Next Generation Analytics in Action

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Challenges for Libraries in a Changing World

- Demonstrate contribution to core institutional goals

- Expand services beyond the traditional

- Provide new and advanced services to patrons

- All of the above in times of budget cuts and cost saving pressure

ExLibris
The bridge to knowledge

# Demonstrating Library Value via Library Analytics

- Library is a hub of intersecting networks where both faculty and students freely share information about themselves

- Shift toward analytics-driven decision making

- Leverage analytics to demonstrate and expand library value

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In this session we will review

- Basic Analytics Terminology
- Advanced report options using real examples
- A glimpse into the roadmap

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Basic terminology

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- **Star schema** the star schema is the simplest style of data warehouse schema. The star schema consists of one or more fact tables that references any number of dimension tables
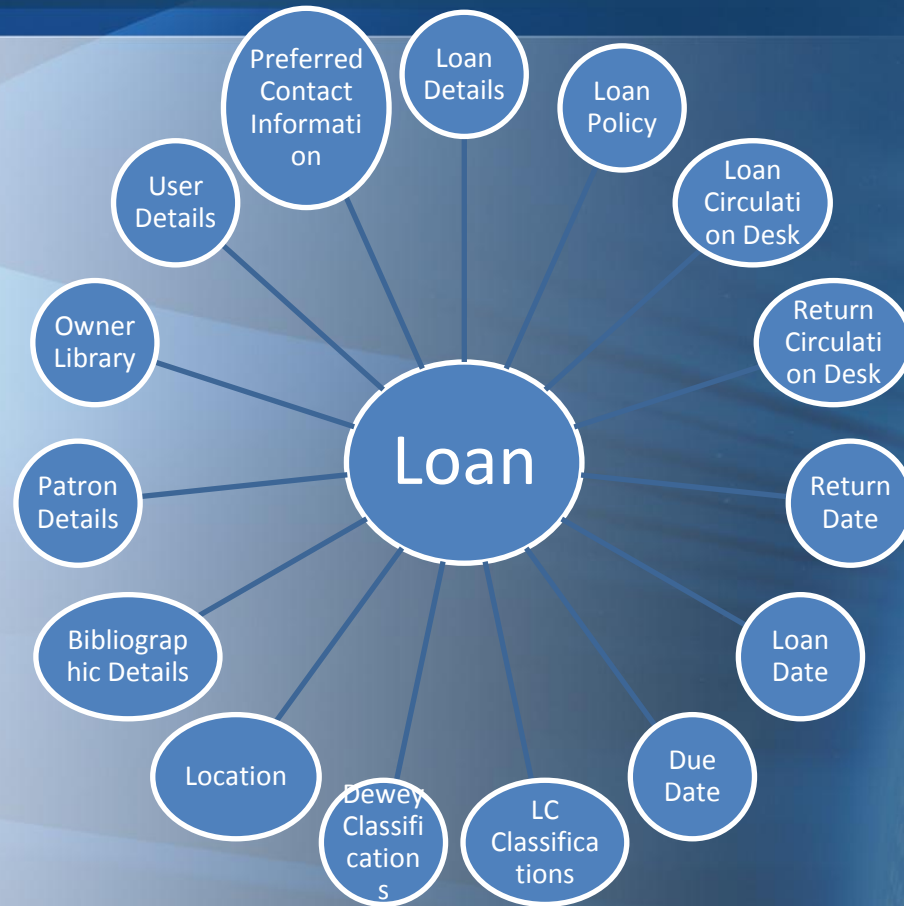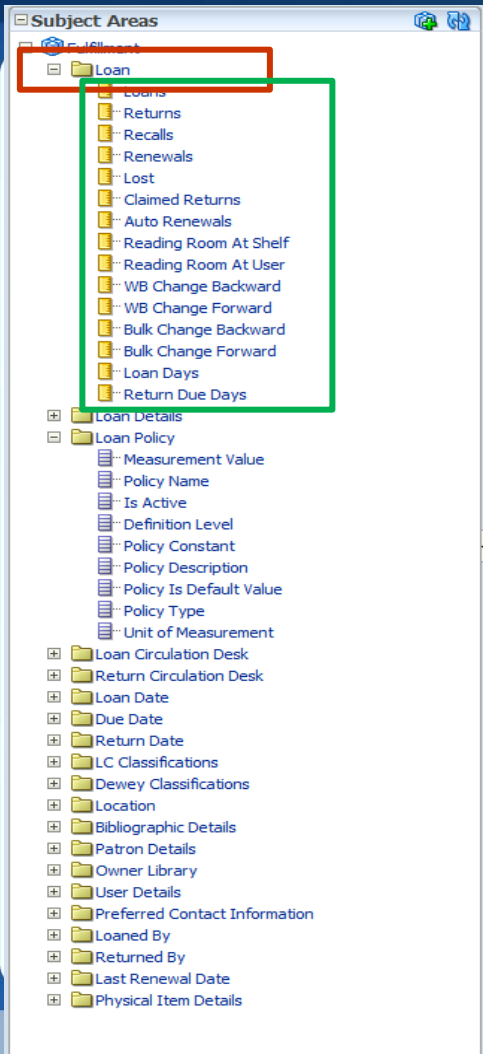
Basic terminology
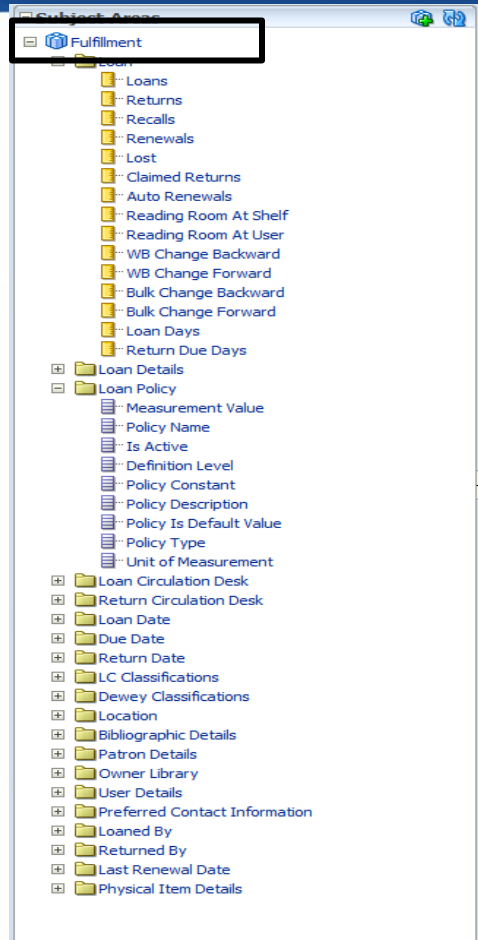
- **Subject Area (SA)** – The data in Alma Analytics is organized into subject areas. This is an example of the Fulfillment SA
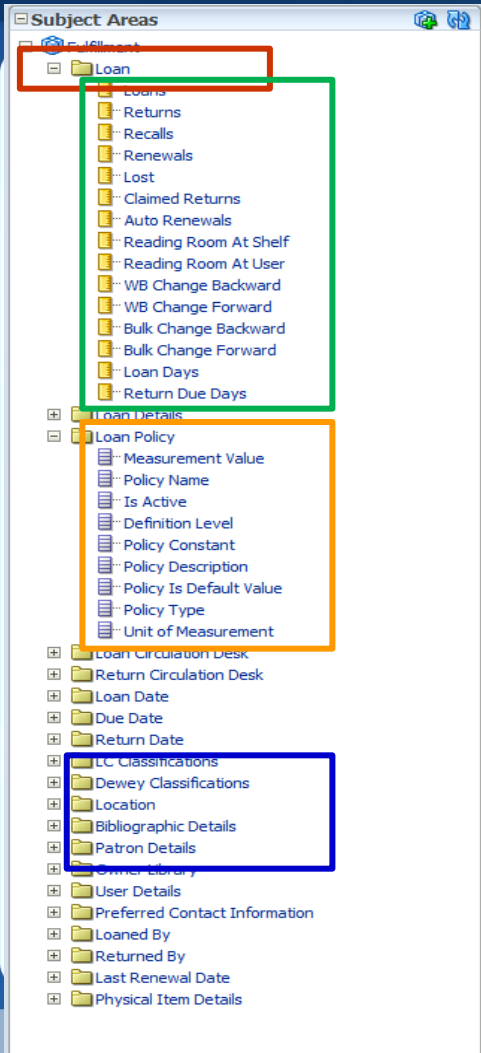
Basic terminology

ExLibris

- **Fact table** - the Fact table is located at the center of a star. Usually it is the first one and it is the only one that includes measures

- **Measures** - When examining how people look at data, they usually want to see some sort of aggregated data. Measures are numeric values that are measurable and usually additive.

Basic terminology

- **Dimension table** - Dimension tables answer the "why" portion of a question: how do people want to slice the data?

➢ The loan policy dimension has *attributes* such as policy name, policy description etc

- **Shared dimensions** – shared across more than one SA. Are used for efficiency and in order to create cross SA reports

Star schema – optimized for reporting

- OLTP, or Online Transaction Processing, systems are standard, normalized databases. OLTP systems are optimized for inserts, updates, and deletes; in other words, *transactions*.

- Star schemas are denormalized, the benefits are:

  - Simpler queries - star schema join logic is generally simpler

  - Simplified business reporting logic

  - Query performance gains - star schemas can provide performance enhancements for read-only reporting applications

  - Fast aggregations - the simpler queries against a star schema can result in improved performance for aggregation operations.

Using CASE WHEN conditions

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How can we improve delivery time to patrons?

The condition used

different loan and return locations

			Loan	Return	
Title					
Claus' geheim					
bij het lezen					
België /					
David and Go					
misfits, and t					
/					
Irish dialects					
districts; thre					

Patron Group	Title	Author △▽	Loan Library Name	Return Library Name
Alumni	Claus' geheimschrift : een handleiding bij het lezen van	Weisgerber, Jean author	Art Library	Main Library

Loan Library Name	Return Library Name	Patron Group	Title	Author
Art Library	Main Library	Alumni	Claus' geheimschrift : een handleiding bij het lezen van Het verdriet van België /	Weisgerber, Jean author
Main Library	Art Library	Alumni	Physician fees and procedure intensity : the case of cesarean delivery /	Gruber, Jonathan.
	Main Library	Undergraduate Student	Iron Curtain : the crushing of Eastern Europe 1944-56 /	Applebaum, Anne, 1964-
			Lochinvar; a ballad, from Sir Walter Scott's "Marmion"	Chadwick, G. W. 1854-1931. (George Whitefield),
	Music Library	Faculty	The Ultimate Harry Potter and Philosophy	
	Resource Sharing Library	Undergraduate Student	Irish dialects and Irish-speaking districts; three lectures.	Ó Cuív, Brian.
Science Library	Main Library	Undergraduate Student	David and Goliath : underdogs, misfits, and the art of battling giants /	Gladwell, Malcolm, 1963-
			The Symphony in Denmark /	

Analyze

Find items lo~~~~
another - such loans have a high impact on library
efficiency and on patron delivery time

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How much each Department is paying towards the cost of a package out of the total cost ?

fund code ID's the Department

PO line by percentage %

Item Description	Transaction Amount
"C'est la faute aux médias!" : essai sur la fabrication de l'information/ Yves Mamou, Paris :, Payot, 1991, Documents Payot, 2228883735, ISBN	£849.0
	£849.0
"C'est la faute aux médias!" : essai sur la fabrication de l'information/ Yves Mamou, Paris :, Payot, 1991, Documents Payot, 2228883735, ISBN Total	**£1,698.0**
$0 to Rich : The Everyday Woman's Guide to Getting Wealthy (Ebook Library), Wrightbooks, 2011, 0-7314-0733-4, ISBN	£100.0
	£100.0
	£100.0
$0 to Rich : The Everyday Woman's Guide to Getting Wealthy (Ebook Library), Wrightbooks, 2011, 0-7314-0733-4, ISBN Total	**£300.0**

Edit Column Formula

Column Formula | Bins

Folder Heading: Fund Transactions
Column Heading: Transaction Amount / SUM(Trans.
☐ Custom Headings
☐ Contains HTML Markup
Aggregation Rule (Totals Row): Default

Available
Subject Areas
☐ 🗀 Funds Expenditure
  ⊞ 🗀 Fund Transactions
  ⊞ 🗀 Fund Transaction Details
  ⊞ 🗀 Periods
  ⊞ 🗀 Fiscal Period
  ⊞ 🗀 Library Unit
  ⊞ 🗀 Reporting Code
  ⊞ 🗀 LC Classifications
  ⊞ 🗀 Dewey Classifications
  ⊞ 🗀 Fund Ledger
  ⊞ 🗀 Vendor
  ⊞ 🗀 Material Type
  ⊞ 🗀 PO Line
  ⊞ 🗀 Invoice Line

Column Formula
"Fund Transactions"."Transaction Amount"/ SUM("Fund Transactions"."Transaction Amount" BY "PO Line"."PO Line Reference")*100

f(...) | Filter... | Column ▼ | Variable ▼ | + | - | x | / | % | (|) | ‖
☐ Treat as an attribute column

Help | OK | Cancel

Analyze

This is essential information because if facilitates discussions at both Faculty and Departmental level in relation to spending and allocation of budgets and resources

Using sub queries

How many copies do we have for books with high demand? (based on open requests

titles with more than 3 patron requests

MMS Id	Title ▲▼
9969060110001441	1 Samuel : a narrative commentary /
9968262450001441	100 cases for medical data interpretation /
9976415500001441	A clinical guide to implants in dentistry /
9973561690001441	A practical guide to child observation and assessment /
9963847810001441	An introduction to the law of restitution /
9974793190001441	Architecture and participation /
9973275270001441	Architecture depends /
9971529630001441	Architecture of fear /

New Filter ✕

Column   MMS Id 📝

Operator   is based on results of another analysis ▼

Saved Analysis   /shared,   University/Report   Browse...
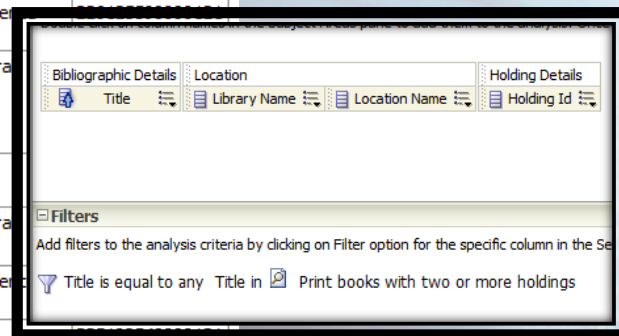
Relationship   is equal to any ▼

Use values in Column   MMS Id ▼

Help   OK   Cancel

MMS Id	Title ▲▼	Num of Items	Time Loaned	average loans per copy
9969060110001441	1 Samuel : a narrative commentary /	2	3	1.5
9968262450001441	100 cases for medical data interpretation /	7	26	3.7
9976415500001441	A clinical guide to implants in dentistry /	4	16	4.0
9973561690001441	A practical guide to child observation and assessment /	7	15	2.1
9963847810001441	An introduction to the law of restitution /	5	33	6.6
9974793190001441	Architecture and participation /	4	35	8.8
9973275270001441	Architecture depends /	3	19	6.3
9971529630001441	Architecture of fear /	2	3	1.5

Using sub queries

which items from Library A have a duplicate in another Library ?

Duplicate print holdings by library and location

Title	Library Name	Location Name	Holding Id
"Romeo et Juliette" : nouvelles perspectives critiques /	Education Library	Music	226125630000121
	Main Library	General	224877660000121
			226125610000121
	Medical Library	Refere...	
"These cults" : an analysis of the foibles of Dr. Morris Fishbein's "Medical follies" and an indictment of medical practice in general, with a non-partisan presentation of the case for the drugless schools of healing, comprising essays on homeopathy, osteopathy, chiropractic, the Abrams method, vivisection, physical culture, Christian Science, medical publicity, the cost of hospitalization and state medicine /	Main Library	General	
"И опять -возмутитель спокойствия" [Интервью с советским библиографоведом, профессором МПИК О.П. Коршуновым]	Education Library	Music	
	Main Library	General	
	Medical Library	Refere...	
"На настоящую советскую высоту" К выходу в свет шестого заключит. т. сб. тр. Н.К. Крупской "О библиотечном деле"	Education Library	Music	
	Main Library	General	225108500000121
			225538020000121
	Medical Library	Reference	225108520000121

sample for possible weeding or send to remote storage

Bibliographic Details	Location		Holding Details
Title	Library Name	Location Name	Holding Id

Filters

Add filters to the analysis criteria by clicking on Filter option for the specific column in the Se...

Title is equal to any Title in   Print books with two or more holdings

Using sub queries

How can I find my subscriptions for Fiscal year 2014 that are not yet invoiced?

Continuing Orders Not Yet Invoiced in FY14
Subscriptions_Not_Yet_Invoiced_FY14
Any Format: Journals, Books, Standing Orders, etc.

Fund Code	Vendor Code	PO Line Type Name	POL List Price	POL #	Item Description
LEDGER 1008-20-10	0-011	E_JOURNAL_PKG_CO	145	POL-36708	Gale Cengage Psychology Collection,
ACC-SER	ASBMB	PRINTED_JOURNAL_CO	1,500	POL-26607	The journal of biological chemistrty, American society of biological chemists, [1905]-, 1083-351X, ISSN
	BLACKWELL	E_JOURNAL_PKG_CO	650	POL-35108	CRKN Wiley Blackwell Backfiles, Wiley Online Library
LEDGER 1000	0-011	ELECTRONIC_COLLECTION_CO	5	POL-35408	Elsevier SD Economics Econometrics and Finance, Elsevier ScienceDirect
		E_JOURNAL_PKG_CO	150	POL-1901	Gale Cengage Economist Historical Archive, Galegroup
			1,500	POL-2602	Gale Cengage Expanded Academic ASAP, Galegroup
			5	POL-34308	Elsevier SD Economics Econometrics and Finance, Elsevier ScienceDirect
			100	POL-34708	Chadwyck PAO Collection 5, Chadwyck
			500	POL-5817	Gale Cengage Fine Arts & Music Collection, Galegroup
	0-012	E_JOURNAL_CO	60	POL-18108	INTERNATIONAL SERIES ON THE QUALITY OF WORKING LIFE, Martinus Nijhoff Social Sciences Division, 0924-1981, ISSN

Fiscal Year Key is equal to / is in **2014**
and Fund Ledger Code is not equal to / is not in **GENERAL_LEDGER**
and PO Line Total Price is greater than **1**
and Invoice Line Total Price is null
and PO Line Type Name ends with **_CO**
and Status is equal to / is in **ACTIVE**

Analyze

This is essential information because if facilitates discussions at both Faculty and Departmental level in relation to spending and allocation of budgets and resources

- In order to be able to join two subject areas the following three conditions must be met:

  1. There must be at least one common dimension among the two subject areas

  2. Descriptive fields must come from the common dimensions

  3. Measurement fields come from the facts

How to combine 2 SA?

- Take note of common and non-common dimensions in each subject area

How to combine 2 SA?

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Fields from dimension "Loan Details" are descriptive and come from a common dimension which is present in both subject areas

Selected Columns

Double click on column names in the Subject Area pane to add them to the analysis. Once added, drag-and-drop columns to reorder them. Edit a column's properties, formula and filters, apply sorting, or delete by clicking or hovering over the button next to its name.

Loan Details						Loan Policy	Loan		Fines and Fees Transactions
Loan Date	MMS Id	Due Date	Title	Author	Barcode	Policy Name	Loans	Loan Days	Transaction Amount

Fields from fact "Loan" come from subject area **"Fulfillment".** Fields "Loans" and "Loan Days" are (like "Transaction Amount") measurements.

Fields from fact "Fines and Fees Transactions" come from subject area **"Fines and Fees".** Field "Transaction Amount" is a measurement

An Actionable Alma Analytics Scenario

Reports can be a trigger for an Alma workflow.
E.g.: start by running a report on all items created more than 10 years ago which were never loaned

Alma Analytics Key Benefits

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ACTIONABLE

Then run a job to move items into offsite or remote storage

Create Job - Enter Task Parameters

Task Parameters: Move Item

New library *	Offsite store
Change Type *	Permanent
Sent from library *	
Print Transit Letter *	○No ○Yes

New location *	Offsite Store default location
New item policy	
Sent from desk	

The items are rarely used so they will be moved to a location where space is less in demand

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Library Service Impact on Student Success

Roadmap
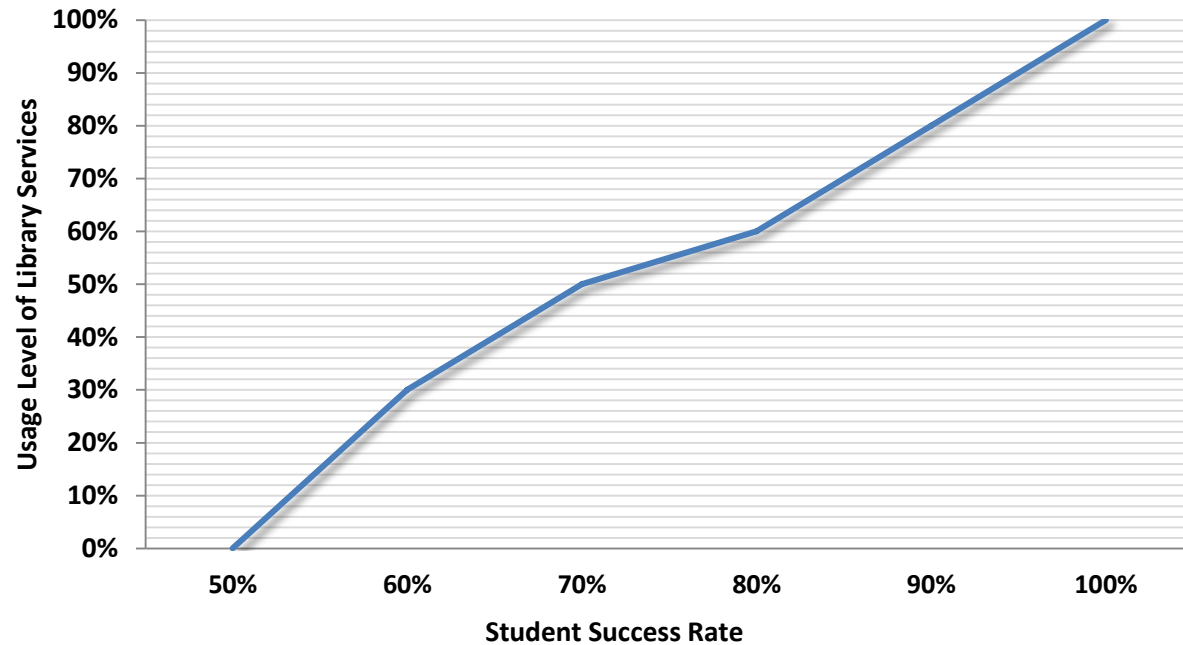
- Upgrade of OBIEE – resolve Chrome and IE issues, export to excel 2007 and more

- New SA:
  - Requests – completed in May release
  - Course Reserves – planned for Aug\Sep
  - Vendor productivity
  - Resolver statistics
  - Redesign for users SA

- Going over existing SA and adding missing fields, aligning terminologies etc
  - Funds expenditure is first planned for July
  - Next will be the e-inventory SA

THANK YOU!

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