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Exploring the Use of Web 2.0 Tools in Academic Environments: A Case Study of North Campus Colleges, University of Delhi

Yogesh*

Research Scholar Radha Govind University, Ramgarh, Jharkhand- 829122

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ABSTRACT

This study examines the adoption of Web 2.0 tools among colleges in the North Campus of the University of Delhi, highlighting their role in fostering digital engagement and academic outreach. Analyzing 14 colleges and 42 Web 2.0 tools, the study reveals that platforms such as X (formerly Twitter), Facebook, Instagram, YouTube, and LinkedIn are the most widely utilized. Hansraj College, Indraprastha College for Women, Kirori Mal College, and the School of Open Learning emerged as leaders in digital adoption, each employing five tools, while St. Stephen's College and Shaheed Sukhdev College of Business Studies showed no usage. X leads as the most-used platform, with 23.81% adoption, followed by Facebook and Instagram at 21.43% each. YouTube and LinkedIn play significant roles in video content sharing and professional networking. However, niche tools like Google Play and TinyURL show minimal adoption. The study also highlights disparities in YouTube engagement, with Kirori Mal College achieving the highest subscriber count and video content output. Findings emphasize the importance of structured digital strategies to enhance outreach, institutional branding, and stakeholder interaction. Recommendations include broader adoption of underutilized tools, training for faculty and staff, and leveraging analytics to optimize engagement. This research underscores the transformative potential of Web 2.0 in academic environments.

1. INTRODUCTION

The integration of Web 2.0 technologies has transformed the educational landscape, offering institutions innovative ways to engage with their stakeholders. Defined by interactive, user-centered design and collaborative functionalities, Web 2.0 tools such as Facebook, X (formerly Twitter), Instagram, LinkedIn, and YouTube enable academic institutions to expand

their digital outreach, enhance communication, and foster community engagement (Anderson, 2007). These platforms support knowledge dissemination, facilitate networking, and promote institutional branding, making them indispensable in modern academic environments (Greenhow & Lewin, 2019).

Colleges in the North Campus of the University of Delhi, a hub of academic excellence, exemplify these trends. By

*Corresponding author

Email: yogesh7nagar@gmail.com

adopting Web 2.0 tools, these institutions not only improve their public visibility but also create avenues for interaction with students, faculty, alumni, and prospective stakeholders. Prior studies have indicated that such tools are particularly valuable for real-time updates, collaborative learning, and professional networking in higher education (Kane et al., 2014). However, the degree and manner of adoption vary significantly across institutions, reflecting differences in digital strategies, resource allocation, and institutional priorities.

This case study investigates the adoption of Web 2.0 tools among North Campus colleges, analyzing the patterns and impact of their usage. By exploring these digital practices, the study contributes to understanding how higher education institutions can optimize social media and other Web 2.0 platforms for academic and professional growth.

2. REVIEW OF LITERATURE

The advent of Web 2.0 technologies has transformed the landscape of higher education by fostering collaboration, sharing, and interactive learning. Studies by Selwyn (2012) highlight that social media platforms like blogs, wikis, and forums enable learners to engage in knowledge creation and peer-to-peer interaction, thus enhancing the overall academic experience. According to (Junco et al., 2011), the incorporation of Web 2.0 tools not only improves communication between students and faculty but also helps in building learning communities.

Research by Ajjan & Hartshorne (2008) identified that faculty members exhibit varying levels of adoption when it comes to Web 2.0 technologies, primarily due to differences in technological proficiency and perceived usefulness. Their study underscores the importance of institutional support in promoting the effective use of these tools. Similarly, Churchill, (2009) noted that adoption is higher in institutions where training programs are provided to familiarize educators with the pedagogical potential of these tools. The use of Web 2.0 tools in academic settings has been linked to improved student engagement and learning outcomes. For instance, Minocha (2009) examined the use of wikis and blogs in higher education and found that these platforms significantly enhance collaborative learning and critical thinking skills. Another study by Greenhow & Lewin (2019) highlighted that students who actively use Web 2.0 tools tend to demonstrate better retention of knowledge due to the interactive nature of these platforms.

Despite their advantages, the implementation of Web 2.0 technologies in academic environments faces several challenges. According to Gooding (2008), issues such as lack of infrastructure, resistance to change, and privacy concerns are significant barriers. Furthermore, Bower et al. (2010) emphasized the need for robust institutional

policies to address data security and ethical considerations associated with the use of social media and other Web 2.0 tools. The advent of Web 2.0 technologies has transformed communication, collaboration, and knowledge sharing, particularly within academic institutions. Studies emphasize that tools like Facebook, Twitter, YouTube, RSS feeds, Flickr, LinkedIn, Tumblr, and Google+ provide interactive platforms for universities to engage with students, faculty, and the broader public (Bower et al., 2010; Kaplan & Haenlein, 2010). These technologies have enabled universities to disseminate information more effectively and foster online communities, thereby enhancing the overall educational experience.

Here's the rewritten text:

Hussain (2015) investigates the adoption of Web 2.0 tools by library associations globally. Analyzing 188 websites, the study found 61.17% had implemented these technologies. Geographical disparities emerged, with 89.86% adoption in the Americas compared to 25.64% in Asia. Popular tools include Facebook, Twitter, RSS feeds, LinkedIn, Flickr, and blogs. The research highlights significant differences in Web 2.0 integration across regions, emphasizing its prevalence in American library associations over those in Asian counterparts.

3. OBJECTIVES OF THE STUDY

The study aims:

1. To assess the adoption and usage of Web 2.0, tools by colleges on the North Campus of the University of Delhi.
2. To identify the most used platforms, such as Facebook, X, Instagram, YouTube, LinkedIn, and their applications.
3. To analyse digital engagement strategies and their effectiveness. to compare Web 2.0 tool integration levels among colleges, highlighting leaders, and laggards.
4. To examine the adoption of niche tools, such as Google Play, App Store, and TinyURL.
5. To investigate YouTube channel activities, including subscribers and video content, and
6. To evaluate LinkedIn's role in professional networking and institutional branding.

4. METHODOLOGY OF THE STUDY

This study employs a descriptive research approach to

analyze the adoption of Web 2.0 tools among colleges in the North Campus of the University of Delhi. Data were collected through a structured review of institutional websites, social media platforms, and official digital channels, ensuring comprehensive coverage. The study focuses on identifying the types and frequency of Web 2.0 tools used, with emphasis on platforms such as Facebook, X, Instagram, YouTube, and LinkedIn. Quantitative data were tabulated to assess the

extent of digital engagement. Analysis highlights patterns in tool adoption, varying integration levels, and the impact on digital outreach and academic engagement.

In this study, total 14 colleges of the North Campus of the university of Delhi are being analysed and they usage 42 web 2.0 tools. The authors have extracted the information from the North Campuse colleges website and then used MS Excel to organise, tabulate and analyse the data for the study.

Table 1: The use of Web 2.0 tools in North Campus Colleges, University of Delhi

S.No.	Name of colleges	Year of Est.	Web 2.0 Tools	No.	% age
1	Aditi Mahavidyalaya (https://aditi.du.ac.in)	1994	Facebook, X, Instagram, YouTube	4	9.52
2	Daulat Ram College (https://dr.du.ac.in)	1960	Facebook, X, LinkedIn	3	7.14
3	Hindu College (https://hinducollege.ac.in)	1899	X, Instagram	2	4.76
4	Hansraj College (www.hansrajcollege.ac.in)	1948	Facebook, X, Instagram, LinkedIn, YouTube	5	11.90
5	Indraprastha College for Women (http://ipcollege.ac.in)	1924	LinkedIn, X, Facebook, YouTube, Instagram	5	11.90
6	Kirori Mal College (https://kmc.du.ac.in)	1954	Facebook, Instagram, X, YouTube, LinkedIn	5	11.90
7	Miranda House (www.mirandahouse.ac.in)	1948	YouTube, Facebook, X, Instagram	4	9.52
8	Ramjas College (https://ramjas.du.ac.in)	1917	Facebook, X, Instagram	3	7.14
9	St. Stephen's College (www.ststephens.edu)	1881	No	0	0.00
10	Shaheed Sukhdev College of Business Studies (https://sscbs.du.ac.in)	1987	No	0	0.00
11	Shri Ram College of Commerce (www.srcc.edu)	1926	Google Play, App Store	2	4.76
12	Sri Guru Tegh Bahadur Khalsa College (https://sgtbkhalsadu.ac.in)	1951	No	0	0.00
13	School of Open Learning (http://sol.du.ac.in)	1962	X, Facebook, TinyURL, Instagram, LinkedIn	5	11.90
14	Swami Shraddhanand College (https://ss.du.ac.in)	1967	Facebook, YouTube, X, Instagram	4	9.52
(n=42)					100.00

5. DATA ANALYSIS AND INTERPRETATIONS

The data collected from all linked Web 2.0 tools profiles on North Campus Colleges of the university of Delhi websites were analysed and interpreted:

5.1 The use of Web 2.0 tools in North Campus Colleges, University of Delhi

Table 1 presents data on the adoption and utilization of Web 2.0 tools by colleges in the North Campus of the University of Delhi. The data highlights the digital engagement strategies of these institutions, emphasizing platforms such as Facebook, X (formerly Twitter), Instagram, YouTube, and LinkedIn. This study Hansraj College, Indraprastha College for Women, Kirori Mal College, and the School of Open Learning are the highest adopters, utilizing 5(11.90%) Web 2.0 tools each. They actively engage on platforms such as Facebook, X, Instagram, LinkedIn, and YouTube, showcasing a robust social media presence. There were second most highest colleges Institutions like Aditi Mahavidyalaya, Miranda House, and Swami Shraddhanand College have used 4(9.52%) web 2.0 tools each, while Daulat Ram College and Ramjas College engage with 3 (7.14%) web 2.0 tools each. These colleges predominantly use mainstream platforms such as Facebook, X, Instagram, and YouTube.

There were small numbers of Hindu College and Shri Ram College of Commerce employ only 2(4.76%) tools, with a narrower focus on platforms like Instagram and Google Play/App Store. Further, St. Stephen's College, Shaheed Sukhdev College of Business Studies, and Sri Guru Tegh Bahadur Khalsa College do not utilize any Web 2.0 tools for digital engagement, representing 0% usage.

However, a total of 42 Web 2.0 tools are utilized across the listed colleges, reflecting varying degrees of digital integration.

5.2 Topmost Web 2.0: tools used by North Campus Colleges, University of Delhi

Table 2 and figure 1 highlights the most widely used Web 2.0 tools by colleges in the North Campus of the University of Delhi. This study reveals that X (formerly Twitter) is the most utilized platform, adopted by 10 colleges, representing 23.81% of total usage. This tool is a preferred choice for real-time updates and engagement. Facebook and Instagram follow closely, each used by 9(21.43%) colleges. These platforms are significant for community building, visual content sharing, and broad outreach. The second highest Web 2.0 tool, YouTube, is used by 6(14.29%) colleges, highlighting its growing importance for video content in academic and promotional purposes.

The third highest Web 2.0 tool, LinkedIn, is adopted by 5(11.90%) colleges, emphasizing its role in professional

networking and institutional branding. Further, niche Web 2.0 tools like Google Play, App Store, and TinyURL are each used by only 1 (2.38%) college, reflecting their limited adoption due to their specific functionality.

The widespread use of X, Facebook, and Instagram highlights a preference for platforms that facilitate communication, social interaction, and real-time updates. Furthermore, video-sharing and professional networking tools like YouTube and LinkedIn, while not as widely used, are integral to specific engagement strategies. The limited use of app-based tools like Google Play and App Store indicates that mobile application deployment is not a primary focus for most colleges.

Table 2: Topmost Web 2.0: tools used by North Campus Colleges, University of Delhi

S.No.	Web 2.0 Tools	No. Web 2.0Tools	% age
1	X (formerly Twitter)	10	23.81
2	Facebook	9	21.43
3	Instagram	9	21.43
4	YouTube	6	14.29
5	LinkedIn	5	11.9
6	Google Play	1	2.38
7	App Store	1	2.38
8	TinyURL	1	2.38
(n=42)			100

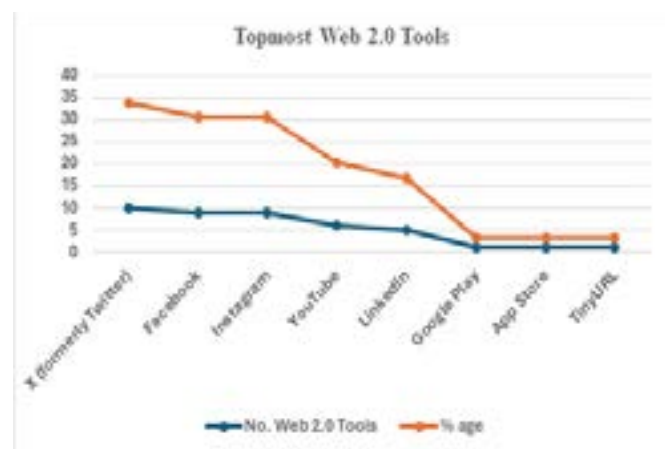


Fig.1: Topmost Web 2.0: tools used by North Campus Colleges, University of Delhi

5.3 Number of web 2.0 tools used by North Campus Colleges, University of Delhi

The table 3 presents a comparative analysis of the usage of Web 2.0 tools across various colleges in the North Campus of the University of Delhi. This study highlights that X (formerly Twitter) has the highest usage, being widely adopted by 10 out of 14 (71.43%) colleges. Exceptions include St. Stephen's College, Shaheed Sukhdev College of Business Studies, Shri Ram College of Commerce, and SGTB Khalsa College. Facebook and Instagram show similar adoption patterns, utilized by 9 (64.29%) colleges, indicating their popularity for community interaction and visual engagement. The second most-used tool, YouTube, is employed by 6(42.86%) colleges, primarily for video content dissemination. The third most-used tool, LinkedIn, is adopted by 5 (35.71%) colleges, reflecting its focus on professional networking. A

small number of Web 2.0 tools, such as Google Play and App Store, are exclusively used by Shri Ram College of Commerce, indicating a niche application focus for mobile platforms. TinyURL is solely utilized by the School of Open Learning for simplifying URLs, suggesting limited functionality among the colleges. Furthermore, St. Stephen's College, Shaheed Sukhdev College of Business Studies, SGTB Khalsa College, and some others show no usage of specific tools like LinkedIn, YouTube, or niche platforms.

However, the data reveals a strong preference for general-purpose social media platforms like X, Facebook, and Instagram among the colleges, while tools with specialized or limited functionality, such as Google Play, App Store, and TinyURL, are minimally adopted. This trend reflects an emphasis on platforms that provide broad outreach and engagement capabilities.

Table 3: Number of web 2.0 tools used by North Campus Colleges, University of Delhi

Web	AM	DRC	HC	HC	ICW	KMC	MH	RC	SSC	SSC	SRCC	SGTB	SOL	SS	Total	%
X	1	1	1	1	1	1	1	1	0	0	0	0	1	1	10	23.81
Face book	1	1	0	1	1	1	1	1	0	0	0	0	1	1	9	21.43
Insta gram	1	0	1	1	1	1	1	1	0	0	0	0	1	1	9	21.43
You Tube	1	0	0	1	1	1	1	0	0	0	0	0	0	1	6	14.29
Linke dIn	0	1	0	1	1	1	0	0	0	0	0	0	1	0	5	11.9
Google Play	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2.38
App Store	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2.38
Ti nyURL	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2.38
	4	3	2	5	5	5	4	3	0	0	2	0	5	4	42	100

5.4 Number of subscribers and videos of YouTube channels at North Campus Colleges, University of Delhi

Table 4 presents the number of subscribers and videos available on the YouTube pages of North Campus colleges, University of Delhi. The data shows the presence of YouTube channels for some colleges, detailing the number of subscribers and videos available. This study focused among the colleges with active YouTube channels, Kirori Mal College has the highest number of subscribers, with 3.59K subscribers and 245 videos. Miranda House follows closely with 4.27K subscribers but has a smaller collection

of 15 videos. Indraprastha College for Women also shows significant engagement with 852 subscribers and 27 videos, while Hansraj College has 1.93K subscribers and 103 videos, reflecting its strong digital presence. This study also analysis that the Aditi Mahavidyalaya has 262 subscribers and 19 videos, indicating a more modest but active presence on YouTube. The remaining colleges, including Daulat Ram College, Hindu College, Ramjas College, St. Stephen's College, Shaheed Sukhdev College of Business Studies, Shri Ram College of Commerce, Sri Guru Tegh Bahadur Khalsa College, School of Open Learning, and Swami Shraddhanand College, either do not have YouTube channels or have very

limited engagement with zero subscribers and videos. This data highlights the varying levels of digital engagement across colleges in the North Campus, with some colleges actively leveraging YouTube for outreach and content sharing, while others have yet to establish or grow their YouTube presence.

6. FINDINGS AND RECOMMENDATIONS

The study reveals several significant findings regarding the adoption of Web 2.0 tools among North Campus colleges of the University of Delhi. Hansraj College, Indraprastha

Table 4: Number of subscribers and videos of YouTube channels at North Campus Colleges, University of Delhi

S.No.	Name of colleges	Colleges YouTube Pages	Subscribers	Videos
1	Aditi Mahavidyalaya	www.youtube.com/@aditimahavidyalaya723	262	19
2	Daulat Ram College	NA		
3	Hindu College	NA	0	0
4	Hansraj College	www.youtube.com/channel/ UCds5g8WgbovWqxCS5vIV7-6w	1.93K	103
5	Indraprastha College for Women	www.youtube.com/@IPCW1924	852	27
6	Kirori Mal College	www.youtube.com/@KMCollegeDelhi	3.59K	245
7	Miranda House	www.youtube.com/c/mirandahousedu	4.27K	15
8	Ramjas College	NA	0	0
9	St. Stephen's College	NA	0	0
10	Shaheed Sukhdev College of Business Studies	NA	0	0
11	Shri Ram College of Commerce	NA	0	0
12	Sri Guru Tegh Bahadur Khalsa College	NA	0	0
13	School of Open Learning	NA	0	0
14	Swami Shraddhanand College	www.youtube.com/channel/ UCNeI_2nXVR3vpqdAQjo6TCg	461	23

College for Women, Kirori Mal College, and the School of Open Learning emerge as the highest adopters, utilizing 5 (11.90%) Web 2.0 tools each for of the total usage. Aditi Mahavidyalaya, Miranda House, and Swami Shraddhanand College follow closely, employing 4 (9.52%) tools each. In contrast, Hindu College and Shri Ram College of Commerce utilize only 2 tools each (4.76%), while St. Stephen's College, Shaheed Sukhdev College of Business Studies, and Sri Guru Tegh Bahadur Khalsa College demonstrate 0% utilization.

Further, among the platforms, X (formerly Twitter) is the most widely used, adopted by 10(23.81%) colleges, followed by Facebook and Instagram, each used by 9(21.43%) colleges. YouTube, at 14.29%, and LinkedIn, at 11.90%, also play important but comparatively lesser roles. There are small

numbers of web 2.0 tools like Google Play, App Store, and TinyURL show minimal adoption, with only 2.38% usage. Regarding YouTube engagement, Kirori Mal College leads with 3.59K subscribers and 245 videos, followed by Miranda House, which has 4.27K subscribers but a smaller collection of 15 videos. These findings reflect the varying degrees of digital engagement and platform preferences across the colleges.

The following recommendations are proposed based on the findings of the study: Colleges with minimal or no utilization of Web 2.0 tools, such as St. Stephen's College and Shaheed Sukhdev College of Business Studies, should devise strategies to incorporate these platforms into their communication

and outreach efforts. Considering the increasing significance of YouTube, colleges are encouraged to create and maintain dedicated channels to disseminate academic, promotional, and cultural content effectively. LinkedIn should be leveraged to highlight institutional achievements, foster networking opportunities, and engage with alumni and prospective students.

To optimize digital strategies, colleges must monitor engagement metrics to evaluate the effectiveness of their Web 2.0 activities and make necessary adjustments. Conducting workshops and training sessions for faculty and staff will enhance their proficiency in using these tools. Additionally, colleges should explore the utility of niche tools like Google Play and TinyURL for specific applications, particularly in mobile app-based services and simplified communication processes.

7. CONCLUSION

The study reveals a varied pattern of Web 2.0 tool adoption among North Campus colleges of the University of Delhi. While some colleges demonstrate a strong digital presence across multiple platforms, others lag significantly, missing opportunities for outreach and engagement. Platforms like X, Facebook, and Instagram dominate due to their accessibility and versatility, whereas tools like YouTube and LinkedIn cater to specific strategic needs.

To enhance digital engagement, colleges must adopt a more structured approach, emphasizing underutilized platforms, leveraging analytics, and fostering institutional participation. Strengthening digital strategies will not only improve communication but also significantly contribute to academic branding and stakeholder engagement.

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