

Licensing Policies in University Digital Collections: A Comparative Study of Best Practices

Kherouf Djihane djihane.kherouf@univ-constantine2.dz	Information Technology and Documentation	University of Abdelhamid Mehri Constantine 2, laboratory of LERIST ¹ /Algeria
Boumarafi Behdja behdja.boumarafi@univ-constantine2.dz	Library Science and Documentation	University of Abdelhamid Mehri Constantine 2, laboratory of LERIST/Algeria
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Abstract:

This study conducts a comparative analysis of licensing practices across four universities: Harvard University, the University of Minnesota, the University of Cambridge, and the University of Oxford, to identify effective strategies and benchmark standards. Using a qualitative comparative approach, the research draws on institutional policy documents, repository guidelines, and licensing statements to explore how digital collections are managed and made available to users. The results reveal significant contrasts between universities with open, multidisciplinary repositories and those with specialized, heritage-focused collections. Notably, best practices include the adoption of standardized licenses such as Creative Commons (eg, CC BY) and Public Domain (CC0), transparent attribution requirements, layered access permissions, and clear differentiation of third-party content. These findings offer actionable insights for institutions seeking to develop or reform their digital licensing frameworks. Ultimately, the study provides a valuable benchmark for Algerian universities aiming to align their digital repositories with international standards and enhance their contribution to global knowledge exchange.

Keywords: Digital collections, Licensing policies, Open access, Creative Commons, Best practices.

Introduction:

In the digital era, universities are increasingly developing digital collections to facilitate research, learning, and sharing of knowledge around the globe through various digital platforms, including e-books, academic journals, research papers, multimedia, and institutional repositories. Digital collections have many benefits, such as improved accessibility, preservation of rare materials, and enhanced collaboration between researchers and

¹ LERIST: Laboratory of Study and Research in Scientific and Technological Information

students. However, the management of these collections requires clear policies, especially regarding licensing and access.

Licensing policies play a crucial role in the accessibility, utilization, and sharing of digital resources. Without clear license frameworks, universities risk legal challenges, restricted access, and inappropriate use of resources. In contrast, effective licensing policies help universities achieve a balance between open access (OA) and copyright protection, ensuring knowledge dissemination while following intellectual property rights. Various licensing models, such as Creative Commons, institutional agreements, and proprietary licenses, affect the management of digital collections by universities.

Despite the importance and growing integration of e-resources in universities, licensing policies remain a major challenge as many universities find it hard to balance between providing OA and protecting intellectual property rights. On the one hand, some universities apply strict licensing models, which limit resource accessibility; on the other hand, others lack clear policies, leading to legal and ethical concerns. These gaps create obstacles in the effective use and sharing of digital resources, which illustrates the need for clear and well-structured licensing frameworks.

1. Research problem:

In light of these challenges, this article seeks to investigate: What are the prevailing licensing policies in university digital collections, and how can best practices be identified to ensure both accessibility and legal compliance?

2. Research Questions:

This study aims to explore the following questions:

- What types of licenses are commonly used in university digital collections?
- How do the selected universities balance between OA and copyright restrictions?
- What are the best practices in licensing policies that maximize accessibility while ensuring legal standards?

3. Research Objectives:

To answer these questions, this study aims to:

- Analyze different licensing policies in the digital collections of the selected universities.
- Identify best practices that help universities balance OA and copyright protection.
- Examine how licensing policies affect the accessibility and use of digital resources.

Literature review:

1. Previous studies

The first study:

In an article prepared by Ann Okerson, entitled *"Reflections on Library Licensing"*, published in *Information Standards Quarterly* in 2014. The researcher explored the transformation of academic library acquisitions from traditional ownership models to complex digital licensing agreements. by tracing the historical evolution of licensing practices, she noted key differences between copyright and licensing. The study highlighted how successful licensing has often resulted from collaborative negotiations, allowing libraries to secure more favorable terms beyond earlier restrictive models. Furthermore, despite ongoing challenges like text mining, author rights, and privacy concerns, licensing has significantly improved access to e- resources.

Okerson also emphasized the impact of consortia-based negotiations, which help libraries gain better pricing and flexible terms through collective negotiations. (Okerson, 2014)

The second study:

In an article published in *Cybrarians Journal* in 2016 by the PhD student Dr. Eman Ramadan Mohamed Hussein entitled *"Electronic Resources Licenses and Their Role in Supporting Free Access to Information at University Libraries: A Pilot Study on University Libraries in Greater Cairo"*. The study focused on the role of university libraries in the negotiation of digital content licenses, both subscription and open access models, highlighting current advancements in legal frameworks for open digital content. The study specifically focused on the validity of Creative Commons CC licenses in the protection of authors' rights while promoting ease of access for users in the face of the digital age. Additionally, the research addressed the need for creative legislative interventions to align the evolving nature of digital libraries

and the Internet in general, thus promoting protection for intellectual property rights. The study adopted the field survey method of research, the researcher used questionnaires, observation, and interviews as tools to collect data from librarians in three Egyptian universities included questionnaires, observation, and interviews: Cairo University, Ain Shams University, and the American University in Cairo. Furthermore, the results underscored the necessity of creating legislation that addresses the digital access needs of libraries while safeguarding intellectual property rights. Furthermore, the study emphasized the critical need to raise awareness about these legal frameworks and how to promote their proper use for maximum benefit. The findings revealed a significant deficiency in the awareness of digital licensing among librarians, with 60% of participants reporting no knowledge of digital licenses (Ramadan, 2016).

- The researchers' insights in both studies are relevant to our research, starting with Okerson, who highlighted the benefits of strategic licensing and collective negotiations, showing how they support institutional goals and improve academic access. Meanwhile, Hussein's study shed light on the challenges faced by university libraries in Egypt, particularly the lack of awareness about digital licensing among librarians. However, neither study takes a comparative approach. For this reason, our research aims to fill this gap by analyzing licensing policies in university digital collections through a comparative study, offering a broader understanding of effective licensing frameworks and their impact on access to digital resources.

2. Definition of licensing in digital libraries

The International Federation of Library Associations and Institutions (IFLA) defines licensing as an agreement between a library and a content owner, such as a publisher, that outlines the terms for providing library users with access to electronic resources (IFLA, 2001).

According to the American Library Association (ALA), digital licensing is the process through which libraries negotiate agreements with publishers or content providers to access electronic resources. These agreements define terms related to access, usage restrictions, and duration.

The definitions from IFLA and ALA offer complementary perspectives on digital licensing in libraries. First, IFLA emphasizes the contractual relationship between libraries and content owners; meanwhile, ALA highlights the negotiation process and specific access parameters. Together, they demonstrate

how licensing agreements facilitate knowledge access while establishing legal boundaries for electronic resource usage in modern library environments.

3. Difference between copyright and licenses

3.1 What is copyright?

According to the World Intellectual Property Organization (WIPO), Copyright is “a legal term used to describe the rights that creators have over their literary and artistic works. Works covered by copyright range from books, music, paintings, sculpture, and films, to computer programs, databases, advertisements, maps, and technical drawings”.

In essence, Copyright is a legal framework that gives authors, creators, and publishers exclusive ownership of their intellectual creations, such as books, articles, multimedia, and digital content. It protects original works from being reproduced, distributed, or modified without authorization.

This means that creators have the right to control how their works are used and to prevent unauthorized use or reproduction. Such protection is particularly important in the digital environment, where content can be easily copied, modified, and distributed without the creator's consent.

3.2. Protection Scope of Copyright in Digital Collections

Copyright in digital collections safeguards intellectual property by granting exclusive rights to creators and institutions. It regulates how digital content is reproduced, distributed, and used (WIPO, n.d.). In academic and library settings, copyright plays a crucial role in defining legal limitations and exceptions, such as fair use and educational exemptions (Kenneth, 2020). It protects various types of digital content, including:

1. **Text-based materials:** This includes books, academic articles, reports, and institutional documents that are protected under copyright, preventing unauthorized reproduction (IFLA, 2001)

2. **Multimedia content:** Images, videos, and audio recordings are all protected under copyright laws.

3. **Databases and metadata:** Databases can be protected by copyright if their structure, selection, or arrangement shows originality (WIPO, n.d.). In some cases, they also receive special protection under *sui generis* rights, as outlined in the EU Database Directive, *Sui generis* is a Latin term meaning "unique in its kind," and it applies to databases that require significant effort to compile, even if the data itself isn't original (European Union, 1996). On the other hand, metadata information that describes or organizes digital content is generally not covered by copyright unless it includes original descriptions or annotations. As a result, many institutions use open licenses like Creative

- Commons (CC0) to facilitate metadata sharing while still giving credit to the source)Creative Commons, n.d.)
4. **Software and digital tools:** Many resources rely on proprietary software, including library management systems (LMS) like KOHA and Ex Libris Alma, as well as digital preservation tools such as DSpace. These systems are protected by software copyright laws, which regulate usage and distribution (U.S. Copyright Office, 2023). While proprietary software is restricted under licensing agreements, some open-source alternatives, such as Koha, allow broader customization under specific open licenses.
 5. **Institutional repositories (IRs) and open-access materials:** IRs store and provide access to scholarly content, including theses, articles, and preprints. While many of these materials follow OA models like Gold OA and Green OA, they are still subject to copyright and licensing terms that regulate their use (Suber, 2012). CC licenses are commonly applied to clarify usage rights while ensuring proper attribution (Creative Commons, n.d.).
- While copyright automatically grants exclusive rights to creators, licensing provides a way to define how these rights are shared or restricted.

3.3 Key Differences Between Copyright and Licensing in Digital Collections

Copyright and licensing are often used together; however, they have different roles in regulating access and usage. On the one hand, copyright provides authors and creators with exclusive rights over their works; on the other hand, licensing establishes specific conditions for how users can use these materials. Understanding the differences between these concepts is essential for managing scholarly digital content effectively.

Table1. Key Differences Between Copyright and Licensing

Aspect	Copyright	Licensing
Ownership and Control	Exclusive ownership and author controls usage.	Limited rights with specified terms of use.
Legal Framework and Flexibility	Protected and governed by law, providing automatic rights to authors.	Based on contractual agreements with negotiated terms.

Scope of Rights and Restrictions	Extensive, exclusive rights (reproduction, distribution) with potential restrictions on use.	Specific and defined rights (viewing, modifying).
Duration and Expiration	Fixed duration (author's life plus 70 years).	Defined by agreement with expiration and renewal options.
Enforcement and Consequences	Legal actions and penalties for infringement.	Contract enforcement and termination upon violations.

Source: Prepared by the Researchers

Table 1 shows the key differences between copyright and licensing in digital collections. A deeper analysis of these aspects highlights their impact on digital libraries, academic institutions, and information management.

3.3.1 Ownership and Control: Copyright automatically provides authors exclusive rights over their works, allowing them to control reproduction and distribution. However, the rights in academic publishing are often transferred to publishers with restricted reuse (Suber, 2012). On the other hand, Licensing, such as CC licenses, enables authors to retain ownership while granting specific permissions to promote OA and broader dissemination (Creative Commons, n.d.)

3.3.2 Legal Framework and Flexibility: Copyright as a legal right provides authors with protection under both national and international laws. This protection typically lasts for the author's lifetime plus 70 years, as outlined in the Berne Convention for the Protection of Literary and Artistic Works (WIPO, n.d.). While copyright ensures long-term control, it is often transferred to publishers in academic settings, limiting the author's rights and reuse possibilities (Jimmyn & Patrick , 2020). In contrast, licensing offers flexibility, allowing authors to specify the terms of use, including scope and duration, facilitating broader distribution while maintaining control over certain aspects of the work.

3.3.3 Scope of Rights and Restrictions: Copyright provides authors with extensive and exclusive rights, including the ability to reproduce, distribute, and adapt their work. These rights ensure control over how the work is used, though restrictions may apply based on specific legal exceptions, such as fair use (WIPO, n.d.). In comparison, licensing grants specific and defined permissions for how a work can be used, such as viewing, modifying, or redistributing with conditions in some cases, like attribution or non-commercial use. For example, CC licenses allow authors to grant users and third parties limited rights to share or adapt their works while imposing restrictions on commercial use or requiring attribution (Creative Commons, n.d.).

3.3.4 Duration and Expiration: Copyright lasts for the author's lifetime plus 70 years, as mentioned above, ensuring long-term control. Inversely, licensing agreements offer more flexibility, with terms that can specify duration, renewal, and potential revocation, allowing authors to adjust usage as needed.

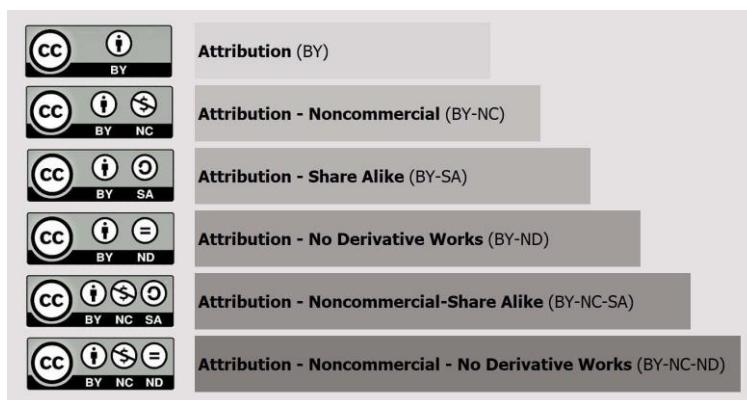
3.3.5 Enforcement and Consequences: Copyright infringement can lead to legal actions, such as fines and penalties. Nowadays, violations are subject to national and international laws, and courts can enforce penalties for unauthorized use to protect the author's exclusive rights (WIPO, n.d.). On the other hand, licensing agreements follow usage terms through contractual obligations, and non-compliance can lead to the termination of the license or legal action.

4. Types of Licenses Used in Digital Collections in Universities

University libraries employ various licensing strategies for digital collections management to balance accessibility with intellectual property protection. These licenses define how digital resources can be accessed, shared, and reused within academic environments. Here is an overview of key licensing types commonly implemented in academic scope:

4.1 CC Licenses; it provides flexible options to manage digital content, and it is particularly useful for open educational resources (OER), research publications, and digital repositories. These types are:

Figure 1. Creative Commons (CC) Licenses



Source: (Creative Commons, n.d.)

4.1.1 CC BY (Attribution):

It allows users to share, adapt, and distribute content while giving proper credit. This license is widely used for OA research and course materials. For instance, many open-access journals in the Directory of Open Access Journals (DOAJ) use the CC BY license to promote unrestricted sharing and adaptation of scholarly work; for this reason, universities often encourage publishing in DOAJ-indexed journals (DOAJ, 2022) to enhance the visibility and impact of research while supporting OA policies.

4.1.2 CC BY-SA (Attribution-ShareAlike):

Users can modify and share content but must license derivative works under the same CC BY-SA terms. This ensures that adaptations remain open and freely accessible. For example, Wikipedia, one of the world's largest open knowledge platforms, publishes its content under a CC BY-SA license (Wikimedia Foundation, 2021),

4.1.3 CC BY-NC (Attribution-Noncommercial):

It grants users to share, modify, and distribute content as long as they give appropriate credit and do not use it for commercial purposes. In other words, the work can be freely accessed and reused for educational and research purposes, but cannot be exploited for financial gain.

4.1.4 CC BY-ND (Attribution-No derivative works):

This license allows users to share and distribute content, provided they give proper credit to the original creator. However, it does not allow

any changes to the original work; This means that derivative works or modifications are strictly prohibited.

4.1.5 CC BY-NC-SA (Attribution-Noncommercial-ShareAlike):

It allows users to share, modify, and adapt the content for non-commercial purposes. Additionally, any derivative works must be licensed under the same terms. MIT OpenCourseWare releases some courses under CC BY-NC (MIT OpenCourseWare, n.d.).

4.1.6 CC BY-NC-ND (Attribution-NonCommercial-NoDerivatives):

It allows users to share the content for non-commercial purposes, with proper attribution to the author. However, it prohibits any modifications. This license is typically used when the author wants to ensure the content remains unmodified and protected from commercial use. A researcher may release a research paper under CC BY-NC-ND to allow it to be shared for educational purposes while preventing any modifications or commercial exploitation.

4.1.7 CC0 (Creative Commons Zero):

The CC0 or Public Domain Dedication license is not included in the image above because it is not a standard CC license with restrictions. Instead, it is a tool that allows creators to waive all rights and place their work in the public domain, it means that it can be used without attribution or limitations. Europeana, for instance, has several heritage collections under CC0, making them freely accessible for anyone to use, adapt, and share without any restrictions (Europeana, 2024)

4.2 CLA Higher Education License:

The Copyright Licensing Agency Higher Education License grants UK universities the right to copy, scan, and share content for educational purposes, with limits of 10% or one chapter of a work (whichever is greater). It supports academic activities while protecting copyright. (University of Portsmouth, 2024)

4.3 Deposit Licenses for Institutional Repositories:

Deposit licenses grant institutional repositories the right to store and disseminate research outputs. These licenses typically come in non-exclusive or exclusive formats, ensuring that repositories can make research publicly accessible while preserving authors' rights. (Santos-Hermosa, 2023) claims that IRs are pivotal in facilitating open access to

educational resources, thereby enhancing both teaching and learning. The researcher also adds that incorporating these repositories into the educational framework can improve knowledge accessibility and promote a more collaborative and transparent educational atmosphere.

4.4 Institutional Licensing Agreements for Digital Resources:

Institutional licensing agreements allow institutions, including universities and research laboratories, to access and disseminate digital resources such as e-books and journals; the agreements may be exclusive or non-exclusive and are customized to the institution's requirements.

4.5 Open Access Policies in University Libraries: OA policies play a crucial role in making academic research accessible, improving the visibility and impact of university publications. A study by (Al-Raei & Azmeh, 2024) on MENA countries shows that open access articles are responsible for 72% to 95% of the citations received by institutions, which highlights how these publications contribute to academic success. The study also found that countries with higher levels of OA publishing tend to have better rankings in systems like the QS World University Ranking and Scimago Institutions Ranking. This demonstrates the direct link between OA policies, institutional visibility, and research impact, emphasizing how university libraries can support academic growth by embracing OA practices.

6. Importance of Licensing in Digital Collections in universities:

Licensing is the key to successful digital collections management in universities. It ensures access while protecting intellectual property.

Key points include:

- Licenses enable access to digital content while balancing ownership and subscription models.
- Licenses protect intellectual property rights for authors and universities.
- Licenses promote collaboration and resource sharing between universities and IRs.
- Licenses encourage OA for global knowledge sharing. (the European Commission, 2019)

Methodology:

1. Comparative Study Approach: This study adopts a comparative approach to analyze licensing policies in university digital collections through the analysis of four selected universities: Harvard University, the University of Minnesota, the University of Cambridge, and the University of Oxford

These universities were selected through purposive sampling based on:

- their global academic reputation
- their strong digital infrastructures
- their leadership in open access initiatives
- their well-established repository systems

These universities represent diverse models of digital licensing practices in the United States (US) and the United Kingdom (UK) higher education, serving as benchmarks for best practices and providing actionable insights for emerging digital repository systems in other contexts, particularly within Algerian universities.

Table2. Institutional Context of Selected Universities

University	Country	URL	Repository
Harvard University	USA	https://www.harvard.edu/	Digital access to scholarship at Harvard (DASH)
University of Cambridge	UK	https://www.cam.ac.uk/	Apollo
University of Minnesota	USA	https://twin-cities.umn.edu/	UDC/DRUM
University of Oxford	UK	https://www.ox.ac.uk/	ORA (Oxford Research Archive)

Note: UDC (University Digital Conservancy) is the official institutional repository of the University of Minnesota.

DRUM (Digital Repository at the University of Minnesota) is a specialized component primarily used for managing research data.

Source: prepared by the researchers

2. Data collection method:

Data was collected by reviewing publicly accessible documents and web pages from each university’s official website. This included institutional repository policies, licensing guidelines, copyright terms, and library regulations. The goal was to gather detailed information about licensing models, usage rights, and open access strategies. While institutional repositories were the primary focus, related university or library web pages were also consulted when necessary, especially for clarifying access terms, copyright statements, and licensing conditions.

Results and analysis

In this section, we present the results of the comparative study on licensing practices across the selected universities. The data is organized in tables to provide a clear comparison of approaches.

Table 3. Overview of Digital Collection Types and Access Restrictions

University	Type of Digital Collection	Estimated Collection Size	Scope	Access Restrictions
Harvard University	Manuscripts, audiovisual materials, ancient art, rare books, digitized archives	Over 6million items	Broad (humanities, science, medicine, etc.)	Primarily, it is open access, although some are restricted to specific materials.
University of Minnesota	Institutional repository (UDC), research data (DRUM), primary sources, digital multimedia (UMedia), teaching/research collections (DCL)	Over 6 million items across platforms	Broad (research data, teaching materials, historical archives, special collections)	Mostly Open Access, some limited access for educational or specific use cases.
University of	Religious manuscripts,	Over 9 million	Specialized (Faith	Educational use only, some

Cambridge	historical scientific archives	items across platforms	& Science, Humanities)	materials require specific permissions.
University of Oxford	Literary manuscripts (Hebrew, Greek), maps, archives (e.g., Jane Austen), digital resources via SOLO, ORA, OU E-Journals, OxLIP+	Over 3 million items across platforms (+13 million items records)	Specialized (literature, classics, history)	Restricted access for specific collections: Some materials require library access.

Source: prepared by the researchers

Table 3 presents an overview of the scope, specialization, and access policies of Harvard, Minnesota, Cambridge, and Oxford digital collections. It is possible to observe a distinct gap between universities with general multidisciplinary collections (Harvard and Minnesota) and universities with specialized historical or subject collections (Cambridge and Oxford).

Harvard University and the University of Minnesota both have over 6 million digital objects, reflecting a significant institutional commitment to large-scale digitization initiatives. Their repositories contain research output, multimedia, educational resources, and historical content. These institutions emphasize open access, aligning with global trends toward equitable knowledge sharing, though they reserve some content for restricted or sensitive cases.

In contrast, Cambridge and Oxford deal with larger-scale systems (Cambridge with more than 9 million items, Oxford with more than 3 million digital items and 13 million overall item records), but their collections are specialized, with strengths in areas such as religious manuscripts, literary archives, and historic scientific texts. Their access systems reflect that specialization, with less broad licensing models and permissions, especially for educational or internal use.

A noteworthy distinction lies in how access is structured: while Harvard and Minnesota facilitate public-facing platforms, Cambridge and Oxford deploy institutional access layers such as library credentials (e.g., Single Sign-On) and conditional permissions. The difference suggests a tension between the preservation of rare heritage and open dissemination, which is a key issue in digital scholarship.

In total, the findings suggest differences not just in digital collection practice but also in open access policy interpretations, shaped by institution priorities, collection type, and license environments.

Table 4. Comparative Overview of Licensing Policies

University	Licensing Type	CC licences used	Policy Update Time
Harvard University	Public domain declarations, waived copyright,CC licenses	CC BY, CC0 (Dataverse)	2023
University of Minnesota	Contractual/vendor licenses, campus-based licenses, CC licenses	CC BY-NC, CC BY, CC0	2022 (DRUM), varies (UDC)
University of Cambridge	E-resource licenses, custom terms, CC licenses	CC BY (common),CC by-NC	2022
University of Oxford	Collection-specific licenses, CC licenses, plus CLA and others	CC BY, plus others depending on collection	2023(ORA)

Note: Creative Commons licenses vary by repository and collection. CC BY and CC0 are commonly promoted for open data and research outputs. CC BY-NC is often selected for theses and teaching materials.

Source: prepared by the researchers

Table 04 outlines the licensing frameworks used across digital collections of four universities, focusing on the type of license, the use of Creative Commons (CC) models, and policy updates. First, Harvard

University is a leader in promoting global scholarly sharing with minimal reuse barriers, using CC BY and CC0 licenses in platforms like Dataverse. Second, the University of Minnesota adopts a hybrid model that balances openness with commercial or contractual constraints, with platforms like DRUM supporting CC BY-NC and CC0, Third, Cambridge University uses CC BY, with occasional uses of CC BY-NC in Apollo. Finally, the University of Oxford has a comprehensive and layered licensing model, including CC BY licenses, the Copyright Licensing Agency (CLA), Educational Recording Agency (ERA), NLA Media Access, and Film bank. The policy update time for ORA in 2023 suggests active curation of licensing frameworks. Overall, the comparison reveals a general trend toward Creative Commons adoption, with CC BY serving as the most universal license due to its simplicity and alignment with open access goals.

Table 5a. User Rights, Reuse Permissions, and Attribution Requirements in University Digital Collections

University	User Rights (level of detail)	Reuse Permissions	Attribution Requirement
University of Harvard	Rights are clearly stated through FERPA and copyright policies, and penalties are outlined for violations.	Allowed for personal and educational purposes; commercial use is restricted.	Required for all CC-licensed and public domain content.
University of Minnesota	Rights presented in vendor and institutional agreements, mainly academic-focused.	Limited to academic use; external distribution prohibited.	Required for repository content and licensed material.
University of Cambridge	Based on UK copyright law and depositor agreements, policies vary across	Educational use is permitted under licensing terms; mass download is	Required for digitized and licensed resources.

	collections.	restricted.	
University of Oxford	Explained in open access and repository policies; generally oriented toward academic use.	Permitted under CC licenses; restrictions apply to protected materials.	Required for CC/open content; sometimes varies by collection.

Source: prepared by the researchers

Table 5a highlights the variations among the selected universities in their definitions of user rights, reuse permissions, and attribution requirements. Harvard University stands out for its clear policies, which explicitly outline rights under the Family Educational Rights and Privacy Act (FERPA) (Office of the Registrar, n.d.) and copyright law while maintaining a definitive position on personal use and attribution. The University of Minnesota, by contrast, adopts a more institutional methodology, with user rights governed by vendor contracts, thereby restricting reuse to academic environments and prohibiting external dissemination.

The University of Cambridge permits educational use under specific licensing terms; however, its decentralized policy structure leads to variability across collections. The University of Oxford emphasizes academic use through its open access and repository policies (ORA), enabling reuse under CC licenses while applying restrictions to protected content. Regarding attribution, it is generally required across the sample, though the level of clarity and permissiveness varies, reflecting differing institutional priorities and governance models.

Table 5b. Licensing Transparency and Open Access Compliance in University Digital Collections

University	Licensing Transparency	Open Access Compliance
Harvard University	High: Licensing terms are explicit, accessible, and updated (2023).	Strong: consistent with open access principles and public domain usage.
University of Minnesota	Moderate: Transparency varies due to vendor-specific licensing terms.	Strong: OA compliance is well-integrated into institutional repository policies.
University of Cambridge	Moderate: Licensing policies are available but sometimes fragmented.	High: aligned with UK mandates for research openness.
University of Oxford	High: terms published and collection-specific guidance is accessible.	Strong: repository and research publication policies promote OA practices.

Source: prepared by the researchers

Based on findings in Table 5a, which explored user rights and reuse permissions, Table 5b shifts the focus toward licensing transparency and OA compliance. This comparison reveals how institutional frameworks reinforce or limit user engagement with digital collections. Harvard University continues to stand out with high licensing transparency due to its explicitly stated and recently updated policies (2023). Its commitment to open access is consistently demonstrated through public domain usage (PD) and adherence to open licensing principles. Similarly, the University of Oxford offers high transparency with collection-specific licensing terms and clear online documentation. Its open access compliance is also strong, reflected in the Oxford University Research Archive (ORA) and institutional OA mandates. In contrast, the University of Minnesota presents moderate licensing transparency. Although its repository policies

are well-integrated with OA principles, vendor-specific licenses introduce variability and reduce overall clarity. The University of Cambridge falls into a similar category; while it aligns closely with UK research openness mandates, the fragmented nature of its licensing policies creates occasional confusion in access terms.

To conclude, Tables 5a and 5b illustrate how legal clarity, licensing structure, and open access integration vary among leading universities, highlighting a continuum from highly standardized approaches (as seen in Harvard) to more decentralized or hybrid frameworks (as seen in Cambridge and Minnesota). These distinctions ultimately shape the user experience and scholarly utility of digital collections.

Results of the study:

Our comparative study led to a set of findings:

- There is a noticeable divide between universities with broad, multidisciplinary collections (University of Harvard, University of Minnesota) and those with specialized, heritage-focused collections (University of Cambridge, University of Oxford).
- Licensing types vary: the University of Harvard and the University of Minnesota adopt more open and standardized licenses (e.g., CC BY, CC0), while the University of Cambridge and University of Oxford often employ custom or restricted-use licenses.
- The University of Harvard offers the most transparent and updated licensing policies (2023), closely followed by the University of Oxford.
- The University of Minnesota presents a mixed licensing environment due to third-party vendor constraints.
- The University of Cambridge and the University of Oxford often apply conditional access permissions, reflecting their emphasis on rare, historical collections.
- All universities require attribution, but the explanations of transparency and user rights vary in clarity and accessibility.
- Open access compliance is strong across all universities, yet policy fragmentation in the University of Cambridge and vendor influence in the University of Minnesota present challenges.

Best Practices in Licensing Policies for Digital Collections:

Based on our comparative study approach, we summarize the best practices observed across the four universities in terms of digital collection licensing:

- ✓ Adoption of standardized open licenses such as Creative Commons eg, CC BY to enhance legal clarity and promote reusability, as demonstrated in the sample study. Harvard, for instance, emphasizes the use of CC0 for content in the public domain, promoting complete access without copyright restrictions.
- ✓ Maintenance of transparent and updated licensing documentation that is publicly accessible and regularly revised.
- ✓ Ensuring clear attribution requirements across collections, using simple language that effectively communicates user rights and obligations.
- ✓ Differentiating license terms for third-party content, especially when collections include materials purchased from a vendor or digitized by external parties, as practiced by the University of Minnesota.
- ✓ Implementing Layered access controls for sensitive, historical or heritage-rich collections while keeping educational and research materials open to users, as seen with the University of Cambridge and the University of Oxford.
- ✓ Embedding OA mandates within institutional policies, aligning with global open science movements while accommodating disciplinary diversity.
- ✓ Providing multilingual or culturally adaptive guidance on licensing and user permissions, especially in contexts serving international or multilingual academic communities.

Conclusion:

In conclusion, digital collection licensing policies are essential for ensuring accessibility, reusability, and legal clarity in academic repositories and universities. This study emphasizes the significance of effective licensing practices for digital content and provides valuable insights into the varying approaches of leading universities. It serves as a benchmark for Algerian universities, offering guidance to improve their digital repository strategies and align with global best practices.

Based on the findings, the following recommendations can guide the development of digital collection licensing policies at universities:

- Investment in digital infrastructures and management software (e.g., repository systems) to enhance the functionality and scalability of digital collections.
- Encouragement of adopting CC licenses, such as CC BY and Public Domain (CC0), to ensure global visibility and legal clarity for research outputs.
- Promotion of user education on rights, reuse, and attribution to ensure clarity and accessibility.
- Implementation of training programs for users on how to effectively access, use, and cite scientific publications, fostering a deeper understanding of academic integrity and copyright compliance.
- Use of benchmarking models, such as the one in this study, to guide national digital repository strategies in Algeria.

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