

Unlocking Engagement: Determinants of Social Media Adoption and Effective Use in Autonomous College Libraries of Maharashtra, India

Manohar Vitthal Gohane¹, Dr. Rajendra R. Manikpure²

¹Ph. D. Research Scholar, Department of Library and Information Science, Rashtrasant Tukadoji Maharaj
Nagpur University, Nagpur
Librarian, MMCC College, Pune

²Research Guide, Librarian
Late. Vasanttrao Kolhatkar Art College, Rohana, Tah.Arvi, Dist. Wardha

Abstract

The faster pace of digital transformation in higher education has put academic libraries in the role of interactive knowledge engagement instead of places that store information passively. Social media platforms have emerged as strategic tools for communication, outreach, branding, and service promotion. In India, autonomous colleges—particularly in Maharashtra—operate within flexible governance structures that provide opportunities for innovation in digital service delivery. However, the adoption and effective utilization of social media in autonomous college libraries remain uneven and theoretically underexplored. This conceptual paper develops an integrated framework explaining determinants of social media adoption and engagement effectiveness in autonomous college libraries of Maharashtra. Drawing on the Technology Acceptance Model (TAM), Diffusion of Innovations (DOI), Unified Theory of Acceptance and Use of Technology (UTAUT), and organizational capability theory, the study proposes a multi-level model linking institutional support, librarian digital competence, governance mechanisms, technological infrastructure, user demand, and content strategy to measurable engagement outcomes. The paper advances twelve research hypotheses and identifies research gaps in Indian LIS scholarship. Theoretically, the study contributes by framing models of global technology adoption and their implications at the Indian autonomous higher education level, and practically contributes by presenting recommendations for policymakers, accreditation bodies, and library administrators. This framework lays a basis for empirical validation with mixed-method approaches towards future research.

Keywords: Social media adoption, academic libraries, autonomous colleges, Maharashtra, digital engagement, technology acceptance, conceptual framework.

1. Introduction

In the 21st century, the academic library has changed considerably. Normally considered as the custodians of print collections, libraries are now seen as interactive digital service centres that foster research, teaching, and community engagement (Singh & Gill, 2015). As platforms like Facebook, Instagram, YouTube, X (formerly Twitter), and WhatsApp have spread, communication patterns among institutions of higher learning have completely changed. These platforms provide libraries with a platform to increase visibility, promote services, disseminate information, and foster participatory engagement with users.

Within an international context, the role of social media is rapidly entering the communication of academic libraries around the world (Al-Daihani & Abrahams, 2016; Chu & Du, 2013). But adoption does not equal real



engagement. Absence without a strategy causes little interaction and low impact (Aharony, 2012). Effective engagement requires planned content development, user-centered communication, institutional support, and measurable performance outcomes.

Higher education has been growing fast in India, and Maharashtra represents one of the largest academic ecosystems in the country. Autonomous colleges - with academic and administrative freedom under the UGC - are able to innovate more in curricular and service domains. Despite their autonomy, college libraries use social media in a myriad of ways. Some libraries are actively using digital platforms for outreach, while others are mostly absent.

To date, existing research on Library and Information Science (LIS) use of social media in India has typically documented its use, not understood variables underpinning its effective use using theoretical frameworks (Kumar & Kaur, 2016; Thanuskodi, 2019). Even with regards to Indian autonomous college libraries, existing technology adoption theories are not well understood. In addition, engagement outcomes—interaction rate, user satisfaction, service utilization, institutional branding, and so on—are still weakly theorized.

This conceptual paper aims to bridge the gaps above by providing a comprehensive framework for the influence of the adoption and practice of social media on the autonomous college libraries of Maharashtra. The study contributes toward the research theme “Unlocking Engagement” through a focus not just on adoption, but the effectiveness and impact of such an approach.

2. Theoretical Foundations

2.1 Technology Acceptance Model (TAM)

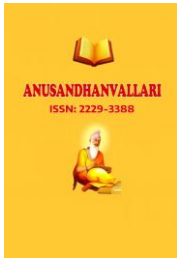
Technology Acceptance Model (TAM) (Davis, 1989), proposed by Davis, argued that perceived usefulness and perceived ease of use influence and determine how likely an individual is to accept and adopt technology. In library settings, librarians’ perceived utility and value of using social media for outreach and service improvement are essential for the intensity of adoption (Aharony, 2010). When librarians perceive social media as useful for engaging with users, and easily implemented in terms of effort, the chances of using the technology will grow.

2.2 Diffusion of Innovations (DOI)

Rogers’ (2003) Diffusion of Innovations theory explains how innovations spread throughout the social system. Key factors include relative advantage, compatibility, complexity, trialability, and observability. Social media adoption in academic libraries reflects DOI theory: institutions take up social media platforms only when they think it will give them an edge over others, match communication goals, and can show success at peer institutions (Boateng & Liu, 2014).

2.3 Unified Theory of Acceptance and Use of Technology (UTAUT)

Venkatesh et al. (2003) incorporated multiple adoption models into UTAUT, finding performance expectancy, effort expectancy, social influence, and facilitating conditions to be critical determinants. For autonomous colleges, facilitating conditions such as infrastructure, policy support, and leadership support, is a key factor in continued engagement.



2.4 Organizational Capability Perspective

Organizational capability theory goes beyond the typical acceptance of the people and stresses the importance of leadership commitment, skills, a governance framework, and strategic alignment (Teece, 2018). And when it comes to social media, how successful it can be is actually about institutionally preparing for much more than just an ad-hoc approach. Libraries have to strengthen their competences in content production, analytics interpretation, and digital branding in order to avoid obsolescence (Appel et al., 2020). Therefore, these theoretical approaches add a multidimensional dimension to the analysis of adoption and use in autonomous college library.

3. Review of Literature

3.1 Global Trends in Academic Library Social Media Use

Studies carried out worldwide showed that social media platforms have been widely used by academic libraries (Al-Daihani & Abrahams, 2016). Libraries use social media services to promote, market and share event, information literacy, and communication (Chu & Du, 2013). But it does seem to come with its own kind of engagement.

Aharony (2012) mentioned social media presence but no interaction because of inconsistent content strategy. This conclusion is also significant as Islam and Habiba have also shown in their study (2015)—in developing countries at least—that the penetration of new technology has limitations from the standpoint of the infrastructure and of skill.

3.2 Digital Literacy and Librarian Competence

Digital skills can have a significant impact on efficient and productive use (Tang & Hew, 2017). If they more readily trust technology, librarians are more creative in online interaction (Aharony, 2010). Training and training can support better digital marketing and analytics (Manca & Ranieri, 2016).

3.3 Institutional Support and Governance

Institutions promoting sustainable social media use possess financial means, strong leadership, and formal policies (Boateng & Liu, 2014). Clarifying governance reduces ambiguity and improves accountability. The absence of a policy tends to result in inconsistent posting and inconsistent messaging through Indian institutions (Kumar & Kaur, 2016).

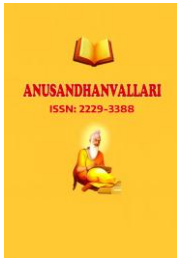
3.4 User Demand and Engagement Metrics

The populations at autonomous colleges are practically digital natives. Content type and platform of choice are affected by user expectations (Kim & Abbas, 2010). Visual platforms that have Instagram-like visual elements could gain more viewers than more text-heavy updates.

3.5 Research Gap

Nonetheless, despite a remarkable rise of studies into social media utilization in academic libraries, three remaining gaps exist:

1. Limited theoretical integration in Indian LIS.
2. Lack of focus towards autonomous college libraries.



3. Absence of outcome measures oriented to engagement.

This study fills these gaps through a comprehensive conceptual framework.

4. Conceptual Framework and Hypotheses Development

The proposed model establishes Effective Social Media Engagement as the dependent variable that can be defined, measured as interaction, visibility, and impact of the service.

Key Independent Constructs:

- Institutional Support (IS)
- Librarian Digital Competence (LDC)
- Governance & Policy Clarity (GP)
- Technological Infrastructure (TI)
- User Demand (UD)
- Content Strategy (CS)

Hypotheses

- H1: Institutional Support has a positive impact on social media adoption.
H2: Librarian Digital Competence positively influences Adoption Intensity.
H3: Governance Clarity positively influences Effective Use.
H4: Technological Infrastructure plays a positive role in Adoption.
H5: User Demand positively affects Engagement Outcomes.
H6: Content Strategy mediates the relationship between Adoption and Engagement.
H7: Institutional Support positively affects Digital Competence.
H8: The Adoption–Effectiveness relationship is moderated by Governance.
H9: Content Strategy is positively impacted by Digital Competence.
H10: User Demand impacts Content Planning positively.
H11: Infrastructure positively affects Engagement Sustainability.
H12: Adoption Intensity positively predicts Service Visibility.

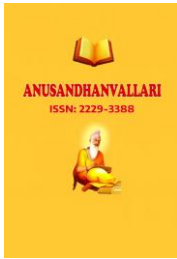
5. Research Methodology

This study is conceptual; however, this paper sets forth an intended mixed-methods empirical validation that clarify the practical avenues for testing the framework.

5.1 Research Design

As such, it is advisable to adopt a sequential explanatory mixed-method design (Creswell & Plano Clark, 2018). This includes:

Phase I – Quantitative Survey: Librarians of autonomous colleges in Maharashtra will be surveyed using a structured survey. Items will be produced for each construct using validated scales from TAM, UTAUT, and DOI that are adapted to the social media context. 5-point Likert scales will be used to rate constructs such as Institutional Support, Digital Competence, Policy Governance, Technological Infrastructure, and Content



Strategy. Structural Equation Modelling (SEM) will be applied to test relations and hypothesized mediating and moderating effects (Hair et al., 2022).

Phase II – Qualitative Focus Groups: Focus group discussions will be conducted with librarians and students to gather context. This qualitative aspect will assist in an interpretation of the results of a survey, investigation of subtle issues and new practices that may be obscured by the quantitative data gathering (Krueger & Casey, 2015).

5.2 Population and Sampling

The sample consists of librarians from autonomous colleges in Maharashtra, India. Stratified random sampling will be used to ensure representation based on:

- College size (small, medium, large)
- Urban vs. rural location
- Academic disciplines

A minimum sample of 150–200 librarians is suggested for robust SEM analysis (Kline, 2016).

5.3 Data Collection Instruments

- Survey Instrument: Closed-ended items derived from validated scales (Davis, 1989; Venkatesh et al., 2003) adapted for library social media context.
- Focus Group Guide: Semi-structured protocol to elicit librarian experiences, challenges, and successful engagement strategies.

5.4 Reliability and Validity

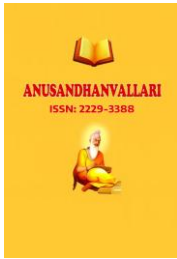
- Reliability: Internal consistency will be established through Cronbach's alpha ($\alpha \geq 0.7$) and composite reliability (CR ≥ 0.7).
- Validity:
 - Content Validity: Expert panel review by senior LIS faculty and practitioners.
 - Construct Validity: CFA was used to ascertain model fit.
 - Convergent and Discriminant Validity: Average Variance Extracted (AVE ≥ 0.5) and cross-loadings assessment.

6. Findings and Discussion (Conceptual Analysis)

Because this is a conceptual paper, the “findings” section synthesizes knowledge from the literature, the existing literature evidence and logical reasoning to determine key influencing factors.

6.1 Institutional Support

It is shown that administrative support, budget allocation, and policy support play a pivotal role in facilitating social media adoption (Boateng & Liu, 2014; Kumar & Kaur, 2016). Autonomous colleges with proactive leaders



display higher engagement levels. Because programs of training are institutionalized, the institutional support indirectly increases librarian competence through it.

6.2 Digital Competence of Librarians

Librarians' expertise in social media, content generation, and analytics is a powerful determinant of the level of adoption intensity and use (Aharony, 2010; Tang & Hew, 2017). Training interventions significantly increase the quality of content strategy and thus mediate the effects of engagement.

6.3 Governance and Policy

Formal governance structures and clear policies minimize inconsistency in postings, and thus reputational risk and ensure consistency with institutional goals as well (Sahoo & Sharma, 2023). Governance serves as a moderator to enhance the relationship between the intensity of adoption and the effectiveness of the engagement.

6.4 Technological Infrastructure

Adoption needs adequate technology, internet, design software, and analytics tools to support adoption. With poor infrastructure, libraries suffer low quality of content and poor engagement (Islam & Habiba, 2015).

6.5 User Demand and Content Strategy

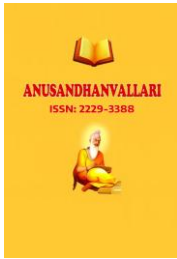
Content planning and frequency of content posts are based on user expectation, especially among digitally native students (Kim & Abbas, 2010). The perceived value and engagement metrics improve through the use of interactive content, multimedia integration, and timely responses. There is evidence that data-driven content strategy mediates the adoption–engagement relationship.

7. Implications for Policy and Practice

The conceptual framework offers a number of actionable results:

1. Institutional Policies: Autonomous colleges should formulate specific social media governance policies regarding content approval, posting schedules, and analytics monitoring.
2. There is an ongoing need for ongoing professional development: librarians' digital competency must be supported by continuous training programs.
3. Invest in Infrastructure: Colleges need to invest in software tools, analytics dashboards, and high-speed connectivity.
4. Student-Centric Engagement: Content should be planned for user preference and feedback to facilitate multimedia platforms, which allow for increased interaction.
5. Accreditation Alignment: For instance, UGC and local accreditation bodies can embed metrics related to digital engagement in library evaluation processes.

This recommendation promotes not merely presence, but tangible and sustainable strategic social media adoption.



8. Theoretical Contributions

The main theoretical contributions of this study are:

- Integration of TAM, DOI, UTAUT, and organizational capability theory in the context of Indian autonomous college libraries.
- Shift from adoption-focused assessment to effectiveness-oriented outcomes, such as engagement metrics and service impact.
- Introduction of multi-level mediating and moderating pathways, such as content strategy mediation and governance moderation.
- Establishes a foundation for empirical testing of technology adoption and social media engagement within LIS scholarship.

9. Conclusion

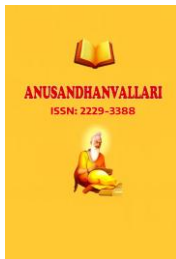
Autonomous college libraries in Maharashtra, especially, can have a dual challenge that is not in any way simply the freedom for innovative engagement; instead, having effective, coordinated social media practices are essential to achieving success. From the above, this conceptual paper provides an organizational model identifying the key determinants of adoption and engagement which comprises the following:

- Institutional support
- Librarian digital competence
- Governance and policy clarity
- Technological infrastructure
- User demand
- Strategic content management

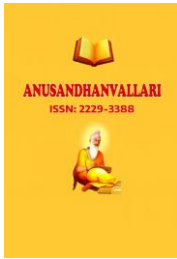
By mapping twelve hypotheses and providing operational definitions, the framework offers a clear pathway for empirical validation. This study builds on data available throughout the literature on LIS by integrating global frameworks of adoption with a specific Indian approach, with action-specific recommendations for administrators, policymakers, and library practitioners. The present research can also explore the relationship for quantitative and alternative engagement outcomes, but the proposed relationships can be applied (in a mixed-method or empirical form) further where engagement outcomes can be tested empirically and measurement scales could be refined.

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