

OPEN LICENSING MODELS IN THE CULTURAL HERITAGE SECTOR

by Bartolomeo Meletti, Kristofer Erickson,
Aline Iramina, and Victoria Stobo



Box of pigments and implements for painting on china by Reeves & Sons London England.
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CREDITS

This study was led by CREATE, the Centre for Regulation of the Creative Economy at the University of Glasgow.

AUTHORS

Bartolomeo Meletti, CREATE, University of Glasgow

Kristofer Erickson, CREATE, University of Glasgow

Aline Iramina, CREATE, University of Glasgow

Victoria Stobo, Centre for Archive Studies, University of Liverpool

ABOUT CREATE

CREATE is the Centre for Regulation of the Creative Economy, based at the University of Glasgow: www.create.ac.uk/. It was established as a national centre for research on copyright in 2012, initially with funding from AHRC, EPSRC and ESRC. Since 2024, CREATE is funded as UK research infrastructure under the Arts and Humanities Research Council umbrella.

The public domain, digitisation and cultural heritage have been a focus of CREATE research since its inception. From 2013-2015, CREATE undertook a major ESRC funded project (ES/K008137/1) Valuing the Public Domain. The inaugural CREATE PhD cohort (2013-2016), which included Victoria Stobo, contributed to a variety of studies and innovative research projects on copyright, digitisation and cultural heritage. These include Copyright & Risk: Scoping the Wellcome Digital Library project; Display at Your Own Risk; Digitising the Edwin Morgan Scrapbooks; and Intellectual Property and Intangible Cultural Heritage in Celtic-derived Countries, which led to the design and registration of the CREATE Tartan. These areas continue to be at the centre of CREATE research programme today, whose seven themes include 'Access to Knowledge' and 'Legal History and Cultural Memory'.

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VISUAL ELEMENTS AND DESIGN

The imagery featured in this report reflects the diversity and richness of cultural collections made available through open licensing practices. These visuals were sourced from the cultural heritage institutions that participated in this study spanning Brazil, the European Union (Denmark, the Netherlands, Poland, and Italy), the United Kingdom, and the United States of America.

Design and layout by Dee Harris, Creative Commons.



Glasgow goes POP! by Collage Branding Agency for CREATE. Based on an early drawing by Sir George Gilbert Scott of the South East section view of the University of Glasgow's Gilbert Scott Building. [CC-BY 4.0](https://creativecommons.org/licenses/by/4.0/).

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TABLE OF CONTENTS

Executive Summary	5
1. Introduction: Digital Licensing in a Challenging Funding Environment	8
2. Review of Existing Research	11
Copyright and digital licensing practices at a time of funding crisis	11
Business models and open licensing	12
Advantages of open licensing	17
Challenges of open licensing	17
3. Research Methods	19
On the selection of jurisdictions	26
Summary of each case study institution	29
4. Findings	61
Theme 1: Openness helps institutions better achieve their public mission	61
Theme 2: Indirect benefits for revenue/fundraising	64
Theme 3: Savings from introducing open licensing	66
Theme 4: Cost of transitioning to open licensing	68
Theme 5: Engaging with platforms and communities	70
Theme 6: Tracking of downstream use	72
Theme 7: Choosing the right tool	74
5. Discussion	76
6. Concluding Recommendations	80
Endnotes	84
References	88
Learn More	94

EXECUTIVE SUMMARY



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This document reports on a study of open licensing practices among cultural heritage institutions (CHIs) carried out by researchers in the CREATE Centre at the University of Glasgow and the Centre for Archive Studies at the University of Liverpool. The purpose of this study is to advance understanding of how open licensing is being used in CHIs in practice and to enable information sharing about potential strategies. The authors do not endorse any singular approach – the findings reflect responses by a wide range of institutions in their own local contexts.

CHIs face numerous challenges in fulfilling their public mandates to preserve and promote access to culture. Among these challenges, securing access to resources to sustain their activities is paramount. While institutions are funded in many different ways, from

government grants to private endowments, CHIs all face questions in relation to the role their digital collections can play in confronting the funding challenge, either directly or indirectly.

The aim of this study is to characterise different approaches to open licensing of digital cultural heritage and assess the role that these approaches are playing for CHIs and their various funding models. We adopt a multiple case study methodology to gather insight about approaches taken in differently situated CHIs (museums, archives, libraries and galleries) in 4 distinct jurisdictions (UK, EU, USA and Brazil). The purpose of our approach is not to survey a globally representative sample of institutions, but to gain the widest possible picture of different approaches to open licensing, and to gather details about the advantages and challenges facing institutions who adopt this approach. We therefore sample mainly from institutions currently using open models in at least some of their collections, but we also include institutions that have chosen closed models, either currently or in the past.

We identify seven themes of importance for CHIs in determining whether to adopt open licensing models: (1) Contribution to their public mission; (2) Indirect benefits to revenue; (3) Cost savings compared to paid approaches; (4) Costs of implementing open models; (5) Interoperability with platforms; (6) Tracking downstream use; and (7) Choosing appropriate licences and tools.

Overall, we find that open licensing offers significant opportunities to the GLAM sector. These opportunities are not equally distributed and depend on the national context as well as the sectoral position of each institution. In most cases, opportunities from open licensing remain under-exploited, with scope for greater benefits to accrue from appropriate strategic investment.

Our main recommendations to enhance the benefits of open licensing are:

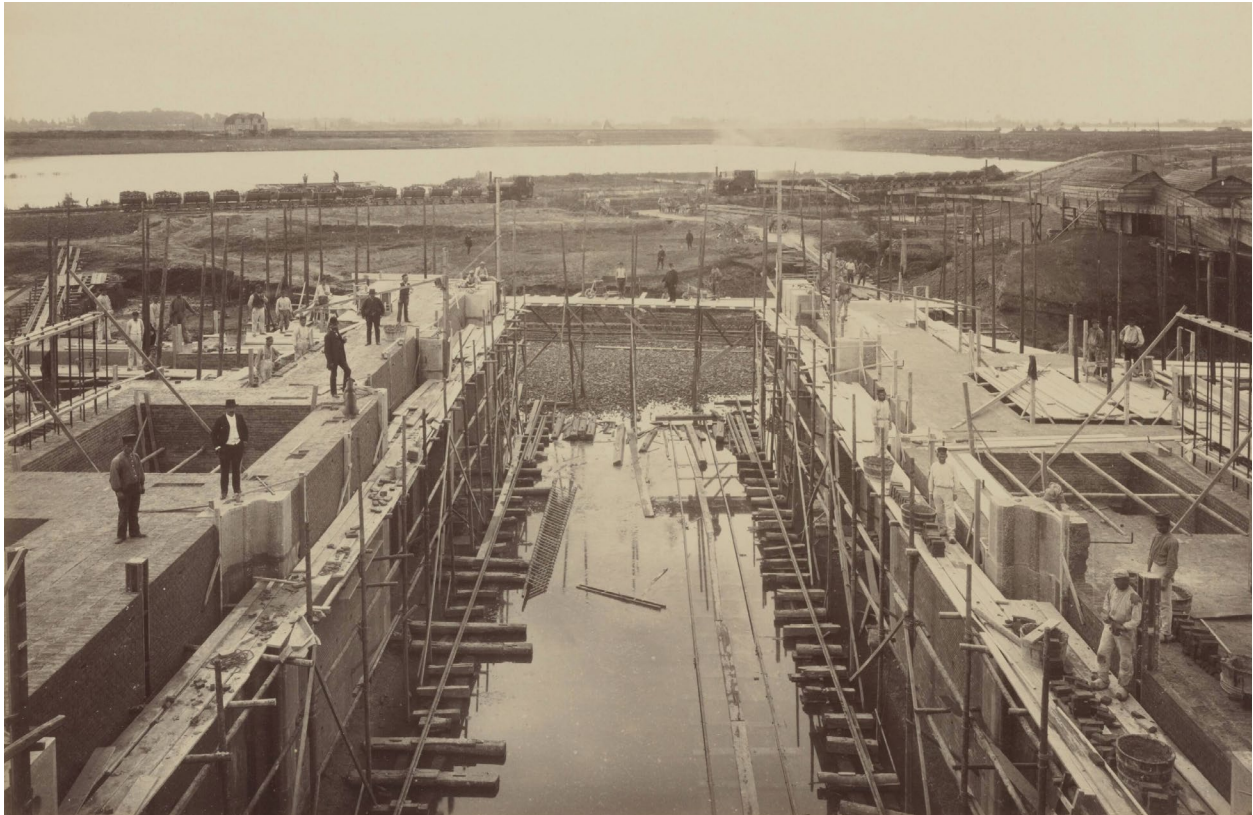
- 1/** CHIs employing closed models should assess the time and resources currently expended in managing licensing requests and whether moving to open models would reduce administrative costs, improve efficiency and possibly increase revenue.
- 2/** CHIs of all sizes should explore interaction with users and local communities around open collections. Openness facilitates collaborative production that is unavailable when commonly shared resources are closed.
- 3/** Tracking follow-on creative uses of openly licensed works can help identify public benefits and lead to indirect income generation. Tracking could help identify new

opportunities to capture value from follow-on innovation, enabling CHIs to achieve their public missions and generate new revenue.

4/ Sharing best practices should be co-developed in collaboration with online platforms. Tensions between archival and curatorial practices of CHIs and editorial and social norms on open platforms such as Wikipedia can be transformed into opportunities for mutually beneficial collaboration.

5/ Open licensing can be a complement to other activities carried out locally and in-person, and vice-versa. Through co-creation and engagement with local communities, value generation and capture opportunities based on institutions' physical space can be seized and adapted even by smaller organisations.

1. INTRODUCTION: DIGITAL LICENSING IN A CHALLENGING FUNDING ENVIRONMENT



Canal works at Gorinchem 1890 by Photo Collection of Rijkswaterstaati. Public Domain.
[National Archives of Netherlands](#).

Cultural heritage institutions (CHIs) of all types are facing an acute funding challenge. Costs continue to increase while public funding for the Galleries, Libraries, Archives and Museums (GLAM) sectors decrease.¹ In the UK, where the researchers of this study are based, the core funding provided by the Department for Culture, Media & Sport (DCMS) to cultural organisations (grant-in-aid) ‘decreased by 18% to only 0.17% of total public spending per person between 2009-10 and 2022-23’ (Heidi et al., 2024). In 2022-23, 32% of UK museums saw their local authority funding decrease or stop completely compared to the previous year (Art Fund, 2024). While public funding in certain ways is changing shape, for example through tax relief for the creative industries increased by 649% between 2009-10 and 2022-23 (Heidi et al., 2024), CHIs continue to be under increasing pressure to rely on contributed and earned income. The picture is similar in other countries across the globe.

One source of earned income for CHIs that has been under the scrutiny of academics and experts is licensing of digitised cultural heritage. This includes digital reproductions of paintings and other artworks in collections.² The tension between these practices of control and the public mission of CHIs is apparent and can be examined from different angles (legal, business, and cultural).

On the legal side, copyright scholars have looked at digital cultural heritage licensing for two main reasons:

- 1) Copyright law and particularly its term of protection (i.e. how long copyright lasts) is often the main legal consideration shaping CHIs decisions on what to digitise and make available.
- 2) Copyright protection is often controversially claimed by CHIs and image libraries as the legal basis for licensing photographic reproductions of public domain works (i.e. works whose copyright protection has expired).

In each of the jurisdictions examined in this study – UK, EU, US and Brazil – claiming copyright over non-original photographic reproductions of public domain works is not supported by copyright law. Yet, many CHIs continue to do so or rely on other legal bases such as contract to control access to their digital collections. The reasons behind exercising such control are diverse and sometimes justified, including cultural, ethical, aesthetic, reputational and commercial motives. This study mainly focuses on the latter while recognising that CHI contexts and motivations are diverse.

Existing empirical evidence indicates that except for a minority of large museums making a profit by licensing popular works, most CHIs' licensing departments operate at a loss (Tanner, 2004; Kapsalis, 2016; Wallace, 2022). Our study investigates whether and how open licensing can offer CHIs an economically sustainable alternative to address the funding challenge.

We explore this question by drawing on the academic literature on business models, a concept that has been widely developed in the fields of management and innovation studies, but only sparsely applied to the GLAM setting (see Russo-Spena et al., 2022). We do so to identify value generation and capture opportunities that may exist for CHIs, fully recognising the indispensable role of public funding and investment in preserving, sustaining and promoting access to cultural heritage. We are not suggesting that CHIs should operate as businesses or that open licensing can replace the funding gap left by retreat of public funding from the arts. Rather, the approaches and strategies used by businesses to confront their

own appropriability challenges, for example the ability of firms to profit from open-source software development, can be useful in helping the GLAM sector identify and communicate its value proposition to external stakeholders including governments.

For the purposes of this report, we define open licensing as a set of practices by which materials that would otherwise be protected by intellectual property law or restricted by contract are made available to others to access, use, adapt, modify or share freely, without the requirement to seek permission from a rights holder. Open licences can impose more or fewer limitations on downstream users, such as the requirement to credit the original author or to issue modified versions under a similar open licence, as required by CC BY-SA.³ Other innovations closely related to open licensing are CC0, Public Domain (PD) Marks and rights statements,⁴ which can be used to express that the holder of a work does not claim exclusive rights. There is scholarly and community disagreement about whether licences which restrict certain activities, such as derivative or commercial use, should be included in any definition of ‘openness’.⁵ We consider CC0, PD Marks, rights statements and all types of creative commons licences to be at least partially ‘open’ because they encourage downstream use by clarifying how works can be used. Different views on open licensing emphasize different aspects. For example, Benkler (2017) emphasizes the way that open licensing enables organisations to locally pool individual contributions and lower transaction costs between participants. Local open licensing might be motivated by community norms such as non-commerciality or protection of traditional knowledge. Discussing ‘open content’, Wiley (2025) suggests that while local goals may be met by licences with such restrictions, these can still inhibit global adoption of open norms more readily achieved by non-restrictive clauses. Wiley also draws attention to measures that can be used in addition to licences to promote openness, such as using interoperable formats or giving users access to modification tools. We do not attempt here to provide a conclusive definition of openness, rather we adopt a broad and inclusive view of activities that we consider in-scope for discussion. Our report evaluates how a wide range of open licensing and related practices might offer funding models to GLAM sector institutions that help them confront their funding challenges.

The report proceeds as follows: (1) after a brief review of relevant academic literature on copyright, digital heritage licensing and business models (2), the report describes the case study methodology adopted for this study (3). Then, it provides a brief outline of the copyright framework of the four examined jurisdictions (3.1) and summaries for each of the 16 interviews conducted for data collection (3.2). Finally, it presents the seven themes which emerged from the interviews (4) followed by a discussion of the findings (5). Based on this evidence, the conclusions and recommendations aim to help CHIs address the challenges and seize the opportunities offered by open licensing of digital cultural heritage.

2. REVIEW OF EXISTING RESEARCH



Ex-libris of the National Library of Brazil 1903 by Eliseu Visconti. Public Domain. [National Library of Brazil](#) and [Wikimedia Commons](#).

COPYRIGHT AND DIGITAL LICENSING PRACTICES AT A TIME OF FUNDING CRISIS

Copyright law structures CHIs' decisions on digitisation and online access. The link between copyright duration and the availability of digital reproductions of artworks has been demonstrated empirically. For example, researchers found that the online availability of high-quality images of artworks increases substantially when copyright in the original artworks is perceived to expire (Cuntz, Heald and Sahli, 2023).

The legal status of photographic reproductions of out of copyright artworks has been subject to extensive analysis and conflicting views, particularly after the *Bridgeman* cases in the US [S.D.N.Y. 1998 and 1999]. In the US, Reese (2009) explored these issues through the lens of balancing access to photographs of public domain works with incentives to produce such photographs. Petri (2014) and other scholars addressed these questions from a broader perspective of museums ethics. Deazley (2001; 2010) noted how claiming copyright over photographs of public domain works created a ‘de facto perpetual monopoly over the commercial reproduction of publicly owned works of art’. Margoni (2014) compared forms of legal protection for non-original photographs of cultural collections in seven EU jurisdictions, including the UK at the time. Castanheira and Valente (2017) analysed the main challenges faced by Brazilian CHIs in digitising their collections. They found that CHIs’ licensing policies are hindered by uncertainty about the legal status of digital reproductions of public domain works and the lack of copyright expertise in these institutions. Recently, Wallace (2023) provided a detailed overview of how the legal landscape of digital heritage licensing has evolved in the UK, US and EU. For those interested in the legal details, key provisions and court cases on copyright duration and protected subject matter in the four examined jurisdictions are discussed in Section 3.1 of this report.

Licensing of digital cultural heritage has attracted the attention of digital humanities scholars too, with a focus on museums. Deegan and Tanner (2002) investigated reproduction charging models for digital cultural heritage in Europe and in the US (Tanner, 2004). They found that most CHIs in their samples (51 EU GLAM institutions in 2002, and 100 US museums in 2004) did not fully recover the cost of digitisation services through digital heritage licensing alone. On this basis, empirical research at the intersection between copyright, digital humanities and cultural heritage has looked at the opportunities and challenges related to open access and open licensing. Kelly (2013) surveyed open access transitions in 11 art museums in the UK and the US, finding that fears around loss of control and revenue were often unjustified. These museums were revisited by Kapsalis (2016), identifying cost savings as well as public benefits of open access. Wallace (2022), based on a new dataset of information about 195 UK CHIs and a series of interviews, confirmed many of these findings. Among these, the fact that licensing departments of CHIs seem to operate at a loss (based on publicly available data on 9 major UK CHIs).

BUSINESS MODELS AND OPEN LICENSING

A business model refers to the actions taken by an organisation to generate and capture value (Baden Fuller & Haefliger, 2013; Bigelow & Barney, 2021). It has also been described as the ‘logic’ or ‘architecture’ of a business (Teece, 2010). Traditionally, the business model concept has been applied exclusively to firms, but aspects of the concept are applicable to other value-

generating organisations such as CHIs (Verwayen et al., 2011; Lazzeretti & Sartori, 2016; Russo-Spenna et al., 2022). Value generation can include production of tangible as well as intangible products including innovations and cultural goods. In general, the value generation aspect is seen to be more straightforward, while value capture remains more challenging. That is because capturing value requires finding paying users and a sustainable means of receiving payment over time. Additional challenges include competition from rival firms, organisations and new market entrants, macroeconomic conditions and technological disruption (Vaska et al., 2021).

Much of the business model literature has focused on the role that intellectual Property (IP) might play in value capture, particularly where the underlying innovation or expression can be easily copied. Teece (2006) referred to the conditions of value capture as the ‘appropriability regime’, drawing attention to the difficulty in appropriating value from an innovation depending on specific aspects such as the available strength of IP protection and the nature of the product or service. Generally, the appropriability regime for knowledge and cultural goods is thought to be ‘looser’ than for physical products in which innovations can be directly embedded in a good (Chen & Wang, 2024). This problem mirrors the challenge faced by CHIs unable to assert copyright over digital reproductions of public domain works. It is therefore intuitive that as holders of digital culture, some CHIs would explore alternative means of appropriating value: contracts, restrictive licences, watermarking and exploitation of ‘digital surrogates’ emerge from the difficulty of establishing exclusive ownership in digital expressions (see Wallace, 2023). In the business world, some of the strategies used when firms cannot exclusively control IP are shown in Table 1. These could all be seen as responses to the inherent ‘openness’ of an underlying innovation, sometimes called a low-IP regime. Strategies include speed to market, bundling with complementary goods, and exclusive relationships with upstream and downstream participants in the value chain.

Table 1: Appropriation strategies in low-IP regimes

Business model type	Appropriation strategy	Key authors
Product (Selling things)	Speed-to-market	Stuermer et al. 2009;
	Innovation applied to internal process improvement rather than external product	Cabaleiro-Cerviño and Burcharth, 2020
	Technological protection measures, encryption, digital watermarking	Volckmann, 2025
	Subsidise low appropriability product with higher one (e.g. digital streaming vs. live music concerts)	Teece, 2010;
Service (Knowing things)	Complementarity (e.g. selling service and repair instead of the free product)	Teece, 2010
	Embedded or exclusive relationship with customers (e.g. data sharing, ‘intelligence ecosystems’)	Verwayen et al., 2011; Vaska et al., 2021;
	Investment in a difficult-to-imitate resources and capabilities (e.g. datacentres or unique knowledge)	Snihur et al., 2021
Platform (Connecting things)	Leverage network effects (first-mover advantage from large userbase)	Fehrer et al., 2018
	Improved social benefits for users (e.g. gamification) or recommendation algorithms	Wolf et al., 2020
	Exclusivity contracts and agreements with participants and other firms	Zhao et al., 2020

While lack of control over IP has generally been characterised as an impediment, some researchers have identified successful business models where lack of control can either be successfully mitigated or turned to an advantage for the organisation (Troxler & Wolf, 2017; Majchrzak et al., 2023). Some of these examples are found in markets with unique characteristics, such as those with very rapid technological change or those in which informal social norms partially replace legal rules. An example of the former type would be the 3D printing market of the early 2010s, in which numerous firms commercialised 3D printers based on openly licensed designs. Due to the novelty of the technology, consumers valued the adaptability of open-source designs as well as aftermarket support offered in community forums. Firms like MakerBot were able to leverage existing external resources and communities, gaining initial success and competitive advantage from loyal consumers (West & Kuk, 2016). The willingness of a firm to incorporate external sources of knowledge has been termed ‘inbound open innovation’ (Moretti & Biancardi, 2020) while value-generating innovative activity of consumers has been characterised as ‘user-led innovation’ (Gambardella et al., 2017).

Examples of the second type of market, where informal social norms play a more important role include ‘IP negative spaces’ such as the fashion industry (Raustiala & Sprigman, 2006; Sawicki, 2021), French cuisine (Fauchart & Von Hippel, 2017), TV show formats (Bechtold, 2013), and cultural contexts such as ‘Nollywood’ film production (Arewa, 2017), among others (see in particular Rosenblatt, 2010; Fagundes & Perzanowski, 2018). Not all ‘negative space’ IP communities are open; rather, they adopt social norms to deal with the public goods nature of their cultural expressions not easily protectable by formal IP law. Some communities of producers choose to freely reveal innovations or openly license their contributions to facilitate collaborative production. This type of open behaviour has been termed commons-based peer production (Benkler, 2017) or, where there is a mixture of communal and commercial interests involved, private-collective innovation (Von Hippel & Von Krogh, 2006). In sum, organisations have adopted a range of open practices that could, alone or in combination, make up part of an open business model. Figure 1 illustrates some of the ways that firms can be open to external innovation. These include or inbound open innovation from an upstream open community as well as free revealing of innovations to a downstream user community.

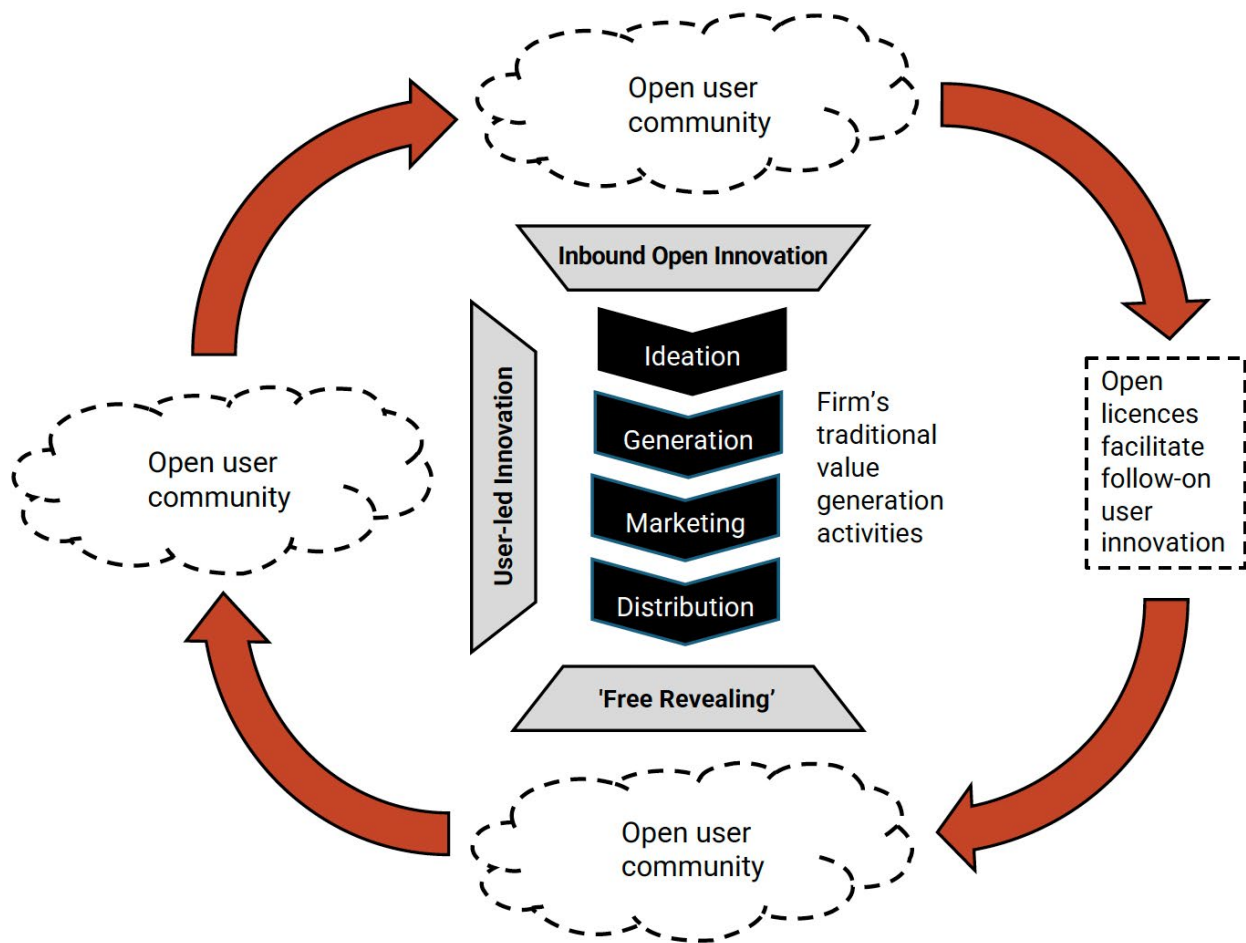


Figure 1: An organisation's position in a 'virtuous circle' of open innovation

ADVANTAGES OF OPEN LICENSING

Starting with organisations that incorporate open innovations from external user communities, the main advantages of inbound open licensing include access to market-tested ideas and products, speed to market for products developed off the back of open inputs, cost savings in production and mitigation of risk related to unknown preferences, e.g. in cultural goods (Moretti & Biancardi, 2020; Erickson et al., 2024). Innovations developed externally by open communities may benefit from dynamics described by Raymond (1999) in which having many contributors improves quality and fitness of resources. A major advantage to both inward and outward open licensing to downstream users is that open licensing reduces transaction costs. Transaction costs in IP relate to the expense of locating and communicating with a rightsholder. Openly licensed innovations that are clearly marked as such enable downstream use without permission, negating search costs. On a complex project with multiple contributors (e.g. Wikipedia, Linux), the reduction of transaction costs between contributors as well as the legal certainty provided by adherence to a common licensing arrangement enables collaboration. This phenomenon has been observed in online creative communities as well as open-source software (Von Hippel & Von Krogh 2010). In a cultural heritage setting this might simply mean that collections are more easily used by various stakeholders (commercial and non-commercial) outside of the confines of the institution. Business models that rely on participation in a wider ecosystem of value creation may especially benefit from open licensing. For example, a firm that uses a public domain input can more confidently allow downstream user innovation and modification because there is no third party rightsholder to prevent such derivative use. Such organisations might therefore be advantageously ‘open at both ends’ (Erickson, 2018), benefitting from inbound open innovation as well as downstream user improvements to products. Finally, organisations engaged in downstream open licensing may enjoy gains to their reputation (Von Hippel & Von Krogh, 2003), cost savings compared to keeping information proprietary (Harhoff et al., 2003) and benefits from network effects due to users attracted to the open product (Raasch & Herstatt, 2011).

CHALLENGES OF OPEN LICENSING

Organisations adopting open licensing models face unique challenges compared to those using proprietary or closed models. For firms that engage in inbound open innovation from external sources, there may be unexpected costs even though inputs are free from IP licence payments. Information must still be stored and managed, even if it is free to obtain (Corujo et al., 2016). While there may be lower transaction costs involved with open licensing, there may be costs of interacting with open communities to locate and share materials (Stuermer

et al., 2009). There may be legal risks depending on the clarity of the licence conditions and the nature of the upstream innovation (Alexy & Reitzig, 2013). An emerging and previously unknown rightsholder could disrupt a downstream use if they object and assert their rights. A further potential cost relates to successfully incorporating ‘free’ inputs in a new organisational setting. Materials may need further investment and transformation to be useful in the new context. The ‘not invented here’ phenomenon refers to the organisational inertia and difficulty of incorporating external IP and ideas (Antons & Piller, 2015). Firms engaged in open innovation may face competitive pressure from others making use of the same open inputs from a third-party source, or those obtaining benefit from free riding on the open contributions of the revealing firm (Harhoff et al., 2003). For organisations that choose to freely reveal or give away their IP openly, there may be additional challenges. There are the abovementioned storage and management costs, as well as the expense of preparing digital materials for sharing (Von Hippel & Von Krogh, 2010). There could be costs involved in disentangling free and open information from materials they wish to keep control over (Stuermer et al., 2009). Finally, there may be legal risks from openly licensed materials which the revealing organisation incorrectly believes are free from third-party claims (Alexy & Reitzig, 2013). This might occur for example in a cultural heritage setting where an institution incorrectly assesses an item as being in the public domain but later faces an emerging rightsholder.

Summarising the relevance of existing research on open business models, CHIs can occupy multiple positions in an open innovation ecosystem (shown in Figure 1). They might serve as repositories of upstream openly licensed materials for the benefit of downstream firms and users. Or CHIs might find themselves at the centre of the diagram, co-creating value in partnership with outside public or private entities. CHIs frequently invite co-creation and knowledge transfer with stakeholders including users and the public, for example through crowdsourcing initiatives (Navarrete, 2020). Evidencing these activities can be useful for CHIs to communicate the value they add to society when seeking external support. And finally, some CHIs may operate traditional businesses within their larger organisational structure, such as commercial licensing units or retail gift shops. Here, institutions may find benefits from open models in terms of direct or indirect value capture. In the following section we outline the methods we employed to investigate open licensing models among CHIs in the selected jurisdictions. We then relate our findings back to the literature on open business models to identify continuities and differences in the cultural heritage context.

3. RESEARCH METHODS



Jewel Mazique cataloging in the Library of Congress by John Collier Jr. Public Domain.
[Library of Congress Prints and Photographs Division Washington, D.C.](#)

We adopt a multiple case study approach to address the core research questions of this report, namely: (1) *What models of open licensing exist among CHIs?* (2) *Under what circumstances might a CHI choose to adopt an open licensing model?* And (3) *What advantages and disadvantages to CHIs experience from adopting an open or a closed model?* We are primarily interested in the financial prospects of CHIs, but we also consider impacts on relationships with stakeholders such as governments, donors, research institutions and cultural communities. The case study method is appropriate to addressing research questions of this type because it enables researchers to gain deep insight into the decision-making process of disparately situated organisations, to facilitate comparison and broaden understanding.

Case study research generally involves in-depth study of a relatively small number of sites (between one and several dozen) with the aim of understanding processes, systems or events. With a narrow focus on one or more clearly defined study sites and using multiple sources of data, it is an ‘empirical inquiry that investigates a contemporary phenomenon within its real-life context’ (Yin, 2003, 13). Case studies are an ideal method when research is exploratory, or when it covers a unique context where the approach can yield novel insights (Ponelis et al., 2015). The method is often used in research of live situations or processes for which experimental or other techniques are inappropriate, such as when the researcher is interested in the formulation of organisational strategies but does not have an ability to control or manipulate the environment in which these responses take shape (Farquhar et al., 2020). The case study approach has been effective in studies of cultural heritage, notably in evaluating the impact of new technologies on institutional practices as well as assessing responses to the funding challenge in specific settings (Tobiasz et al., 2019; Casero & Prieto, 2024). Results of case study research can assist other CHIs’ planning and strategic decision-making by offering insight into best practice and potential barriers to success. Case studies can offer higher external validity than other methods due to the proximity of research informants (practitioners and managers) to the study setting (Ponelis et al., 2015; Farquhar et al., 2020). In our study, the case study approach is applied to examine choices surrounding open licensing by CHIs and to identify potential benefits and drawbacks of the open approach. We adopt a multiple case study approach to investigate whether differences exist across types of CHI and across national legal contexts.

To gain understanding of the range of approaches to open licensing taken in CHIs, this research applies a multiple, non-embedded⁶ case study approach, focusing on CHIs in four distinct jurisdictions of the European Union, the United Kingdom, the United States, and Brazil (see Table 2). The units of analysis in this study are individual institutions, made up of galleries, libraries archives and museums, with one of each type included in each of the jurisdictions (16 total cases). It should be noted that there is some overlap between the functions of individual GLAM institutions in our selection. For example, the National Library of Brazil (BN) also contains a large archive as well as a museum. In these cases, we categorised the institution according to its primary function, noting in the findings where other functions also took place.

Following Yin (2018) we use a replication logic in selecting our cases to offer the widest possible range of different settings, enabling comparison across the key variables of institution type and national legal context. In making the selection of cases, we follow a similar approach to Karjaluoto et al. (2015) who selected cases for both similarity of context and difference (type of organisation). In our case, we use a dual selection criterion of location

and type of institution. We also purposively vary the selection of institutions on the basis of prior experience with open licensing models, including some institutions that have moved from closed to open, and vice-versa. It should be noted that most of our cases are major institutions in their respective jurisdiction. This limitation is due to the propensity of larger institutions to have experimented with opening their digital collections, and the availability of personnel to respond to our interview request. Subsequent studies might focus on smaller and more niche institutions that may surface different concerns. The full list of cases and individual selection criteria are shown in Table 2.

The study period was from 1st November 2024 to 23rd April 2025. The main data collection method was semi-structured interviews carried out with principal informants (usually heads of licensing or other similar roles). Where heads of licensing roles did not necessarily exist, such as in Brazil, we interviewed managers of the ‘technical’ team directly involved in managing digital collections. Interviews were conducted over Zoom and lasted approximately 60 minutes. These were conducted following a ‘funnel’ protocol (Voss et al., 2002) with general questions about licensing practices first, leading to probing questions about choices between different licensing models and the results experienced by the institution. Analysis of interviews followed a two-step process in which individual accounts were first coded to identify themes related to open licensing models in general. In the second stage of analysis, topics and themes were developed by comparing experiences across individual cases. To enrich the cases and to help triangulate perspectives from informants, further data were collected and analysed from institutional websites, terms of service, specific licences applied to works, and use of digital catalogues themselves.



Table 2: Characteristics of case study selection:
BRAZIL

Institution Name	Institution Type	Licences Used
Historical and Institutional Archive of the Museum of the Republic (Arquivo Histórico e Institucional do Museu da República)	Archive	CC0 (public domain works) and CC BY-SA, CC BY-NC-SA (in copyright).
National Library of Brazil (Fundação Biblioteca Nacional)	Library	CC BY-NC, CC BY-SA or CC BY-NC-SA (in copyright) and CC BY-NC 4.0 (intellectual works created by BN employees).
Pinacoteca de São Paulo	Gallery	Copyright policy encourages use of CC BY for public domain dedications (to comply with unwaivable moral rights) and the PD Mark for out-of-copyright works.
The São Paulo Museum of Art (Museu de Arte de São Paulo)	Museum	Do not adopt any specific licensing model.



Table 3: Characteristics of case study selection:
EUROPEAN UNION

Institution Name	Institution Type	Licences Used
National Archives of the Netherlands (Nationaal Archief)	Archive	CC0 (collections data, digitised/born digital government records, digital surrogates of PD works); PD Mark (public domain works); Extended Collective Licence with Pictoright (in copyright and orphan photographic works, display only). Digital reproductions of PD works are freely available to download.
Statens Museum for Kunst (National Gallery of Denmark)	Gallery	PD Mark (public domain works); CC0 (previously used for digital reproductions of PD works). An ECL with CMOs is used to provide access to digital reproductions of orphan and in copyright works, including download for personal use.
National Library of Poland (Biblioteka Narodowa)	Library	PD Mark (public domain works); CC BY and other variations, negotiated directly with publishers and rightsholders (in copyright works); Orphan Works indicated in collections data, and only available through Academica. No licence or rights asserted in digital reproductions of PD works, which are freely available to download.
Prato Textile Museum (Museo del Tessuto di Prato)	Museum	CC licences for specific open access projects (CC BY for over 3,000 images on Europeana's CRAFTED; CC BY-SA for small collection on Wikipedia). High-res photos of rest of collection sold based on contract.



Table 4: Characteristics of case study selection:
UNITED KINGDOM

Institution Name	Institution Type	Licences Used
National Library of Wales	Library	CC0 (collections data), CC BY variations (in copyright works), PD Mark (public domain works). No rights asserted in digital reproductions of PD works, but access is controlled through fees designed to recover the cost of digitisation.
Natural History Museum	Museum	CC0 (collections data), CC BY variations (in copyright works), PD Mark (public domain works). No licence or rights asserted in digital reproductions of PD works, freely available to download. Access to high-res, publication quality images controlled via fees.
Tate Gallery	Gallery	High-res photos of PD works sold based on contract. Low-res photos freely available under website T&Cs (non-commercial). Photos of 3D object in the PD considered in (c) and distributed under CC BY-ND-NC.
Wellcome Collection	Archive	CC0 (collections data), CC BY variations (in copyright works), PD Mark (public domain works). No licence or rights asserted in digital reproductions of PD works, freely available to download.



Table 5: Characteristics of case study selection:
UNITED STATES OF AMERICA

Institution Name	Institution Type	Licences Used
Indianapolis Museum of Art at Newfields	Museum	CC0 (collections data/metadata); 'No Copyright' USA from RightsStatements.Org (public domain works); Other RightsStatements.Org used for in copyright works or un-assessed works. No rights asserted in digital reproductions of any works from their collections, freely available to download.
Library of Congress	Library	CC0 (works created by LOC e.g. website content, social media, blogs); PD Mark (public domain works); CC BY and variations (in copyright works). No licence or rights asserted in digital reproductions of PD works, freely available to download. Recent collections data is commercially licensed.
National Gallery of Art, Image Collections	Gallery	CC0 (digital reproductions of PD artworks); all other works in copyright are display only. No licence or rights asserted in digital reproductions of PD works, freely available to download.
Yale Center for British Art	Museum/Archive ⁷	In an earlier period, CC BY. Now they apply CC0 to digital assets of works believed to be in the public domain worldwide, and use Rightsstatements.org statements in other cases as applicable.

ON THE SELECTION OF JURISDICTIONS

The four selected jurisdictions – Brazil, the European Union (EU), the United Kingdom (UK), and the United States (US) – present similarities as well as differences in their legal and policy frameworks around digital reproductions of public domain works. All four jurisdictions are subject to the Berne Convention, which protects ‘literary and artistic works’, a broad expression which includes ‘every production in the literary, scientific and artistic domain’ (Art. 2(1)). Copyright in literary and artistic works in Brazil, the EU, UK, and US generally lasts for the life of the author plus 70 years. However, this is mostly true for works created in the last few decades. In the US, for example, works created before 1978 are usually protected for 95 years after publication.⁸ In the EU, on the other hand, the term of life of the author plus 70 years was harmonised through the Term Directive 1993 (amended by the InfoSoc Directive 2001, codified in 2006 and amended again by the Term Directive 2011).⁹ The UK implemented all duration directives while it was still a member of the European Union, so the terms are largely similar. However, like in each EU member state, saving and transitional provisions have created situations where calculating the copyright term can become very complicated depending on several factors such as the type of work and the date of creation or publication (for an overview, see Deazley, 2017). In Brazil, as a rule, the term of protection is also the life of the author plus 70 years, as established in Law No. 9610/1998 (Brazilian Copyright Law). However, like in the EU and the UK, it may vary. For example, audiovisual and photographic works are protected for 70 years from the date of disclosure. Determining the public domain status of unpublished works or that of works whose copyright owner is unknown or can’t be traced (orphan works) is particularly complicated. Each jurisdiction deals with these situations differently and offer solutions that are often cumbersome. For example, orphan works can be digitised and made available under a government licence in the UK and under a copyright exception in the EU, but only after carrying out a resource intensive ‘diligent search’. Specific exceptions exist also for preservation purposes and to make works available to the public through ‘dedicated terminals’. In certain EU jurisdictions, CHIs rely on Extended Collective Licensing to digitise and make available in-copyright works. In the US, under certain circumstances, they do so under the fair use doctrine. Some of these provisions have emerged from the interviews.

To deal with this complexity, CHIs have developed risk management policies and rules of thumb (rules based on experience and common sense) to assess which parts of their collections can be safely assumed to be out of copyright. Once a CHI has established that certain works in their collections are in the public domain and digitise them on that basis, a key question arises: Does a faithful reproduction of an existing out of copyright work attract copyright? In turn, this depends primarily on the concept of ‘originality’.

BRAZIL

In Brazil, copyright law protects all creations of the mind, whatever their mode of expression or the medium, tangible or intangible. Originality is also one of the requirements for copyright protection. Brazilian courts have applied different thresholds depending on the type of work, but the ‘minimum level of creativity’ is the most popular originality test in Brazil. Although lower state courts have often rejected copyright protection for photographs, the Superior Court of Justice has recognised that photographs are intellectual works and are protected under Article 7 of the Brazilian Copyright Law. The court ruled in a special appeal that a photograph is ‘characterised as an intellectual work, as it requires some creative activity, since the author must choose the right angle, the best film, the appropriate lens, the position of the light, the best location, the composition of the image, etc.’¹⁰ However, as with other works, the level of protection depends on whether the photograph can be considered an artistic creation. If the photograph is taken by mechanical and automatic means, without any significant artistic or creative contribution by the person who took it, according to the Superior Court of Justice, it should not be protected.¹¹ Thus, the protection of photographs of public domain works will depend on the creative contribution of the photographer. For CHIs there is some legal uncertainty as to whether the photograph of a 2D or 3D artistic work (in or out of copyright) is protected or not. Therefore, most of them tend to include an assignment clause in their contracts with photographers to transfer the rights to the CHI in order to avoid any risks. This is one of the recommendations, for example, in Pinacoteca’s copyright policy.¹²

EUROPEAN UNION

The European Union (EU) is a complex jurisdiction. It harmonises certain aspects of copyright law across its 27 Member States, while leaving others to national legislators. In the *Infopaq*¹³ case, the Court of Justice of the European Union held that copyright only applies to ‘a subject-matter which is original in the sense that it is its author’s own intellectual creation’. In subsequent judgements, the Court further elaborated the criterion as meaning that the author must have been able to make free and creative choices so that their personal touch is reflected in the work. Under this interpretation, claims of copyright protection over faithful photographic reproductions of existing works are likely to be groundless. Even in complex reproductions such as 3D scans, which may involve free and creative choices, originality is unlikely to subsist if the intended result is a faithful reproduction of the source object (see Farmer & Wallace, 2024). Certain EU Member States such as Germany or Italy protect non-original photographs with related rights (Margoni, 2014). These related rights, however, do not apply to photographs of public domain works any longer. The Copyright in the Digital Single Market Directive (CDSM)¹⁴ clarified that ‘when copyright in a work of visual art has expired, any material resulting from an act of reproduction of that work is not subject to copyright nor

related rights' (Art. 14 CDSM). Despite Art. 14 CDSM, restrictions based on other laws can still be imposed at member state level, such as the control that the state can exercise in Italy over out of copyright works based on cultural heritage laws (Dore & Priora, 2024).

UNITED KINGDOM

The United Kingdom (UK) left the European Union in 2020 and did not implement the CDSM directive. However, it had not introduced related rights for non-original photographs either, so the key question remains that of originality. The traditional threshold of originality developed by English courts is low and refers to whether the author has used a substantial amount of labour, skill and judgement in creating the work. Skill, labour and judgement has been found in 2D photographs of 3D objects (*Antiquesportfolio.com v. Rodney Fitch*).¹⁵ Courts and interested parties have referred to cases as old as the *Graves' Case*¹⁶ to recognise or claim protection over photographs of public domain artworks (Deazley, 2001 and 2010). Following *Infopaq* (2009) and subsequent judgements, UK courts need to interpret the originality requirement in line with the higher threshold of 'free and creative choices' established by the CJEU. This is true also after Brexit, as confirmed by the Court of Appeal in *THJ v Sheridan*.¹⁷ In *Sheridan* (2023), Lord Justice Arnold held that the correct originality test in UK law remains that of the 'author's own intellectual creation' laid down by the Court of Justice, not 'skill and labour'. However, CHIs can still choose to control the use of these images based on contract law (i.e. through terms and conditions of use).

UNITED STATES OF AMERICA

In the United State of America (US), like the UK, the issue of originality in photographs of public domain works has been decided by courts on a case-by-case basis. Among the most relevant decisions are those of the Southern District of New York in what are known as *Bridgeman I* (1998) and *Bridgeman II* (1999).¹⁸ In the former, the court stated that the relevant law for determining the copyright status of photographs of public domain paintings was that of the UK; in the latter, it established that the relevant law was that of the US. In both cases, the court held that copyright did not subsist in photographs of public domain paintings. The *Bridgeman* case has been subsequently cited by other federal courts to hold that merely shifting the medium of expression of an existing creation fails the originality test (*Meshwerks, Inc., v. Toyota Motor Sales*).¹⁹ US courts also held that 2D reproductions of 3D public domain works do not attract protection insofar as they intend to accurately reproduce the existing object, although certain separate elements that are the result of creative choices can attract (thin) protection (*President & Fellows of Harvard Coll. v. Elmore*,²⁰ cited and explained in Wallace, 2024). Despite these decisions, most CHIs continue to controversially claim copyright on faithful reproductions of public domain works (Deazley, 2010; Wallace, 2024).

SUMMARY OF EACH CASE INSTITUTION

BRAZIL

Historical and Institutional Archive of the Museum of the Republic (Arquivo Histórico e Institucional do Museu da República)



Pátria by Pedro Paulo Bruno. Public Domain. [Museu da República](#) and [Google Arts & Culture](#).

The Historical and Institutional Archive is part of the Museum of the Republic (MotR), which is a federal museum funded by the Brazilian government. The MotR follows the policies of the Brazilian Institute of Museums (IBRAM). They do not charge entrance fees. They used to charge a fee for the commercial use of digitised version of works in the public domain, but they no longer do. They also required a request form for digital images, but eliminated this process following IBRAM Normative Resolution No. 15/2022, which established some standard licences in relation to the digitisation and making available of both in and out of copyright works. For example, the resolution establishes CC0 licences for works in the public domain and proposes CC BY-SA and CC BY-NC-SA for works in copyright.

With 90,000 documents in the historical archive, MotR's digitisation focuses on preservation

and user demand, especially for photographs. Approximately 95% of the photographic collection has been digitised and is available through ATOM, the *Brasiliiana Fotografica* collection or Google Arts & Culture. Works in the public domain are freely available via email, website or in person. An exception is the collection of *Candomblé*, *Umbanda* and other afro-descendant religious artefacts, which are managed in partnership with spiritual leaders and protected as traditional knowledge. Currently, the MotR does not track their usage data (but it used to receive between 40 to 50 requests per year).

Like other Brazilian CHIs, MotR's challenges include staff shortage, limited infrastructure and inadequate scanning equipment for large documents. Legal uncertainties remain in relation to orphan works. They propose the creation of an image database to facilitate copyright searches that allow CHIs to find authors of orphan works or their heirs. As a public museum and archive, their mission is to protect and preserve the national cultural heritage and to make their collections circulate and accessible to the public. They believe that open licences serve this purpose and reinforce the institution's role as a cultural heritage institution.

BRAZIL

National Library of Brazil (Fundação Biblioteca Nacional)



Kindness by José Tomaz d'Oliveira Barbosa. Public Domain. [National Library of Brazil](#) and [Wikimedia Commons](#).

The National Library of Brazil (BN), a public foundation under the Ministry of Culture, is the depository of the bibliographic and documentary heritage of Brazil and is considered by UNESCO the largest library in Latin America. The BN is funded through the government annual budget law (LOA) and institutions like Brazilian Development Bank (BNDES), FINEP and Association of Ibero-American National Libraries (ABINIA). They also receive donations from authors and researchers. They do not charge admission fees or generate income from image licensing, but they charge for high-resolution reproductions to cover costs in cases where documents are not yet digitised.

BN has a digitisation policy.²¹ Their digital collection, built up over 18 years, contains more than three million digitised documents, with most of these works in the public domain. Materials in copyright are digitised with authorisation or under copyright exceptions for preservation. The library operates across more than six platforms as part of the 'BN Digital', offering free and open access to 2D public domain images.²²

BN is exploring adopting CC licences, as proposed by BN Ordinance No. 101/2023, which suggests that authors or rightsholders should choose one of the CC licences and tools for works in copyright: CC BY-SA, CC BY-NC-SA, CC BY-NC or CC BY-NC 4.0. In some collections, they are already using CC licences.²³ However, one of their main requests is for training in the implementation of open licences and for tools to measure the use of digital collections.

BN's challenges include storage capacity, cybersecurity threats, digital preservation, and technological obsolescence. Tracking usage is another issue - they monitor platform access (e.g., *Hemeroteca* receives an average of six million visits monthly) but lack tools to measure actual use. They also report that legal reform and a specific copyright policy for CHIs could provide greater clarity, although they still have extensive work to do that does not depend on the law. For example, at the request of the Federal Court of Auditors (TCU), the National Library was expected to digitise all its rare documents within two years. However, given their structure, this was impossible. They have already digitised all the documents from the 14th and 15th centuries and are currently digitising the documents from the 16th and 17th centuries.

BRAZIL

Pinacoteca de São Paulo



Nhá Chica by José Ferraz de Almeida Júnior. Public Domain. [Pinacoteca de São Paulo](#), [Wikimedia Commons](#) and [Google Arts & Culture](#).

Pinacoteca de São Paulo (Pina), an art gallery and museum associated with the Sao Paulo State Department for Culture, is one of Brazil's most important art museums and operates as a social organisation with funding from the State Department and additional support from cultural incentive laws. It also generates income from ticket sales but, in general, follows an open licensing model and does not charge for the use of the images of works in the public domain.

For digitisation, Pina relies on copyright licences and limitations and exceptions. A copyright policy was adopted in 2020, which provides greater legal certainty for the institution. It suggests the adoption of CC BY licences for authors who voluntarily want to give up their rights. The policy mentions that CC BY licences would probably be more appropriate than CC0 licences in Brazil, since the Copyright Law does not allow authors to waive their moral rights. For public domain works, it proposes the adoption of CC0 licences, which is considered the optimal solution, as explained in the Creative Commons new guidelines for open culture (Creative Commons, 2022). It also suggests the possibility of Pina adopting the Public Domain Mark. However, no licensing model or instrument has yet been adopted in practice. They have plans to implement it this year (in 2025). They are also developing a platform to provide public access to their digital collections and to make them freely available for download, which is expected to be launched in 2025.

Pina does not charge to make the photographs of 2D and 3D out of copyright works available. They request photographers to assign their rights to the institution to avoid any additional layer of protection. Thus, while high-resolution images from their digital collections are generally made available for free, a service fee may apply if the work is not yet digitised. The museum tracks image requests, an average of 80 per year, but lacks a structured monetisation model to commercially explore these images, for example, through the sale of gift shop merchandise (e.g., posters, postcards, mugs with these images). Their mission as a public museum is to provide broad public access to their collection. As they say, 'it is a bit of a paradox', as they need to generate income from their collection to make it more widely available to the public. Their main challenges include financial constraints and storage capacity. Future steps include updating their copyright policy, adopting a digitisation policy and, eventually, structuring a dedicated access service for the commercialisation of their collections.

BRAZIL

The São Paulo Museum of Art (Museu de Arte de São Paulo)



Seascape Near Marseille (Fantastic Village) by Adolphe Joseph Thomas Monticelli . Public Domain. [São Paulo Museum of Art](#) and [Wikimedia Commons](#).

The São Paulo Museum of Art (MASP) is one of the most important museums in Latin America. As a private, non-profit institution, their income comes mainly from private sponsorship, individual donations and cultural incentive laws such as the National Programme to Support Culture (PRONAC). They charge for admission, but the tickets' income contributes the least to their general income. The museum does not charge for the licensing of images but does request users to cover the cost of high-resolution reproduction if necessary.

A significant part of their collection is digitised (nearly 13,000 works), but they do not adopt any licensing model. Since 2020, MASP has been working to clear a backlog of works without copyright authorisation by signing agreements with their artists and heirs. Low resolution images of public domain works are freely available online, with high-resolution images available through request forms. Although high-resolution images of public domain works are

in general free, MASP limits online access to low DPI (Dots per Inch) images, such as JPG files.

MASP's challenges include staff shortages, a huge backlog of works that have never been licensed, and a lack of integration between their database and website. Due to technical and infrastructure limitations, only a fraction of their digitised works is available online (around 3,000 artworks). Their digitisation station is off-site and has only a small scanner, which limits their digitisation efficiency, particularly for larger works.

The institution reports that better digital infrastructure, integration of management systems, training and a dedicated digitisation team would help their work. Legal support and a clearer copyright framework would help, but they admit that they also need to do some groundwork internally first. They advocate for policy reform and cultural change (including inside the institution) that recognises the importance of digital collections and the role of museums as vital sources of information, supporting the democratisation of cultural heritage.

EUROPEAN UNION

National Archives of the Netherlands (Nationaal Archief)



The island of St. Eustatius seen from the northeast, after the drawing by Lt. Bisschop Gerevelink. Public Domain. [National Archives of the Netherlands](#).

The National Archives of the Netherlands (NAN) exists to preserve the records of the Dutch government, and to support transparency in the conduct of government business. NAN also collects the personal papers and records of individuals and organisations who are significant to the Netherlands, e.g. the papers of Max Alkadrie (former Sultan of Indonesia), the Dutch Football Association, and De Spaarnestad, a publishing and printing house.

The majority of NAN's funding comes from the Dutch Government. Revenue may be created through regular exhibitions and a Friends of the Archive group, but these do not produce significant income. As a government body, they are officially designated as a not-for-profit. They do not generate income from licensing since shifting to an open access model c. 2013/14, with open collections data established in 2017. The only situation in which they would charge a user for a reproduction would be where a new, high-quality scan or photograph has to be created, and they only charge the cost of producing the digital copy.

While NAN is responsible for the custody of over 15M photographs, only 1M are currently

available online. Approximately 418K photos are available as open data; both the collections data and digital reproductions are designated as CC0, with the photographs identified as being in the Public Domain in the collections data. NAN places no further controls on the use of the digital reproductions, other than requesting a citation of the photographer and the Nationaal Archief as the source of the image. As a result of an Extended Collective Licensing (ECL) opportunity with a photographer's rights agency (Pictoright), they have also been able to digitise and provide online display of a further 580K photographs. These photographs have both known and unknown rightsholders, i.e. some fall into the category of orphan works. The ECL comes with limitations: the photographs can be displayed, but cannot be downloaded, and users must seek a licence from the rightsholder or Pictoright to make use of the images. NAN's only other option for these works would be to engage in individual rights clearance, or use the EU Orphan Works exception, whose administrative costs are considered too high a barrier to make use of the exception at scale.

Privacy and GDPR was cited as a significant challenge to digitisation, and this issue was identified as being particularly pertinent to archive collections, and especially government records, which often contain sensitive personal information. Privacy concerns were also cited as the rationale for not tracking user engagement with their open collections, beyond basic web analytics.

EUROPEAN UNION

Statens Museum for Kunst (National Gallery of Denmark)



A Young Artist (Ditlev Blunck) Examining a Sketch in a Mirror by Wilhelm Bendz. Public Domain. [Statens Museum for Kunst](#) and [Wikimedia Commons](#).

Statens Museum for Kunst is the National Gallery of Denmark (SMK), with special responsibility for the visual arts and the museum sector in Denmark. SMK are also tasked with developing the visual arts through collaboration with national and international museums. The national art collection dates from 1849, when the royal collection was handed over to the public in conjunction with the formation of the Danish democratic constitution. SMK are partly funded through public grant (approx. 50% of their budget), which covers only basic operational costs. They generate further revenue through entrance fees, private donations, events, space hire, retail, and digitisation, which fund special exhibitions, education, events, and acquisition of new works. They do not generate a profit from these activities.

SMK's collection consists of 200K works of art, spanning the 1300s to the present day.

Approximately 70K-100K have digital metadata including a title, stage name, related audio and film works, relevant articles, x-rays, etc. This collections data is available to download via API, free to use, with no licence or terms and conditions attached. SMK has digital photographs of 55K artworks in the collection. Out of these, 39K are in the public domain and 28K are available in high resolution. This also includes 373 sculptures, which have been scanned in partnership with Scan the World to create 3D models. SMK does not assert rights in 3D scans of public domain works, and these are marked with a 'No Copyright' symbol and 'For Free Use' statement in the catalogue data.

If a work requested by a user is still protected by copyright, SMK can make it available based on an agreement with the Collective Management Organisation VISDA. The terms of this extended collective licensing arrangement allow SMK to make a digital reproduction of the artwork available online, and users to download the image for their personal use. If a user wishes to make any other use of a copyright protected work, they must contact VISDA for permission. They are also asked to follow SMK's instructions for the crediting of the image.

SMK are now focusing on the digital registration of their entire collection, a requirement of the Danish Ministry of Culture which must be completed by 2026. They are also building their own infrastructure for 3D scanning. When these strategic activities are completed, they intend to explore further digitisation of their collection at a larger scale. While they do not have a systemic procedure for tracking re-use of their collections, they have publicised examples of re-use through the SMK Open blog. They are often made aware of re-use through users proactively informing SMK about their creations, and thanking them for making the collections open. Examples of re-use include Lucio Arese's short film *Les Dieux Changeants*, built around 3D scans from the collection; Ansgar Termühlen, AKA Captain Cosmotic's, modified artworks, which insert electronic musical instruments into classical paintings, such as Peter Ilsted's *At the Piano* (reworked); an art recognition app called *Visgu* that allows users to point their phone at works in the SMK collection and seamlessly pull data on the work from an API. Digital reproductions have been used to add authentic details to various media, such as the PC Game *Inkslinger*, the Netflix production *Alias Grace*, and the Danish crime series *Forhøret*.²⁴ SMK have also contributed images to Wikimedia Commons.

EUROPEAN UNION

National Library of Poland (Biblioteka Narodowa)



Władysław Semkowicz by Jan Rudnicki. Public Domain. National Library of Poland via [Polona](#) and [Wikimedia Commons](#).

The National Library of Poland exists to ‘acquire, store and permanently archive the intellectual output of Poles,’ a broad cultural remit that includes preservation and

conservation, the provision of research facilities, and contributions to library science, both in Poland and internationally. NLP's collections run to over 7M items and cover monographs, manuscripts, ephemera, and electronic records.

NLP have developed unique digital platforms to provide access to their digitised collections. Polona allows anyone with an internet connection to access digitised public domain works in the NLP collections. Academica allows anyone with access to a public or academic library in Poland (3000 locations) to access virtually all of NLP's digitised collections, including their e-lending facilities. This is an innovative application of the Dedicated Terminals exception in EU law.²⁵ The only excluded items are unpublished manuscripts and archives, due to specific restrictions in Polish law.

All of NLP's funding comes from the Polish Government and via the European Union. It's written into Library policy that they cannot 'make' money – anything they produce, like a publication, must be produced at cost, not for income generation. There is a small team (2-3 staff) working on rights issues, which are usually determined at the point an item is selected for digitisation. Given the stable nature of their government funding, the main challenges they've identified with their digitisation effort is the physical storage of their collections (over 4M items) and the conservation work necessary for digitisation to take place.

Material in the public domain is identified using the Public Domain mark in Polona and Academica. NLP does not assert copyright in the digital reproductions of public domain works, and they do not track user engagement with the PD items beyond basic web analytics. Orphan works are digitised and made available through Academica, which is considered to be lower risk than making them openly accessible on Polona. On the basis of their internal legal advice, NLP has decided not to engage with EU Orphan Works exception/database, due to the high administrative costs involved. When digitising material still protected by copyright, they contact and negotiate with the rightsholder. NLP describe their relationships with Polish publishers as positive. Legal Deposit also ensures that they receive a digital copy of every work published in Poland.

The decision to go Open Access dates from 2015, when Poland's national copyright laws were reformed. Staff from NLP described this decision as aligning with the Library's aims and objectives, and also meeting the requirements of various funding bodies, who stipulate that project outputs (including digitised works) should be made available via open access. They do not track re-use of the digitised works, agreeing that a combination of time and resource constraints, and privacy issues, prevent them from exploring the impact of their collections in more detail.

EUROPEAN UNION

Prato Textile Museum (Museo del Tessuto di Prato)



Interlock by Museotessutoprato, [CC BY-SA 4.0](#). Museo del Tessuto di Prato via [Wikimedia Commons](#).

Museo del Tessuto di Prato (MTP) is the largest cultural centre in Italy dedicated to the promotion of historical and contemporary textile production and art. It is a private non-profit institution whose shareholders include local authorities and as such is subject to certain public regulations (e.g. transparency).

Most of their funding comes from the Municipality of Prato. Other sources of income include private donations, project funding, event organisation, admission fees (low to ensure access to culture), a membership model for local textile companies (annual sponsorship) as well as a bookshop, an online shop and a cafeteria.

Due to the nature of their collections, copyright is not a primary concern for digitisation. Except for certain specialised sectors which rely on patent registration (e.g. firefighters'

uniforms producers), textile and fashion industries are mostly ‘IP negative spaces’ regulated by industry and social norms. MTP acquires textiles with permission from their producers and only once the product is not in commerce or “trending” (main commercial life is very short, between a few months and a few years).

The main digitisation challenges for a small organisation like MTP (7 permanent members of staff plus collaborators) are the direct resource costs involved in digitisation. MTP started digitising their collections in the early 2000s but made substantial progress during the COVID-19 pandemic. Access to national funding for digitisation is challenging due to strict requirements on involving external partners such as tech companies. EU funding is more flexible and covers most of their digitisation projects. However, it only covers the duration of the project and as such it does not address the longer-term needs of proper and sustainable inventory, cataloguing and digitisation.

MTP charges fees for use of high-res photographs of their collections. However, the fee is often nominal and changes depending on the nature and purpose of the use (e.g. cultural vs commercial). This service does not generate significant income; it is mainly a way of controlling the use of the collections.

MTP have experienced open licensing in recent years, with positive effects. They received EU funding to participate in the Europeana’s CRAFTED project, which allowed MTP to complete, upgrade and openly publish a collection of over 3,000 items under CC BY. They also organised an editathon in partnership with Wikipedia Italia, making a smaller collection of contemporary textiles openly available (CC BY-SA). MTP reports a variety of direct and indirect benefits of open licensing. Open licensing helps MTP achieve their public mission of promoting textile art and cultural storytelling. It also helped them secure more funding for archival activities including digitisation, which often requires open licensing of the outputs and demonstrating previous experience with open practices (e.g. presence on Wikipedia). More generally, open licensing improves MTP visibility and reputation, making the museum more attractive for potential donors and sponsors.

UNITED KINGDOM

National Library of Wales



Hafod Devil's Bridge by Julius Caesar Ibbetson. Public Domain. National Library of Wales via [Wikimedia Commons](#) and [Art UK](#).

The National Library of Wales (NLW) preserves the memories and language of Wales. It was incorporated by Royal Charter in 1907 and is one of six Legal Deposit Libraries in the UK. NLW's collections are varied and enormous: 6M books; 1.5M maps; 25,000 archive collections; 950,000 photographs, and 60,000 works of art (Annual Review 2023-24).

NLW is a registered charity, and a Welsh Government Sponsored Body. Access to the Library is free, and most of the NLW's operating costs are met through government funding and grant-in-aid as a Legal Deposit library. They also compete for grant funding, e.g. via the Heritage Lottery Fund. Other sources of income include venue hire, retail, and image licensing.

NLW has an in-house digitisation team that grows and shrinks in number depending on project funding, with 2-3 permanent members of staff. They have also worked with commercial partners to digitise collections popular with family historians, e.g. parish registers and other Church records. These contracts are carefully negotiated, with short exclusivity periods, and the library gets a copy of all digitised materials so that access through the library

can still be provided. 'Business as usual' digitisation tends to be driven by publisher or media requests, and curators in-house. User requests have gone down since personal photography was permitted in reading rooms.

Where works in copyright are selected for digitisation, they seek permission from the copyright owner to apply a CC licence, or a rightsstatements.org statement on the digitised work. However, the majority of NLW's digitisation effort is focused on public domain material, or those where NLW owns the copyright. NLW do not claim copyright in the digital reproductions of public domain works, and they do not make a distinction between 2D and 3D works. In the online image viewer, the material is identified using a Public Domain mark. However, users cannot download a digital reproduction without paying a fee to use the work. This fee is charged to recover the costs of digitisation. External research commissioned by NLW indicated that the income generated from image licensing is unlikely to be significant and will not be enough to offset the staff costs of administering the licences.

The appointment of a Wikimedian-in-Residence has influenced NLW's focus on Wikimedia, and the longer-term impact of going open access, including involvement in Europeana's Impact Playbook via their Network Association.

UNITED KINGDOM

Natural History Museum



Great Auks by John Gerrard Keulemans. Public Domain. Natural History Museum, London via [Wikimedia Commons](#) and [Art UK](#).

The Natural History Museum (NHM) was founded using the collection of Sir Hans Sloane, a physician who collected 71,000 natural history specimens and cultural artifacts during his lifetime. In 1753, his Will made it possible for the government to buy his collection, and the British Museum was created to house it. The NHM remained part of the British Museum until 1963, and the Natural History Museum was officially renamed in 1992.

The NHM is an arm's length government body, which receives grant-in-aid from the UK Government (65.9M in 2022-23).²⁶ As the grant does not cover all expenses and outgoings, they also generate income through various means. The Museum operates free entry, but there are specialist exhibitions with entry fees (these also tour internationally, generating further income), sponsorships, donors, licensing. The NHM also operates a trading arm, which is a wholly owned subsidiary. This includes an image licensing function, a publishing unit, retail, and brand licensing. Working with external brands allows retailers like Dunelm

and Joanie Clothing and to develop collections featuring imagery from NHM collections. The NHM can also apply to UK Research and Innovation (UKRI) for research funding involving their collections (as they are designated as an Independent Research Organisation), and the scientific knowledge and experience within the institution has also led to the development of consultancy services.²⁷ Much of this activity involves the Innovation Unit within the NHM, and it's expected that this will lead to spin-outs (this might include new patents, or businesses).

Their 'business-as-usual' digitisation within the Library and Archive forms two strands: pre-1910 published literature on natural history is digitised as part of a global consortium, run by the Smithsonian (Biodiversity Heritage Library). The other strand involves creating digital reproductions of artworks, manuscripts and records. They prioritise public domain materials. Museum accession registers are being digitised but these are not made publicly available via the Library and Archives Digitised Collections platform (they are used as an in-house resource to ensure GDPR compliance). They do have resource issues, e.g. they currently only have one core funded full time digitiser and only two specialist digitisation stations. Staff have also developed a workflow for rights assessment. Low risk unpublished material still in copyright under the '2039 rule' can now also be digitised and published via the L&A Digitised Collections platform, as they have developed a specific statement for these works.²⁸ A separate, much larger digitisation team works on the digitisation of specimen samples.

Photographs of collections are either created by the Photo Unit (who produce high quality studio photography for commercial contractual licensing, fees paid) or by the Libraries and Archives team (the majority marked PD and uploaded to their digitised collections platform). No copyright is asserted and the data is marked CC0. The Board of the NHM agreed not to assert copyright in digital reproductions of public domain works in 2016, as a result of staff advocacy.

The income generated through licensing is not based on copyright; they control access to the high-res images that cost time and resources to create. The preservation exception is used for the initial digitisation of in-copyright works. They have no plans to use the Orphan Works Licensing Scheme because of the high administrative costs, and because the licences are not perpetual. Commercial images created via the Photo Unit which use photographers rather than scanners result in very high quality, studio photography of 2D and 3D items, and these images become part of the NHM Images Picture Library, whereas the Library and Archives publish their scans and photos on their Digitised Collections platform. Some public domain images, e.g. botanical prints, zoological images, etc, are licensed via brand collaborations, e.g. Farrow and Ball wallpaper and paint collections with NHM. This is an example of a successful commercial business model using PD works, leveraging the CHI's reputation.

UNITED KINGDOM

Tate Gallery



Essay in Abstract Design by Roger Fry. Public Domain. [Tate Gallery](#).

The Tate Gallery is a major cultural heritage institution consisting of four large art galleries. It holds the national collection of British art from 1500 to the present day, and international modern and contemporary art, which includes around 85-90,000 artworks. The Tate Archive and Library, depending on the method of calculation, holds between 2 and 20 million pieces.

Admission to Tate Modern, Tate Britain and Tate Liverpool is free. An admission fee is charged for Tate St Ives to help keep footfall under control in a tourist environment. Tate is one of the fifteen museums and galleries sponsored by the Department for Digital, Culture, Media and

Sport (DCMS grant-in-aid). This is Tate's main source of funding (£54,1M in 2022-23), which covers around 30-40% of their running costs. Other sources of income include sponsorship, venue hire, special exhibition entry fees, private donations, corporate sponsorship, catering, retail, publishing and image licensing.

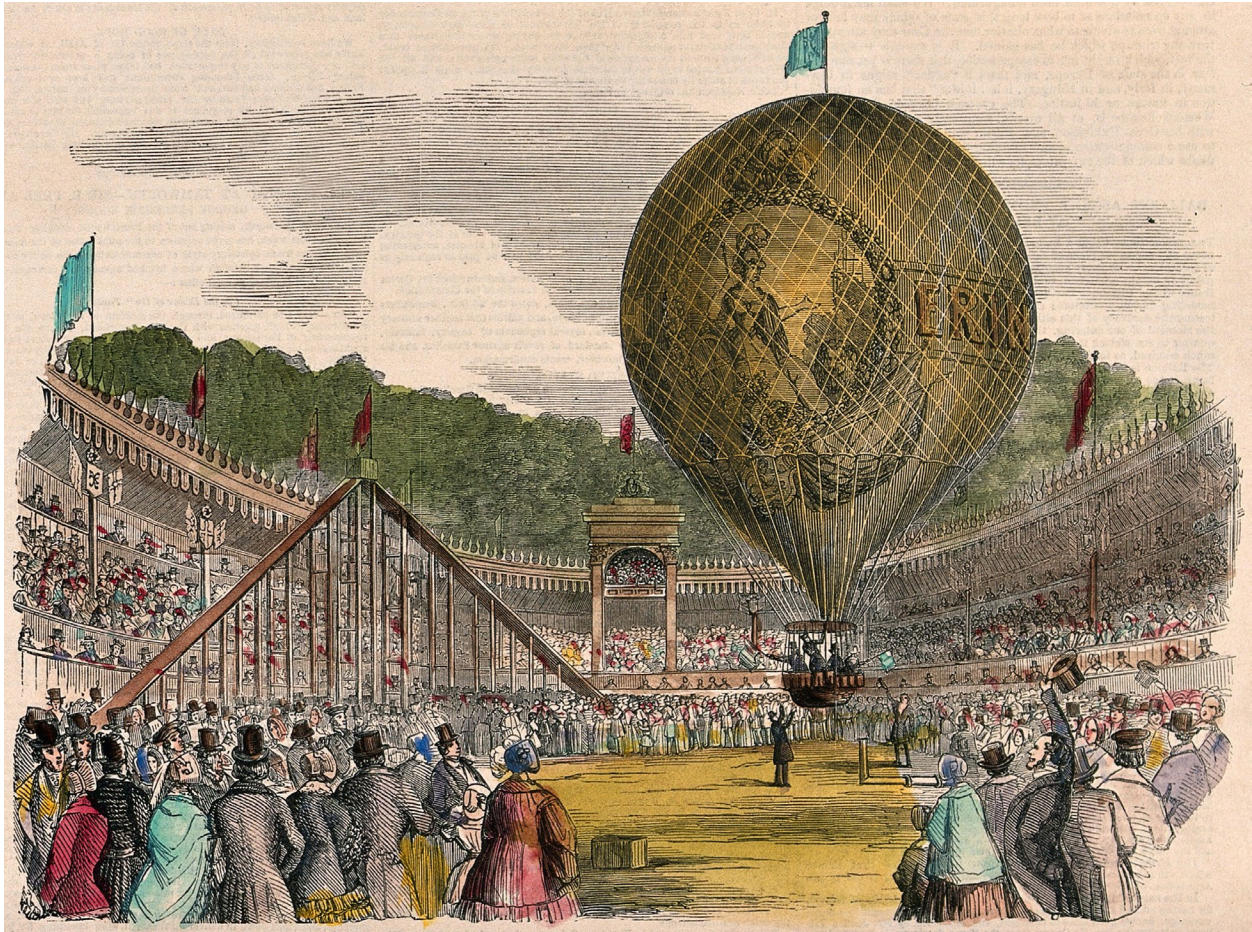
Tate has digitised nearly all its main collection of 85-90,000 objects, with a few exceptions such as enormous works that have been acquired but not yet displayed. Tate digitises and publishes in-copyright materials with permission from the copyright owners on a case-by-case basis, usually via blanket licences covering the whole rights holder's catalogue and a range of uses. Around 55% of the Tate main collection is copyright-expired. Tate distinguishes between 3D and 2D objects when assessing the legal status of photographs of these out of copyright works. Photographs of 3D objects are considered to be in copyright and are distributed under the CC BY-ND-NC licence.²⁹ Further to *Infopaq* and subsequent CJEU judgements (e.g. *Painer*), Tate does not claim copyright in photographs of 2D copyright-expired artworks. It distributes low-resolution versions of these free of charge for non-commercial uses only, based on the terms and conditions of the Tate website. It also makes available high-resolution images of any artwork to registered students for non-commercial research and private study. It sells high-resolution photographs of out of copyright works under contract. The income generated with image licensing is significant and is therefore considered an important contribution covering some of Tate's very considerable costs.

Tate keeps track of the licences it issues, the type of licensee (e.g. filmmakers, TV broadcasters, publishers, merchandise) and website views to optimise public engagement. It does not specifically track how the freely available low-res images are used.

Tate relies on copyright exceptions for other uses such as reporting the 'current event' of an exhibition, for example, and for various preservation purposes. Tate regards copyright exceptions as 'user rights', which help Tate fulfil its public mission of increasing the public's enjoyment and understanding of the visual arts.

UNITED KINGDOM

Wellcome Collection



Large crowds of people have gathered to watch a hot-air balloon take off, wood carving by anonymous Public Domain. [Wellcome Collection](#).

The Wellcome Collection (WC) is a free museum and library ‘exploring health and human experience.’ Their collections span rare books, film and video, personal archives, objects and artworks, all relating to human health. Initially opened in 2007, WC are part of a global charitable trust funded by endowment, established in 1936 after the death of the pharmaceutical entrepreneur Sir Henry Wellcome. WC, which includes Library, Archive and Museum collections, is funded via the Wellcome endowment. This allows them to pursue their public interest mission without relying on commercial business models. Other sources of income include retail and venue hire, which is revenue-generating, rather than profit-making.

WC have undertaken digitisation at a mass-scale, reaching a landmark 40M images in 2020, yet this only constitutes about 16% of their holdings.³⁰ Their manuscript and archive

collections have lagged behind due to the cost and speed of digitising special collections compared to printed books. While the selection process for digitisation is determined by Wellcome's strategic priorities, the WC also offers a free digitisation service for users, of up to 150-200 items per year. This allows user-demand to influence digitisation, and ensures that everyone can benefit from user engagement with their collections. The biggest challenges they face to their mass digitisation programme are sensitivity checking in compliance with GDPR and the Data Protection Act 2018; cultural sensitivities surrounding material tied to the UK's colonial history; and identifying and managing rights in material still protected by copyright.

Where WC is reasonably certain a collection item is in the Public Domain, it's given a PD mark in the online catalogue. They don't assert copyright in digital reproductions of public domain material. While WC have prioritised the digitisation of printed material in the public domain, they make in-copyright items available online through a risk-managed approach.³¹ WC encourage rightsholders to distribute the digital reproductions of these works under CC BY, but are willing to agree to more restrictive licenses if that will allow them to make the item available online. WC has phased out use of CC BY for material that is still in copyright but where rightsholders have not been identified or contacted for permission. An 'In Copyright' Rights Statement was determined to be more appropriate for this material, which may also include orphan works.

WC don't track users beyond basic web analytics, and they don't have a mechanism in place to track the re-use or impact of their digital reproductions. In terms of copyright reform, the Wellcome's appetite for risk is well-established, and the impression given is that they would be carrying out this work regardless of the existence of specific copyright exceptions. They are also aware that WC's online images and collections data have been scraped for use in machine-learning models. WC's attitude to this activity is ambivalent, as this is a use clearly permitted by the shift to open access.

UNITED STATES OF AMERICA

Indianapolis Museum of Art at Newfields



November Morning by Dwight W. Tryon. Public Domain. [Indianapolis Museum of Art at Newfields](https://www.indianapolis-museum.org/collections/american-art/american-art-19th-century/american-art-19th-century-landscape-paintings/november-morning).

The mission of the Indianapolis Museum of Art (IMA) is to enrich lives through exceptional experiences with art and nature. The main art museum features a collection of just under 50,000 works of art. They also collect personal archives and institutional records. Their campus consists of the museum, two historic properties, plus an art park and gardens, totalling 152 acres.

They have a diverse set of income streams. They operate a membership model, in addition to charging general admission fees and ticket fees for special events, including exhibitions. The art park is free and open to the public. One of their largest sources of income are festivals that run seasonally throughout the year. The festivals include food, beverages, art projections and installations, live music, and entertainment. They operate retail across their sites, and they also generate income from photography permits, where photographers can apply for

permits to photograph in the gardens. Commercial shoots using the museum and campus as a setting are also charged. An event space is available for hire. Federal and research grants may be sought for specific projects.

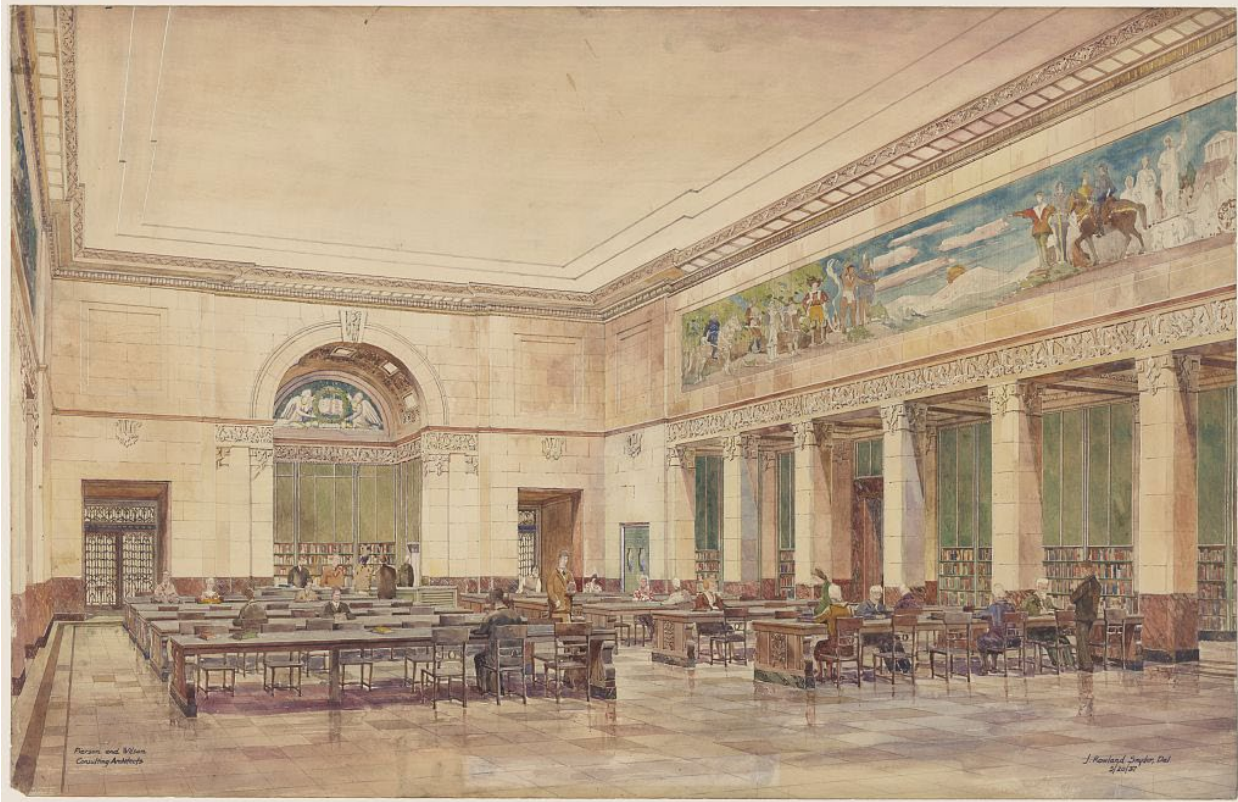
IMA went Open Access in 2015. They do not assert rights in digital reproductions of public domain works. They do not claim copyright in digital reproductions of in copyright works either, but charge fees to recover the costs of digitisation, or to carry out new digitisation. Previously they asked users to complete an online form before they could download public domain reproductions, but this is no longer required. Curators were initially worried about giving up control over collections items online, but this has dissipated since 2015.

Challenges related to digitisation include losing information about how material is reused, but also the significant time and resources that goes into rights research, and the technical challenge of coordinating data sources, e.g. the collections data in the Collections Management System (CMS), the data in the Digital Asset Management System (DAMS), and the rights data, which often can't be captured and maintained in a single system. They have also developed ethical approaches to the management of rights in collection materials over and above those uses permitted by US Law, specifically in relation to ancestral remains and other indigenous and community-created items.

IMA does track usage statistics including page views and downloads. In previous years, they required users to complete an image use form before they could download digitised works, asking users to let them know how they were planning to use the digital reproduction. This has recently been replaced with an optional pop-up taking users to a similar form, which is being used; they receive notifications and sometimes copies of the works created by users.

UNITED STATES OF AMERICA

The Library of Congress



Library of Congress Annex Building, Washington, D.C. by Pierson & Wilson architect. Public Domain. [Library of Congress](#) and [Flickr Commons](#).

The Library of Congress (LOC) is the largest library in the world, established in 1800 and recording 178M items in its collections in 2023. The collection includes millions of books and manuscripts, audio, moving images, maps, sheet music, photographs, microforms and machine-readable formats. It is the National Library of the United States, the research arm of US Congress, and the home of the US Copyright Office. Its operating budget in 2023 was \$875M, the majority delivered through the LOC's Congressional Budget Justifications. Other sources of income include donations and investments; and activities that contribute to 'revolving funds'; i.e. retail, reprographics, catalogue distribution, special events, and federal research services.

Challenges relating to digitisation still include funding; LOC will bid for funding to facilitate digitisation, and will work with third parties to complete projects that wouldn't be feasible without external resources. LOC stipulates that third-party projects must not require long

embargo periods, that resulting digital reproductions must be in the public domain, and LOC must always receive copies.³² Since 2021, LOC has been shifting from project-based digitisation to a more systematic strategy.³³ Other challenges and considerations include conservation needs, and changing technology; particularly the requirement to re-digitise as better formats become available. This also includes checking for the necessary rights to enable format-shifting. Digital preservation of born-digital materials, and the copyright issues surrounding 3D modelling were also identified as challenges.

LOC does not assert copyright in digital reproductions of public domain works. They also recognise that works created by federal employees in the course of their normal employment duties are not protected by copyright, therefore the LOC's website content at loc.gov is licensed internationally via CC0. Through the Cataloguing Distribution Service, resources like the Library of Congress Subject Headings, and the most up-to-date MARC (Machine-Readable Cataloguing) data are available via a subscription model, with some open-access provision, depending on the age of the data.

The LOC does not track use of digital reproductions, and they do not publish their web statistics beyond summary data for reporting purposes. Their contributions to Flickr Commons (44K photographs with the statement 'No known copyright restrictions') have been viewed over 500M times. Users have contributed over 98K additional tags, helping to identify content and context for the images.³⁴ LOC have incorporated much of this data back into their catalogue records.

UNITED STATES OF AMERICA

National Gallery of Art, Library Image Collections



U.S. Mail Boat by Leila T. Bauman. Public Domain. [US National Art Gallery](#).

The National Gallery of Art (NGA) was gifted to the United States by Andrew W. Mellon, opening in 1941 with a small collection of 126 paintings and 26 sculptures. It's now home to more than 150K works of art and sculpture, in addition to archive and library collections. The Library Image Collections department is responsible for 16M items, from research images featuring scholarly annotations, to daguerreotypes, born digital photographs, and microfilm.

The NGA is a federal institution, with approximately 80% of its operating budget provided by the Federal Government. Private donations and gifts, a membership model, and retail, including a bookstore, custom printing, gift shops and food and drink make up the rest of the NGA's income. Exhibitions and events are generally free to the public but often require registration (e.g tickets for Late Nights in the Gallery are over-subscribed and distributed via lottery).

Challenges relating to digitisation include the time and resources necessary to carry out

scanning, and the conservation requirements of different analogue materials. Projects within the NGA's various departments must make a case for internal funding, which is usually dependent on gifts and donations. A recent project delivered by Library Image Collections (LIC) required the digitisation of 5000 rare colour slides, originally commissioned by the Third Reich to document European immovable art at risk of destruction during 1943-45. Internal funding was sought for specialist external digitisation of the slide encasements, with LIC responsible for mounting, metadata and colour correction on the back end.

An Open Access policy exists for images of works of art in the public domain in the NGA's permanent collection (digital reproductions of public domain works are available under CC0) which is separate from the LIC. Within LIC, the majority of works are still protected by copyright. Thumbnails and low-res images of in-copyright works are made available for personal use, and users are either instructed to contact LIC for reproductions and permissions, or to contact the rightsholder for permission. For the small number of LIC works that fall within the public domain, high-res images are available for download, covered by a CC0 licence, per the NGA's Open Access Policy. LIC have made a small collection of digital reproductions available through Wikimedia, which feature various CC licences or the PD Mark, depending on their rights status and permissions.

LIC have tracked user numbers, page views and click-through statistics using a variety of methods, including Google Analytics and WikiShark; this information is not made publicly available. The NGA is not aware of downstream commercial uses of works from their collection, other than scholarly publishing.

UNITED STATES OF AMERICA

Yale Center for British Art



A Grotto in the Gulf of Salerno, Sunset by Joseph Wright of Derby. Public Domain. [Yale Center for British Art](#) and [Wikimedia Commons](#).

The Yale Center for British Art (YCBA), located in New Haven Connecticut, hosts the largest collection of British art outside of the UK. The YCBA was initially established in 1966 by a donation from Yale alumnus Paul Mellon, which included artworks from his personal collection as well as an endowment to fund ongoing operations. A modernist building by architect Louis Kahn, completed in 1977, hosts the Center. The collection consists of drawings, watercolours, paintings, and sculptures, along with other archival materials such as rare books and manuscripts. Normally, the YBCA offers exhibitions and educational outreach programmes, but the physical gallery was closed from 2023 to 2025 for conservation of its building. During that period, the YCBA operated primarily as an archive rather than public gallery, with emphasis on enhancing digital access to its collections.

The YCBA operates an Imaging and Intellectual Property department with five colleagues: two museum photographers, two digital technicians and one imaging and rights assistant. The work of the department involves rights analysis on the works in the collection, as well as implementing policies in terms of rights and copyright. Prior to the move by Yale to embrace open licensing as institutional policy in 2011, the department was involved in negotiating licences with external parties seeking to use works in the collection where the copyright holder might still hold rights. The department is still involved in rights clearance for projects involving works where there are known third party rightsholders, including those not in their own collection. After the YCBA adopted open access as part of a wider university policy in 2011, the licensing work largely went away. The YCBA decided not to issue licences if the underlying work was believed to be in the public domain. The YCBA currently uses a combination of CC0 for work believed to be in the public domain and rights statements for work where the copyright owner is unknown.

The YCBA does not actively track downloads or other downstream use of digital reproductions offered under open licence. In fact, the head of the Imaging department explained that the institution prefers not to put any impediments between a work and a user, including forms or other methods to collect usage information.

4. FINDINGS



Trademark registration by G. Johnston for Eye glasses with heart-shape at end of temple tips logo brand Spectacles and Eye-Glasses, 1877. Public Domain. [Library of Congress](#).

THEME 1

Openness Helps Institutions Better Achieve Their Public Mission

Openness as a default sits comfortably alongside the public mission of many of the institutions we interviewed. One respondent from the UK Natural History Museum expressed they were 'keen not to put up barriers where there are no legal barriers.' Consequently, the institution would not seek to restrict access to material unless there was a third-party copyright or another compelling reason to do so, such as privacy concerns (UK, NHM). Aspects of the public mission that were reported to be enhanced by open licensing included engaging new audiences, enabling deeper exploration into collections, reaching historically

marginalised communities, and improving preservation, for example by serving as a definitive online record. Many of these benefits were summarised by the National Gallery of Art in the USA:

‘The benefits for the public, I think, are ease of access, a good, clear image, easy access, metadata. A link back to the source, you know, within that metadata page. Also, the ability to further explore our collection. There might be other images or subjects that they’re interested in exploring. And for us, I think it’s certainly it’s being able to share your work and your collection, out with the world. And I think it’s the visibility for whatever the item is that we’re uploading. Also, visibility for the collection itself, the larger collection. I’d say, to make connections and be able to help people.’
(USA, NGA)

Paradoxically, open licensing could help institutions situate themselves as the definitive source of material circulating freely online. Participants discussed aspects of professional best practice (high quality digitisation, high resolution images, accurate, detailed metadata, contextual information) in collection descriptions that make a particular file the trusted, definitive source of evidence. From an archival perspective, this is called ‘recordness’. A source must have the qualities of authenticity, integrity, reliability and usability to be considered a record, or to serve as evidence. This is one aspect of added value that GLAM institutions bring to their collections, alongside curatorial interpretation, conservation treatment, exhibition in public as well as their new role in making available material online. Institutions themselves are authoritative sources, and that is part of their value proposition. For example, a separate study of the Rijksmuseum found that the institution derived benefit by providing open, high-resolution images of works in their collection to counteract expectations of the public that had only been exposed to low-quality reproductions online (see Verwayen et al., 2011).

GLAM professionals also saw open licensing as a way to reach communities beyond the walls of their institutions. Openness enabled institutions to serve underrepresented communities, for example those with mobility restrictions or those living outside of the big cities:

‘Just like the National Library is in Rio de Janeiro, and the capital of Brazil is Brasília, and you know that Brazil is a large country... I think that giving access through a digital platform, even though not everyone has access to the Internet – anyway, there’s a whole problem there. In that sense, we can reach a large Brazilian audience with this digitised collection and even to show our assets to other institutions [...] when a person can’t come to Rio de Janeiro to visit the National Library.’ (Brazil, BN)



Ferdinand Bauer (1760-1826) Forty-nine original watercolour drawings of animals which were collected when accompanying the voyage under Capt. M. Flinders to Australia, Plate 22 | *Aprosmictus erythropterus*. Public Domain. [Natural History Museum](#).

Similarly, the UK Natural History Museum saw its potential audience as global, and its licensing practitioner advocated for ‘interpret[ing] copyright law in a way that enables us to facilitate access, because we’ve got global collections that are of global origin and global relevance.’ (UK, NHM). The National Library of Poland, speaking about *Academica*, a library platform that benefits from the dedicated terminal exception, highlighted the democratising possibilities of open licensing:

‘So a child in, I don’t know, Lower Silesia, which is far away from Warsaw can have the same access to, to the newest academic research like someone who lives in Warsaw in the capital.’ (EU, NLP)

Finally, open licensing was instrumental in helping some institutions build ongoing trust and collaboration with external communities. For example, the Indianapolis Museum of Art used semi-open models in building and managing relationships with Indigenous communities in Indiana, adapting their open access policy based on ethical considerations.

THEME 2

Indirect Benefits for Revenue/Fundraising

Depending on their national and sectoral context, institutions in our study reported a considerable range of sources of revenue, including government grants and subsidies, private foundations, direct donations from the public, gift shops and retail operations, third-party licensing agreements and space rental, among others. Although not directly linked to these revenue generating activities, open licensing often complemented these other funding sources, for example by raising visibility, serving as a basis for communicating public value of collections, or setting an appropriate legal governance framework to enable group collaboration. These findings mirror observations from the business model literature, in which open licensing can be a complement to other value capture activities (Teece, 2010; Erickson, 2018).

Although required by sectoral policy to provide open access to their collected materials, institutions in Brazil also found it advantageous in terms of raising the visibility of their institutions and communicating the public value of their work:

‘We are also strengthening our role as a heritage institution. I am promoting the name of the Museum of the Republic and IBRAM³⁵ to continue to attract donors, because this is difficult. In recent decades, the number of private institutions holding collections has grown a lot, and I think the meaning of a donor... donating to a public institution is completely different from donating to a private institution. So, I think this is another reason for us to spread our name through our collection via open licence.’ (Brazil, MotR)

A respondent from the National Library of Brazil expressed that tracking of usage metrics (discussed in detail below) could be used as a reporting tool to encourage public investment in the sector.

‘Having that understanding of the impact of the use of the collection, [gives us] more arguments to defend more investment. Because it’s very diffuse. Sometimes the BN publicises it: ‘It’s good for society, everyone has access.’ Obviously, this is very important, but sometimes we need to have evidence of this use by researchers and that there is also a commercial use, which is sometimes even more important for those ‘at the cutting edge’, those who are going to invest the money. If you have a number, say, ‘the library, by digitising x number of works, has generated this much revenue for the country.’ I think that’s an important dimension, and it needs to be done.’ (Brazil, BN)

Open licensing can create a positive snowball effect in securing subsequent digitisation funding with open access requirements. The Prato Textile Museum, for example, reported how



Imperial Bed Valance, 1880 Qing Dynasty. Public domain. [Indianapolis Museum of Art at Newfields](#).

the Europeana's CRAFTED project opened the doors to other funding opportunities:

'The know-how we acquired with the CRAFTED project has been used in other projects too. Being able to say we have a good amount of our collections freely available online allows us to access further public funding opportunities both in Italy and the EU [...]. Funding applications for archival activities often ask whether you are already present on open platforms such as Wikipedia, so the editathon was helpful also in that respect.' (EU, PTM)

Another indirect benefit from open licensing was the possibility for institutions to play a role in supporting scientific research and innovation. In many cases this was linked to a national policy, making the link between open access and funding less direct but nevertheless intertwined. The National Library of Poland expressed a tension between getting funding for digitisation and open access requirements:

'In Poland a few years ago, there was a change in research funding. Now, if someone gets a grant from the government to do research or publish something or whatever, they have an obligation to publish it in Polona in public access which doesn't say anything about the copyright, but if you have any publication that was published by government money, it has to be in Polona available for everyone.' (EU NLP)

In general, it was rare for institutions to report direct revenue increases from open licensing, although the Indianapolis Museum of Art did report a temporary increase in revenue as a result of shifting to open access.³⁶ More frequently, openness was understood as complementary to other revenue-generating activities of the institution, and could also contribute to cost savings, as discussed in the next section.

THEME 3

Savings From Introducing Open Licencing

Institutions that previously operated paid licensing models, such as the Yale Centre for British Art and the Indianapolis Museum of Art, reported that those business functions were costly to administer. Costs were related to dedicated personnel to take in and evaluate licensing requests, negotiate with prospective users over licensing fees, and draw up licence agreements. As Wellcome Collection plainly put it:

‘Why should we give ourselves that overhead? It’s not efficient. It doesn’t help us achieve our mission.’ (UK, WC)

Enforcement, if it happened, represented an even further expense. Consequently, many institutions reported cost savings when moving to open models.³⁷ This is summarised by the experience of both the Brazil Pinacoteca and the Museum of the Republic:

‘Look, until 2017, we had a ‘usage’ table. There were certain values (an amount) we charged for image licences. So, there was the rule, but there were also the exceptions. At a certain point, we saw ourselves more involved in the exceptions. It was much more complex to manage, and the return was much lower. So, we decided to stop charging and really try to understand what we have in the public domain. How many images do we have? How do we really structure this work now?’ (Brazil, Pina)

‘Before, even for works in the public domain, I was obliged to fill in a request form. People would send e-mails asking for [a specific work]. Then I would send them the form. I had to ask for the person’s ID. They filled in the form. Then I had to put it in SEI, which is our electronic information system. It’s a huge bureaucracy to release one or two photos of ‘Canudos’, which are in the public domain. But then, when this [open access] regulation finally came along, it says: there is no need to charge for the public domain. So, it was very welcome.’ (Brazil, MotR)

In the USA, both the Yale Centre for British Art and the Indianapolis Museum of Art reported savings in terms of human labour from their move to an open licensing model.

‘When we were first looking at open access, it was changing that model and going, okay, how much time is going into processing those requests, sending a contract, doing the paperwork, charging a fee a lot of times, waiving a fee? Like all that administrative work. Really, you know how much that freed up that time, [allowing us] to be working on other things, ironically, when we went to open access. [...] When we shifted to open access, we ironically saw an increase in our revenue. Because we had



Pont Ddu near the Pulpit by Moses Griffith. Public Domain. [National Library of Wales](#) and [Wikimedia Commons](#).

dropped reproduction fees. People understood more the value of like, ‘oh, I’m paying for the new photography, okay.’ Versus this amorphous, ‘I’m paying a licensing fee for what?’ (USA, IMA)

In the EU, the National Gallery of Denmark also highlighted benefits of openly licensing 2D and 3D scans of out of copyright works while charging fees for new photography services.

‘Two good things: to get images created that we didn’t have, or maybe we only had old black and white scans. And also to create some income that, of course, goes back to funding their work [the photography department].’ (EU, SMK)

Overall, none of the institutions reported losing a substantial amount of revenue by abandoning closed licensing. Many institutions saw the savings from doing so as significant. If there were any disadvantages from abandoning costly-to-administer paid systems, those benefits related to non-financial concerns such as reputation, control and usage tracking, as discussed further below.

THEME 4

Cost of Transitioning to Open Licensing

Although there were often long-term savings from adopting open licensing, institutions reported that the initial transition to open licensing wasn't always frictionless and could introduce unanticipated costs. There was usually a transition period before fully adopting new open policies. For example, the UK Natural History Museum reported that after they introduced an open licensing policy for works in the public domain in 2016, there remained a large number of previously digitised works that had been offered under different licence terms, residing on various in-house and third-party platforms:

‘At that point, you know, we had already published stuff on various different online platforms which were under licences that actually ought to be under the Public Domain Mark. Fixing that is going to be a large task. You know we haven't... I'm not even sure we've identified all the platforms that our stuff is on, because it's partly the kind of library and archives own activities. But it's also where our Commercial Picture library had copies of library and archive collection items. If it was just a case of an in-house picture library, we could update that rights information right more easily.’ (UK, NHM)

In addition to costs of making the transition to a new licensing model, there were also costs relating to training personnel responsible for administering the open policy. Being professional archivists, historians and curators, many staff were unfamiliar with open access concepts. This challenge was mentioned by both the Historical and Institutional Archive of the MotR and the National Library in Brazil. For example, MotR's representative described the challenges many federal museums faced when the Brazilian Institute of Museums (IBRAM) decided in its policy to adopt Creative Commons licences and tools:

‘When they [first] published the regulation, they didn't give any training. And there was a general outcry... and IBRAM opened for discussions. It hired a copyright consultant. For example, over the years, I did several courses on copyright law. Every time there was a lecture, I went, because I had millions of doubts, and I wasn't trained. I'm a historian. I had no training in this. So, I had a million doubts. [...] They held several online meetings, answering questions. Then they realised it wasn't enough. They hired a professor to give an online copyright course open to everyone who wanted to take part, and I thought it was very good. Because people had a lot of questions (...).’ (Brazil, MotR)

In the business model literature, these costs associated with adopting open practices have sometimes been termed ‘organisational inertia costs’, capturing the challenge for larger

institutions to adopt new practices, encompassing knowledge costs, lost time and expense in re-orienting activities with a new focus (Lecocq & Demil, 2009; Raasch & Herstatt, 2011). These can be overcome through strategic planning, investment in training and improving external knowledge absorption capacity, for example through seeking appropriate know-how from similar examples.



Portrait of Madame Matisse, The Green Line. by Henri Matisse. Public Domain. [Statens Museum for Kunst](https://www.statenmuseum.nl/en/kunst).

THEME 5

Engaging with Platforms and Communities

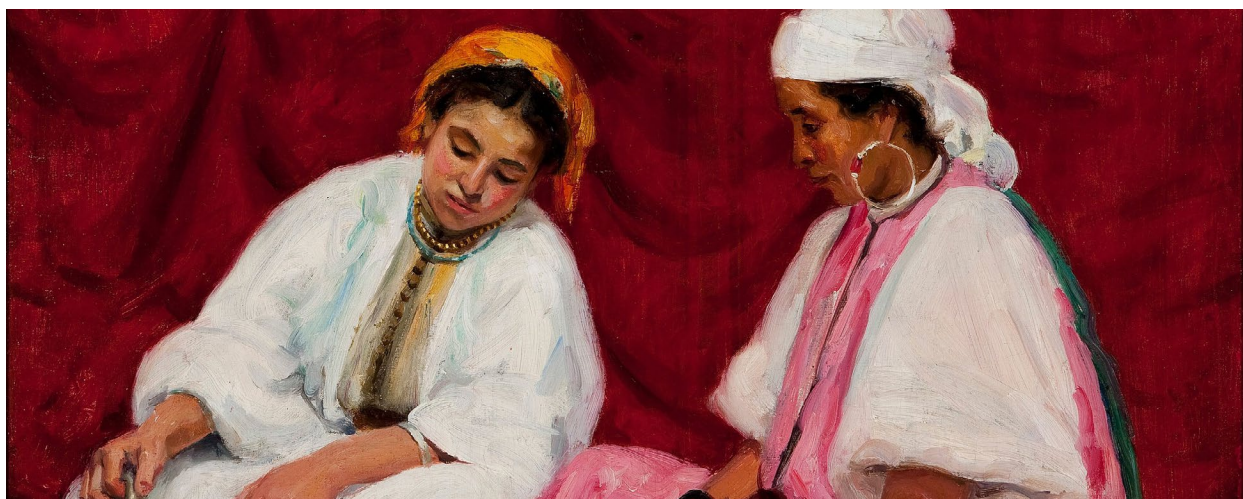
A number of the institutions reported engaging with third-party platforms and communities like Wikipedia to share their work. On the one hand, engagement with platforms could help increase the visibility of collections, making them available to new audiences. On the other hand, there were costs of engaging with external platforms. These include the cost of learning the technical and social norms of the platform, especially when moving to new platforms which have become more popular. Community goals may differ from the objectives of institutions, for example where professional archival norms favour longer and more informative metadata.

As noted in the BM literature, sharing between organisations and open communities often incurs costs for the sharer (Erickson, 2018). There can be direct resource costs involved in preparing and uploading material to platforms. For example, the US National Gallery of Art reported that bulk uploading took additional time and resources from an institutional perspective:

‘I can think of an example with the Kress items, for instance. We wanted to upload those onto Wikipedia, and we uploaded some, and we received permission from the foundation, but it ended up just being a bit tedious on the Wikipedia side to upload them, and then continue. I think you can use Patten³⁸ or something like that, to do a batch, but we would also have to upload the rights information to make sure that we weren’t going to get nicked on the rights.’ (US, NGA)

In general, while uploading to Wikipedia was seen as costly, the NGA praised the platform because it provided more curatorial control (a link back to their databases). At the same time, institutions that engaged with open communities sometimes encountered conflicting norms and interests.

‘[...] There has been a little bit of contention with Wikimedia about captions, I know. Sometimes, you know, we’ll get feedback from editors like, I think, in the case of this Gordon Parks Image. The caption was too long. They didn’t want our institution on the caption. It was okay to be in the Metadata. [...] I wish there was a bit more of a connection between people that are contributing to Wikipedia in a really positive, productive, working relationship. I think it’s hard because it’s mostly on a voluntary basis, you know, and some people become – whether it’s a scholar or an editor – become very territorial over certain material. But I think, you know, most people are working towards the same aim.’ (USA, NGA)



Detail from *Women of Tangier* by Dario Villares Barbosa. Public Domain. [Pinacoteca de São Paulo](#) and [Wikimedia Commons](#).

As observed in the BM literature, productive engagement with sharing communities often involves learning the norms and standards of the new community and adapting accordingly (Dahlander & Magnusson, 2008; Stuermer et al, 2009). An example of good practice in the GLAM sector is the National Library of Wales, which has approached engagement with the Wikimedia community in a dedicated way (albeit with associated resource costs):

‘We share a lot of our images on an open licence via Wikimedia Commons. So that’s something I do periodically is try and get permission for a new collection to go up onto Commons and then I do a lot of work around data enrichment. Taking library metadata and seeing how it can be improved, through aligning with external data sets through Wikidata. Primarily developing pipelines for processing and enriching data. We have got our own Wiki base now which we use as a sort of halfway house, if you like, between open data and our curated internal data, it kind of bridges the two.’ (UK, NLW)

This work was accomplished by a Wikimedian-in-Residence at the library, part of a strategy to increase engagement with the platform. Some institutions in our study worked with other platforms. The National Library of Poland uses a local platform called Polona for PD works and Academia for in-copyright works. The latter is a library system that relies on the ‘dedicated terminals’ copyright exception. This is a special system for manuscripts and other unpublished works which can’t be made available online under Polish copyright law. Polona is also used for digital legal deposit and by local libraries to make their books available (the National Library provides hosting). Institutions in Brazil reported using Google Arts and Culture³⁹ for sharing of digital materials.

THEME 6

Tracking of Downstream Use

Very few of the case study institutions reported robust mechanisms for tracking downstream use of their openly-licensed materials. This was especially the case for materials downloaded by the user from institutional websites without a formal licensing procedure to generate a record. One reason for this might be a lack of technical expertise or resources to devote to the task. Another reason, articulated by the YCBA was that requesting such information might deter users: ‘We wanted to remove as many barriers as possible to usage, including requiring attribution. [The] philosophy was just to remove as many barriers as possible, you know, make it more frictionless. Like, the more you ask for, the more it’s going to discourage people from using material that that we actually do want them to use. [...] But what we lost was the ability to kind of track more of that information for our own research and bibliometrics, like knowing all the publications, out of interest, that something might appear in.’ (USA, YCBA)

The National Library of Poland reported that while they did regularly evaluate their website analytics, they didn’t necessarily track the use of individual items.

‘Publishing in Poland, we don’t care what people do with that object. We encourage them to use our description, you know that they took it from Polona from the National Library. But we underlined that they don’t have to ask for our permission or they don’t have to inform us how they use it. It’s very nice for us if someone tells us that, you know, they made a game, for example, and they used pictures from Polona. It’s nice, but it’s not obligatory.’ (EU, NLP)

We asked whether this was due to resource constraints, e.g. lacking the capacity to do so or whether it was linked to privacy concerns, and the institution reported that it was a mix of both. The National Archives of the Netherlands (NAN) also cited privacy concerns as a reason for not tracking re-use.

Some institutions did actively track usage metrics for open licensed materials, but this was often incomplete and limited to the confines of the Institution’s own website. For example, the US National Gallery of Art produces quarterly reports on usage rates:

‘We do (track) for a couple of years. I was putting together spreadsheets with every state and every country, and then by month by month. But then, ultimately by quarter. How many users we had, how many clicks we had. We have a Google Dashboard that was collecting the information for us, and then you can also go to. Is it called Wiki

Shark. There are different applications. You go to see how much the page is viewed. So, I guess you could infer how many are seeing the image [based on] how often the page is viewed.’ (US, NGA)

But similarly to the National Library of Brazil, tracking done on the institution’s own website is limited to viewership and download statistics and cannot follow the life of a work once it circulates beyond the institution. The US National Gallery of Art does not monitor commercial use of their materials either.

Thus, for many institutions, one downside of transitioning to open licensing model has been abandoning access to customer data that was collected before in the form of licensing agreements. This challenge or gap in monitoring capability could be overcome with technical investment in tracking and analytics, if institutions are willing. There are efficient and cost-effective methods to track downstream use in more granular detail, such as by reverse image search and citation tracking (See Erickson and Rodriguez Perez, 2018).

Another approach is to rely on the wider user community to inform institutions of use. This is the case for the National Gallery of Denmark, which maintains a blog highlighting notable and creative re-uses of their collections (EU, SMK). The Indianapolis Museum of Art, following the example of the Getty Museum’s Open Content Program, successfully adopted mechanisms to allow and encourage users to self-report follow on use and creativity:

‘There’s a little pop-up box, and we have a now an image use form that we ask people to fill out; and then anytime somebody is like ‘Hey, love this open access image. But could I actually get a tiff file?’, we reiterate ‘Hey, if you actually do end up reproducing this and using it, could you fill out this image use form?’ To help us keep track and maintain a bibliographic record and understanding, of where and when our collection is reproduced. That form officially launched this last fall, and it’s being used. We get those notifications, where people have actually reproduced the collection.’ (US, IMA)

Similarly, the National Library of Wales had some success tracking the use of their images on platforms like Wikimedia Commons, where NLW images have been viewed and used over 1.5 billion times. As a result, they are aware of images being used in media, publishing, education, and interactive software.⁴⁰ However, there is no formalised mechanism for tracking wider re-use and impact of their open collections. The Library of Congress (US, LOC) does not track downstream use of their materials, but they do incorporate into their catalogue record user-generated data that help identify content and context for the images.

THEME 7

Choosing the Right Tool

Selection of the most appropriate licence (CC, BY, NC, SA) or tool (CC0, PD Mark, rights statement) was a common challenge across our study sample. Many institutions have undergone periods of change while experimenting with licensing approaches. For example, the Yale Centre for British Art started initially using CC-BY licences and later moved to using CC0, Public Domain Mark and rights statements. This transition was reported to be the result of increased comfort with open licensing, staff upskilling, improved knowledge about copyright law, changes in legal practice and interpretation, and a desire to more fully open collections to more users.

Rights statements were seen as a preferred option for dealing with works that had uncertain copyright status and did not originate from the institution. For example, the UK Natural History Museum explained their rationale for adopting rights statements and the conditions that would lead to their use:

‘I would say we have agonized a bit about how we communicate the correct information to the public. If we’re publishing it on our portal, on our digitized collections platform, that’s where those right statements are going to be useful. We’ve identified 4 or 5 that would be useful to us, and we’ve written a whole explanatory [text] to be totally transparent about our approach. So people will be able to see that when they’re accessing these items online. Just because we’ve made them available doesn’t mean that we’re authorizing further use because we may not be in a position to be able to do that. But we are telling people to use at their own risk. So yeah, we’re trying to be transparent. But we’re also really trying to do it properly.’ (UK, NHM)

Understanding the licensing options available and determining appropriate fit was one of the knowledge resource costs expressed by institutions during their open licensing journey. Some institutions reported using a mix of different licences and tools for different purposes, depending on the nature of the work or the department crafting or choosing the licence. For example, the National Library of Poland reports using the PD Mark as well as some CC licences. They also negotiated ad hoc licences with publishers, for example special licences agreed during the pandemic to give access to students. The National Gallery of Art uses CC0 on their website, CC BY-SA on Wikipedia; plus high / low restrictions. In the UK, the Tate gallery uses CC BY-NC-ND for low res images of 3D out of copyright works, and does not apply copyright nor licence for scans of 2D objects. However, Tate applies terms and conditions limiting use of these works.

In the business model literature, much importance is given to the selection of licensing regime for collaborative projects, because this sets the parameters of ownership in individual contributions. Disputes can arise where licensing conditions are unclear from the start, or where a contributor subsequently wishes to withdraw their openly licensed contribution. The irrevocability of open licences helps address this risk, ensuring that collaborative projects remain open. Legal clarity therefore underpins productive collaboration between user communities and organisations.



Wieża babel by Bogusz Stęczyński. Public Domain. National Library of Poland via [Polona](#) and [Wikimedia Commons](#).

5. DISCUSSION



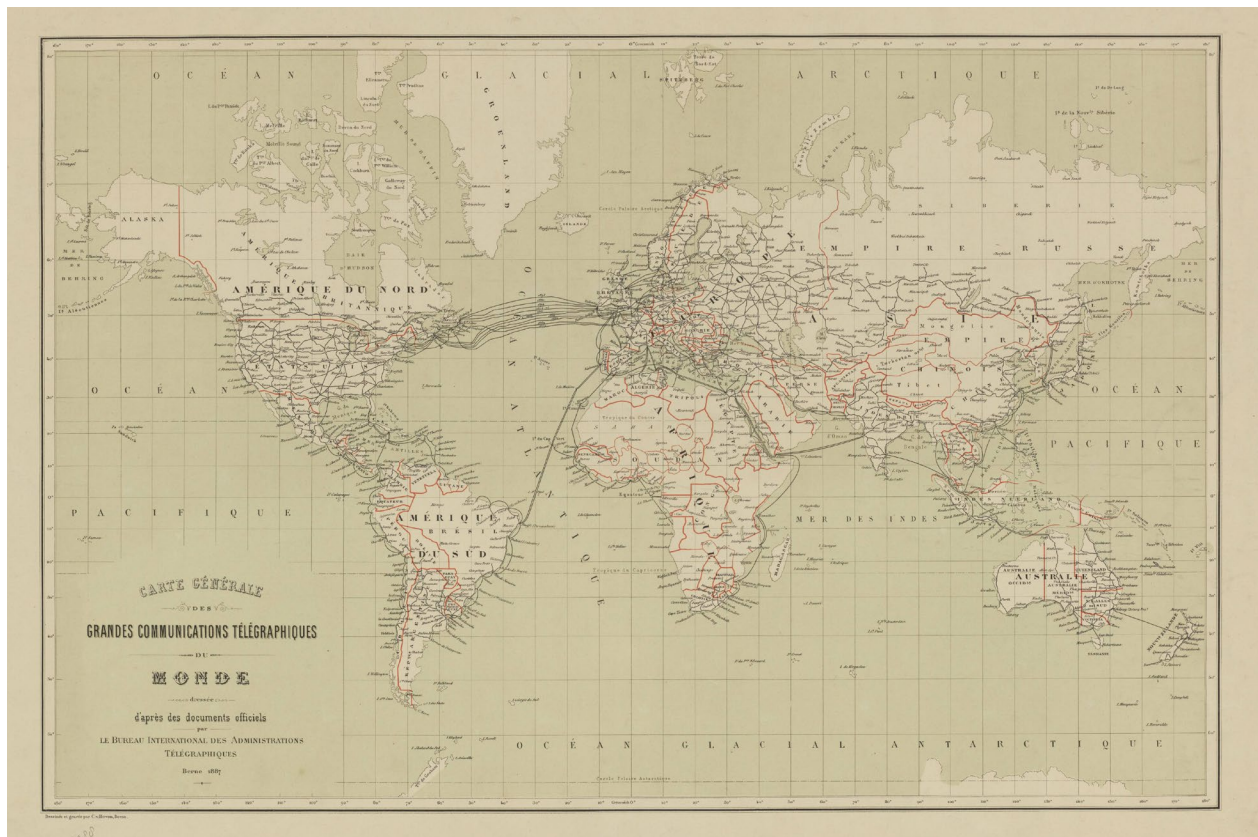
Écrivain Public, Naples by Giorgio Sommer Public Domain. [US National Art Gallery](#).

The cultural heritage institutions we interviewed recognise the value of openness as an important part of their public mandate. Most of them see open licensing as a better way to achieve their public mission. Our research has confirmed the findings of previous studies on certain benefits of open policies while also identifying new challenges and opportunities.

Copyright law and specifically duration continues to shape which collections are digitised and made available. The extensive rights research required to determine the in-copyright or public domain status of the works in their collections represents a major cost for CHIs. As most CHIs are publicly funded, these costs are indirectly covered by taxpayers. CHIs in Brazil and other jurisdictions advocate for a clearer and more precise copyright framework. At the same time, ad hoc legislative solutions for specific digitisation challenges seem to introduce additional costs that even major CHIs cannot sustain. For example, CHIs often do not engage with the orphan works licensing scheme (UK) and exception (EU) because of their cost and complexity. On the other hand, recent legislative developments that support open policies – such as Art. 14 CDSM in the EU – are welcomed by CHIs, but they raise uncertainty regarding their retroactive applicability to digital reproductions created before the law entered into force. The Extended Collective Licensing (ECL) framework in some EU jurisdictions allows CHIs to digitise and provide access to in-copyright collections, albeit only those covered by ECL arrangements. By contrast, open legal norms, such as fair use in the US, seem to offer greater flexibility for digitising and making collections available online. Overall, CHIs' appetite for legal risk appears to be more closely linked to their financial resources and institutional standing than to differences in copyright law.

Our project has found that the focus of open access initiatives is progressively shifting and expanding beyond copyright law. Other legal considerations, including those related to data protection, contract, cultural heritage and traditional knowledge, influence institutional decisions in different ways depending on the jurisdiction. Limited storage capacity and preservation concerns can be the primary drivers of digitisation efforts, at times also linked to the recent history and current geopolitical situation of the country. Cultural sensitivity and relationship building with indigenous communities are pushing CHIs towards new forms of collections management, including shared and ethical management.

The interviews identified a variety of direct and indirect advantages of open licensing. As previous studies had found (Kapsalis, 2016; Wallace; 2022), moving to open licensing often translates into saving administrative costs related to paid licensing models, with one institution reporting increase in revenue from new photography services as a result of the shift to open access. These findings are consistent with the literature on open innovation, for example where lowering the costs of sharing can entice 'free revealing' by organisations (Von Hippel & Von Krogh, 2006). However, transitioning to open licensing also introduces knowledge and 'organisational inertia' costs such as having to relabel vast amounts of images previously distributed under closed licences or training staff on open policy administration. The shift to open licensing requires initial investment and long-term planning. Several



General map of major telegraphic communications of the world. Public Domain. [National Archives of the Netherlands](#).

institutions are still struggling with the digitisation of their collections. While open licensing helps CHIs attract digitisation funding, the funding itself is project-based and as such does not allow smaller institutions to develop sustainable models of inventory, cataloguing, digitisation and open innovation.

Open licensing complements a variety of private and public funding sources. Both public and private revenue generation opportunities vary greatly depending on the type of institution, the nature of their collection, and contingencies influenced by structural factors such as the size of the economy and the policy landscape in which the CHI operates. The different policy landscapes in which CHIs operate and how they shape their institutional policies have partly emerged through the interviews, but meaningful correlations will require extensive further research. The main determinants of value generation and capture in CHIs – the size and value of the collections as well as the real estate of the institutions – seem to depend largely on private donations. Examples of groundbreaking donations mentioned during the interviews include the establishment of the National Gallery of Art in the US following Andrew Mellon donating his collection to the US government in 1936, or more recently the acquisition of the Miller House and Garden by the Indianapolis Museum of Art in 2008. Interviewees highlighted

how open models can increase the visibility of the institution and the public value of its work, potentially attracting new donors and leading to new public funding opportunities. Open access programmes also complement other revenue generating in-person engagements such as seasonal festivals. In turn, these attract customers to permanent value generation activities including restaurants and gift shops.

The current technological landscape offers both opportunities and challenges. The institutions we interviewed are approaching Artificial Intelligence with interest in the opportunities but also environmental concerns and caution over the lack of sector-wide consensus on ethical and legal considerations. CHIs reported use of different online platforms to share their online collections and to reach and engage with new communities. These include open platforms (e.g. Wikipedia), commercial platforms (e.g. Google Arts and Culture), and local platforms (e.g. Polona). Existing research indicates that distribution via Wikipedia and Google Arts & Culture substantially increases views of and engagement with digital collections (Wallace and Weinberg, 2024). Our research confirmed these benefits but also highlighted challenges and costs related to technical, editorial and social norms of the platform. These costs can be offset with placement models such as Wikimedian in Residence and crowd-sourcing activities such as Wikipedia editathons and collection-based hackathons. In turn, these bring opportunities for data enrichment, engagement with local and online communities, and the co-development of best practices of collaborative curation. Interestingly, the use of social media platforms did not emerge as a theme across the interviews, despite certain institutions having substantial following (e.g. the Natural History Museum in the UK has 904K followers on Instagram). While most CHIs in our sample do not track follow on creativity based on their collections, others show that there are value generation and capture opportunities in doing so.

6. CONCLUDING RECOMMENDATIONS



Ginevra de' Benci by Leonardo da Vinci. Public Domain. [US National Gallery of Art](#) and [Wikimedia Commons](#).

It is challenging to provide recommendations that are meaningful and implementable across diverse and complex sectors and communities such as those of Galleries, Libraries, Archives and Museums (GLAM) in the UK, US, EU and Brazil. The models adopted by major institutions in highly touristic areas may offer inspiration but cannot be replicated at smaller scale. Highly concentrated customer bases (i.e. big donors) can be transformative but are too contingent for the vast majority of CHIs. A broader, diversified user base is more realistic and achievable with the right open approach complementing other value capture activities, focussing on

place, co-creation and engagement with local communities.

The following recommendations, based on the findings of our study, imagine CHIs at the centre of an ecosystem characterised by openness, sustainability, usability, interoperability and ‘recordness’. While they are aimed primarily at CHIs, these recommendations are valuable for policymakers and funders seeking to maximise the benefits of open culture.

1/ CHIs employing closed models should assess the time and resources currently expended in managing licensing requests and whether moving to open models would reduce administrative costs, improve their efficiency and possibly increase revenue.

As we saw in various examples, closed licensing models can be costly to administer (UK, WC; Brazil, MoTR; USA, IMA). The expertise of staff currently managing closed licensing models can be leveraged efficiently with open licensing frameworks. New photography services can be more responsive to user needs and perceived as better value for money than licensing existing and often old photographs of collections. Combined with open licensing, these services can attract new customers which in turn contribute to CHIs’ public missions by funding new digitisation and public access. An important consideration is that such services can be demand-led rather than imposed top-down, allowing resources to be more efficiently directed at parts of the collection of interest to users.

2/ CHIs of all sizes should explore interaction with users and local communities around open collections. Openness facilitates collaborative production that is unavailable when commonly shared resources are closed.

A key learning from business model research is that open licensing, when done carefully, can enhance co-creative possibilities by allowing all contributors internal and external to the organisation to access and build from the same raw materials. For example, an open-source computer game built on a public domain novel could enable users to actively write and contribute their own scenarios because the upstream work is not protected by copyright (See Ever, Jane discussed in Erickson, 2018). Engagement and relationship building with local communities is important from the outset to devise open approaches that are respectful of cultural sensitivities and values. Open models grounded in ethical and collaborative management practices can enhance online user engagement, stimulating contributions such as user-generated metadata and creative content based on digital collections.

3/ Tracking follow-on creative uses of openly licensed works can help identify public benefits and lead to indirect income generation. Research could help identify methods

to capture value from follow-on innovation, enabling CHIs to achieve their public missions and generate new revenue.

As discussed in Theme 4.2, open licensing was viewed as a source of indirect value generation for CHIs in our study. Fully capturing indirect value requires awareness of the positive impacts of open materials for wider society and businesses. Privacy and user experience concerns limit aggressive tracking at the point of download, but other less intrusive possibilities are available. The experience of museums adopting innovative open content programmes shows that tracking downstream use and follow-on creativity in a way that aligns with values and respects privacy and other fundamental rights is both possible and desirable. Efficient and cost-effective tracking methods available to CHIs include encouraging users to voluntarily report (US, IMA) and share their collection-based creative outputs (EU, SMK) as well as engaging with active open communities such as Wikipedia through Wikimedian in Residence and other collaboration models.

4/ Sharing best practices should be co-developed in collaboration with platforms. Tensions between archival and curatorial practices of CHIs and editorial and social norms on open platforms such as Wikipedia can be transformed into opportunities for mutually beneficial collaboration.

While we note that open sharing also incurs costs for CHIs (Theme 4.5), investment in meaningful collaboration with open platforms can provide benefits. Although platforms already do some of the heavy lifting of attracting wide audiences, these collaborations still present costs: negotiating shared social norms and preparing materials for upload are key among those. Several institutions found benefits in such engagement (UK NLW; EU SMK). Collection-based user engagement and experimentation activities such as hackathons and Wikipedia editathons can be complemented with workshops and deliberative exercises aimed at identifying the diverse needs of the engaged communities and co-developing best practices that respond to those needs. Cultural heritage practitioners, editors, scholars and other contributors should approach open platforms collaboratively, sharing insights and concerns, learning from one another, and working in synergy.

5/ Open licensing can be a complement to other activities carried out locally and in-person, and vice-versa. Through co-creation and engagement with local communities, value generation and capture opportunities based on institutions' physical space can be seized and adapted even by smaller institutions.

Another key finding from the business model literature is that value capture is facilitated

when open offers complement other resources owned by the organisation (Teece, 2010; Vaska et al., 2021). For example, a technology firm might offer a free version of software widely, with the expectation that some users will pay for more advanced features uniquely offered by the provider. The physical collections and spaces managed by CHIs in our case study group provide similar value capture opportunities because they are unique and difficult to reproduce. To a certain extent, the goodwill, reputation, and patron networks of institutions also constitute valuable assets that can be complemented by open practices. Public outreach, knowledge exchange and engagement activities with local focus and global reach can attract new sources of funding while helping CHIs achieve their public mission.



Acacia by José Joaquim Freire. Public Domain. [National Library of Brazil](#) and [Wikimedia Commons](#).

ENDNOTES

1. In this report, we use ‘CHIs’ to refer to the institutions and ‘GLAM’ to refer to the sectors in which they operate. [[Return to text](#)]
2. In this report we refer to this as ‘digital cultural heritage’, ‘digital heritage’, ‘digital collections’, or ‘digital reproductions’. [[Return to text](#)]
3. The Creative Commons Attribution ShareAlike 4.0 International licence grants ‘a worldwide, royalty-free, non-sublicensable, non-exclusive, irrevocable license to exercise the Licensed Rights in the Licensed Material to:
(A) reproduce and Share the Licensed Material, in whole or in part; and
(B) produce, reproduce, and Share Adapted Material. This use is subject to the conditions of the license, namely to ‘identif[y] the creator(s) of the Licensed Material and any others designated to receive attribution, in any reasonable manner requested by the Licensor (including by pseudonym if designated)’ and to apply the same license conditions in respect of any work adapted from the licensed work. See: <https://creativecommons.org/licenses/by-sa/4.0/legalcode.en>.
[[Return to text](#)]
4. CC0 is a Creative Commons tool that allows creators to waive their copyright and related rights, dedicating the work to the public domain. The PD Mark is recommended by Creative Commons to label works that are free of ‘known copyright’ around the world. [RightsStatements.org](https://rightsstatements.org) provides a set of standardized rights statements that can be used to communicate the copyright and re-use status of digital objects to the public.
[[Return to text](#)]
5. See for example the Open Knowledge Foundation’s definition of ‘open’: <https://opendefinition.org/>. [[Return to text](#)]
6. In a non-embedded case study, sometimes called a holistic case study, the units of analysis are singular rather than nested inside of a larger organisational context. In our case, the units of analysis are individual CHIs. [[Return to text](#)]
7. In this study we have categorised the YCBA as an archive, owing to their extensive archival collection. The YCBA characterises its main purpose as a museum, although it had been in prolonged closure for building works at the time of interview.
[[Return to text](#)]
8. For a detailed guide, see Cornell University Library: <https://guides.library.cornell.edu/copyright/publicdomain>. [[Return to text](#)]
9. Council Directive 93/98/ECC of 29 October 1993 harmonising the term of protection of copyright and certain related rights [1993] OJ L290/9 (The Term Directive); Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the

harmonisation of certain aspects of copyright and related rights in the information society [2001] OJ L 167/10 (The Information Society Directive); Directive 2006/116/EC of the European Parliament and of the Council of 12 December 2006 on the term of protection of copyright and certain related rights (codified version) [2006] OJ L372/12 (The Term Directive 2006); Directive 2011/77/EU of the European Parliament and of the Council of 27 September 2011 amending Directive 2006/116/EC on the term of protection of copyright and certain related rights [2011] OJ L265/01 (The Term Directive 2011).
[\[Return to text\]](#)

10. Superior Court of Justice of Brazil [2005] Case No. REsp 617.130/DF, DJ 02/05/2005.
[\[Return to text\]](#)
11. Superior Court of Justice of Brazil [2020] Case No. REsp 1.822.619/SP, DJ 18/02/2020.
[\[Return to text\]](#)
12. For more information, see: https://pinacoteca.org.br/wp-content/uploads/2024/10/Pina_Politica_DireitoAutorial_2020.pdf. [\[Return to text\]](#)
13. Infopaq International A/S v Danske Dagblades Forening [2009] (Case C-5/08).
[\[Return to text\]](#)
14. Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC [2019] OJ L130/92. [\[Return to text\]](#)
15. Antiquesportfolio.com v. Rodney Fitch [2001] FSR 345. [\[Return to text\]](#)
16. Graves' Case [1869] LR 4 QB 715. [\[Return to text\]](#)
17. THJ Systems Limited & Anor v Daniel Sheridan & Anor [2023] EWCA Civ 1354.
[\[Return to text\]](#)
18. Bridgeman Art Library Ltd. v. Corel Corp 25 F. Supp. 2d 421 (S.D.N.Y. 1998); Bridgeman Art Library Ltd v Corel Corp 36 F. Supp 2d 191 (S.D.N.Y. 1999). [\[Return to text\]](#)
19. Meshwerks, Inc., v. Toyota Motor Sales, 528 F.3d 1258 (10th Cir. 2008). [\[Return to text\]](#)
20. President & Fellows of Harvard Coll. v. Elmore No. CIV 15-00472-RB/KK 05-19-2016 (D.N.M. 2016). [\[Return to text\]](#)
21. BN Digital Brasil, 'Políticas de Digitalização: Desenvolvimento das coleções digitais da Biblioteca Nacional Digital – BN Digital' <https://bndigital.bn.gov.br/sobre-a-bndigital/politicas-de-digitalizacao/>. [\[Return to text\]](#)

22. See Hemeroteca, Planor Catalogue, ‘Brasileira fotográfica’, ‘Brasileira Iconografica’, ‘biblioteca digital luso brasileira’, ‘Biblioteca da Literatura Infanto-Juvenil’ and Projeto Resgate’. [[Return to text](#)]
23. See, for example, ‘SISSON 200 anos’ (CC-BY-NC-SA) and ‘Gramáticas & Dicionários do Português’ (CC-BY-NC). [[Return to text](#)]
24. SMK Open (2022) How to do things with data, available at <https://medium.com/smk-open/how-to-do-things-with-data-creative-re-use-of-smks-digitized-collection-4cfd25bd4583>. [[Return to text](#)]
25. The Dedicated Terminals exception originated in the EU Copyright Directive 2001/29/EC, Article 5(3) (n). This exception permits libraries, archives, museums and educational establishments to make in-copyright works from their collections available on a dedicated terminal for research and private study. The works accessible through the dedicated terminal must not be bound by purchase or licensing terms that prevent this use. [[Return to text](#)]
26. Natural History Museum (2024) Annual Report and Accounts 2023-24, available at https://assets.publishing.service.gov.uk/media/66c5abbed10184fe9b13e535/Natural_History_Museum_Annual_Report_and_Accounts_2023_to_2024.pdf. [[Return to text](#)]
27. UKRI is the research council responsible for distributing government funding for research and innovation within the UK. It is a non-departmental public body, associated with the Department for Science, Innovation and Technology. [[Return to text](#)]
28. In the UK, certain types of works which were unpublished before 1988 and whose author died before 1969, remain protected by copyright until 31 December 2039, even if the author died centuries ago. These controversial provisions are referred to as the ‘2039 rule’ (see Deazley, 2017). [[Return to text](#)]
29. It should be noted that while Creative Commons offer six different types of licences, including CC BY-ND-NC, they recommend the following choices to CHIs: CC0 or PD Mark for born-digital and digital reproductions of public domain works; CC0 for metadata associated with digital objects; and CC0 or CC BY for born-digital and digital reproductions of in-copyright works, and other content created by the CHI or in which the CHI holds copyright. [[Return to text](#)]
30. Data taken from https://wellcomecollection.cdn.prismic.io/wellcomecollection/0047856d-bba9-4ab2-81b6-a270f887a8fb_WC+Digitisation+Strategy+2020-2025.pdf. [[Return to text](#)]

31. WC have been adopting a risk managed approach to digitisation of in-copyright materials for many years. The Wellcome Library's risk management strategy in their pilot digitisation project Codebreakers: Makers of Modern Genetics Code is examined in Stobo et al. (2013). [[Return to text](#)]
32. Library of Congress, Third Party Digitization Agreements, available at <https://www.loc.gov/about/doing-business-with-the-library/third-party-digitization-agreements/>. [[Return to text](#)]
33. The Signal (2021) Library of Congress Digitization Strategy 2023-2027, available at <https://blogs.loc.gov/thesignal/2023/02/library-of-congress-digitization-strategy-2023-2027/>. [[Return to text](#)]
34. Flickr (n.d.) Library of Congress – About, available at https://www.flickr.com/photos/library_of_congress/. [[Return to text](#)]
35. The Brazilian Institute of Museums (IBRAM) is responsible for the direct administration of 30 federal museums, in 10 states of the federation. [[Return to text](#)]
36. The reason given was that users were more comfortable paying image capture fees and would purchase more images as a result, compared with paying for a licence, which was viewed as more abstract. [[Return to text](#)]
37. The institutions in our study that reported cost savings from abandoning closed licensing approaches included Pinacoteca, Brazil; Museum of the Republic, Brazil; Dutch National Archives, EU; Yale Centre for British Art, USA; Indianapolis Museum of Art, USA; and Wellcome, UK. [[Return to text](#)]
38. Pattypan is an open-source tool written in Java by Yarl and designed to upload files to Wikimedia Commons and other Wikimedia projects. [[Return to text](#)]
39. Google Arts & Culture doesn't offer a universal open licence for all content. Instead, it relies on the copyright policies of institutions, meaning that some images are copyright-free, while others may have restrictions. [[Return to text](#)]
40. This includes commercial projects like Cwis Bob Dydd (Quiz Every Day), a quizzing app designed for Welsh Language speakers and used by 60,000 people per day, developed by CodeSyntax. Their open data also powers the Welsh Language version of the geolocation app What Three Words. [[Return to text](#)]

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