing Library Information Services? Please tick [✓] IR- irrelevant (1), LR-Least Relevant(2), SR- somewhat Relevant (3), Relevant(4), MR-Most Relevant(5)

Opinion on Social Media Platforms (SMPs)	IR (1)	LR (2)	SR (3)	R (4)	MR (5)
a. Facebook					
b. Twitter					

c. Instagram					
d. YouTube					
e. Wikipedia					
f. LinkedIn					
g. Whatsapp					
h. Pinterest					
i. Acadmemia.edu					
j. Answer.com					
k. Research Gate					
l. Telegram					

16. How SMP's are Useful to market information products and services?

Please tick [✓] SD-StronglyDisagree(1), D-Disagree(2), N-Neutral(3), A-Agree(4), SA-Strongly Agree(5)

The usefulness of SMPs for marketing library products and services	SD (1)	D (2)	N (3)	A (4)	S A (5)
a. Access to the library updates anytime, anywhere					
b. Communication with a large number of users					
c. Engage the users by sharing valuable and relevant information					
d. Improved User satisfaction					
e. Improve Library importance					
f. Creation of an online community					
g. Improved connectivity with the library users					

17. Any other information.

18. Please give details of future plans to improve further the use of Social Media Platforms for marketing of Library and Information Services:

Thank you for spending your valuable time and providing the response.

LIST OF PUBLICATIONS

- A paper entitled: **"Use of Social Media for Marketing of Library and Information Services in Academic Libraries"** has been published in Scopus indexed Journal, Educational Administration: Theory and Practice.
- A paper entitled: **"Innovative Social Media Marketing Approaches for Academic Libraries: Trends and Best Practices"** has been published in Scopus indexed Journal, Library Progress International.
- A paper entitled: **" Social Media Benefits for Education: A Study of Generation Z's Preferences"** has been published in Scopus indexed Journal, Library Progress International.
- A paper entitled: **"Enhancing Library Engagement and Awareness through Social Media Platforms "** has been published in Scopus indexed Journal of Information Systems Engineering and Management.
- A paper entitled: **" The Role of Social Media Marketing in Enhancing User Engagement in Academic Libraries: A Bibliometric Analysis"** has been published in Scopus indexed Journal of Information Systems Engineering and Management.

LIST OF CONFERENCES

- A paper entitled “**Social media as a platform in academic library marketing: A Bibliometric Analysis**” has been accepted for oral presentation at the International Conference on ‘Recent Trends, Challenges and Opportunities in Libraries’ jointly organized by The Knowledge Resource Centre and School of Liberal Arts, Uttarakhand University held on the 24th - 25th of March 2023.
- A paper entitled “**Use of Social Media for Marketing of Resources by Agricultural Universities of North India**” has been accepted for oral presentation at the International Conference of Agricultural Librarians and User Community On “Agricultural Libraries and Sustainable Development Goals: The Way Forward” (ICALUC – 2023) Punjab Agriculture University held on the 05th - 06th of October 2023.
- A paper entitled “**Social Media Platforms as a channels for Enhancing Library user interaction and Service Awareness**” has been accepted for oral presentation at the National Conference on Technological Breakthrough on Libraries: Present and Beyond. (ASLIP Conclave – 2024) Organized by ASLIP and CSIR – Institute of Microbial - Technology, held on the 07th - 08th of Nov. 2024.
- A paper entitled “ **INNOVATIVE SOCIAL MEDIA MARKETING APPROACHES FOR ACADEMIC LIBRARIES: TRENDS AND BEST PRACTICES**” has been accepted for oral presentation at **Online** Conference on Libraries, Education, and AI: Bridging the Gap between Knowledge and Technology” (OCLEA-2024) organized by Rajiv Gandhi National University of Law, Punjab in association with Association of Indian Law Libraries (AILL) on November 22, 2024

LIST OF WORKSHOPS

- One Week Workshop on Research Methodology and Data analysis organised by Lovely Professional University dated 25-04-22 to 02-05-22.
- One-week International Online Workshop on Lit. Review: Narrative & Systematic organised by NSS Hindu collage & Lore & Ed Research Associates on 06-05-22 to 14-05-22
- One-day webinar on Research Methods and Research Methodology organised by Research Graduate on 18-06-22
- One-day webinar on Understanding of Research writing and Publishing organised by Sushant University on 30-06-22.
- One-day webinar on Research Ethics and Plagiarism organised by Bennett University, The Times Group on 07-07-22
- One-day webinar on Research Methods and Research Methodology organised by Wilay Research Training on 24-08-22
- One-day webinar on Basic to Advanced Guide on Research Paper Writing organised by Research Graduate on 10-09-22.
- Three days Faculty development program on Systematic Literature Review organised by Amity Business School Amity University Maharashtra dated 12-10-22 to 14-10-22.
- One-day webinar on Literature Review Writing organised by Research Graduate on 21-10-22.
- One-day webinar on Opportunities to publish in Library Hi Tech organised by Emerald Publishing on 19-12-22
- One-day webinar on Systematic Literature Review by Research Graduate on 11-02-23.
- One Week Workshop on Short Term Course on Scale Development and Standardization organised by Lovely Professional University dated 28-02-23 to 25-02-23.
- Five days' Workshop on Advanced MS Excel Skills for Research Data Analysis organised by University of Science and Technology, Meghalaya dated 25-04-23 to 29-04-23.
- One-day webinar on Thesis Writing for Research Scholars by Research Graduate on 26-08-23.

- One-day Training Program on Intellectual Property organised by IP office, Govt. of India, Ministry of Commerce and Industry on 05-09-23
- One-day webinar on NDLI: Its Usage and Alignment by National Digital Library of India on 12-09-23.
- One-day webinar on How they can help researcher and How to submit your manuscript organised by Wilay Research Training on 02-11-23.
- One-day webinar on Cochrane Library: Advanced Search and MeSH organised by Wilay Research Training on 07-11-23.
- One-day webinar on Librarian Educational Series: Understanding Copyright for Journal authors organised by Wilay Research Training on 14-11-23.
- One-day webinar on Library as a research Supporting Center organised by Learning Resource center, Jain University, Bengaluru on 21-11-23.
- One Week Workshop on Research Methodology in Practice organised by Research India Foundation dated 24-12-23 to 30-12-23.
- One-day webinar on Securing the Future: Cyber Awareness and Tech tools for Education organised by Department of Higher Education, MP on 30-05-24.
- One-day webinar on Research Methodology organised by Govt. Collage, Bankhedi, MP on 31-05-24.
- One-day webinar on AI Based tools for Literature search and systematic review organised by Chakreswar saikia central Library, Assam on 09-06-24.
- One-day webinar on E-Library Prabandhan Evam Upyogita organised by Deptt. Of Library Sc. SVGC, MP, India on 12-06-24.
- One-day webinar on Datacite: Unlocking depositories with persistent identifier and Open resource practices organised by DELNET – Developing Library Network on 31-07-24.
- One-day webinar on Improving Research Performance Using Elsevier's Scopus organised by Elsevier on 30-09-24.
- One-day webinar on Improving Research Performance Using Elsevier's Scopus organised by Elsevier on 30-09-24.