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## Changes in the Acquisition Process at NTNU University Library

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# CHANGES IN THE ACQUISITION PROCESS AT THE NTNU UNIVERSITY LIBRARY

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## Abstract

During the last 2-3 years there have been changes implemented in the acquisition processes at the NTNU university library. These changes have been implemented on different levels in the organization and in many areas.

Selection of vendors for delivery of information resources is conducted through tenders. The library has currently an agreement with 4 vendors, one for journals, databases and e-books, and 3 for printed books. These vendors give the university library access to large online collections of books and journals, often with high quality metadata.

To make the acquisition process more effective, the university library has started to use the institutional procurement system at NTNU for ordering, invoicing and accounting for information resources. Online catalogues offered by our suppliers are integrated into the procurement system (punch out solution). Selection of information resources is done in the vendors catalogue and put into a shopping basket and transferred back to the procurement system. Metadata description is sent from the procurement system to the library system.

The library has tested different IT-systems offered by our agent for ordering, administration, storing and access to e-resources. A new discovery tool for searching has been tested and we try to integrate information from the underlying administration system (ERM) into these processes. The aim of the project is to handle procurement both of books and subscriptions within the institutional procurement system, to handle subscription management in the agent system, and to provide access to printed books, e-books, databases and journals using the agent knowledgebase, link server and discovery tool.

To achieve better utilization of purchased information resources, especially printed books, new business models for procurement have been tested. The library attempting to move from library controlled acquisition to patron driven selection. Different PDA models for selection of information resources have been tested and implemented.

## Background

Over the last few years several changes have been made in the process of acquisition of information resources at NTNU university library (NTNU UB). Changes have taken place in different areas and at different levels and parts of the organization. The purpose of the amendments was to create greater efficiency in the working process and better services, either by raising the quality of work or by saving on resources in work processes so that they can be used in new and different service areas.

Traditionally, there have been relatively few changes in work processes within acquisition for all types of information resources (books, journals, databases and other materials) at the university library. Although there have been major changes in the library's framework, work processes

have largely been kept unchanged. This can probably be linked to the library's traditional tasks and roles, but also to lack of expertise and willingness to consider and adopt new solutions. In Norway, this has also been connected to the use of a common national library system in academic and research libraries.

### **Some important trends in recent years**

There has been a transition from print to digital information resources. This applies to all material types. The main transition happened at NTNU UB in the early 2000s, where in the course of a few years the library went from print journals to online journals (digital editions). Today 94 % of our journals can be accessed online.

Online access to resources is now possible. Information resources can be accessed over the internet via proprietary search systems or via open search systems such as Google Scholar. This provides new opportunities, but at the same time, these new types of services have created a need for a new, often more technical type of expertise.

Access to metadata over the network is now also possible. Large book catalogues with rich descriptions of resources can be downloaded and used in local systems. The need for manual registration has been reduced. There has been a shift in the workload to the acquisition process from the cataloguing process.

Use of administrative data systems at the university has increased during the last few years. There are several systems for purchasing, accounting and financial management. The university has implemented e-commerce and use of tenders. The government has introduced new routines for procurement, and both the university and the library have implemented these.

Communication between systems has become possible. Network protocols and formats have not always been standardized and available. In recent years there has been a gradual simplification and standardization in several areas, which has facilitated communication between systems and the ability to integrate multiple systems as well as obviating the need to perform all tasks in the same system.

New business models have been offered from vendors. Transition to digital information resources has provided the opportunity for new types of services. E-commerce, user-driven procurement and evidence-based procurement are among some of the new features that are available.

### **Some trends at NTNU UB**

Along with the technological and administrative changes, the library has made some observations that have forced it to make changes in acquisition processes and work procedures.

#### **The use of the printed collections**

In 2012 the library produced statistics that showed that less than half of the printed books that were purchased were used more than once, 25% were on average never loaned (ranging from 10-90% in different collections). As a consequence of these results, we saw a need to look into the selection process and test new business models.

#### **Purchasing of books at NTNU**

Purchasing of printed books at NTNU is decreasing. In 2011, the library spent 3 million NOK (7500 units), in 2013 the amount was reduced to 2 million NOK (4800 units). Purchases outside the library within the university, directly by faculties and institutes at NTNU, were double the amount purchased by the library. Purchases outside the library are also decreasing, but not as quickly as at the library. Some questions were asked: Why are purchases larger outside the

library? Why are the amounts of purchased information resources decreasing? What role do today's acquisition policies and procedures play?

#### Use of tender

The last tender for delivery of printed books resulted in contracts with only three vendors. This provided an opportunity to develop closer cooperation with these vendors and to develop new types of services together with them. The vendors have large book databases with 5 - 10 million titles, and a wide range of services for monitoring, ordering and follow up.

In 2013, 82 % of the purchase of printed books was made from these three vendors, with whom the library now has an agreement. Purchasing from other vendors is mainly via Amazon, or specifically for acquisition of music or literature on art and architecture, and books on local history.

#### Local supplement systems

The library system has been used for all traditional working procedures, including purchasing, follow up and accounting. The library system does not provide the opportunity to use the large vendor databases in an integrated way, and they provide few opportunities for follow-up. The accounting in the library system deviated widely from the official accounting at NTNU. NTNU has since 2006 worked actively to shut down these local accounting systems.

#### Management of e-resources

There has traditionally been a lack of functionality in library systems for managing of e-resources. For the management of subscriptions, most libraries use agents. The agents systems, especially e-resources, are seldom used and are not integrated with other systems such as procurement systems or the library system. This has led to many manual procedures and ineffective working processes.

### Implemented measures

The library has in the last 3-4 years implemented changes within three main areas. Namely, selection of information resources, new procedures for purchasing of printed monographs, and new procedures for managing of e-resources. These changes are discussed briefly below.

#### Selection

In view of the low usage of printed books and the introduction of new business models offered by the publishers, a project to evaluate various forms of user-driven selection was conducted. Patron Driven Acquisition means "a model of purchasing where the librarians set the parameters of purchase and patrons pull the triggers." The project was initiated in 2012 and completed in 2013, and was implemented mainly in the fields of medicine and social sciences.

The results showed that users quickly adopted the service and Table 1 shows statistics from the project.

PDA-project	Number of titles purchased	Averages price (NOK)	Loans	Averages price / loan (NOK)
Ebrary social science	74	538	538	70
Ebrary medicine	51	1290	158	199
EBL technology / math	112	1276	568	142
Cambridge Univ. Press	290	1179	835	

Table 1: Results from the PDA-project

Before the start of the project, respondents were asked whether they considered that this means of selecting information resources could result in a lower quality of the collection and a skewed distribution of disciplines. The results from the project showed that we achieved a high

level of quality of the collection covering all disciplines within these fields, and the purchased material had a high percentage of use.

In 2013, the library tested other models of user-driven selection. Evidence Based Selection (EBS) was tested with one publisher. In this model, the library paid a flat fee that gave the university access to the entire collection (14,000 eBooks) from this publisher over half a year. At the end of this period, the library could select books related to the pre-liminary paid fee. The selection could use statistics for the use of e-books as a basis for this selection.

The results from the project in 2012-13 were so good that the library has chosen to continue to implement the selection methods tested and have established a strategy for actively testing new business models for selection and procurement of information resources. Use of these new models for patron driven acquisition will be a complement to traditional academic selection at the library.

Today, selection is conducted in many ways. Suggestions for purchase are received both from research communities and from the library staff. The library gives access to large databases from the publishers and aggregators and allows for searching and monitoring of different subject areas. It is desirable that these systems are used more widely, and are integrated into the purchasing process. The library staff has their own profiles at multiple vendors, can monitor for new publications and even track their orders.

#### Procurement systems

Traditionally, the university library has used the library system for ordering, follow-up, reception, and budgeting of all purchased information resources. The library system has not been integrated into the procurement processes and procurement systems at the university. The university has since 2002 been working to implement e-commerce routines (B2B – purchase to pay). The use of the library system for purchasing has been a drawback for the library in the process for transition to e-commerce, where the entire process from selection (requisition), payment and follow-up are operated in one system at the university.

The library wished to introduce the same procurement procedure for information resources as for other goods. The aim of this project was to do most of the purchasing via framework agreements. Purchase of information resources differs from other purchases in the following areas:

- Information about the item (an item's metadata) must be stored in a separate system (library system)
- Information about the location of the item must be sent with the order to the vendor so that one knows where the item is to be stored and also to be able to receive shelf ready books
- Information on delivery of the item at the library must be transferred to the library system

The library began using the university's procurement system in 2010 for purchasing of journals and books. The library introduced e-commerce based on NTNU's regulations. This resulted in major changes in procedures and the need for training in new systems. The following ERP (enterprise resource planning) systems were adopted:

#### Basware PM - Purchase Management

This system is used for requisition and registration of orders. All accounting data (economic unit, subject codes, species code) and vendor information, addresses, etc. are stored in the system. Integrated into the system is a link to product catalogues from vendors. The system has routines for reporting and the ability to follow up orders. Before orders are sent to the vendor, they must be approved. It is possible to embed procurement plans for each cost center and subject codes that can be approved in one operation.

#### Basware IP - Invoice Processing

This system is used for receipt and invoice verification. Upon receipt of the e-invoice, these are matched against the order in PM. On matching, invoices are sent directly to the accounting system.

#### Basware Contract CM – Matching

In the contract module, information about the subscriptions is stored. It also includes a payment plan with information about the subscription price and frequency of payment. Upon receipt of the e-invoice and match within the payment schedule, the invoice is sent directly to the accounting system.

#### Accounting system - Oracle Financial Management System (ERP)

The accounting system is updated based on received e-invoices. All reporting and financial monitoring is done via the accounting system. Today the price is not stored in the library system.

#### IBX e-commerce platform

This e-commerce platform has been chosen for all government institutions in Norway. All orders go through this platform. Integrated into the platform is a marketplace with data from vendors' catalogs. The e-commerce platform at NTNU does not including catalogs from our book vendors. This is because these catalogs are large and have dynamic content.

#### External catalogs - punch out solution

Book catalogs can be linked as external catalogs in the ordering system, Basware PM. Today the library uses 2 external catalogs (from Delbanco and Akademika ). These catalogs are used for selection. An order can also be registered as a free text order. If an external catalog is used, the selected books are put into a shopping cart and the information (metadata, prices, quantity, format) are returned to the purchasing system (Basware PM).

#### Integration with library system

Information (metadata) from the order is transmitted to the library system. Bibliographic data in the order usually consists of ISBN, author, title, publisher, year of publication. This information should be tagged or placed as MARC records in the shopping cart before the information is sent to the library system. Upon receipt of the item at the library, a status-message is sent from the procurement system to the library system that the book has been received by the library.

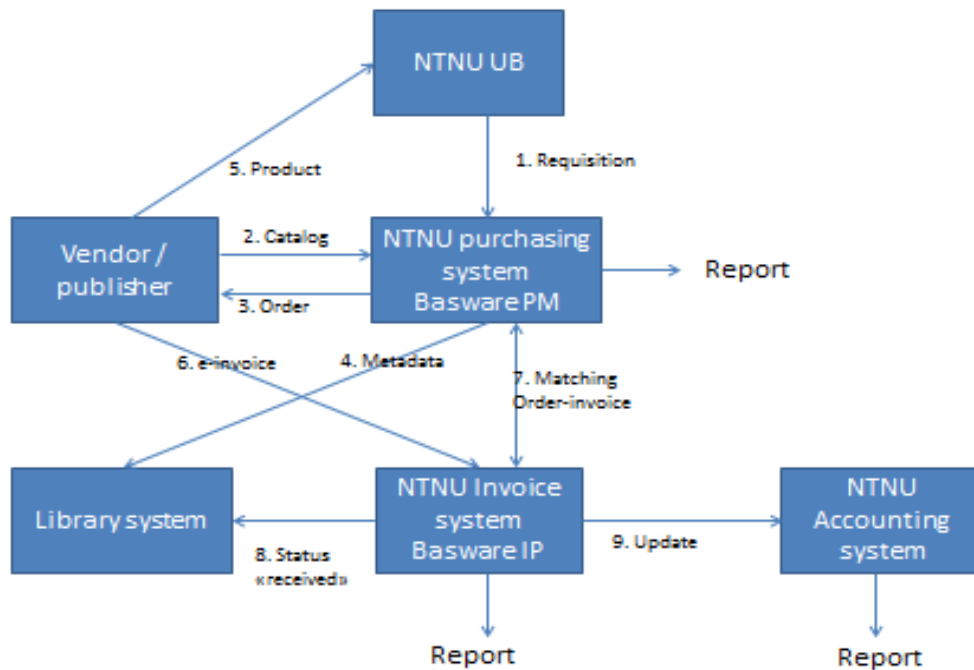


Figure 1: Workflow purchasing of information resources

#### Workflow:

1. Ordering begins in the purchasing system (requisition) Basware PM
2. Products are chosen from vendor catalog or registered as free-text order by a subject specialist or a librarian in the purchasing system BasWare PM.
3. Product data, accounting data and local data (location, references) are registered in BasWare PM.  
If requisitioned, a librarian will approve the order data.  
The order is approved by a person with budget authority.  
The order is sent to the vendor.
4. Product data (metadata) are sent in parallel to the library system.
5. The product is sent to the library.
6. The vendor sends invoices to NTNU accounting system, BasWare IP.
7. Upon receipt of product in the library and e-invoice, order and invoice are matched.
8. The purchasing system sends an acknowledgment to the library system that the product has been received.
9. The accounting system is updated.

In 2013, all printed books were ordered using the purchasing system. In 2013, a total of 4,800 book orders were managed by the purchasing system.

#### Management of e-resources

The Library uses an agent for ordering and management of journals, databases and e-books. In 2012, the library put out a tender. EBSCO Information Services was selected as the vendor. The current systems for ordering and management of e-journals and e-books are not sufficient for handling these types of information resources and have resulted in some cumbersome work practices. Much of the work is done manually and with use of different systems / tools (library system, Word, Excel, Wiki). The agents' systems were in general little used. It was desirable to obtain systems that could follow the entire process from ordering to access. The tender was

therefore specified with requirements related to management of subscriptions and other e-resources, monitoring of contracts, monitoring of usage, a knowledge base for the information resources, a Link Server to access and a search system. EBSCO Information Services had systems in all these areas and was therefore chosen.

One possible system model (see figure 2) is to treat the printed materials in one system (library system) and the digital information resources (e-resources) in other systems, and all the purchasing in an ERP-system. All data, regardless of format, is made available through a common search system (discovery system). The specified system model requires integration between the library system, the ERP- system, and the agents' systems.

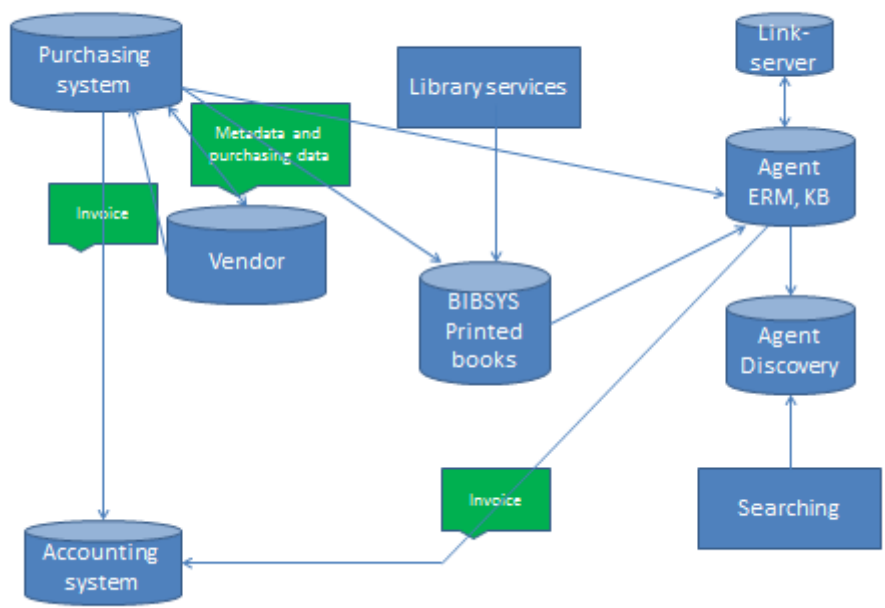


Figure 2: Model for e-resources

### Experiences and evaluation

#### Purchasing

Experience so far shows that the introduction of e-commerce and the use of the ERP systems at the university are possible for a university library and can be recommended, especially for printed books. To be successful, catalogs from as many vendors as possible should be added as external catalogs to the purchasing systems. There must be well functioning integration between the ERP systems and the library system and sufficient communication from the ERP systems to the vendors needs to be developed, especially for monitoring and follow up routines.

#### Benefits (future):

- Effective and integrated use of catalogs for selection
- Catalogs with metadata records
- Reduced need for manual registration of metadata
- Possibilities for shelf-ready-books
- Effective management of invoice
- Automatic updating of accounting
- Active use of official accounting system at the university for reports



#### Weaknesses (today):

- Few catalogs from vendors are integrated as punch-out-solutions
- Metadata for the information resources are not formatted in shopping cart
- Only a pilot solution for transmitting metadata to the library system
- Orders are sent as email to vendors
- No routines for monitoring orders in purchasing system

#### Conditions for success:

- Use of tenders, contracts with few vendors
- Cooperation with the purchasing department at the university
- Expertise in use of ERP systems (e-commerce knowledge) at university
- Reduce the need of follow-up to the publishers
- Commitment and motivation to using and learning multiple systems at the library

None of the weaknesses mentioned above are of such complexity that they cannot be solved with relatively few resources. The library recognizes the importance of adopting these ERP systems so that our demands and requirements can be implemented and adopted in the university's routines. The library should be an integral part of the university and abandon independent systems.

#### E-resources

The library's experience with the use of systems from agents (EBSCO Information Services) for management and access to e-resources has been mixed. In principle, these systems should cover all working processes connected to e-resources, but they are poorly integrated with each other, and the automatic updating of data in the systems is often combined with manual procedures. The result is low quality of data and errors.

Some of the systems from the agent have not been integrated into the ordering process. They have not set up their catalog as a punch out catalog in the purchasing system. They have implemented use of e-invoices. In general, not all of the systems are able to handle e-books in the required way. With regard to these, while agent systems cover the entire working process from order to access via a discovery tool, the stability of the systems and the quality of data is insufficient.

#### New library system

In 2016, a new library system for the higher education sector in Norway (Alma from Ex Libris) will be implemented. This system has the traditional acquisition functionality for order and invoice. There is a requirement that the library system should be able to communicate and integrate with an external ERP system. Alma also includes a module for management of e-resources (ERM module). It is currently unclear how this module will be able to interact with systems from agents and how data is updated and maintained in these systems.

#### Summary

The university library will continue its use of NTNU's ERP systems and will continue its work to ensure that the ERP systems are customized for library use. We will continue the project with the use of systems from EBSCO Information Services, but we will also consider use of Alma for the entire acquisition process.