

Standards for Demand-Driven Acquisition: The Development and Role of the U.S. NISO DDA Postprint

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Abstract

[Purpose/Significance] This study explores the standardized development of Demand-Driven Acquisition (DDA) in American libraries, introduces the “Recommended Practice for Demand-Driven Acquisition of Monographs” (NISO DDA) published by the National Information Standards Organization (NISO), and provides references for the standardization development of DDA in Chinese libraries. [Method/Process] Through literature review, it introduces the background of NISO DDA’s emergence, the standard’s development process, its elements and functions, as well as the challenges faced in its application. [Result/Conclusion] NISO DDA has laid the foundation for DDA to move toward standardization and sustainable development. It plays a positive role in protecting the interests of various stakeholders, including libraries, publishers, distributors, and e-book database aggregators, and provides guidelines for all parties to adopt and promote DDA in a standardized manner on the basis of win-win cooperation. Meanwhile, the sustainable development of DDA continues to face challenges. Stakeholders in the book publishing chain are still actively exploring ways to achieve sustainable development and standardization of DDA.

Full Text

Demand-Driven Acquisition Standards: The Development and Role of NISO DDA in the United States

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Abstract

[Purpose/Significance] This paper examines the standardized development of Demand-Driven Acquisition (DDA) in American libraries, introducing the *Demand Driven Acquisition of Monographs* (NISO DDA) published by the National Information Standards Organization (NISO) to provide reference for DDA standardization efforts in Chinese libraries. **[Method/Process]** Through literature review, the paper introduces the background of NISO DDA's emergence, its development process, key components, functions, and implementation challenges. **[Result/Conclusion]** NISO DDA has laid the foundation for the standardization and sustainable development of DDA. It provides guidelines for protecting the interests of all stakeholders—including libraries, publishers, vendors, and e-book aggregators—and promotes standardized adoption based on win-win cooperation. Meanwhile, the sustainable development of DDA continues to face challenges, with stakeholders actively exploring solutions.

Keywords: demand-driven acquisition (DDA); patron-driven acquisition (PDA); National Information Standards Organization (NISO)

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Demand-Driven Acquisition (DDA), also known as Patron-Driven Acquisition (PDA), is a collection development method used by libraries, primarily for acquiring e-books but also applicable to print books. Libraries using this method select a broad range of potentially useful titles and make them available in a discovery pool for users to access freely, purchasing or renting titles instantly when user demand materializes. DDA has gained widespread popularity among libraries due to its unique advantages, though its implementation has encountered unforeseen problems and risks that affect its sustainability. Consequently, a DDA interest group comprising stakeholders from across the U.S. book publishing chain—including libraries, publishers, vendors, and e-book aggregators—proposed to the National Information Standards Organization (NISO) the development of what became the *Demand Driven Acquisition of Monographs: A Recommended Practice of the National Information Standards Organization* (hereinafter NISO DDA), published in June 2014. This standard has laid the foundation for the standardization and sustainable development of DDA.

2. DDA/PDA Development Trends

According to early library literature, DDA/PDA as an e-book acquisition model was first introduced by NetLibrary in 1998. This model combined two traditional acquisition methods: patron-requested purchasing and approval plans. DDA/PDA developed slowly in subsequent years but began to rise after 2008, with libraries widely piloting and adopting the approach. This trend was reflected in the Association of College & Research Libraries (ACRL) *Top Ten*

Trends in Academic Libraries reports, where DDA/PDA ranked first in 2010 (“user-driven resource building continues to grow in academic libraries”) and seventh in 2012 (“patron-driven acquisition of e-books will become the norm”), indicating that by 2012 DDA/PDA had become widespread and continued to develop.

This upward trend is also evident in publication statistics from Library Literature & Information Science Full Text. As shown in Figure 1 [Figure 1: see original paper], only one article was published in 2009, but this increased to 18 in 2010 and 29 in 2011, with academic articles accounting for 40 of the total (85%). P.D. Moeller’s review of acquisition literature from these two years identified the rapid growth of e-books and PDA adoption as widely discussed topics. Numerous articles explored libraries purchasing through interlibrary loan requests (ILL PDA), shared successes and failures in e-book PDA implementation, documented configuration settings, adoption of different models (including combined print and consortium PDA), batch downloading of vendor records, and workflow development. Moeller also introduced the 2011 monograph *Patron-Driven Acquisitions: History and Best Practices*, likely the first book dedicated to PDA application and its impact on libraries and publishing. By this time, publishers had recognized that PDA was disrupting the traditional book supply chain.

Entering 2012-2013, DDA/PDA publications doubled and peaked, with 60 articles in 2012 and 63 in 2013, of which academic articles numbered 89 (72% of the total). A. Dresselhaus’s review of acquisition literature from these two years noted extensive documentation of PDA implementation, problems encountered, workflows, and project evaluations. Tight library budgets were the primary reason more libraries adopted DDA, also driving interest in consortium PDA to share costs among member libraries.

From 2014-2015, DDA/PDA publications remained high, with 54 articles in 2014 and 52 in 2015 (76 academic articles, 72% of the total), demonstrating continued strong interest. In addition to documenting implementation status and issues, more articles evaluated DDA projects, including assessments of various models such as short-term loan (STL), evidence-based acquisition (EBA), consortial models, multi-mode combinations, and different resource formats. Collection development analyses and comparative usage studies (print vs. electronic, DDA vs. traditional models, consortium vs. individual library) also appeared. By this period, PDA/DDA projects had expanded beyond books to include streaming media.

From 2016-2017, DDA-related articles began to decline, with 43 in 2016 and 16 in 2017 (39 academic articles, 70% of the total). Publications continued exploring previous topics, with project evaluations remaining dominant. New DDA models emerged during this period, such as ProQuest’s access-to-own (ATO), OverDrive’s cost-per-circ (CPC), and article-level DDA models, indicating that DDA had matured as a library acquisition model while continuing to evolve.

Overall, literature since 2009 shows libraries’ focus shifting from initial DDA

adoption to recent evaluations of operational aspects. Notably, despite the June 2014 publication of NISO DDA, no studies have examined its impact on DDA project management or its role in standardization, as searches for keywords “NISO” or “National Information Standards Organization” yield no relevant results. Therefore, introducing NISO DDA’s development and role will facilitate deeper investigation into its influence on standardized DDA management and sustainable development, encouraging broader implementation.

3. Background of NISO DDA

DDA/PDA has been widely adopted by North American libraries primarily due to two factors. First, as R. Anderson, Associate University Librarian at the University of Utah and Society for Scholarly Publishing member, argues, in an environment where network/digital publishing dominates, it no longer makes sense for libraries to permanently collect resources based on speculative user needs. Second, reduced library budgets and continuously rising resource prices, particularly for academic journals, have made traditional acquisition models impractical and financially unsustainable. DDA/PDA represents a shift from just-in-case to just-in-time collection development for books.

According to a September 2015 ProQuest survey of over 460 libraries, 47% used DDA for purchases and 21% for short-term loans, demonstrating DDA’s widespread adoption in North American academic libraries. However, implementation has revealed several major concerns:

The greatest risk is unpredictable usage rates and uncontrollable costs, with numerous examples of libraries exhausting budgets prematurely, while others underutilized allocated funds. For instance, the University of Iowa implemented a DDA project requiring ten uses to trigger a purchase but still found spending uncontrollable, forcing reduction of the discovery pool from over 90,000 titles to 8,000 through configuration adjustments and removal of expensive titles.

A second challenge involves selecting acquisition models, particularly whether to include short-term loans. Some libraries, constrained by budgets, prefer short-term loans without purchase triggers, while others worry about paying substantial fees without acquiring permanent collections, or about multiple short-term loans by the same user. Kent State University Libraries’ research found short-term loans may not be the most cost-effective method, with timeliness being a critical factor.

A third concern is acquiring unnecessary titles or compromising long-term collection development. Some libraries worry that post-purchase titles may go unused, duplicate existing holdings, or fall outside collection scope. The University of Washington’s evidence-based DDA model, requiring pre-negotiated purchase quotas, resulted in acquiring titles used only once or not at all. The University of Iowa noted that DDA’s focus on immediate needs might neglect future collection building goals.

Fourth, some libraries lack sufficient staff to manage discovery pool bibliographic records. California State University experienced delays in importing records due to insufficient personnel.

Meanwhile, publishers view DDA as challenging their business models, particularly regarding discovery opportunities and platform strategies. The most significant concern is short-term loans' impact on publishing sustainability. Initially intended to facilitate sales, with prices typically set at 10% of book cost, short-term loans have instead increased while purchases declined dramatically. Some libraries' exclusive focus on short-term loans reduces publisher revenue and threatens long-term publishing viability by disrupting profit forecasting.

R. Seger and L. Allen from Oxford University Press detailed the costs of publishing a 336-page academic monograph (approximately \$10,000), with 75-80% of cost recovery depending on first-year sales, primarily through traditional library approval plans. Contrary to expectations, despite providing \$15 million worth of e-book content through DDA, only 24% of e-book sales came from DDA projects. Charging only 10% per use was essentially free access, making short-term cost recovery impossible.

These challenges created urgent demand for standardized DDA implementation. In May 2012, M. Levine-Clark from the University of Denver Library, representing an informal DDA interest group, submitted a proposal to NISO to develop recommended practices for DDA, later published as NISO DDA. Levine-Clark argued that unstandardized DDA disrupted the book supply chain, affecting libraries, publishers, vendors, aggregators, and end users, necessitating collaborative efforts to establish new responsibilities and practices for sustainable scholarly communication.

4. DDA Standardization: The NISO DDA Development Process

NISO approved the proposal in June 2012, and the NISO DDA Working Group formed in August 2012, representing all supply chain stakeholders: libraries, publishers, e-book aggregators, approval plan vendors, discovery system providers, and bibliographic record suppliers. Though "PDA" was commonly used, NISO chose "DDA" to emphasize libraries' ability to provide extensive, broad content for free discovery, with instant purchase or rental when demand arises—distinguishing it from traditional patron-requested purchasing.

Preparation took nearly two years, including focus groups and three online surveys. The first general survey (75 questions on access models, current DDA projects, purchases/short-term loans, triggers, concurrent users, discovery pools, budgets, metrics, technical support, and consortium data) received 99 responses. The second consortium-only survey (24 questions on participation, challenges, short-term loan multipliers, funding, ownership, cataloging, discovery, and metrics) received 17 responses. The third public library survey (12 questions on e-book supply, access, DDA/recommendation forms, budgets, and pros/cons) received 14 responses. Most questions allowed comments, yielding extensive

feedback.

Published in June 2014, NISO DDA analyzes survey results and working group experience to address ten aspects with ten standardized recommendations: DDA elements, objectives, parameter selection, configuration, bibliographic record management, discovery pool deletion, evaluation, long-term access to non-owned content, DDA consortia, and public library DDA. The elements form the core foundation, comprising sustainability, free discovery, temporary rental, purchase, and alternative models.

5. Elements of NISO DDA

Sustainability is the primary element, crucial for both libraries and publishers. For libraries, sustainability means providing extensive content for user discovery within budget constraints, with reasonable pricing and trigger settings enabling year-round operation without premature closure due to budget exhaustion. For publishers, it means establishing pricing models that maintain revenue and support continued publishing; otherwise, long-term losses disrupt the scholarly communication ecosystem.

DDA projects typically include **free discovery** (browsing before purchase), **temporary rental** (short-term loans), and **purchase** options. Free discovery—limited browsing time, pages, or front matter—addresses early DDA problems where indiscriminate clicking triggered purchases of unneeded titles, causing budget overruns.

Temporary rental (short-term loan) enables libraries to pay for low-use titles on a per-use basis (daily, weekly, or monthly). However, some libraries' exclusive interest in non-purchase short-term loans concerns publishers, who fear reduced revenue and unsustainable publishing.

Purchase is the ultimate option in all DDA projects, either automatic (triggered by usage) or mediated (requiring librarian decision). Automatic purchase depends on trigger settings—purchase occurs after a title reaches a specified number of uses or short-term loans. For high-use titles, purchase is the ultimate goal for permanent access and is more cost-effective than repeated short-term loans. Settings should be flexible based on library objectives.

Alternative models include successful approaches like evidence-based acquisition (EBA), a DDA variant where libraries negotiate with publishers/vendors for unlimited access to discovery pool titles, agreeing to purchase a predetermined total by project end (typically one year). Libraries select titles based on usage (evidence-based selection, EBS, or usage-driven acquisition, UDA). This model carries risks for both parties: libraries may pay for unused titles if the commitment exceeds actual use, while publishers risk insufficient revenue if commitments are too low. For publishers lacking resources to develop complex DDA systems, offering alternative models like EBA is valuable.

6. Characteristics of NISO DDA

6.1 Emphasis on Sustainability Libraries must learn from early DDA experiences, comprehensively plan realistic projects, establish objectives, communicate with relevant departments, develop workflow management rules, and adjust based on evaluation to ensure continuous operation. Publishers and other stakeholders must collaborate with libraries to set prices and models that benefit all parties while maintaining stable development in the scholarly communication ecosystem.

Establishing objectives is critical. In the working group's 2013 survey on "Ranking DDA Objectives," 70.3% of 74 responding libraries ranked "providing broader access" as the primary objective, with an average ranking of 1.43 (see Table 1), while "saving librarian time" ranked fifth at 4.22. Other objectives included 24/7 availability, space utilization, and ensuring purchase of used titles. Consequently, DDA projects can be configured differently based on objectives (see Figure 3 [Figure 3: see original paper]). If broader access is the goal, content configuration should be extensive, discovery pools large, and short-term loans emphasized over permanent access (purchase), with more short-term loans before purchase triggers.

6.2 Balancing Stakeholder Interests Sustainable DDA development requires balancing all stakeholder interests. The working group comprised representatives from across the book supply chain, and NISO DDA's strategic guidelines address libraries, publishers, and other stakeholders.

While multiple DDA models exist, three are fundamental: automatic purchase, short-term loan, and evidence-based acquisition. Libraries determine content and model types based on actual needs. Automatic purchase can trigger on first use or after multiple uses. Publishers can participate in some or all models and may set usage caps on content types affecting publishing sustainability.

Library-selected content rarely aligns perfectly with a single provider's offerings or one DDA model. Comprehensive coverage requires multiple providers and models, though this increases workflow complexity. Approval plan vendors can help manage multi-provider DDA projects for mutual benefit.

6.3 Emphasis on Flexibility NISO DDA provides a flexible model adaptable by all stakeholders. Libraries can customize projects based on their needs. Parameter settings can trigger purchase on first short-term loan for high-use titles, or after multiple loans (or not at all) for low-use titles. Triggers can be automatic or mediated.

Content configuration can include retrospective titles and peripheral works outside core curriculum, observing usage patterns. Libraries can decide whether to include print books, allow duplication with existing print holdings, and manage delivery delays for print titles. Multiple DDA projects can serve different disciplines and user levels.

6.4 Emphasis on Model Diversity Libraries can choose among various DDA models: including print books or not; using single or multiple vendors/aggregators; participating in consortial DDA while maintaining local projects. These choices require considering duplication issues, delivery delays, and workflow complexity.

Most public library DDA projects are managed through provider platforms rather than library catalogs, often using “request for purchase” forms. Though public libraries typically don’t load MARC records for unowned titles, they can still apply NISO DDA recommendations in many aspects.

6.5 Emphasis on Management and Evaluation Since DDA depends on content discovery, effective MARC record management is key. NISO DDA standardizes recommendations for loading and deleting discovery pool records.

Loading records includes discovery records (MARC records from vendors for the discovery pool) and purchase records (loaded at acquisition for permanent access). Discovery records should be loaded regularly and promptly into multiple discovery tools, with identifiers for easy suppression/deletion and metadata enhancement. Purchase records should be loaded quickly to integrate with acquisition workflows.

Deleting records requires prompt removal from discovery tools when titles become unavailable, typically via vendor-supplied delete files. Libraries should establish regular deletion workflows while preserving records for future evaluation.

Evaluation must be planned from project inception, typically assessing cost reduction, usage increases, and permanent access growth. Libraries must determine tracking needs to ensure proper data collection. DDA working groups note that cost and usage comparisons between e-books and print books are difficult; print DDA requires circulation data analysis, necessitating regular collection of circulation reports since most library automation systems only provide cumulative data. Evaluation helps predict DDA budgets and adjust parameters, content, and configurations to ensure sustainability.

6.6 Emphasis on Preservation DDA assumes content will be used when needed, but some currently unowned content may be needed in the distant future. NISO DDA stresses that preserving unused and non-owned titles is important for both print and e-books. Libraries and publishers must collaborate to develop preservation mechanisms, such as third-party services like Portico or LOCKSS, for unused and withdrawn titles. This extends the traditional just-in-case model, ensuring availability when needed.

6.7 Integration and Optimization of Traditional Models NISO DDA integrates and optimizes traditional patron-requested purchasing and approval plans. Libraries can adapt approval plan configurations for DDA discovery pools, including fringe and older titles to promote scholarly communication. DDA seamlessly connects immediate use with purchase/rental triggers, meeting

immediate needs while building collections based on usage feedback.

7. Role of NISO DDA

7.1 Guiding Effective DDA Management Based on early DDA experiences, NISO DDA addresses implementation problems and current practices across key operational areas—parameter settings, model selection, content configuration, record management, evaluation, and consortial projects—providing ten strategic recommendations. It encourages stakeholders to cooperate and compromise while accommodating diverse objectives and needs, enabling flexible and effective management of sustainable DDA projects. As noted, no studies among the 100+ DDA publications from 2015-2017 have examined NISO DDA's impact on standardized management, warranting deeper investigation.

7.2 Encouraging Flexible DDA Model Design Since NISO DDA's publication, the number of publishers offering DDA has continued to grow, mostly through e-book aggregators. As of March 2017, over 1,500 major academic publishers offered hundreds of millions of e-books and 70,000 audiobooks through EBSCO eBooks & Audiobooks, with DDA as one acquisition model; more than 650 publishers offered over 810,000 e-books through ProQuest Ebook Central (EBL & Ebrary), with 740,000 titles in DDA programs; and over 130 academic publishers offered 45,000+ e-books through JSTOR. Some publishers, like Oxford University Press, offer DDA directly.

However, publishers remain concerned about short-term loans, viewing them as disruptive to profit forecasting and publishing sustainability. As NISO DDA anticipated, some publishers began significantly raising short-term loan prices or limiting the model upon its publication. St. Edward's University Library reported that from June 2014 to October 2015, nearly 50 publishers, including major ones like Taylor & Francis, Wiley, Palgrave Macmillan, and Springer, increased one-day loan prices from 10% to 25% of book cost, and seven-day loans from 16% to 34%. Some publishers imposed embargo periods (6-60 months) or eliminated short-term loans entirely, reducing the model's appeal and forcing budget-constrained libraries toward alternatives like evidence-based acquisition.

In response, publishers and aggregators actively seek solutions. ProQuest's 2015 survey of academic libraries led to the August 2016 launch of "access-to-own" (ATO), a rent-to-own model where per-use payments accumulate toward purchase. When cumulative payments reach or exceed the book price, ownership transfers to the library. For new books at 55% per use, the second use triggers purchase (110% of price); for older titles at 35% per use, the third use triggers purchase (105% of price). This model, now adopted by 350+ publishers offering 350,000+ titles (including 30,000 with short-term loan embargoes) and 30 libraries, provides more options while supporting publisher sustainability.

JSTOR observed that many students stopped at the table of contents, perceiving books as requiring lengthy searches. By fragmenting e-books into chapter-level access (like journal articles), usage increased significantly, with 40% of 2016

usage occurring in the first two months after implementation. Making chapter-level search the default promoted deeper discovery and increased DDA sales, improving publishing sustainability.

7.3 Promoting Stakeholder Coordination DDA remains exploratory. NISO DDA's recognition of diverse stakeholder objectives has fostered coordination and cooperation, providing flexible models acceptable to all parties. Libraries and stakeholders can customize parameters for content, types, purchase/rental triggers, and other settings to ensure budget control and instant access while maintaining publisher revenue. The access-to-own and chapter-level models exemplify this collaborative exploration, with effectiveness studies anticipated.

7.4 Advancing DDA in East Asian Libraries To promote e-resource development, the Council on East Asian Libraries (CEAL) established the Task Force on Metadata Standards and Best Practices for East Asian Electronic Resources (ERMB) in November 2013. ERMB's responsibilities include communicating with East Asian content providers to improve e-resource quality and metadata, enhancing discovery and access; addressing issues across the e-resource lifecycle and metadata interoperability; and recommending standards modifications. DDA is part of ERMB's focus.

North American East Asian libraries have traditionally cooperated in print acquisitions through consortial divisions of labor, a pattern continuing in e-resource purchasing. Several libraries, publishers, vendors, and aggregators have adopted or are considering DDA. ERMB planned in fall 2014 to translate NISO DDA into Chinese, Japanese, and Korean; the Chinese translation is now part of a National Social Science Fund project comparing Chinese and U.S. e-resource standards. ERMB held a training workshop during CEAL's 2015 annual meeting, where D. Whitehair from OCLC, a NISO DDA working group member, detailed its development and content, with East Asian libraries and vendors presenting implementation cases for comparison. The workshop generated lively discussion and deepened understanding of NISO DDA's role. Participants included East Asian collection development librarians, technical services staff, publishers, and aggregators.

The workshop attracted attention from Chinese publishers and aggregators, some of whom invited ERMB members to train their staff on NISO DDA and related standards to inform their DDA offerings.

Conclusion

DDA is an effective method for library collection development that satisfies users' immediate needs, efficiently utilizes library funds, and increases usage rates. Despite its advantages, implementation has created unforeseen problems affecting publisher interests, disrupting the book supply chain, and threatening publishing sustainability. NISO DDA represents a milestone in DDA standardization, laying the foundation for sustainable development. It provides guidelines for standardized adoption and promotion based on win-win cooperation,

protecting stakeholder interests across the book supply chain.

While NISO DDA helps address early implementation challenges, new issues continue to emerge, such as publishers significantly raising short-term loan prices, imposing embargoes, or eliminating the model. Publishers and aggregators are actively developing new sustainable models, such as access-to-own. Additionally, publishers and content providers are collaborating with libraries to supply standardized COUNTER usage reports and tracking analyses to help identify usage patterns, manage budgets, and prevent cost overruns.

Currently, no studies compare DDA projects before and after NISO DDA's publication or examine its specific impacts on effective DDA management. Deeper investigation is needed to improve user experience, expand collections, increase utilization, and protect the book supply chain's sustainable development.

In summary, NISO DDA's ultimate goal is to provide flexible DDA standards that meet users' immediate needs, protect library and stakeholder interests, and maintain the scholarly communication ecosystem's stable development. Some Chinese publishers have begun offering DDA models. It is hoped that East Asian and Chinese libraries, publishers, and vendors will actively cooperate, continue following NISO DDA's standardized development, and build DDA standards suited to China's national conditions.

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English Abstract: This paper discusses standards development for library demand-driven acquisition (DDA) in the United States, introducing the Demand Driven Acquisition of Monographs (NISO DDA) published by the National Information Standards Organization (NISO). Chinese libraries may draw on U.S. experience during their own DDA application and standards development. Through literature review, this paper discusses NISO DDA's development background, process, key aspects, impact, and challenges. NISO DDA laid the foundation for the standardization and sustainable development of DDA. It provides guidelines for the standardized adoption and promotion of DDA on the basis of win-win cooperation by various stakeholders such as libraries, publishers, vendors, and aggregators. It has a positive impact on protecting the interests of all stakeholders in the book supply chain. The sustainable development of DDA continues to face challenges; various stakeholders are still actively exploring ways in which DDA can be further developed.

Keywords: demand-driven acquisition (DDA); patron-driven acquisition (PDA); National Information Standards Organization (NISO)

Note: Figure translations are in progress. See original paper for figures.

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