Now you can see (and track and manage) it: Incorporating streaming video content into ProQuest's 360 KB

Received (in revised form): 18th December, 2018

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Abstract Consumers today can easily discover, access and view streaming video through subscription products. While the experience for the individual consumer can be relatively seamless, this is less often the case for library patrons using library platforms in educational settings, due to access restrictions, an apparent absence of content, or difficulties finding the material. Web-scale discovery tools have helped to change the landscape with respect to making streaming video more discoverable in the library context, but many of the issues associated with apparent access restrictions or absence of content can be traced to the absence of important metadata, including universal standard identifiers (eg International Standard Serial Numbers or International Standard Book Numbers), or the design choices of library service platforms (eg catalogues, discovery layers and knowledge bases).
This paper argues that vendors of video content and vendors of library platforms have not adequately enhanced streaming content access through improved metadata. This enhancement is particularly relevant for streaming video used in two major growth areas: research and teaching. The paper provides a case study of streaming video in ProQuest's access and discovery products — especially the 360 KnowledgeBase Suite (360 KB) — and demonstrates that streaming video content discovery designed for learning settings is enhanced through consistent and controlled metadata.

KEYWORDS: knowledge bases, streaming video, metadata, e-resource management, access, discovery, 360 KB, Summon

INTRODUCTION

Everyone loves the personal instant video options offered *à la carte* by vendors like Amazon, Hulu and Netflix. The mass market offerings in these platforms provide individuals with an easy way to have thousands of titles at their fingertips for one simple monthly fee. While this model makes it easy for individuals to buy access to a wealth of streaming content, it was never designed for libraries, which require institutional-level content subscriptions and

platforms robust enough for multiple users to stream concurrently. Nevertheless, libraries are still expected to offer the relatively easy and reliable streaming experiences provided by mass market platforms catering to individual subscriptions. Video distributors that provide content to libraries have responded to this growing need over the past decade (roughly 2006 to present) by selling streaming content on platforms designed to emulate the single-user subscription platform. While the end-user experience with these platforms is generally satisfactory (assuming the desired content is available, of course), acquisition and access remain significant hurdles for libraries due to challenges with budgets, licensing and other technological constraints.[1] This paper does not presume to solve all of the issues associated with the acquisition and access of streaming video, but it does seek to rejuvenate an interest in providing more robust metadata to facilitate more consistent and controlled access to and statistical tracking of streaming video content.

THE STREAMING VIDEO LANDSCAPE

Over the past decade, streaming video has become a popular way to access video content, not just for personal use, but also for teaching and research. Its dramatic growth in popularity for teaching and research has been documented in a number of studies that have examined how faculty and students use streaming video. A small study conducted by Kaufman and Mohan in 2008 discusses the results of interviews with 45 faculty and 12 librarians and administrators, from 18 disciplines, at 20 institutions (mostly large Research1 (R1) that is, institutions that grant doctoral degrees and demonstrate the highest activity of research). In 2008, less than 30 per cent of faculty were using streaming video in their research and teaching, but usage was expected to grow significantly as faculty had a strong interest in 'educationally targeted video archives'. Holding them back was the lack of content available for higher education.[2]

More recent industry reports by vendors of video content indicate that, since 2012, interest in video seems to have increased dramatically among both students and faculty. In 2017, nearly three-quarters of both groups reported using video content in pedagogical and research contexts. Based on a study of 410 faculty from around the world, ProQuest reported that in the two years from 2015 to 2017, the number of researchers using video in research increased from 39 per cent to 71 per cent.[3,4] In a separate survey of about 1,700 students, Sage Publishing found that 70 per cent of students are assigned or seek out video (usually found via searching YouTube or Google) as a part of their coursework.[5] Meanwhile, Alexander Street Press (ASP) reports that in 2018, its top disciplines were classical music, counselling and therapy, nursing, US history and anthropology, while the top ten search terms were 'Don Giovanni', 'Agnesi', 'Mozart', 'five stages counselling process', 'five forces counselling and psychotherapy', 'Bach', 'motivational interviewing', 'Beethoven', 'Jazz' and 'Shakespeare'.[6] If these disciplines and terms are mapped out to research and teaching, it can be concluded that musicologists, ethnomusicologists, historians, anthropologists, nursing faculty, clinical psychologists, other faculty teaching counselling and students studying in these areas are currently among the biggest users of this platform. Although anecdotal, faculty who teach language classes at the University of Washington in Seattle report that foreign language teaching has shifted dramatically out of literature and into film, which has led to increased demand for streaming film content for in- and out-of-class projects.[7]

The dramatic increase in streaming video usage is mirrored by an increase in vendor offerings and library purchases of streaming content. The Primary Research Group's 2010–2011 Survey of Academic Libraries was the first in this series of surveys to

dedicate a chapter to the state of streaming video, reporting that around 33 per cent of the libraries surveyed were providing their users with streaming video content.[8] Two subsequent studies by deg farrelly and Jane Hutchison set out to address the small sample size of the work done by the Primary Research Group.[9] Between the 2010–2011 Survey of Academic Libraries and farrelly and Hutchison's first survey in 2013, the percentage of libraries that offered streaming content grew from 33 per cent to 70 per cent. By 2015, more than 90 per cent of libraries reporting in the study were offering some type of streaming service.[10] Notwithstanding the small sample size of the Survey of Academic Libraries and the fact that farrelly and Hutchison's sample skews in favour of doctoral-granting universities, this change represents a dramatic increase in libraries offering some type of streaming video content.

Given that students and faculty are demanding more streaming video than ever before and that libraries are seeking to meet this need by providing streaming video services, the acquisition-access-discovery-use pipeline can be more effective than it currently is for many libraries, video content vendors and users.[11] Public services librarians continually troubleshoot the easiest way to find the content their library has purchased. While faceted searching in discovery-layer products like Summon, Primo, EBSCO Discovery Service (EDS) and WorldCat Discovery has enhanced the findability of some formats (eg articles and monograph chapters), streaming video is often difficult to find in the discovery layers of library service platforms.[12] Moreover, although discovery is the primary goal for every item that libraries acquire for a collection, streaming video presents a myriad of challenges with acquisition and access that sometimes make discovery nearly an afterthought.

Content availability is the first hurdle to vault, long before discovery can even be considered. One of the biggest challenges, still, is finding the content that fulfils the needs of library users. The content available for purchase by libraries has grown exponentially since ASP released Theater in Video in 2006 — one of the earliest streaming products available for institutional subscription.[13] On a parallel path for direct-to-consumer access were companies like Amazon, Netflix and Hulu, which previewed their personal-use streaming platforms in 2006,[14] 2007[15] and 2008[16] respectively.[17] The wide scope of content available at these platforms set a high benchmark for educationally focused material. Today, even with a large number of vendors offering some level of open access film content to fill an educational niche, subscription models with a narrower range of content choices prevail in the market. Four or five vendors dominate the institutional streaming video market.[18] The big four are: Kanopy, ASP, Films on Demand and, depending on who you are reading, Swank Digital Campus or DocuSeek2.[19,20]

If a vendor has been identified as selling the needed content, other issues immediately present themselves for libraries to resolve before users can discover the content. Each vendor offers its own models for acquisition and access of streaming content, further complicating discovery even if the sought-after content is available at one of the platforms. Among the issues are:

- *Hosting:* Where does the content live? With the vendor? With a third-party platform? With the library?[21,22]
- *Licensing:* How long does the library have access? For a flat fee for an agreed upon period of time (one year, three years)? For a graduated fee for an agreed upon period of time? One-time? Perpetually?[23]
- *Pricing:* Is it by title and licence? By collection and licence? Does the library pay per view? Is it purchased through evidence-based acquisition (EBA) or patron-driven acquisition (PDA)?[24,25]

- *Access:* Will the distributor provide Machine-Readable Cataloging (MARC) records for this content that can be used to make reliable access points? Will holdings information be to Knowledge Base and Related Tools (KBART) recommended practices? Will the catalogue, finding aids, e-resource knowledge base or discovery layer be the first point of access to this content? How is access to subscriptions being controlled?[26,27]
- *Discovery:* How are the titles indexed and access controlled in a discovery layer if there is one?
- *Tracking usage:* What steps are in place to track collection content and usage? Who does the tracking?

Currently, technical services librarians, especially cataloguers and acquisition librarians, work through steps similar to these to make the streaming video discovery pipeline function. If these questions pertaining to these six aspects of acquisition and access are answered to the satisfaction of the librarians managing the content, a significant step toward discovery has been made. Nevertheless, pitfalls to access have not been entirely removed from making streaming content discoverable, especially as regards knowledge bases, catalogues or discovery layers. The library still risks inadvertently double-purchasing content or falling victim to overzealous users of a PDA collection.[28] Equally problematic for libraries with shrinking budgets is gathering inaccurate usage data from EBA and PDA collections. These models should help libraries to buy only what their patrons need within budget constraints, but the reality is that statistics recorded in platforms might not be sufficient for libraries making collection management decisions. This problem is further complicated when the EBA and PDA statistics conflict with reports from tools like COUNTER or the Standardized Usage Statistics Harvesting Initiative (SUSHI).[29,30,31] More accurate patron viewing data and cost-per-usage statistics from tools provided in a knowledge base or discovery layer can potentially help libraries manage their collections more effectively.

Faculty and students can now access more streaming video content than ever for their research and teaching. That being said, these end users are not reaping all the benefits of this content when it is available. Significantly more control can be exercised over acquisition and access of video content to help libraries maximise their budget dollars devoted to streaming video. This process starts with vendors of streaming video content, flows through knowledge bases, catalogues and discovery layers, and is finally passed on to users. Better metadata is vital to improve the streaming video ecosystem. The better the metadata (especially holding or title list information and cataloguing records) that library service platforms have to use for access points, the better chance users have to find the right streaming video content.

WHY STREAMING VIDEO AND WHY NOW FOR PROQUEST?

Two factors make this push to improve streaming video metadata particularly timely for ProQuest. First, it is an ideal time for ProQuest to fit streaming video content into its access and discovery products. As a long-time major presence in the library vendor industry, ProQuest is committed to meeting its library customers' and end users' needs. ProQuest's mission statement is clear in its support for end-user researchers:

> The company's portfolio of assets — including content, technologies and deep expertise — drives better research outcomes for users and greater efficiency for the libraries and organisations that serve them . . . ProQuest is a key partner for content holders of all types, preserving and enabling access to their rich and varied information.[32]

ASP, one of ProQuest's subsidiaries, recognises that video content is driving research: as video takes on an 'ever-more

critical role in education . . . the possibilities to amplify [video's] usefulness to librarians, faculty, learners and researchers [is made stronger] by connecting it seamlessly with text-based resources'.[33] For ProQuest to fulfil its larger mission to researchers, which has become connected to discovery of video content, it must strive for seamless discovery and use of streaming video content in its library service products (eg the 360 KB).

Secondly, because more models now exist for acquiring and licensing streaming video content than even a couple of years ago, it is timely to adopt this format to facilitate end-user discovery. Content vendors like ASP, Kanopy and others are not only offering collection-level or PDA purchasing, but also *à la carte* acquisitions options as libraries need them.[34] These pick-and-pay services offer customers a pricing model that allows them to license individual titles. Access to these individual titles is currently prohibited by the design of ProQuest's main access tools, the 360 KnowledgeBase Suite (previously known as the Serials Solutions KB, now known as the 360 KB, which includes the Client Center, Intota, the E-Journal Portal (EJP), 360 Link, 360 Counter and 360 Core). For customers of these products, it is not currently possible to track and link to title-level streaming video content. Meanwhile, downstream from these products, Summon, one of ProQuest's discovery products, is unable to link out to title-level video content that is present in its index but not in the 360 products. As title-level video subscriptions become more commonplace, ProQuest must be prepared to provide accurate and controlled access to these titles.

A more seamless discovery and user experience for researchers — thus helping ProQuest to fulfil its mission to its customers — will be made possible by filling the gap between the content provided by streaming video vendors and the requirements for access in knowledge bases, catalogues and discovery layers. ProQuest's 360 KnowledgeBase Content team (the 360 KB team) is seeking to provide solutions to fill this gap, which in turn will help libraries offer users the most and best streaming content they can. Moreover, the project to address these title-level gaps should have broader implications for improving access points across the streaming video landscape. Better metadata for streaming video across the library industry means happier users, happier librarians and happier video content vendors. In other words, there are multiple business cases to be made for improving the metadata of streaming video content.

THE 360 KB: A STARTING POINT FOR STREAMING VIDEO

ProQuest is ideally positioned in the library vendor marketplace to make access and discovery of streaming video content more effective for researchers and librarians, not only because of the 360 KB products, but also because of the competencies of the team that processes, transforms, corrects and ingests metadata into the 360 KB. The work of this team of metadata librarians is divided broadly into two parts — provider data and cataloguing and bibliographic control — both of which play a key role in improving metadata and have immediate positive effects downstream in discovery.[35]

Currently, the 360 KB ingests full-text serial and monograph holdings, organised according to a vendor and database hierarchy.[36] Access points are first created through vendor title-list metadata. These holdings are uploaded into the KB, which usually include the following metadata points that are often in KBART format: at a minimum the title and URL, but many also include a standard identifier (ISSN or ISBN), author or editor (monographs only), publisher and publication date (or a range of dates for serials). Successful linking to these holdings is significantly improved by attaching MARC records to these holdings through a process called normalisation, which provides, among other things, the link

resolvers and the EJP lookup with stable standard identifiers and an SSID (Serials Solutions ID or ExLibris ID, also known as an ssj). Figure 1 provides a visualisation of the SSID creation process. Although some automated processes enable holdings to be ingested and SSIDs to be created without human intervention, most of the metadata in the 360 KB have been touched by one or more members of the 360 KB team.

Accommodating streaming video has been challenging for the 360 KB for the reasons mentioned earlier. First, the streaming video industry seems to be forever in flux with pricing, licensing models and hosting strategies that must be considered before ingesting the holdings into correct collections. Secondly, metadata quality that describes streaming video content is not as robust as some other formats (eg serials and monographs).[37] Most video vendors offer neither 'normalise-ready' title-level holdings (missing a unique title and a standard identifier) nor have full-level MARC records (which are necessary for the 360 KB to create reliable and controlled access points).[38] Moreover, if standard identifiers were introduced for streaming content, a significant barrier to access would be removed not only for the 360 KB, but also for other catalogues, knowledge bases and discovery layers.

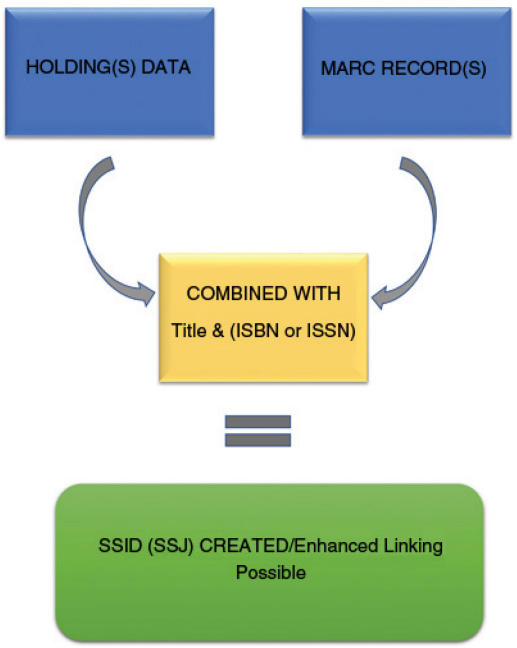


Figure 1: Normalisation workflow diagram

Despite these hurdles to offering access to streaming video content in the 360 KB, the time is right to revisit what formats the 360 KB can ingest into its holdings. ProQuest has explored expanding its tools to accommodate streaming video content in the past — for example, the Summon discovery layer was designed to be able to represent it — but it was not until 2017 that an active working group established concrete development needs, metadata needs and customer needs to make streaming video metadata a part of the 360 KB. The working group consisted of representatives from the 360 KB team, the development team, the product ownership team and the provider relation teams.

The working group has approached the 360 KB streaming video project from a variety of avenues in an effort to make the end product as robust as possible for customers. Successfully linked access points in the 360 KB are determined directly by the quality of vendor-supplied metadata (title-list holding and often MARC record metadata). Metadata therefore represented the driving force behind the each of the working group partners' preliminary work:

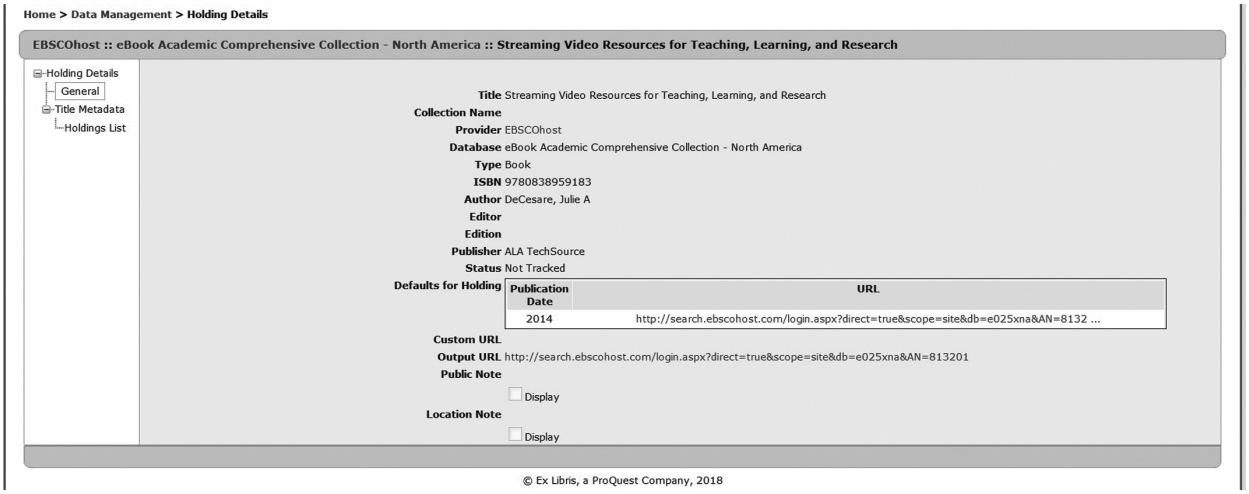
- *360 KB librarians:* metadata and matching requirements for streaming video (Table 1) for video that will likely be displayed in Client Center holdings similar to serials and monographs (see Figures 2 and 3);
- *360 KB developers:* proposal to repurpose the content type 'other' as 'video' in the proof-of-concept design document;
- *360 KB provider relations team:* identifying current serial and monograph providers who also offer video content; actively seeking collaborations with new providers who specialise in streaming video content; and
- *360 KB product ownership:* unveiling a roadmap of 360 KB updates, including adding streaming video content.

Table 1: 360 KB holding fields for streaming video

Type	Content
Database name	The name of the collection (often as sold by vendors to libraries)
Database code	A five-digit/letter code assigned to each database
Type	Video
Title	Title of the holding (MARC field 245a)*
Provider title ID	A code of digits and letters assigned by the vendor to each title*
Identifier	ISSN, ISBN or other stable identifier created by the publisher (MARC field 022a, 020a, or 024a)*
Contributors	Credit information (eg director) (MARC fields 511 and 508)*
Publisher	The distributor of the content (MARC field 264a)*
Release date	The date the item is released by the distributor as streaming content*
Edition	A statement pertaining to the specific release (eg extended edition) (MARC field 250a)*
URL	The uniform resource locator for linking into the title on a specific platform (MARC field 856u)*

*These items are provided by the vendor of the video content (this may be in KBART-like formatting or from other metadata, such as MARC records).

a



b

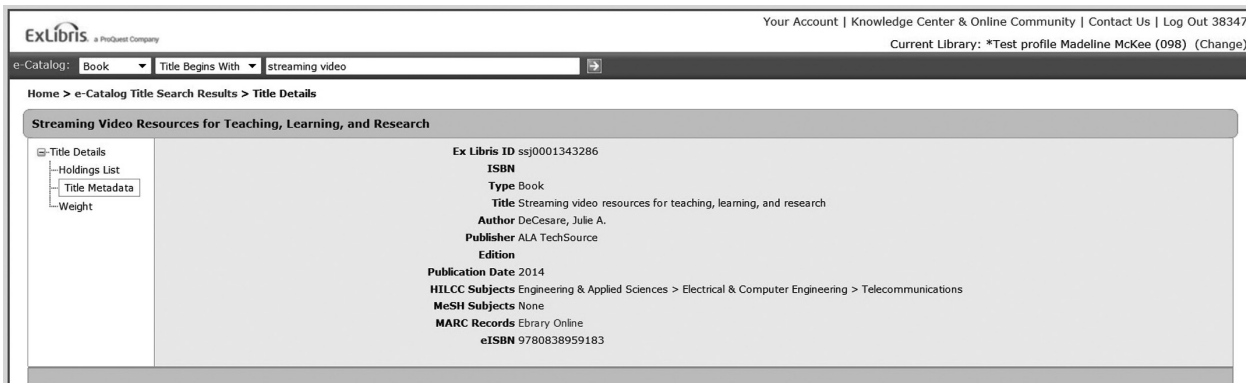
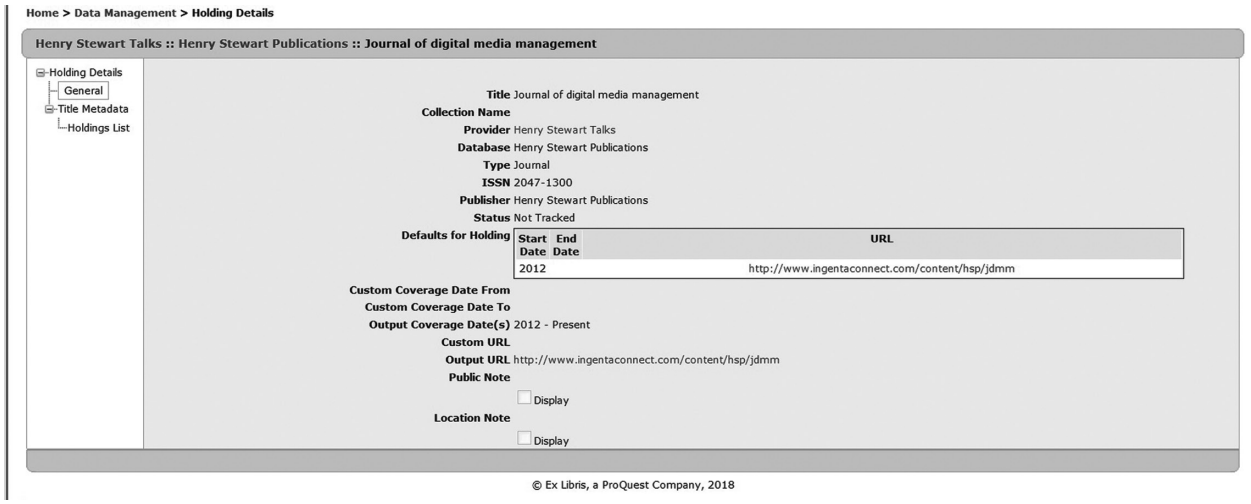


Figure 2: (a) A Client Center example of holding metadata for a monographic title provided by EBSCO — this is monographic metadata loaded by the provider data librarians; (b) a Client Center example of bibliographic data for a monograph, generated by a normalised title, indicated by the ssj (note the presence of the ISBN and title, two key components for creating an ssj)

a



b

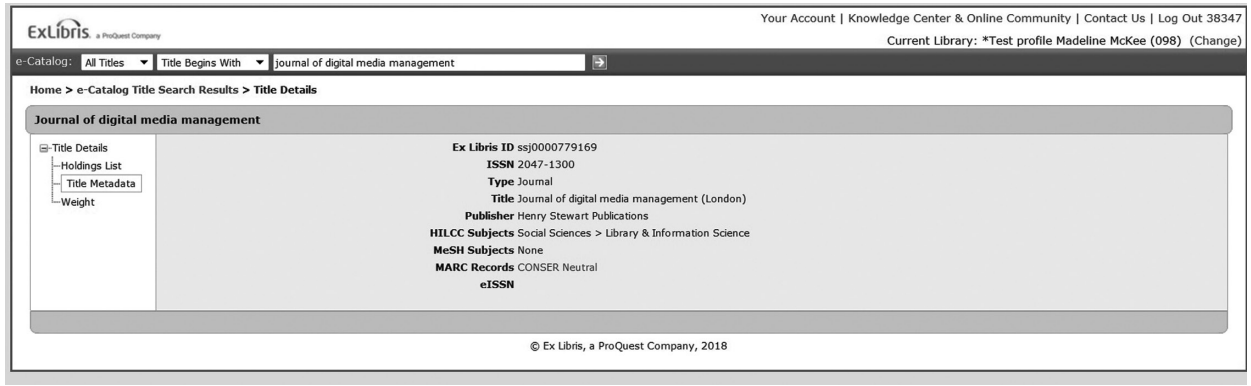


Figure 3: (a) A Client Center example of holding metadata for a serial title provided by Henry Stewart Publications — this is serial metadata loaded by the provider data librarians; (b) a Client Center example of bibliographic data for a serial, generated by a normalised title, indicated by the ssj (note the presence of the ISSN and title, two key components for creating an ssj)

In addition to these team-specific contributions, it has been important to receive feedback from the library community. This project was inspired in part by librarians from Duke University, who were among the earliest 360 KB customers advocating MARC records for streaming video. Efforts have also been made to bring this project to the attention to a number of other stakeholders with the hopes of eliciting feedback about metadata standards for representing streaming video in catalogues, knowledge bases and discovery layers. Conversations with librarians who have deep expertise with cataloguing video at Electronic Resources & Libraries 2018 and the American Library Association Midwinter (Denver 2018) OLAC Membership meeting have been useful in shaping the current approach to the project. Moreover, the larger library community will remain important as the project progresses.

LOOKING FORWARD

When can customers expect to see changes to the 360 KB? ProQuest's 360 Product Owner, Amy Pemble, communicated to

customers at the 2018 ExLibris Users in North America (ELUNA) conference that the development is on the 2018 product roadmap.[39]

What can ProQuest access and discovery customers expect to see in a future update to the 360 KB? Accurate display of title-level video holdings that are normalised in Client Center and Intota, 360 MARC Updates with MARC records for streaming video titles, successful linking to platform content with 360 Link and cost-per-use data of tracked titles across multiple vendors.

Other products related to the 360 KB Suite will also see benefits with the successful deployment of adding video content. One of the biggest advantages of adding streaming video content to the 360 KB will be improved rights access in Summon, especially with respect to streaming video collections that are sold as *à la carte* or selectable-title packages. Summon is designed to make rights access possible for a library's subscriptions by selecting (or tracking) title-level holdings in the Client Center or Intota, which is a representation of content indexed in the 360 KB. Items that can be selected have a much higher chance of linking successfully when users discover them in Summon. If the titles are not indexed in Client Center or Intota, which is the case currently for streaming video content, a user is likely to get thousands of unhelpful or non-relevant search results due to the inadequate granularity of the holdings in the 360 KB. Users receive many false positives in a title search when the collection is managed in a title-by-title acquisition model because Summon will display all of the titles associated with a collection (see Figure 4).

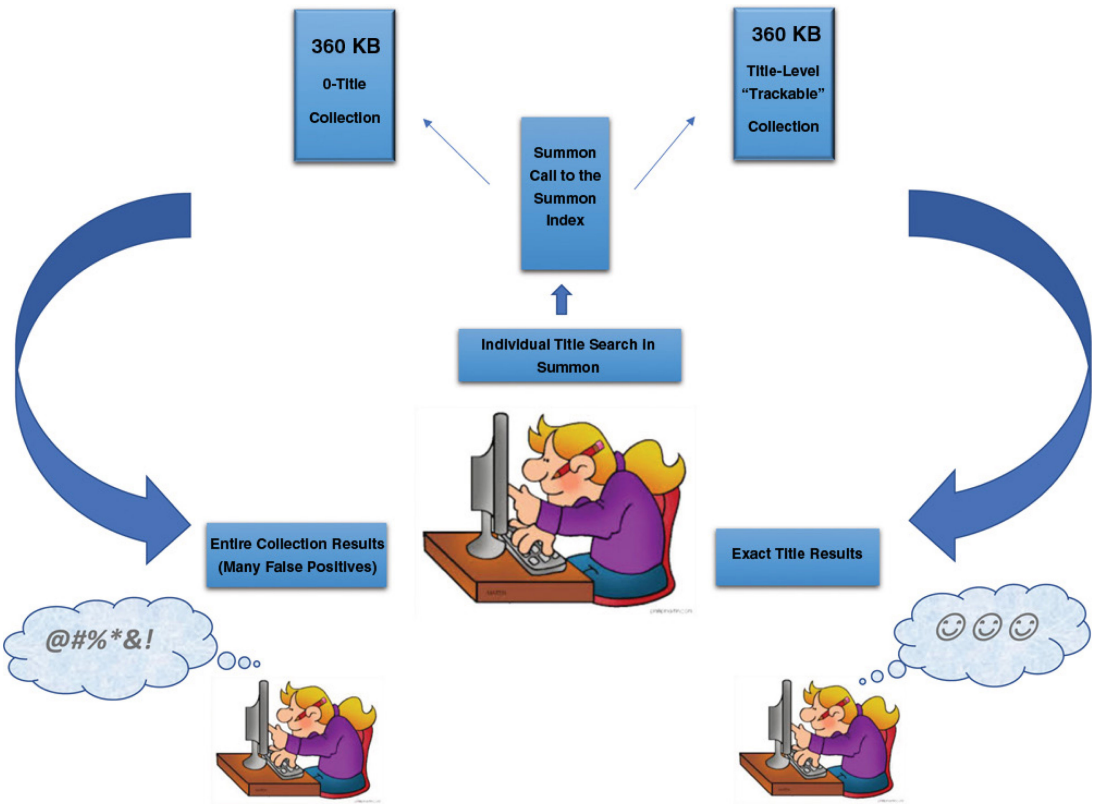


Figure 4: Summon looking for title-level rights: failure versus success

WHAT ABOUT OTHER LARGER-SCOPE DOWNSTREAM EFFECTS?

While the immediate benefits to displaying title-level holdings for streaming video content in the 360 KB will enhance access points and make it possible for libraries to enable better discovery of streaming video titles in Summon, key benefits should also accrue for other downstream products, such as Primo, SFX, Alma and other industry knowledge bases and discovery products. The key to reaping benefits in discovery layers all comes down to metadata, much of it provided by streaming video content vendors. The better title-level holding data (eg in KBART format), formalised international standard identifiers (ISBNs are an obvious choice, but do not have to be the only option) and more robust MARC cataloguing, the more advantages every stakeholder in the streaming video ecosystem. Nevertheless, these benefits will be the greatest for users who are using these products for research and teaching, if librarians, video content vendors, and access and discovery product work together to improve the state of streaming video metadata.

AUTHOR'S NOTE

Thank you to the peer reviewers, members of the 360 KB Content team and especially to Jessica Short, Manager of Content Production in 360 KB for providing input about the content of this paper.

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17. While Amazon, Netflix and Hulu are now household names, CinemaNow is possibly the earliest example of a company offering streaming services to consumers. It was founded in 1999 and offered services until August 2017. For more information, see: https://web.archive.org/web/20090616122324/http://investing.businessweek.com/research/stocks/private/snapshot.asp?privcapId=596260 (accessed 15th August, 2018).
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25. ACRL has identified new pricing and purchasing models as two of the top issues and challenges for academic libraries in 2018, see: ACRL Research Planning and Review Committee. (2018) '2018 top trends in academic libraries: A review of the trends and issues affecting academic libraries in higher education', *College and Research Libraries News*, Vol. 79, No. 6, available at: https://crln.acrl.org/index.php/crlnews/article/view/17001/18750?sf192243863=1 (accessed 15th August, 2018).
26. For a discussion of MARC records for streaming content, see: *Ibid*., ref. 11 above; and *Ibid*., ref. 10 above.
27. For more details about the information required in KBART compliant holdings, see: https://groups.niso.org/apps/group_public/download.php/16900/RP-9-2014_KBART.pdf (accessed 15th August, 2018).
28. In a conversation about challenges of managing streaming content, John Vallier, Head of Media and the Ethnomusicology Archive at the University of Washington, described one key problem being the inadvertent duplication of purchases. For example, when a discovery layer (in this case Primo) did not surface the purchased title accurately, users were directed to another platform with the same content. That platform operated with a PDA system that generated another purchase of the content which had already been acquisitioned through another platform. Personal communication, 9th August, 2018.
29. *Ibid*., ref. 24 above.
30. COUNTER currently has one type of report for streaming video content, which is grouped with all media, and known as the Multimedia Report 1 (MR1). It is a collection-level cost-per-usage report. This is currently available in ProQuest's 360 Counter product. For more information about COUNTER reports see: COUNTER. (n.d.) 'The COUNTER Code of Practice for Release 4: Usage Reports', available at: https://www.projectcounter.org/code-of-practice-sections/usage-reports/ (accessed 15th August, 2018). A new version of COUNTER, released in January 2019, includes title-level multimedia reports. For more information on COUNTER 5, see COUNTER (2018) 'The Friendly Guide to Release 5 for Librarians', available at: https://www.projectcounter.org/wp-content/uploads/2018/03/Release5_Librarians_PDFX_20180307.pdf (accessed 15th August, 2018).
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32. ProQuest. (n.d.) 'Who we are', available at: https://www.proquest.com/about/who-we-are.html (accessed 15th August, 2018).
33. Sanford, K. (2016) 'Alexander Street joins ProQuest family of companies', 22nd June, available at: https://www.proquest.com/blog/pqblog/2016/Alexander-Street-Joins-the-ProQuest-Family-of-Companies.html (accessed 15th August, 2018).
34. ASP is not the only streaming video vendor to offer firm order, individual title purchases. Recent enquiries to Kanopy indicate that it presently offers at least some type of title-by-title purchasing arrangements for clients.
35. The 360 KB content team has traditionally been divided into two groups of metadata librarians: The Provider Data Team and the Cataloguing and Bibliographic Control Team. The Provider Data metadata librarians work closely with publishers to maintain provider and database-level metadata in the 360 KB, which consists of organising vendor holdings metadata into collections of databases with title-level holdings for serials and monographs. The Cataloguing & Bibliographic Control team is responsible for matching holding information to authoritative MARC records (eg PCC CONSER for serials and ECIP LC records for books) through a normalisation process. 360 KB cataloguers are also responsible for creating and correcting MARC records and editing information found on authority records created through normalisation.
36. This includes not just content in an HTML or website format, but also PDFs and images with metadata. Providers can be publishers, content aggregators or hosting platform vendors. Databases represent collections of titles that the vendors sell or make available for users. If all of a vendor's content is freely accessible, typically only one database is required to represent their holdings data. If a vendor sells their content, either by individual titles or by collections of titles, the 360 KB represents that data based on what the vendor specifies, either through conversations, website information or lists of titles.
37. The 360 KB was originally designed to ingest title-level serials, as an A–Z list with titles and ISSNs as the primary matching points for creating ssjs. Monographs were later added, with title and ISBN as the matching points.
38. Streaming video content introduces a new level of challenge for the 360 KB, generally lacking an international standard identifier. The one exception of vendors currently working with the 360 KB team is Sage Publishing, which provides titles and ISBNS for its holdings, as part of its commitment to be KBART compliant in its title lists. For more information about Sage's streaming video content, see: Sage Publishing. (2018) 'SAGE Video', available at: https://us.sagepub.com/en-us/nam/sage-video-2018 (accessed 15th August, 2018).
39. Pemble, A. (2018) '360 Services Intota Road Map', available at: https://knowledge.exlibrisgroup.com/@api/deki/files/65450/ELUNA_2018_-_360_Services_Intota_Roadmap_-_Amy_Pemble.pdf?revision=1 (accessed 15th August, 2018).