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Beyond National Licensing: A Documentary Analysis of Access Architecture, Institutional Authentication and Equitable Access under India's One Nation One Subscription (ONOS)

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Abstract: *India's One Nation One Subscription (ONOS) scheme that came into effect on 1 January 2025 replaces fragmented consortium-based licensing with a centrally funded national licence for scholarly journals. Commentary on its commencement has focused almost exclusively on the magnitude and funding of the initiative; the mechanisms by which access is facilitated warrant closer scrutiny. This paper presents a documentary analysis of official and institutional sources, including Cabinet and Press Information Bureau (PIB) releases, the ONOS access and FAQ portal, materials from the INFLIBNET Centre on the Indian Access Management Federation (INFED), and library notices. Three aspects are explored: (a) the access architecture (portal, publisher platforms, coordination and monitoring layers); (b) institutional authentication (static-IP recognition on campus and Shibboleth-based federated login off campus); and (c) equity (eligibility boundaries, institutional readiness and user-level inclusion). The analysis suggests that ONOS shifts the primary determinant of scholarly access from affordability (subscription cost) to authentication readiness: the national licence removes an institution's subscription liability, but whether an individual student or faculty member can access an article depends on whether the campus has registered its IP ranges with ONOS or enrolled its users in INFED, and can provide the requisite local or federated login facilities. The paper concludes that national licensing creates a necessary but not sufficient condition for equitable scholarly access, and offers recommendations for policy and practice in the areas of identity infrastructure, onboarding support, eligibility review and transparent usage reporting.*

Keywords: One Nation One Subscription; ONOS; national licensing; INFLIBNET; INFED; institutional authentication; equitable access; e-resources; India

I. INTRODUCTION

Access to modern academic literature is a prerequisite for any serious research, but for years Indian institutions have had unequal access to journals. Well-resourced universities could afford to subscribe to expensive journals, while others had to rely on limited consortia or had no access at all. High subscription fees, "big deal" purchases and ever-increasing prices worsened the situation of institutions that could not afford annual renewals (Suber, 2012).

On 25 November 2024, the Union Cabinet approved the One Nation One Subscription (ONOS) scheme, designed to provide all students, academic staff, and researchers across the nation with access to international-standard journals. The new system offers consolidated subscriptions to foreign journals for all higher education institutions (HEIs) and R&D organisations under the supervision of the Government of India (Ministry of Education, 2025).

The ONOS scheme is part of the Viksit Bharat@2047 vision, as well as the National Education Policy (NEP) 2020 reforms, which promote research activity in Indian HEIs (Ministry of Education, 2020). Most reports and articles on the Cabinet's decision emphasise the number of beneficiaries, the journals available under the scheme and the funds

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allocated to it. However, these considerations are of secondary importance, because a consolidated subscription means little if actual access to journals depends on the resources of an individual institution. This paper aims to demonstrate how access to research resources may be structured at the national level and to draw attention to authentication mechanisms, which remain under-examined.

1.1 Research objectives

The study aims to:

- Describe the policy design, funding and governance of ONOS as set out in official documents.
- Analyse the access architecture through which ONOS content reaches users.
- Examine institutional authentication mechanisms, particularly IP-based recognition and INFED federated login.
- Assess dimensions of equitable access and the gaps that remain.
- Offer recommendations for policymakers, INFLIBNET and institutional libraries.

1.2 Research questions

RQ1. What are the design features, scope and governance arrangements of ONOS?
RQ2. How is access to ONOS resources technically organised and authenticated?
RQ3. To what extent do eligibility rules and authentication requirements support or limit equitable access?
The remainder of the paper is organised as follows. Section 2 reviews related literature and Section 3 presents the study's method. Section 4 addresses RQ1 by describing ONOS policy design and governance. Sections 5 and 6 address RQ2 through an analysis of the access architecture and institutional authentication. Section 7 addresses RQ3 via an analysis of equitable access. Section 8 offers recommendations and Section 9 concludes.

II. REVIEW OF RELATED LITERATURE

Three strands of literature inform this study.
Consortia and national licensing. Library consortia were formed to enable member libraries to buy materials at lower cost. In India, access to resources through consortia (e.g., UGC-INFONET and e-ShodhSindhu, managed by the INFLIBNET Centre) preceded ONOS, and existing members of government consortia are being migrated to the ONOS portal (ONOS, n.d.-b). National licensing extends this idea to the country level, where access terms and costs are negotiated nationally, as in comparable arrangements in other countries.
Access management and authentication. Publishers have traditionally used IP-address filtering to identify subscribing institutions. It is simple and convenient but has a known weakness: users are recognised only when they are connected to the institutional network. Federated identity systems based on Shibboleth have been developed to overcome this weakness by allowing the user's home institution to authenticate them remotely (INFLIBNET Centre, n.d.). INFED, which is operated by INFLIBNET, uses this approach for Indian institutions.
Equity and the access divide. Researchers in scholarly communication have often argued that lack of access to the literature perpetuates the gap between mainstream and peripheral research communities (Guédon, 2008). Open science policies similarly insist that access should not depend on an institution's financial capacity (UNESCO, 2021). However, removing a financial barrier does not necessarily address practical challenges such as infrastructure, skills and administrative capacity.
Research gap. Early scholarship on ONOS is predominantly descriptive and celebratory. Few analyses discuss the scheme's operational architecture and the role that authentication readiness plays in determining who can use it. This paper aims to fill this gap through a documentary analysis of the issue.

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III. METHODOLOGY

The study employed a qualitative documentary analysis design. Documentary analysis is a research design based on the systematic selection, reading and interpretation of documents to address research questions.

Sources. The documents were drawn from four categories: (i) policy documents, notably the PIB release of 1 January 2025 and related Cabinet announcements; (ii) the official ONOS portal pages, including "How to Access", the FAQ page and publisher-list material; (iii) INFLIBNET Centre documents on INFED and ONOS outreach; and (iv) institutional library notices and secondary commentary, used for triangulation.

Analytic approach. The documents were coded according to categories such as access architecture, institutional authentication and equitable access. Where secondary sources contradicted one another, the official sources, which were considered more reliable, took precedence.

Table 1 summarises the four document categories, their main use in the analysis and the analytic dimension under which each was primarily coded.

Table 1. Document corpus and coding scheme

Document category	Examples	Main use in the analysis	Primary analytic dimension
Policy documents	PIB release (1 January 2025); Cabinet announcements	Scope, funding, governance and eligibility	Policy design (RQ1)
ONOS portal pages	"How to access"; FAQ; publisher list	Registration steps, authentication routes, eligibility rules	Access architecture; authentication (RQ2, RQ3)
INFLIBNET Centre documents	INFED pages; ONOS outreach brochure	Federated login, usage monitoring, outreach	Institutional authentication (RQ2)
Institutional notices and secondary commentary	University library notices; practitioner guidance	Triangulation; common failure points; later changes to the scheme	Equitable access (RQ3)

Note. Author's analysis of ONOS, INFLIBNET and INFED documents.

Limitations. The study is based on published documents only; surveys, server logs and interviews were not used. The official figures describe design and intent rather than actual usage. Portal content may change over time, so the findings reflect the sources as consulted in 2026.

IV. ONOS: POLICY DESIGN AND GOVERNANCE

4.1 Scope and funding

According to the Ministry of Education (2025), ONOS provides access to more than 13,000 journals from 30 international publishers, as stated in the PIB release. However, institutional announcements mention the addition of two more publishers – Royal Society of Chemistry and World Scientific – in 2026 (P. K. Kelkar Library, Indian Institute of Technology Kanpur, n.d.), which possibly explains later summaries that mention 32 publishers. A total of ₹6,000 crore has been allocated for 2025, 2026 and 2027 to cover the subscription charges of participating institutions. Phase I began on 1 January 2025.

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Figure 1 outlines the main milestones of the scheme and Table 2 summarises its principal design parameters.

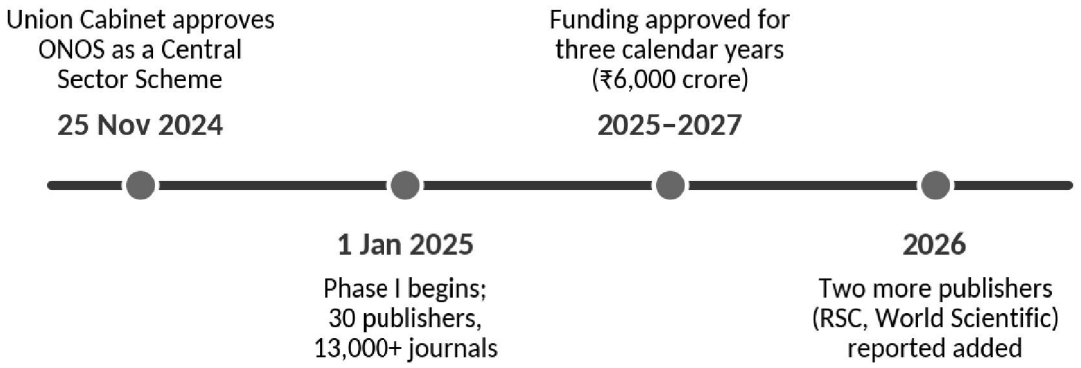


Figure 1. Key milestones of ONOS, 2024–2026

Note. Compiled from Ministry of Education (2025) and P. K. Kelkar Library, Indian Institute of Technology Kanpur (n.d.).

Table 2. ONOS at a glance

Parameter	Details
Type and approval	Central Sector Scheme; approved by the Union Cabinet on 25 November 2024; Phase I began on 1 January 2025
Funding	About ₹6,000 crore for calendar years 2025, 2026 and 2027
Content	13,000+ journals; 30 publishers at launch (two more reported added in 2026)
Eligible institutions	Government (central and state) higher education institutions and central government R&D institutions; about 6,300 institutions
Intended beneficiaries	About 1.8 crore students, faculty and researchers
Coordination	INFLIBNET Centre (UGC inter-university centre, Gandhinagar); unified ONOS portal hosted by the Department of Higher Education
Monitoring	ANRF periodic review of usage and publications of Indian authors; INFLIBNET usage-monitoring system
Individual membership	Not available; access only through eligible institutions

Note. Compiled from Ministry of Education (2025), ONOS (n.d.-a, n.d.-b), INFLIBNET Centre (2026) and P. K. Kelkar Library, Indian Institute of Technology Kanpur (n.d.).

4.2 Beneficiaries and eligibility

Official and institutional sources confirm that all government (central and state) higher education institutions and central government R&D institutions are eligible, citing roughly 6,300 institutions and about 1.8 crore students, faculty and researchers as potential beneficiaries (Ministry of Education, 2025). The ONOS FAQ states that individual memberships are not permitted; only bona fide students, faculty, staff and researchers of eligible institutions can access the resources, with authentication provided by their own institution (ONOS, n.d.-a). Because eligibility is defined on the basis of government funding and management, private institutions are currently outside the scope of the scheme (Ministry of Education, 2025).

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4.3 Institutional roles

The design distributes responsibilities across several actors:

Department of Higher Education, which hosts the unified ONOS portal.

INFLIBNET Centre, an inter-university centre of the UGC at Gandhinagar, which coordinates the national subscription, runs INFED and operates a usage-monitoring system.

Anusandhan National Research Foundation (ANRF), which is to review periodically the usage of ONOS and the publications of Indian authors at participating institutions.

Participating institutions and their librarians, who register, submit IP details and manage local users.

This arrangement is notable because the central actors license and monitor content, while the *last mile of authentication* remains the responsibility of each institution.

V. ANALYSIS OF THE ACCESS ARCHITECTURE

The ONOS access architecture can be understood as four layers. Table 3 summarises these layers.

Table 3. Four-layer access architecture of ONOS

Layer	Main components	Function
Policy and funding	Ministry of Education; Department of Higher Education	Approval, funding, eligibility
Coordination and licensing	INFLIBNET Centre; national subscription	Negotiation, licence administration, onboarding
Access and identity	ONOS portal; static IP registration; INFED (Shibboleth)	Recognising legitimate users
Content and discovery	Publisher platforms; discovery search on the ONOS/INFLIBNET interface	Delivering full text

Centralised licensing, distributed delivery. ONOS centralises the purchase of content but does not host the content itself. The user is directed from the portal or from institutional links to individual publisher platforms, where the publisher must recognise the institution as an authorised subscriber. Authentication is therefore the critical hinge between the national licence and the reader.

Registration as a precondition. Eligibility does not equal access. Eligible institutions must first register on the ONOS portal and, for IP-based access, submit their IP ranges along with a signed participation agreement to receive their credentials (ONOS, n.d.-a). Administrators of participating organisations can later update IP ranges and technical contacts using an administrator dashboard. However, eligible-but-unregistered entities remain, for all practical purposes, excluded from the system.

Monitoring. INFLIBNET's outreach materials describe a usage-monitoring system (InfiStats) in addition to INFED, and the founding documents mention ANRF's review of usage and Indian authorship (INFLIBNET Centre, 2026; Osmania University, n.d.). This ties the access architecture to outcome measurement, but the documents examined do not specify public reporting benchmarks.

Migration from earlier consortia. The portal states that existing government consortium users with static IP addresses are being migrated to ONOS automatically (ONOS, n.d.-b). The condition attached, a static IP address, is itself an authentication requirement and thus shows how technical infrastructure determines who benefits from the change and who does not.

VI. INSTITUTIONAL AUTHENTICATION

Authentication under ONOS operates through three routes (Table 4), all of which depend on the home institution rather than on ONOS acting as an identity provider. Figure 2 shows the path from the national licence to the reader, the options available and the common points of failure.

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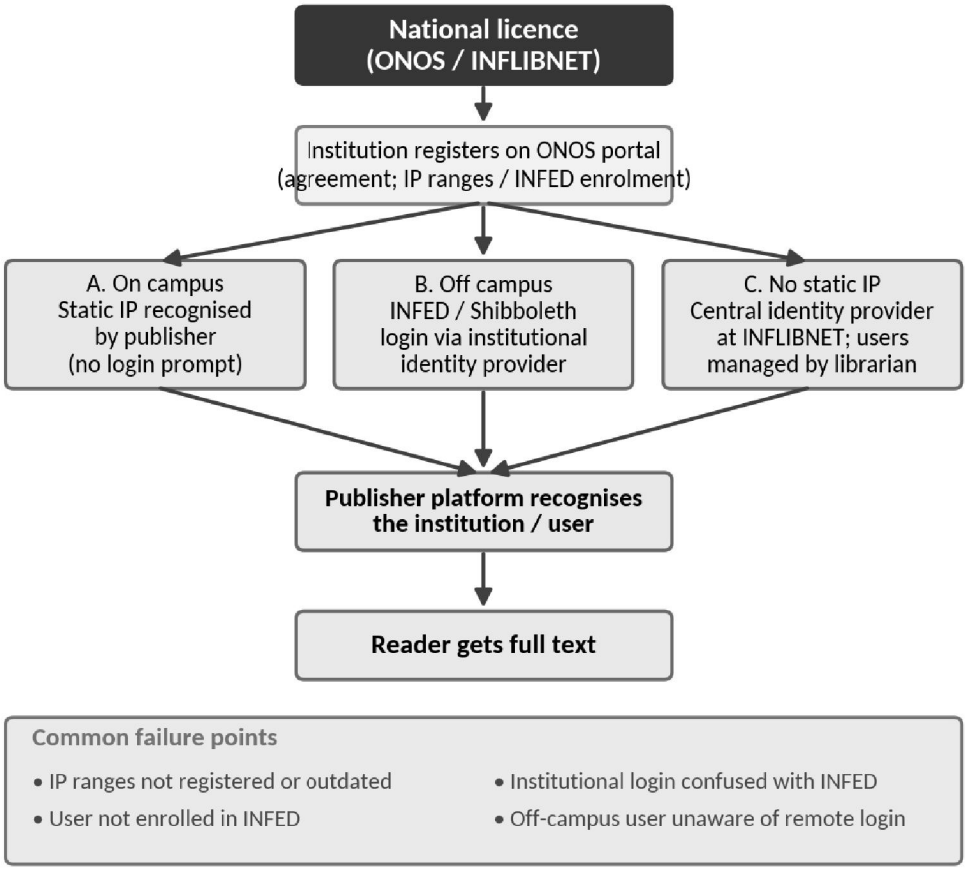


Figure 2. Access pathway under ONOS: from national licence to reader

Note. Author's synthesis of ONOS (n.d.-a, n.d.-b), INFLIBNET Centre (n.d.) and INFED (n.d.). Route C applies to institutions without a static IP address.

6.1 On-campus access: IP-based recognition

Institutions with their own static IP addresses can be granted automatic access to ONOS resources after submitting their IP ranges through the ONOS portal (ONOS, n.d.-a, n.d.-b). Users at such institutions are not presented with a login screen, because the publisher recognises their network.

Strengths: convenient, low friction, widely supported by publishers.

Weaknesses: works only on campus; depends on an accurate and current IP list; unsuitable for institutions without static IP addresses; hostel, home and mobile-network users are excluded unless a remote route exists.

6.2 Off-campus access: INFED and Shibboleth

For remote access, ONOS uses INFED (the Indian Access Management Federation), which was developed by INFLIBNET to provide federated identity management. INFED uses an open-source, standards-based software called Shibboleth to enable a user's home institution to vouch for the user's eligibility to the publisher (INFLIBNET Centre, n.d.; INFED, n.d.). The home institution must ensure that the user is registered in the INFED system to access resources from outside the campus (ONOS, n.d.-a).

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For institutions without a fixed IP address, the access page describes a centralised identity provider hosted at INFLIBNET, with institutional users managed by the librarian or nodal officer (ONOS, n.d.-b). Note that INFLIBNET does not authenticate individual users (ONOS, n.d.-a).

Table 4 compares the three authentication routes described in the documents.

Table 4. Authentication routes under ONOS

Route	Where it works	Prerequisite	Main limitation
IP-based recognition	On the campus network	Static IP ranges submitted on the ONOS portal; signed participation agreement	Does not work off campus; depends on a current IP list; unsuitable without static IPs
INFED (Shibboleth) federated login	Off campus, through the home institution's identity provider	Users registered on the INFED platform	Needs user enrolment; users may confuse it with other institutional logins
Centralised identity provider at INFLIBNET	Institutions without a static IP address	Users managed by the librarian or a nodal person	Concentrates onboarding workload on librarians

Note. Compiled from ONOS (n.d.-a, n.d.-b), INFLIBNET Centre (n.d.) and INFED (n.d.).

6.3 Implications

Three observations follow from the documents.

Authentication is institutionalised. No individual can self-enrol. Access depends on the library or nodal officer completing registration, IP submission and user enrolment.

Two-tier experience. A researcher at a well-resourced university with a static IP, an established IT unit and active INFED enrolment will have a very different experience from one at a small college relying on a centralised identity provider and a single overburdened librarian.

Credential confusion. Practitioner guidance warns that an institutional email or LMS password is not automatically an INFED credential, so users need to ask specifically about ONOS/INFED access. This suggests an awareness gap that official communication alone may not close.

VII. EQUITABLE ACCESS: DISCUSSION

Equity in scholarly access can be examined at four levels. Table 5 summarises, for each level, what ONOS addresses, the barriers that remain and the indicators that could be monitored.

Table 5. Equity framework: what ONOS addresses and what remains

Level	What ONOS addresses	Remaining barrier	Suggested indicator
Financial	Single national payment removes subscription cost for eligible institutions	Funding approved only for 2025–2027	Continuity plan and funding status beyond 2027
Institutional	Government HEIs and central R&D institutions covered (about 6,300)	Private institutions and unaffiliated researchers excluded; eligible but unregistered institutions	Registered versus eligible institutions, by type and state
Infrastructural	Centralised INFED route for institutions without static IPs	Static IP availability, network set-up and INFED enrolment vary; heavy load on librarians	Institutions by access route (IP, INFED, central); onboarding time
User-level	INFLIBNET outreach programmes	Digital skills, bandwidth, awareness of remote login, credential confusion	Active users as a share of eligible users; support requests by cause

Note. Author's analysis. The indicator column is proposed by the author and is not drawn from official documents.

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7.1 Financial equity

This is ONOS's most evident achievement. One national-level payment replaces dozens of institutional subscriptions, so subscription cost no longer determines whether an institution can obtain access. Smaller libraries can now access titles that were previously unavailable to them.

7.2 Institutional equity

The scheme sets its eligibility boundary by source of funding: government higher education institutions and research institutes. Private universities, which enrol a significant number of students, as well as independent researchers who are not affiliated with any organisation, are excluded from the scheme (ONOS, n.d.-a). This may be explained by financial and administrative convenience, but the result is a division of the national research community into two groups.

7.3 Infrastructural equity

Because authentication depends on local systems, infrastructure becomes the new determinant of access. Static IP availability, network configuration, proxy or VPN arrangements and INFED enrolment vary widely across institutions. The documents themselves acknowledge this by providing a centralised INFED route for institutions without static IP addresses; this is a thoughtful concession, but it concentrates the onboarding workload on librarians.

7.4 User-level equity

Users often face difficulties even when the institution has the required infrastructure in place. These may arise from users' digital skills, the availability of devices and internet connectivity, and awareness of the need to log in when working remotely. Practitioner notes identify failure points such as unregistered institutional IP addresses and users' unawareness of the need to log in when working off campus. These are predictable weaknesses, given that the last mile is local. Although INFLIBNET's outreach programmes are a welcome initiative, their effectiveness across such a large number of institutions needs to be assessed in the coming years.

7.5 Beyond licensing: reframing the problem

The analysis indicates that ONOS reframes the access problem. Previously, the question was "Can the institution afford the journal?", but under ONOS it becomes "Can the institution and its users be reliably recognised by the publisher?" The second question requires more than funding. In this respect, equitable access must go "beyond national licensing": licences, identity, skills and monitoring all have to work together.

Figure 3 illustrates this reframing.

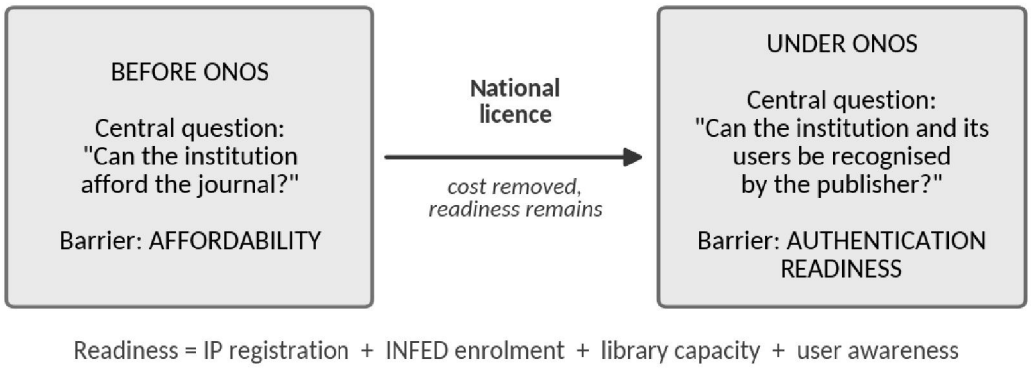


Figure 3. From an affordability barrier to an authentication-readiness barrier

Note. Author's conceptual synthesis.

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VIII. RECOMMENDATIONS

Treat identity as core infrastructure. Fund and support INFED enrolment, IP verification and federation maintenance as part of the scheme, not only the content licence.

Dedicated onboarding support. Provide regional help desks, standard checklists and templates for IP submission and agreements, prioritising colleges with limited IT capacity.

User-facing clarity. Issue plain-language guidance, in English and Indian languages, explaining on-campus versus off-campus access and distinguishing INFED credentials from other institutional logins.

Review eligibility. Examine, on the basis of evidence, whether affiliation-based or walk-in access routes could extend benefits to public-interest researchers or students of institutions not covered by the scheme, within licence limits.

Transparent reporting. Publish periodic, disaggregated usage and onboarding statistics (by institution type, region and discipline) so that gaps in real access become visible.

Library capacity building. Train librarians in access management, troubleshooting and usage analysis, since they carry the last-mile responsibility.

Plan beyond 2027. Because funding is approved for calendar years 2025 to 2027, a continuity and transition plan is advisable so that institutions do not return to fragmented arrangements.

Table 6 maps each recommendation to the barrier it addresses and the actors best placed to act.

Table 6. Recommendations mapped to barriers and responsible actors

Recommendation	Barrier addressed	Main actors
1. Identity as core infrastructure	Infrastructural	Ministry of Education; Department of Higher Education; INFLIBNET
2. Dedicated onboarding support	Institutional; infrastructural	INFLIBNET; Department of Higher Education
3. User-facing clarity	User-level	INFLIBNET; institutional libraries
4. Eligibility review	Institutional	Ministry of Education; publishers (within licence limits)
5. Transparent reporting	All levels (makes gaps visible)	INFLIBNET; ANRF
6. Library capacity building	Infrastructural; user-level	INFLIBNET; participating institutions
7. Plan beyond 2027	Financial	Ministry of Education; Department of Higher Education

Note. Author's analysis.

IX. CONCLUSION

ONOS represents a major policy achievement: it consolidates purchasing, extends access to thousands of government institutions and marks a national commitment to research infrastructure. This documentary analysis, however, reveals that the quality of access depends on an institutional architecture of portal registration, IP recognition and federated authentication. The principal remaining barrier is therefore less a matter of price than of the readiness of networks, identity systems, library staff and users. Equitable access will be achieved only if the same attention given to licensing is given to authentication, onboarding and measurement. Future empirical studies using surveys of librarians and users, usage statistics and case studies comparing colleges and universities would usefully test the propositions advanced here.

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