

Trusted Content Analytics

Mark Rice

September 15, 2010



3 Questions



- What's the problem?
- What is IBM's vision ?
- What are IBM's solutions?



Gain actionable insights
from data

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- What's the problem?
- What is IBM's vision ?
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Gain actionable insights
from data

The Problem: Information Explosion



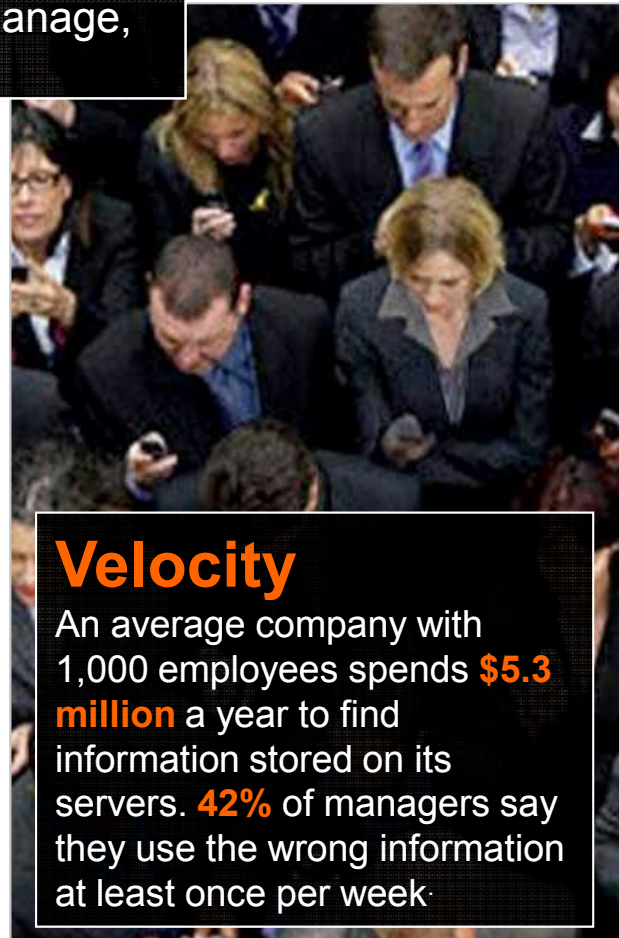
Regulations
70% say Regulations drive up storage demands, businesses realizing they **must** classify, manage, delete data - not just keep adding storage



Volume
Every day, **15 petabytes** of new information are being generated. By 2010, the amount of digital information will grow to 988 exabytes



Variety
80% of new data growth is unstructured content, generated largely by email, with increasing contribution by documents, images, and video and audio.



Velocity
An average company with 1,000 employees spends **\$5.3 million** a year to find information stored on its servers. **42%** of managers say they use the wrong information at least once per week.

Information Week, "State Of Enterprise Storage Changing Priorities, Changing Practices", Jan 2009, Delahunty, Steve
IDC: Expanding Digital Universe, 2007

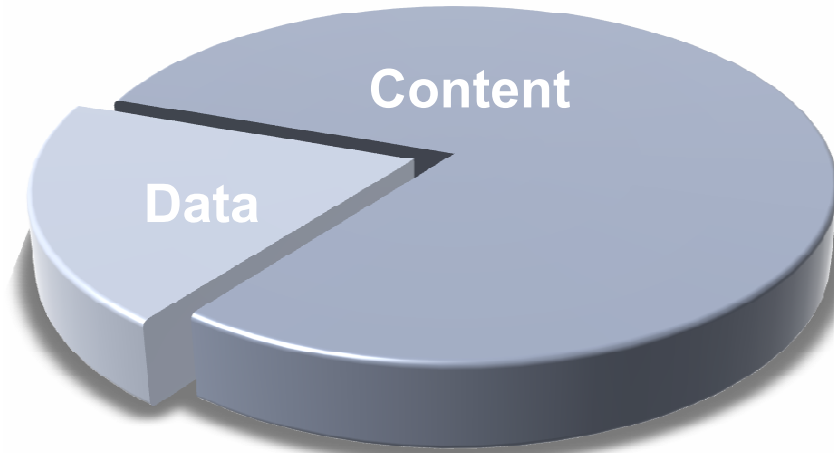
from data
IDC: "The Hidden Costs of Information Work" April 25, 2006 Accenture: Managers Say the Majority of Information Obtained for Their Work is useless 2007
http://newsroom.accenture.com/article_display.cfm?article_id=4484

The Problem: Almost everything is unstructured



Data tells me the **who**, **what**, **where** and **when**

Content tells me the **why** and **how**



Over 80% of information being stored is unstructured

Most business intelligence initiatives are about data. Optimizing business outcomes to include Content requires a new approach ...



Gain actionable insights from data

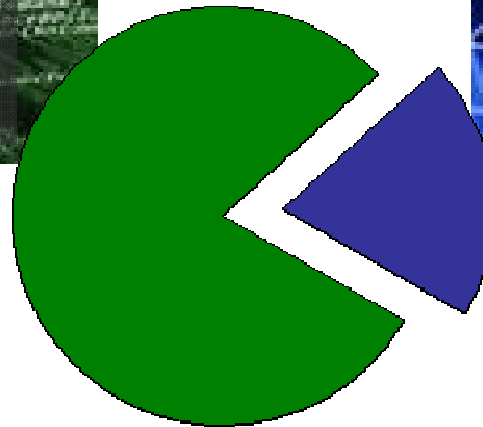
The Problem: More than 75% of information is unnecessary!

Unnecessary Information

- is **over-retained**
- is **irrelevant**
- is **duplicated**

Necessary Information

- is **valued**
- requires **governance**
- is **legally relevant**



Too much information has amassed – necessary and unnecessary – and people:

- *Don't know what to ask or where to look for answers*
- *Can't find information because of how it has been saved, even if they know where to look*
- *Can't identify trusted information and trusted repositories*



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*... driving a need for better
Enterprise Content Management*



Instrumented



Interconnected



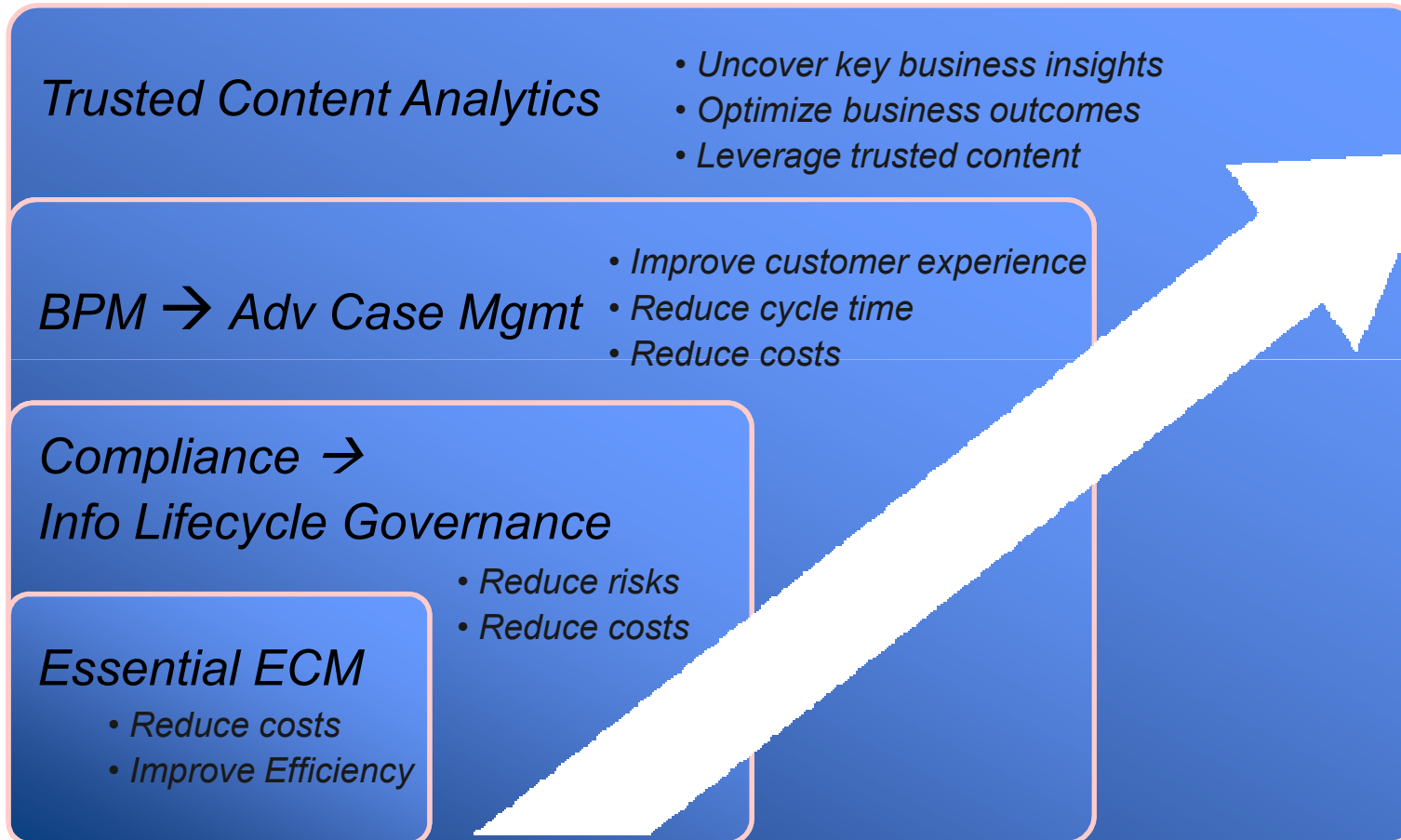
Intelligent

- Managing essential content anywhere
- Governing information over its lifetime
- Optimizing processes that rely on content
- Deriving unexpected content insights

IBM Vision: Four waves of ECM innovation



Optimization

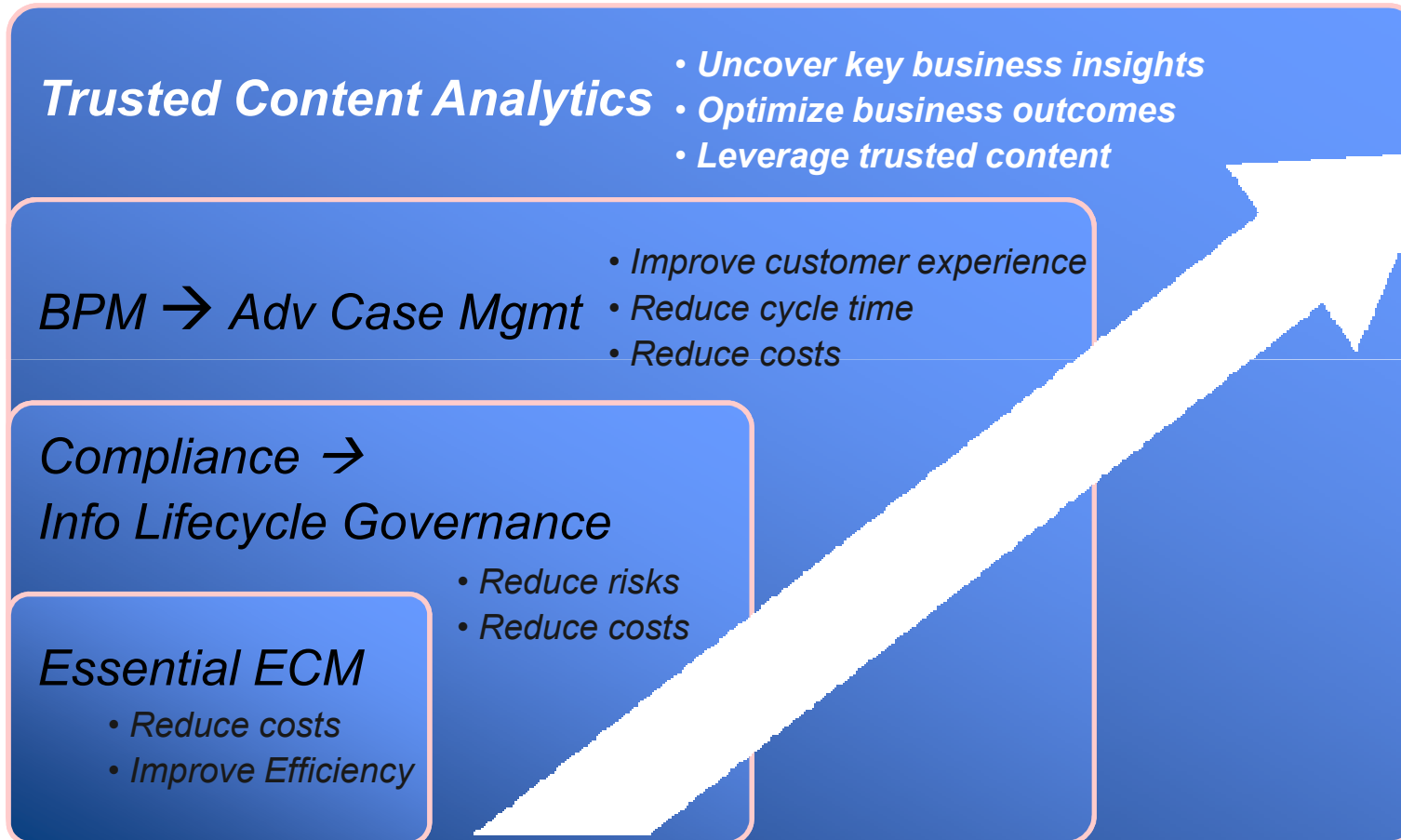


Automation



Gain actionable insights from data

Optimization



Automation



Gain actionable insights from data

3 Questions



- What's the problem?
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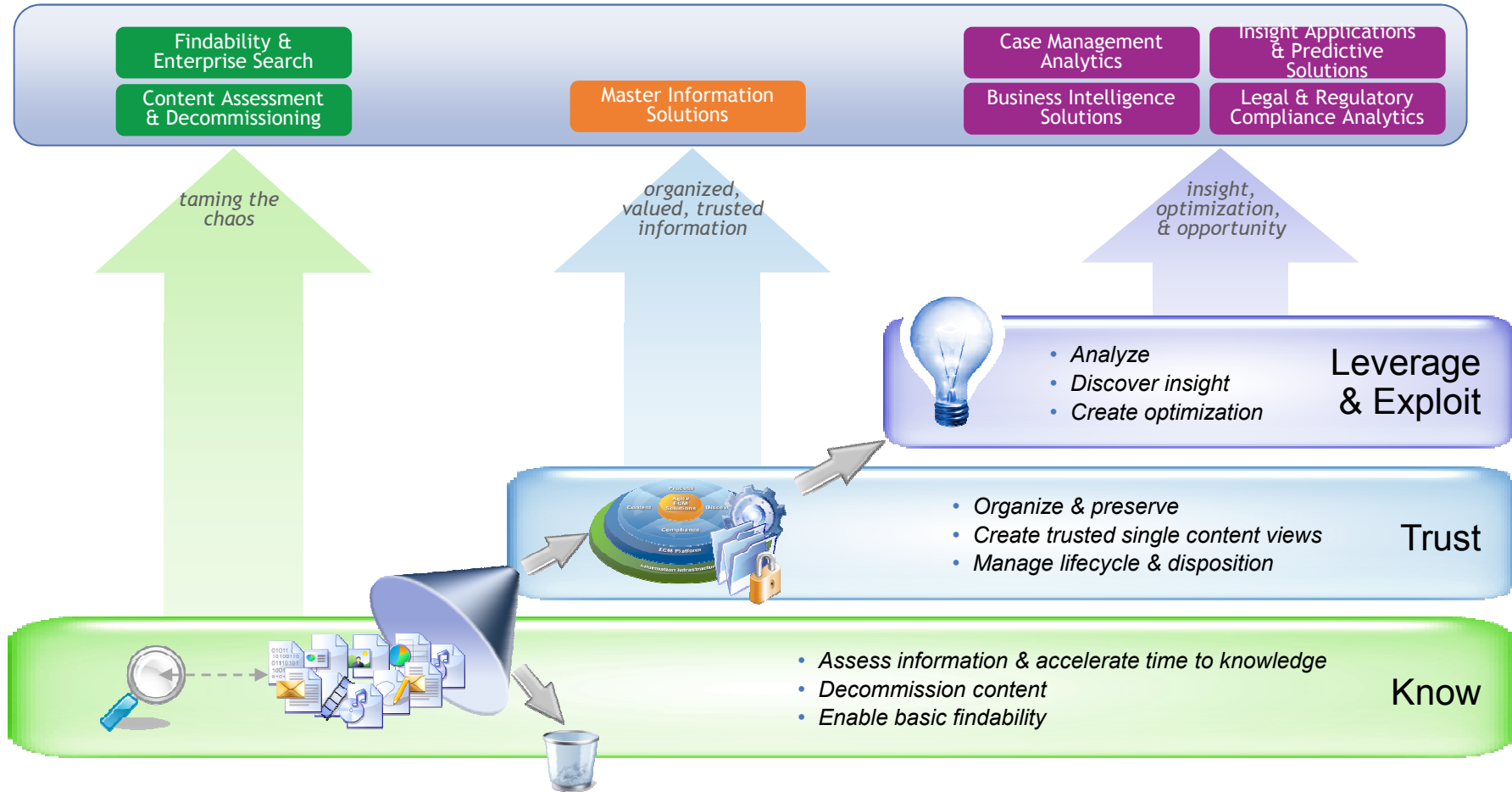
Gain actionable insights
from data

ECM Analytics: Trusted Content Analytics: Smarter Business Outcomes



Applying dynamic analytics to help organizations achieve smarter business outcomes by better knowing, trusting, and leveraging their content

Smarter Business Outcomes



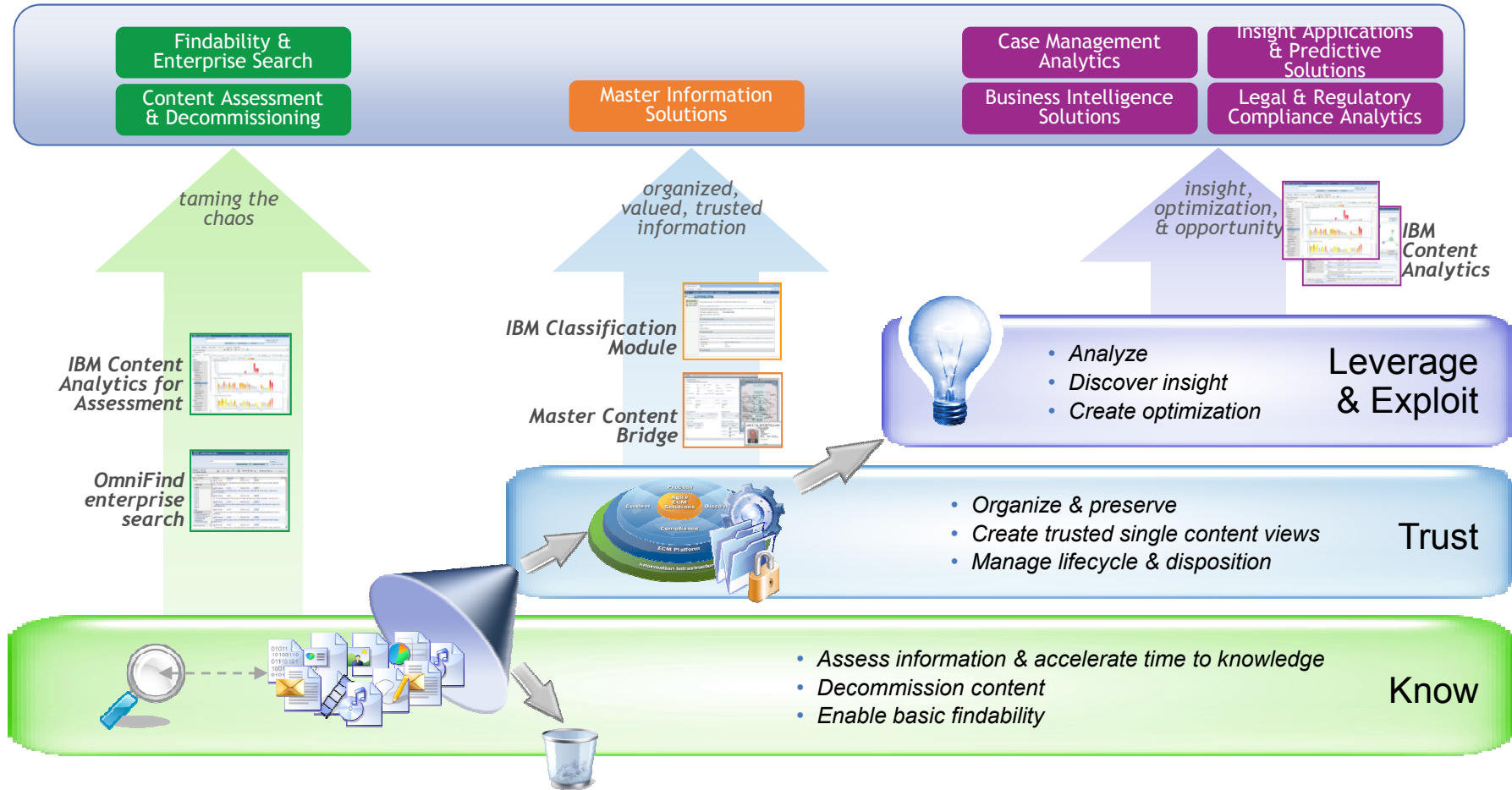
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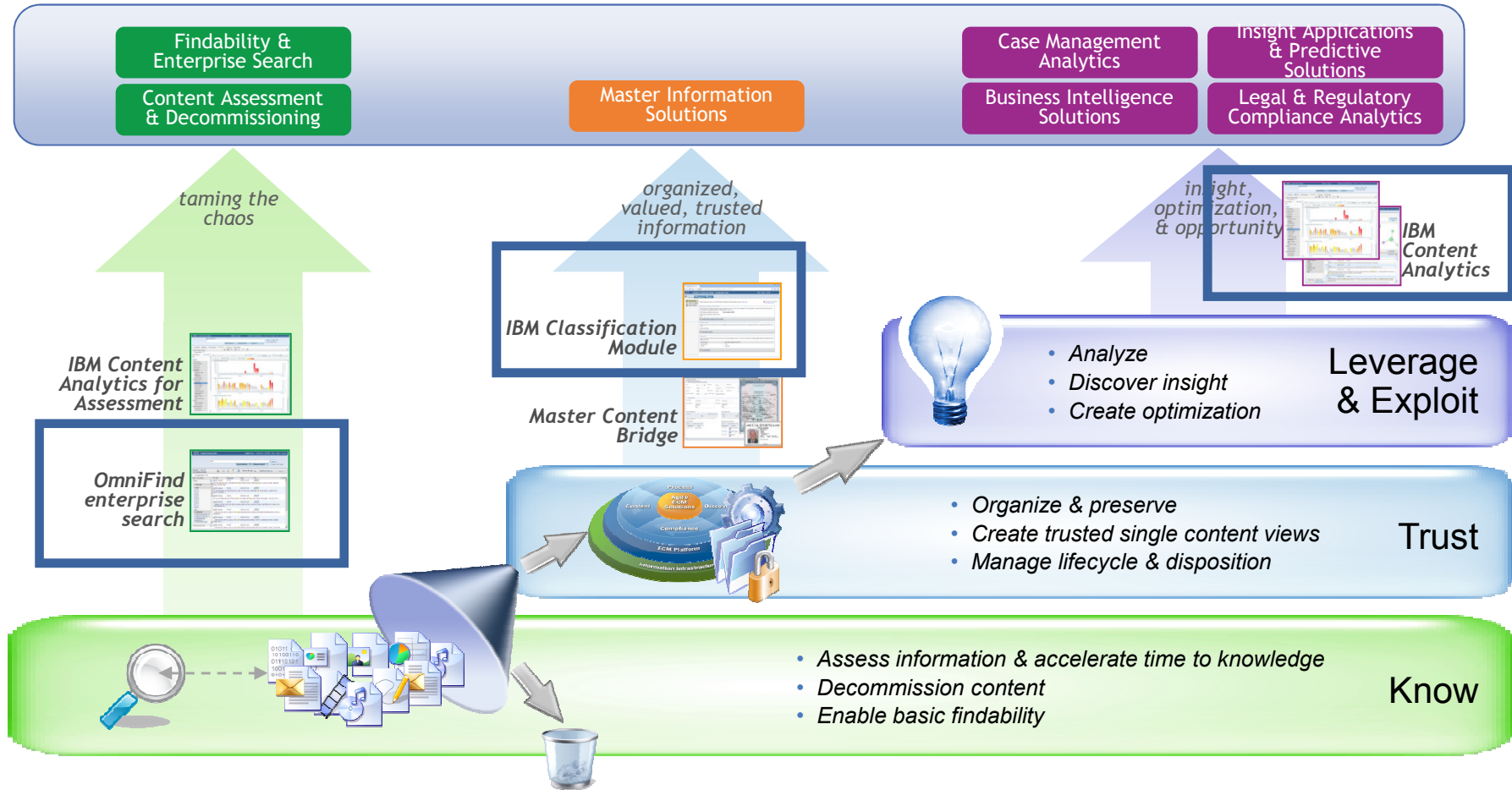
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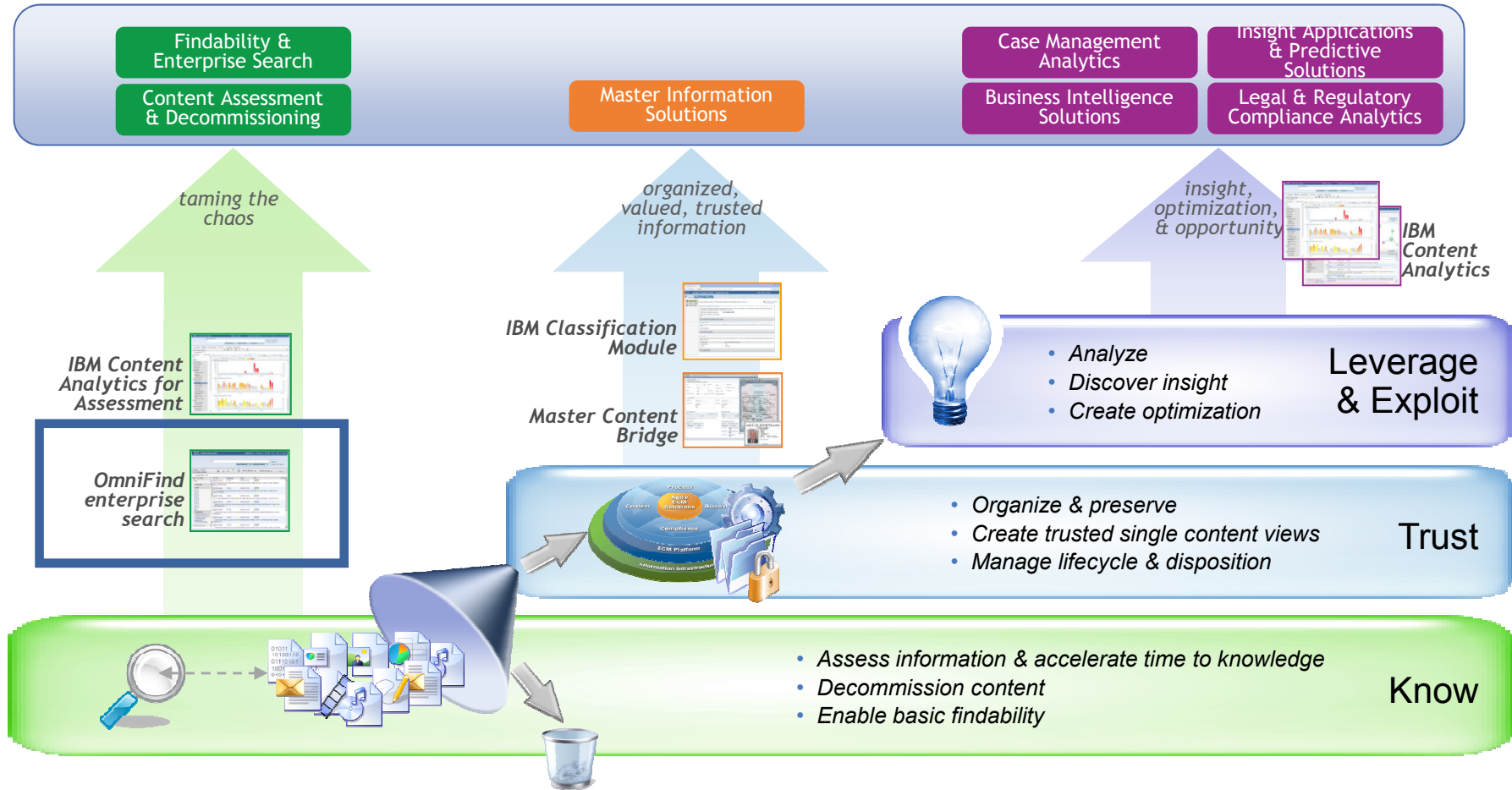
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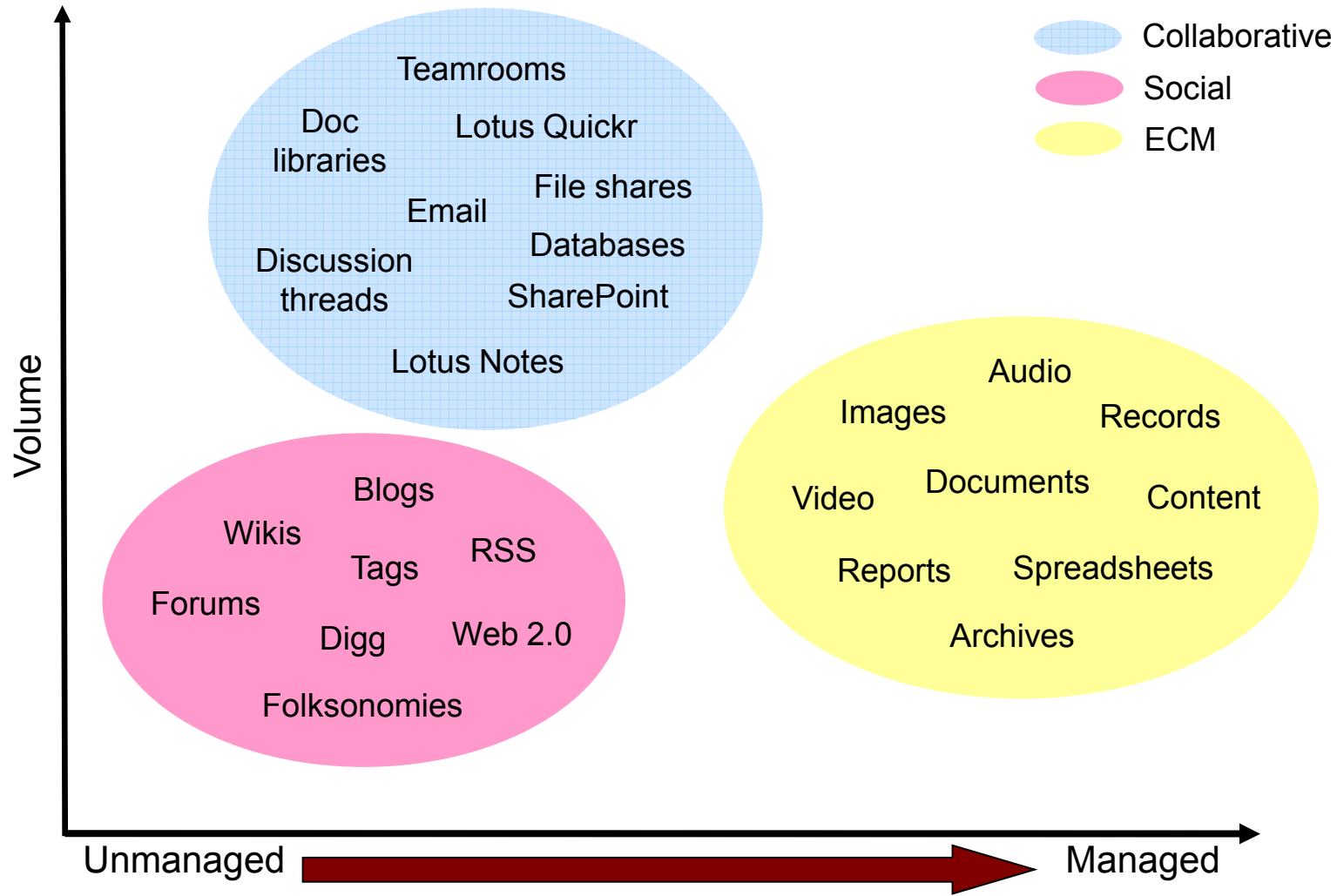
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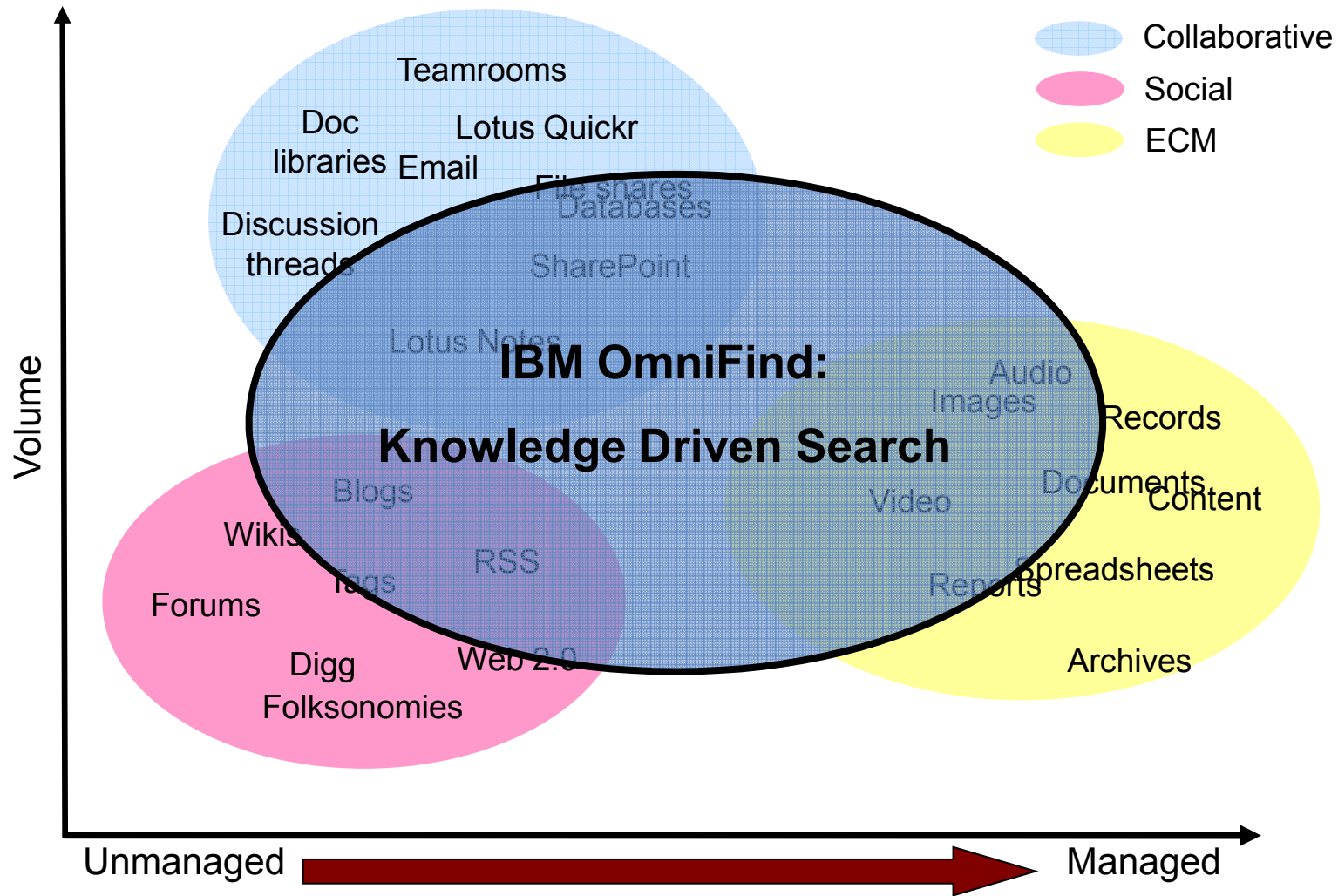
Gain actionable insights from data

Know: Enterprise Search: fragmented content landscape



Gain actionable insights from data

Know: Enterprise Search: fragmented content landscape



Gain actionable insights from data

- Enables **Knowledge Driven Search** to:
 - accelerate time to knowledge
 - provide greater accuracy
 - deliver business context with enterprise search

OmniFind delivers on the Five Pillars of Knowledge Driven Search:

- Dynamic – Delivers complete dynamic facet capabilities, type-ahead search, query saving and result exporting, and is reactive to search-led content exploration
- Tailorable – Delivers business adjustable relevancy and UIMA standardisation
- Supportable – Delivers search on 5 platforms, connects to 30+ repositories
- Secure – Delivers enforced security across content repositories
- Scalable – Lucene-based index for enterprise level scalability



Know: OEE - An enterprise search platform & end-user search application



- ✓ Scalable to very large search collections
- ✓ Connects to a wide variety of repositories
- ✓ Whole range of search options
- ✓ Concept / Semantic Search
- ✓ Dynamic summaries
- ✓ Thumbnails
- ✓ Top Results Analysis
- ✓ Drill down faceted search
- ✓ Featured Links
- ✓ Customizable
- ✓ Based on Open standards (UIMA)



Gain actionable insights from data

Know: OmniFind Customer Examples



- Global engineering firm improves productivity and reduces project delivery costs via secure intranet search of Lotus Domino and other content



- Government organization improves productivity and customer satisfaction via OmniFind search for WebSphere Portal (e-Gov award finalist)

Media company in Japan



- Global media company improves knowledge sharing and search on 5 Terabytes of Lotus Domino content



- Government organization improves service and collaboration, and reduces costs via OmniFind search on e-Government portal



- A leading healthcare provider in the southeast US gains greater insight into their network of service providers, enabling better customer service



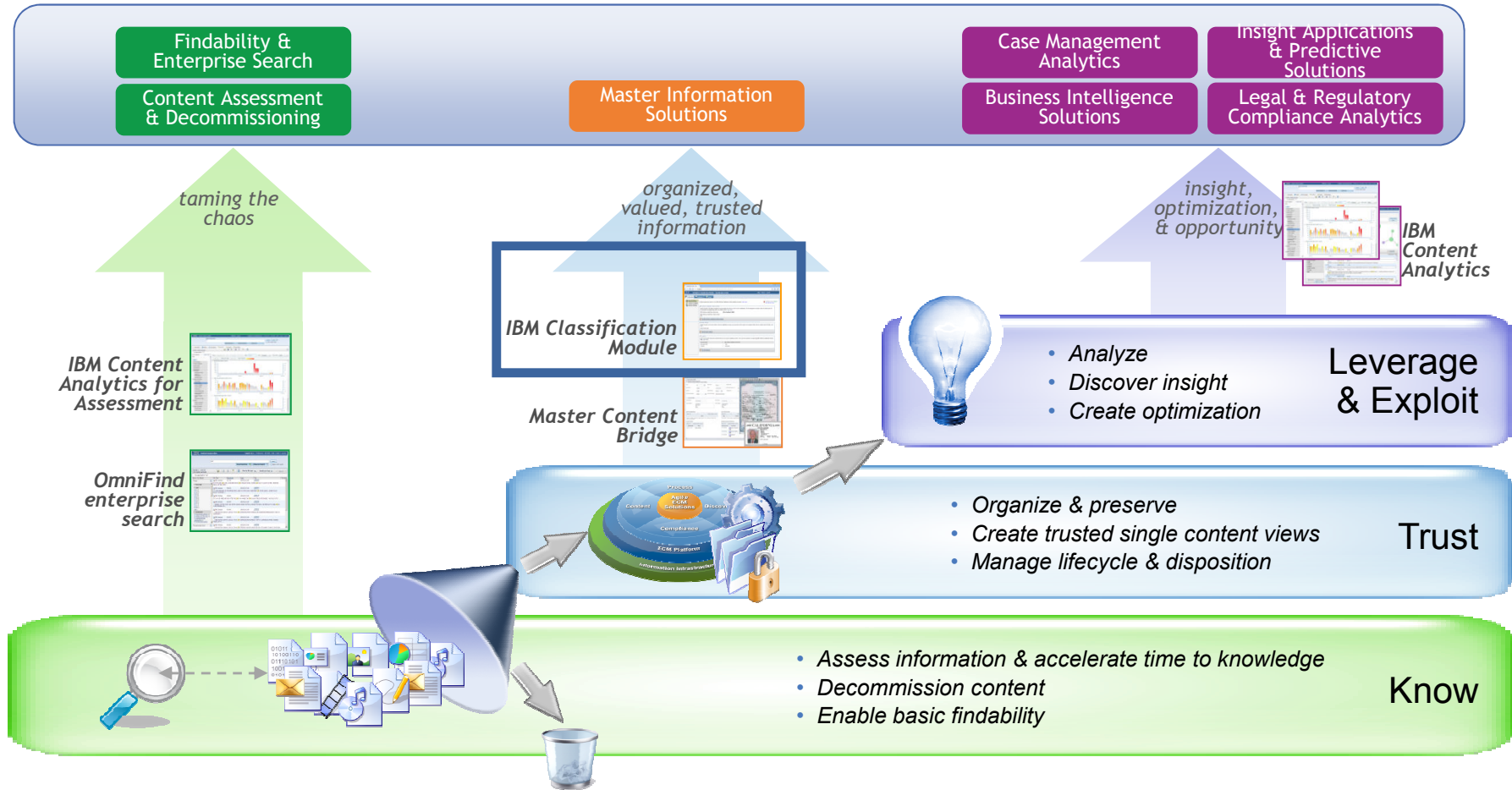
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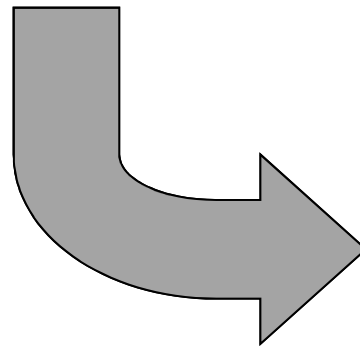
Trust: Automated Classification for content organization



Content is disorganized...



...I need to automatically organize and tag it to improve management, compliance, and gain leverage.



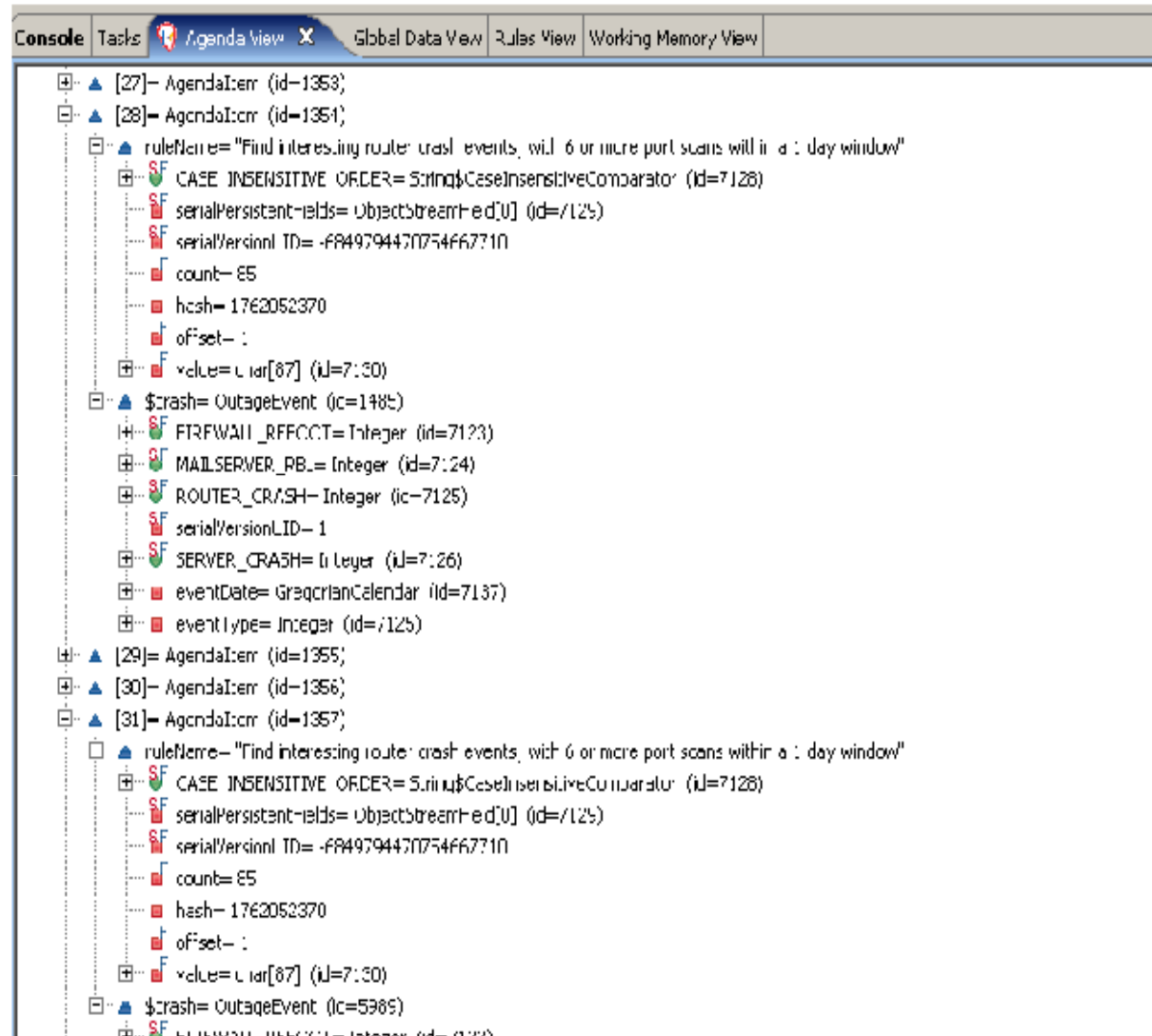
Gain actionable insights
from data

Definition:

Class.i.fic.a.tion [klas-uh-fi-key-shuhn] – *n* – the act of assigning an element (a document for example) to a category.

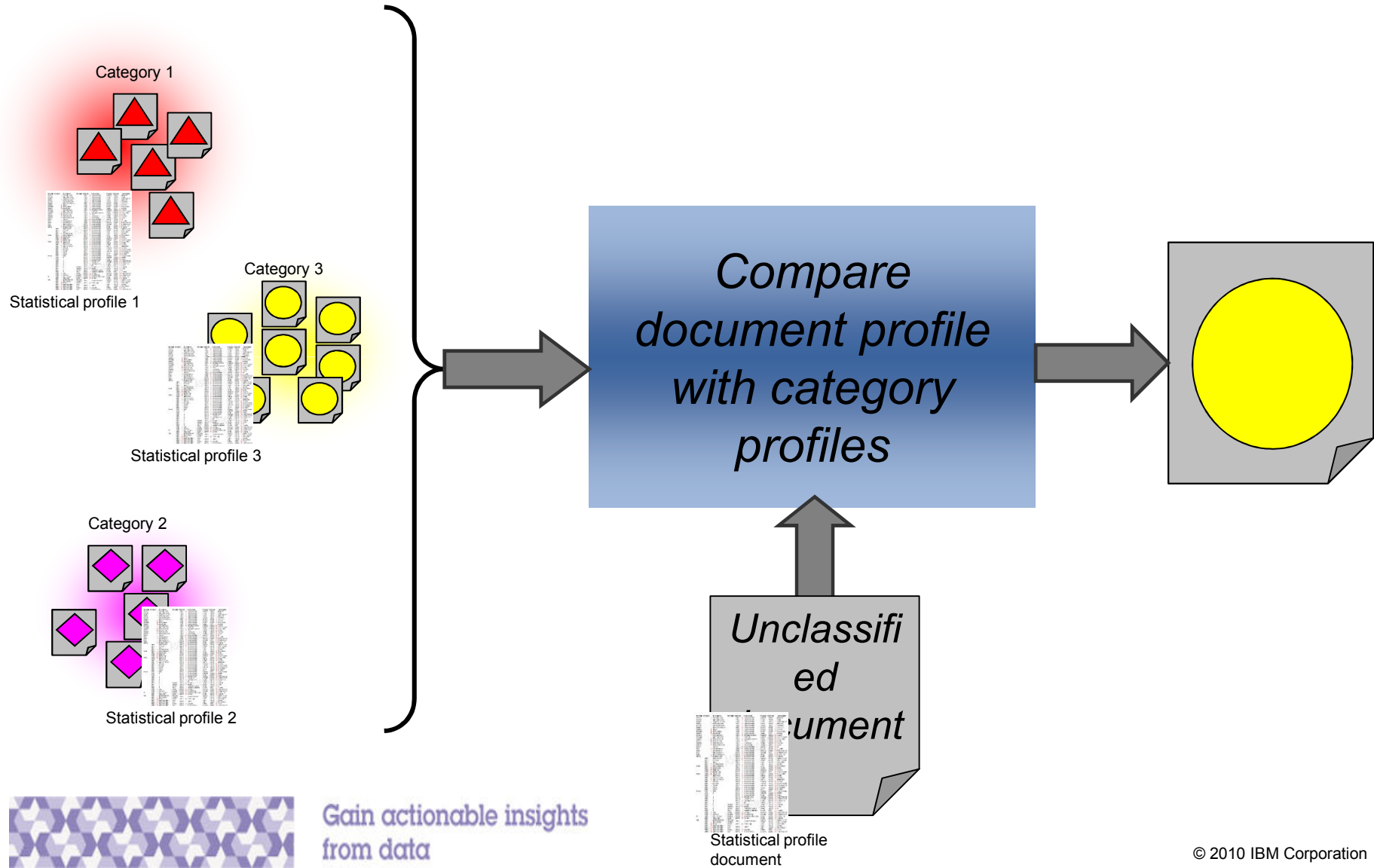


- **Extremely Consistent**
- **Extremely Reliable**
- **Good at extracting “unique” data**
- **Can be Complex = expensive and less accurate**



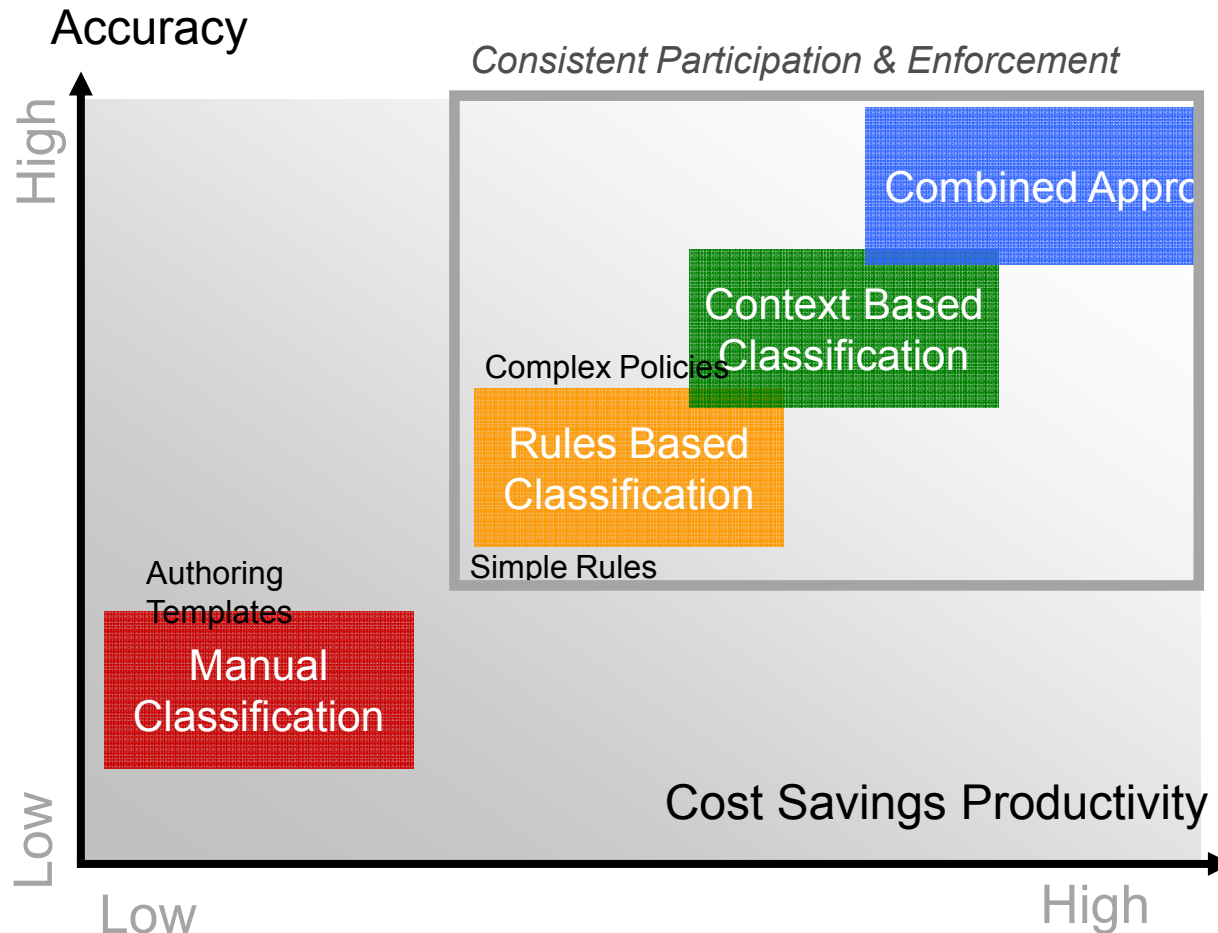
Gain actionable insights
from data

Trust: Context sensitive classification



Gain actionable insights from data

Trust: Optimizing classification methods

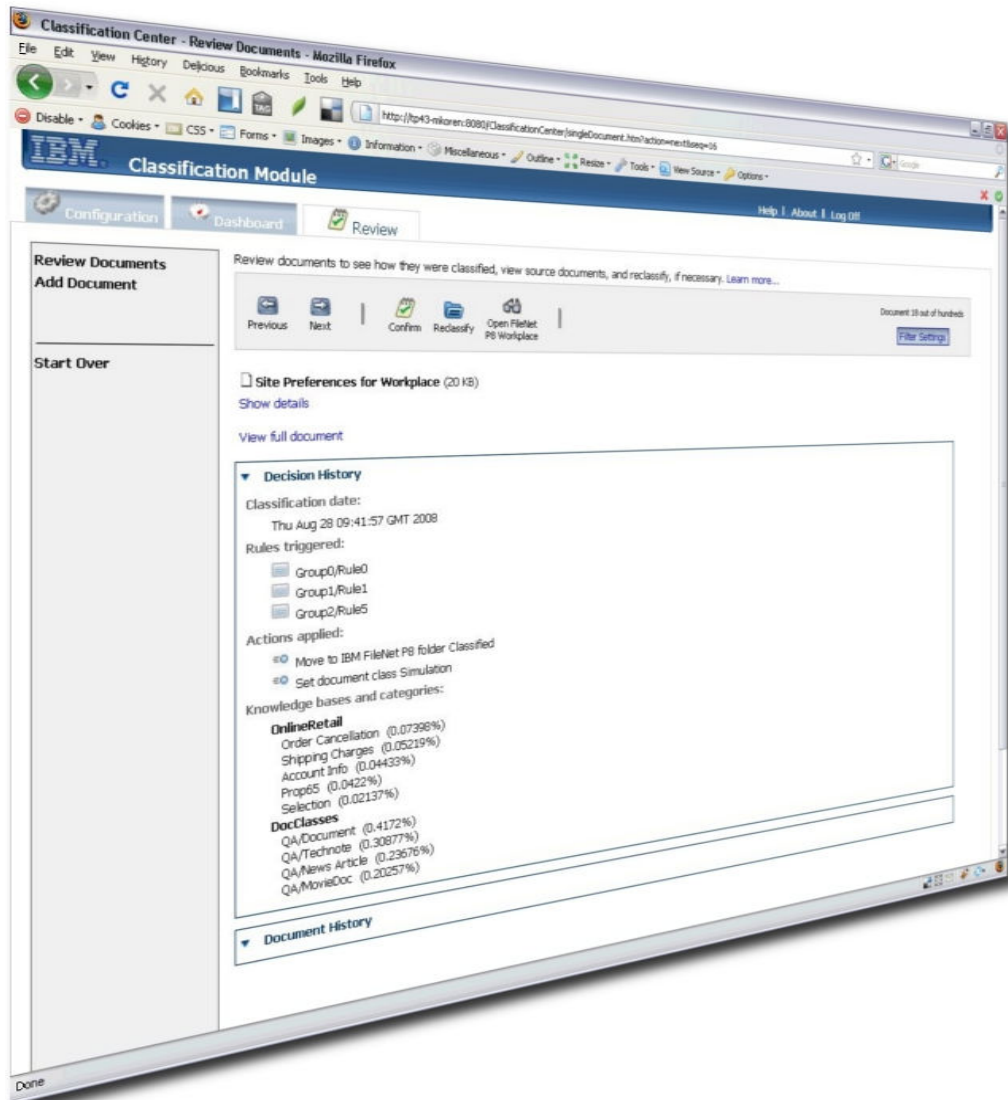


- **Manual methods lead to inconsistency and high costs**
- **Rules based methods offer high consistency and higher accuracy**
- **Context based provides flexibility and low maintenance**
- **Combined approaches provide the maximum accuracy from automation**



Gain actionable insights from data

The Solution: IBM Classification Module



Accelerating time to value from ECM investment, while cutting costs



from data

The Challenge

- Government Accountability Office (GAO) Report: 4 federal agencies surveyed revealed NARA regulation non-compliance, specifically with email
- *“Factors contributing to noncompliance included insufficient training and oversight as well as the difficulties of managing large volumes of e-mail.”**

Training 1.2 million users:

- Logistical impossibility, given the scale of the organization
- Poorly aligned to users’ skills and inefficient use of their time

The Solution

- Utilize IBM Classification Module in IBM’s email archiving and records management solution to automate record categorization without burdening users

Business Benefits

- 85% automation after Phase 1
- 99% automation after Phase 2
- Each phase tested on approximately 600,000 email messages (different corpus per phase)

ROI Projections:

- 900 TB of disk savings, annually
- \$1.8 M in hardware savings alone, independent of human costs and consistency of classification
- High satisfaction when Records Manager checked accuracy manually

“As a records manager with a 25-year background in federal and civilian records management, I believe the automatic categorization of information is the next logical evolution in managing the records of an organization.”

-- Records Manager involved in pilot

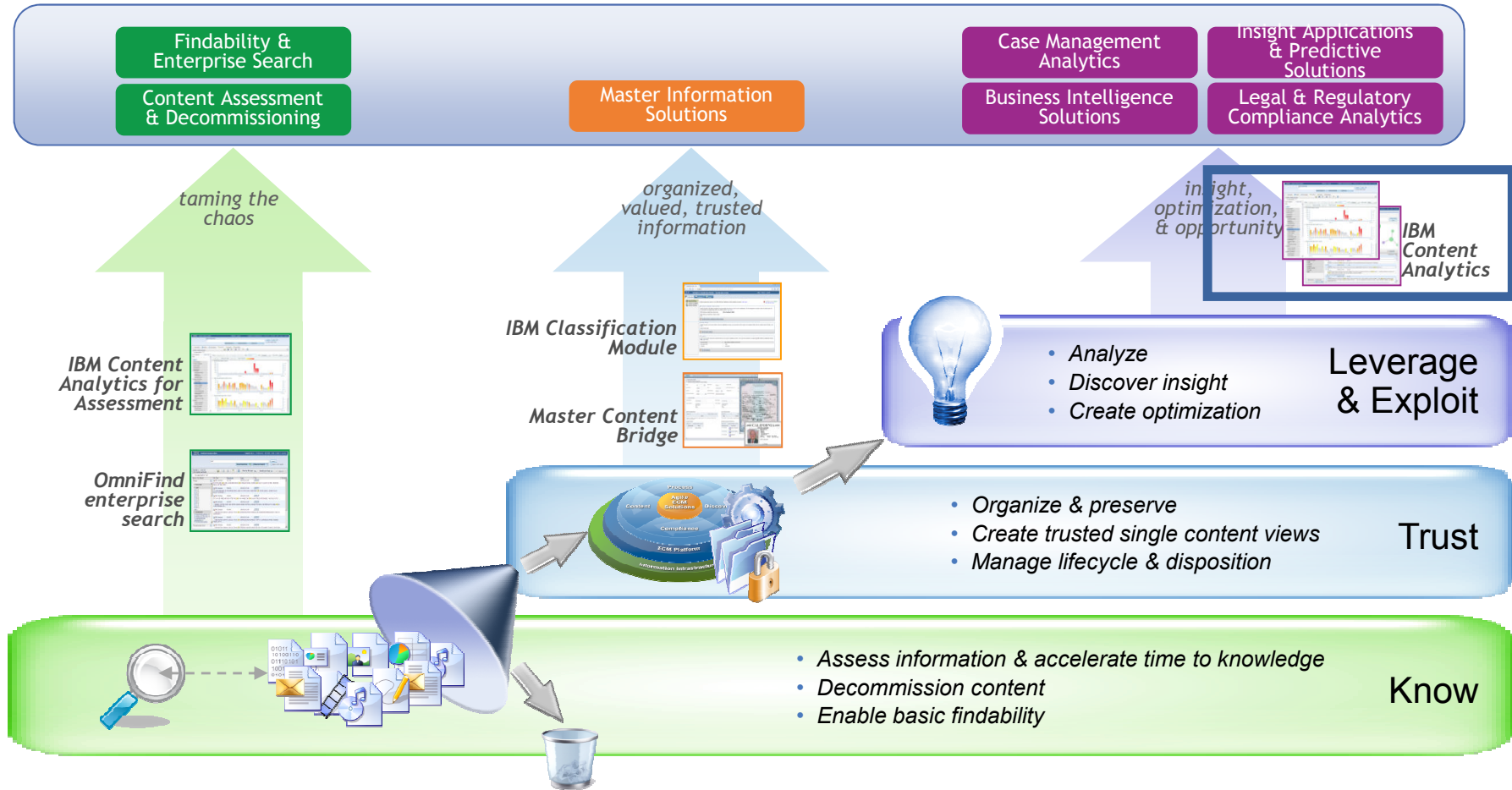


ECM Analytics: Trusted Content Analytics: Smarter Business Outcomes



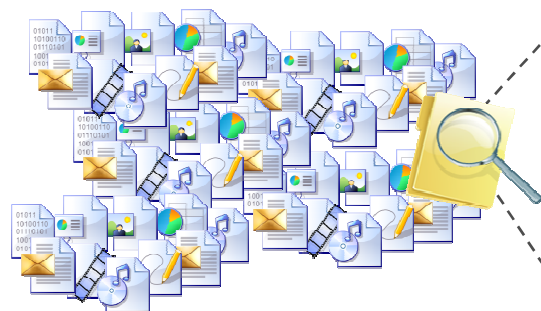
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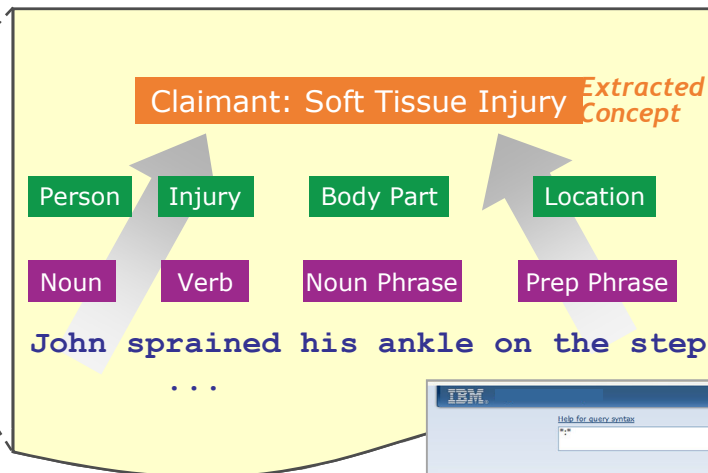
Gain actionable insights from data

Leverage and Exploit: Content Analytics – How it works

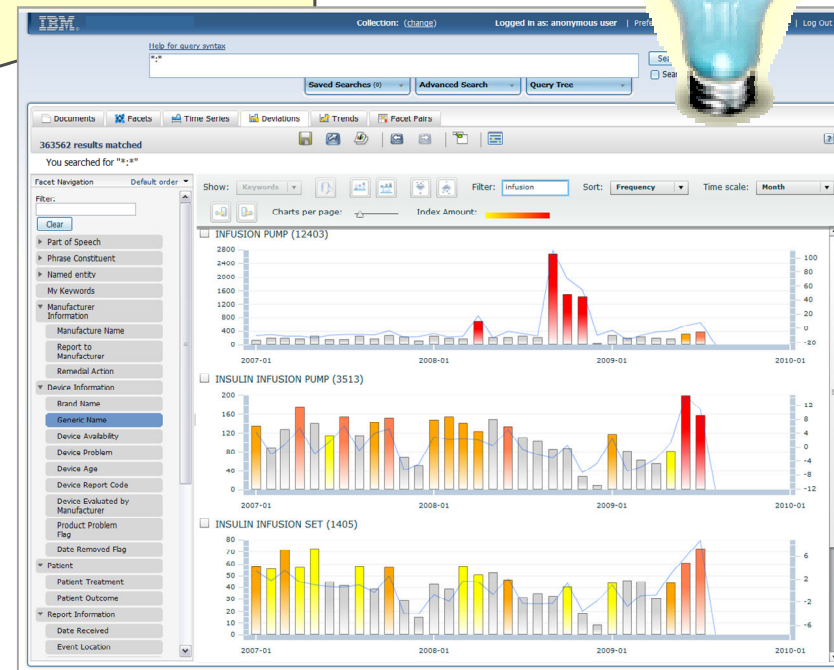


Source Information

Internal (ECM, Files, DBMS, etc.)
and External (Social, News, etc.)



Analyzed Content (and Data)

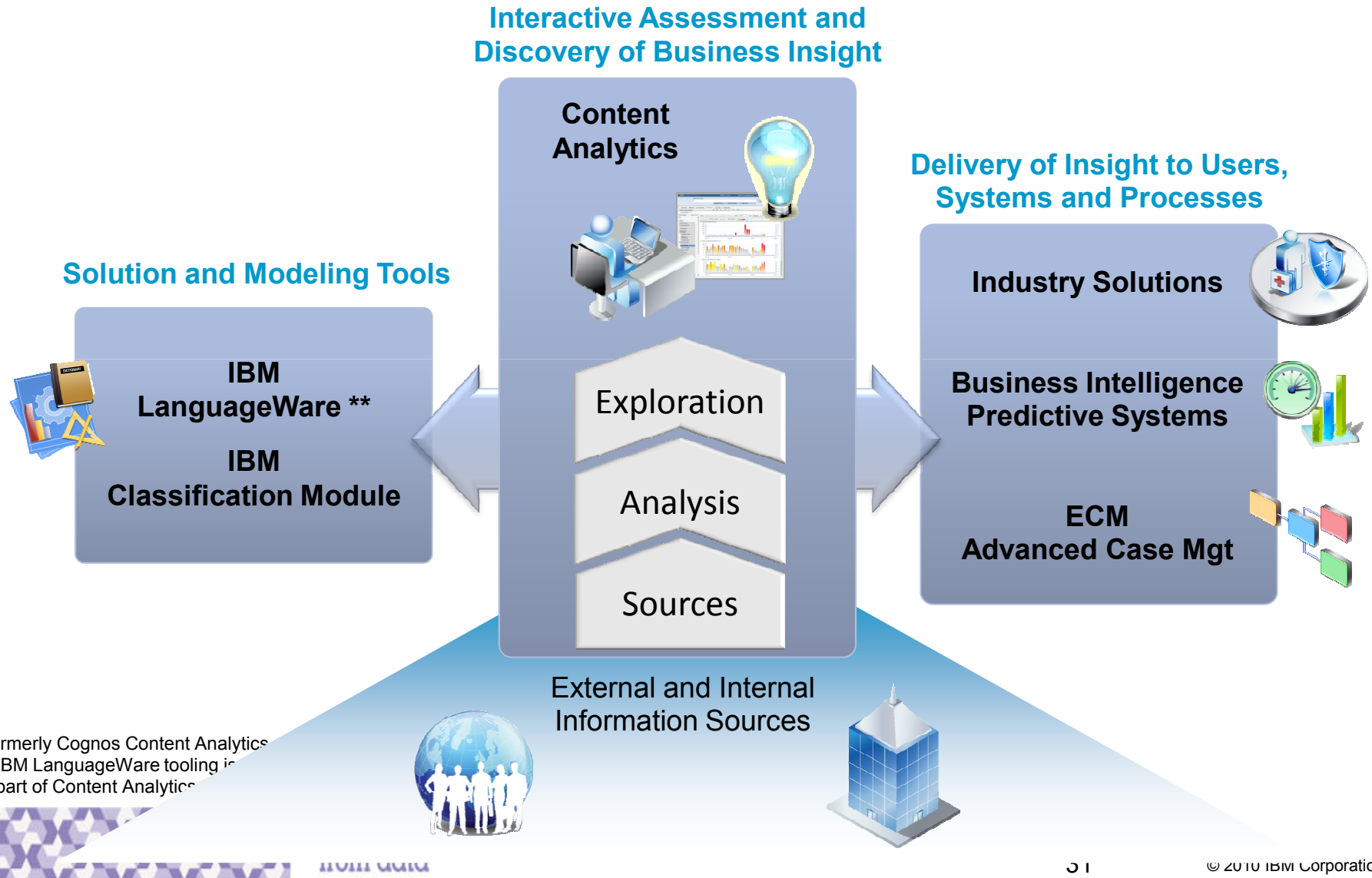


Automatic Visualization for Interactive Exploration and Assessment



Gain actionable insights
from data

Leverage and Exploit: Content Analytics – How it works



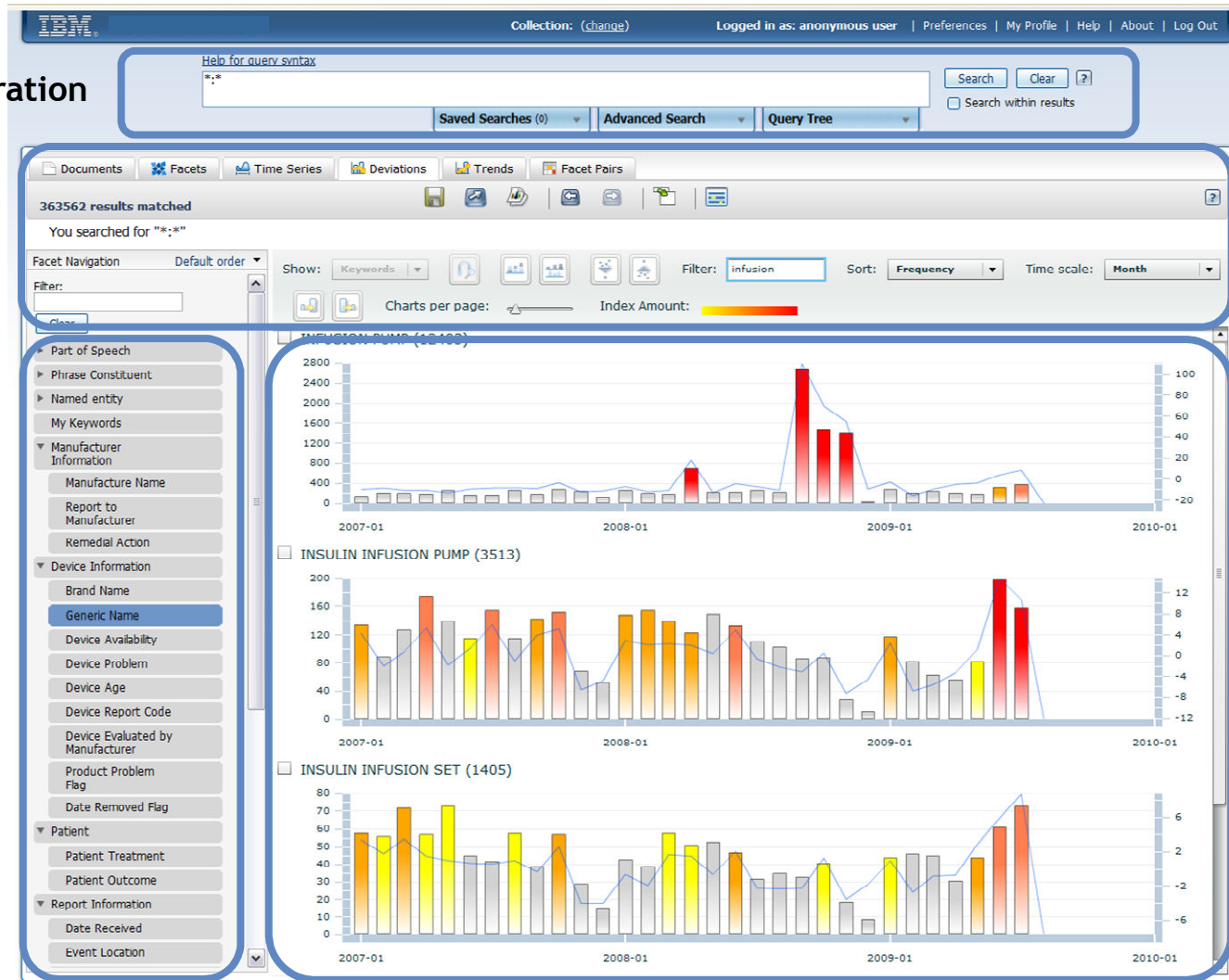
Leverage and Exploit: Content Analytics: Powered by Dynamic Analysis



Search Query Exploration

Views, Filters and
Thresholds

Automatically
Extracted and
Analyzed
Concepts, Entities,
Relationships,
Meta Data and
Classifications



Gain actionable **Visualization** with Drill Down for Exploration and Assessment
from data

Case Study 1: NTT Docomo

360 view of customer improves customer sat, reduces churn, drives new marketing opportunities 

The Corporate Strategy :

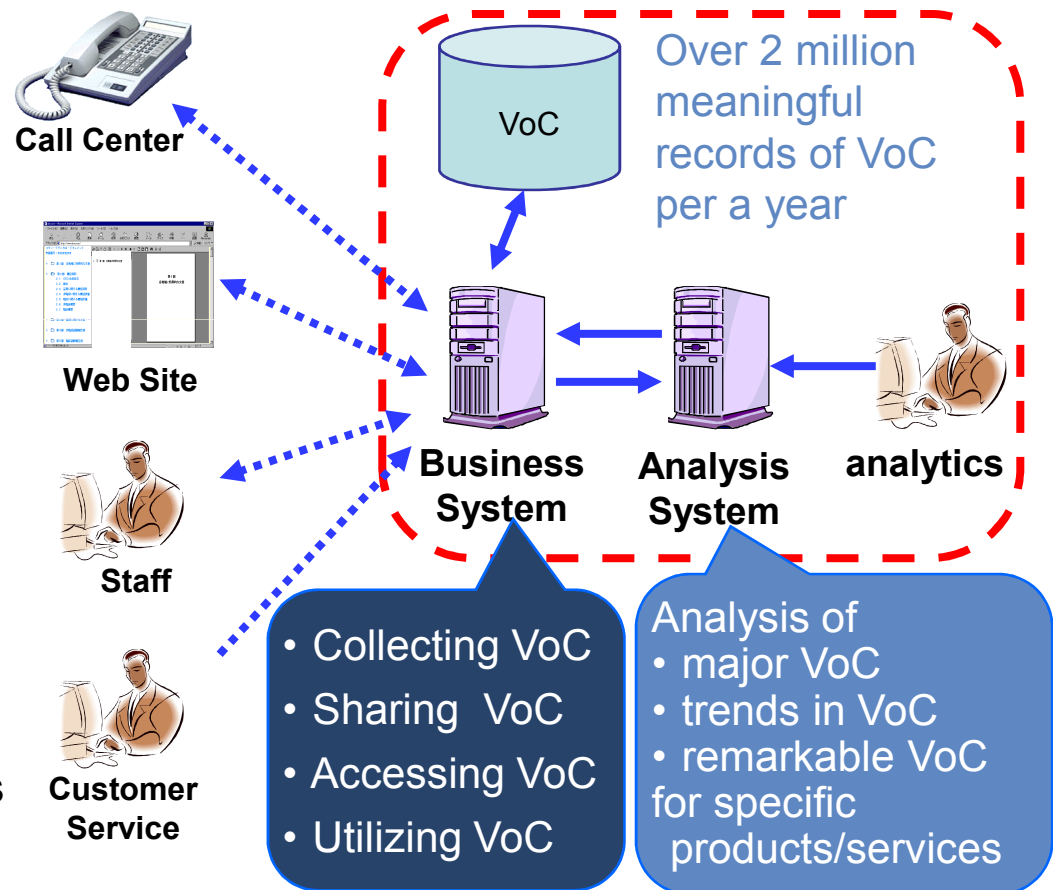
- Adopt a customer-oriented business strategy to offer highly satisfying products and services based on real voice of customers (VoC)

The Results:

- Increased internal use of VoC across depts
- Business benefits:
 - Improved rates for model and service upgrades to loyal customers
 - Started new Premium Club points program based on VoC
 - Set initial parameters of mobile phones based on VoC
 - Opened kiosks in international airports

The Solution:

Enabled by IBM Content analytics



Gain actionable insights
from data

Case Study 2: NYPD

NYPD is Solving More Crime Faster with New Insight from Content Analytics



Challenge

- Search and analyze complaints, police reports, 911 records, arrest records, and data marts ... all stuck in silos of information
- All of these forms of text suffer from the common problems of call center text i.e. abbreviations, misspellings, synonyms (Police-specific i.e. perp, ML, FM, MO, pistol, gun, etc...)
- Find events that keyword search can never find because they are all described differently – what keyword to use?

Solution

- IBM OmniFind Enterprise Edition with Content Analytics enables insight and understanding across all silos
- Customized with NYPD-specific case management analytics



Gain actionable insights
from data



The Results

- Text Analytics can describe events, categorize them and allow for concept searches across often unstructured and at times inaccurate descriptions
- Enables aggregated view of information beyond silos
- In the first week of deployment two old murder cases were solved which were directly attributed to being able to analyze trusted data and content

Leverage and Exploit: Content analytics adds value to...



Healthcare Analytics

- **Analyzing:** Care records
- **For:** Clinical analysis; treatment protocol optimization
- **Benefits:** Better management of chronic diseases; optimized drug formularies; improved patient outcomes



Telco Customer Care

- **Analyzing:** Call center logs and emails
- **For:** Churn prediction and FAQ generation
- **Benefits:** Improved customer retention & customer satisfaction



Crime Analytics

- **Analyzing:** Police records, 911 calls...
- **For:** Rapid crime solving & crime trend analysis
- **Benefits:** Safer communities & optimized force deployment



Insurance Fraud

- **Analyzing:** Insurance claims
- **For:** Detecting Fraudulent activity & patterns
- **Benefits:** Reduced losses, faster detection, more efficient claims processes



Automotive Quality Insight

- **Analyzing:** Tech notes, call logs, online media
- **For:** Brand Reputation Management
- **Benefits:** Reduce warranty costs, improve customer satisfaction, marketing campaigns



Retail Banking Customer Care

- **Analyzing:** Call logs, online media
- **For:** Buyer Behavior
- **Benefits:** Improve Customer satisfaction, marketing campaigns, find new revenue opportunities



Retail Customer Care

- **Analyzing:** Call logs, online media
- **For:** Brand Reputation Management
- **Benefits:** Improve customer sat, marketing campaigns



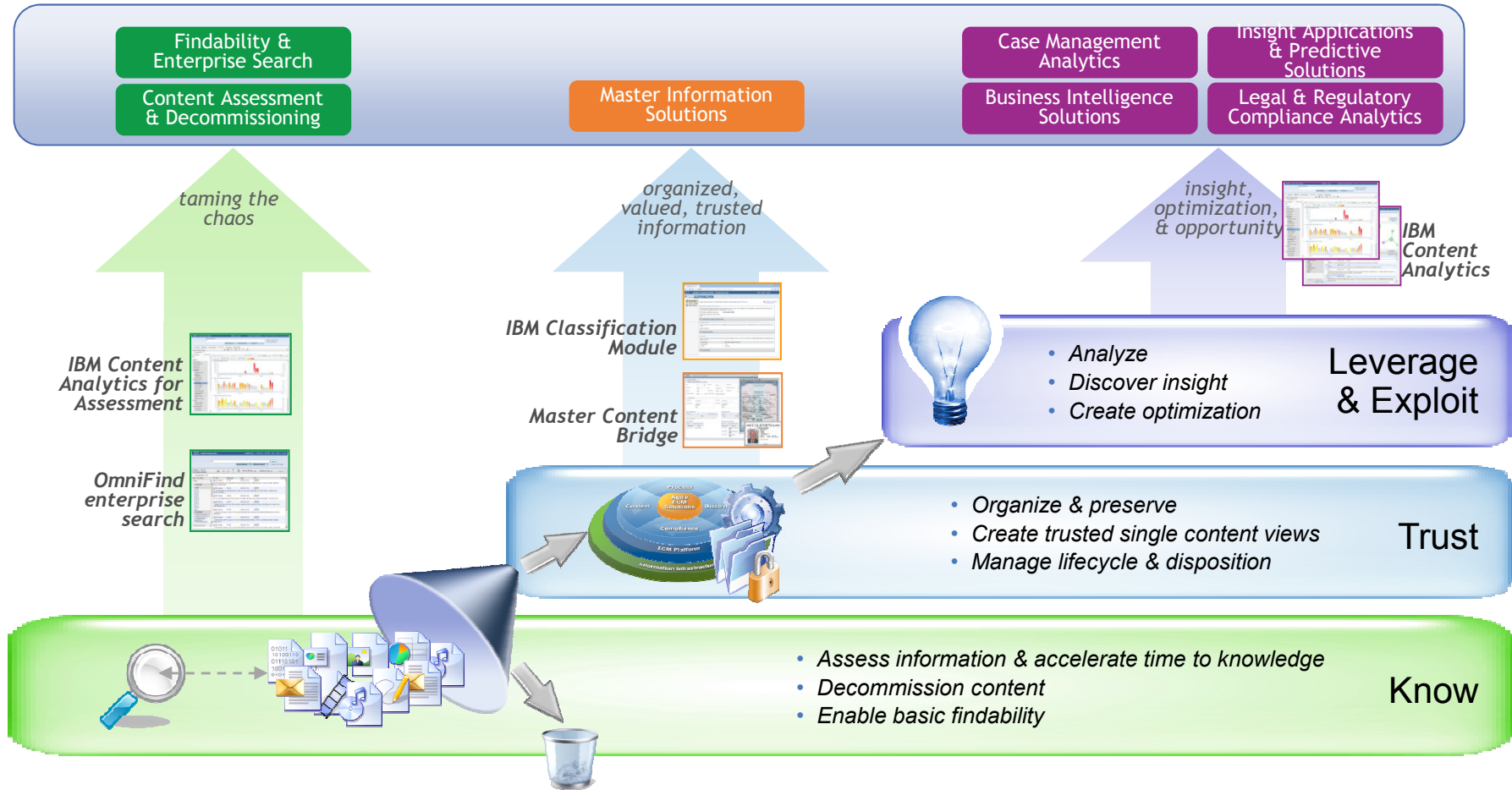
Gain actionable insights from data ...and more!

ECM Analytics: Trusted Content Analytics: Smarter Business Outcomes



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Smarter Business Outcomes



Gain actionable insights from data

Take Action using Trusted Content Analytics!



- Leverage the IBM ECM portfolio to take action by ...
 - Knowing your content - with OmniFind Search and Content Assessment
 - Trusting your content - with Classification and Master Content
 - Leverage & Exploit your content - with Content Analytics



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Gain actionable insights
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For More Information...



Mark Rice (mrice@nl.ibm.com)

- OmniFind Enterprise Edition:
 - <http://www-01.ibm.com/software/data/enterprise-search/omnifind-enterprise>
- IBM Content Assessment*
 - <http://www-01.ibm.com/software/data/content-management/assessment.html>
- IBM Classification Module*:
 - <http://www-01.ibm.com/software/data/content-management/classification>
- IBM Infosphere Master Content:
 - http://www-01.ibm.com/software/data/infosphere/mdm_server/master-content.html
- IBM Content Analytics*
 - <http://www-01.ibm.com/software/data/cognos/products/cognos-content-analytics>

* These products are currently undergoing a name change and may have a different name on the product page referenced here.



Gain actionable insights
from data

Thank
YOU



Gain actionable insights
from data

Detecting medical device failures 8 months earlier
than manual approaches



Gain actionable insights
from data

MedWatch

For VOLUNTARY reporting of
adverse events, product problems and use errors

The FDA Safety Information and
Adverse Event Reporting Program

General Instructions

FDA USE ONLY	
Triage unit #	
Sequence #	

A. PATIENT INFORMATION			
1. Patient Identifier (In confidence)	2. Age (In confidence)	3. Sex <input type="checkbox"/> Female <input type="checkbox"/> Male	4. Weight Lb or Kg

B. ADVERSE EVENT, PRODUCT PROBLEM OR ERROR	
1. Date of Event 2006-03-15	2. Date of this Report 2006-03-15

3. Describe Event, Problem, or Product Use Error

THE FACILITY REPRESENTATIVE REPORTED A BAD BATTERIES DURING BIOMED TESTING ON SITE. THE HOSPITAL REPRESENTATIVE DID NOT HAVE INFORMATON REGARDING WHETHER THERE HAVE BEEN ANY REPORTS OF ANY PATIENT INJURY OR MEDICAL INTERVENTION. NO ADDITIONAL INFORMATION IS AVAILABLE.

E. SUSPECT MEDICAL DEVICE	
1. Brand Name COLLEAGUE 3CX VOLUMETRIC INFUSION PUMP	
2. Common Device Name INFUSION PUMP	
3. Manufacturer Name BAXTER HEALTHCARE PTE. LTD.	
4. Device Problem	5. Manufacturer Evaluation
	EVALUATION SUMMARY: THE REPORTED CONDITION OF DEPLETED BATTERIES WAS CONFIRMED. THE BATTERIES WERE REPLACED DUE TO POTENTIAL DAMAGE. REVIEW OF THE COMPLAINT HISTORY REVEALS SIMILAR REPORTS HAVE BEEN RECEIVED FOR THIS PRODUCT FOR THE REPORTED ISSUE. THIS ISSUE IS BEING INVESTIGATED UNDER CAPA. EVALUATION WAS CONDUCTED ON SITE

FDA MedWatch incident reports are one source of data for medical device manufacturers to understand problems being reported by consumers about their products. It contains both structured and unstructured information. A manufacturer could also analyze internal content, such as warranty claims or support incidents

:
:
-

[Help for query syntax](#)

.

Search

Clear

 Search within results

Saved Searches (0)

Advanced Search

Query Tree

Documents

Facets

Time Series

Deviations

Trends

Facet Pairs

363562 results matched

You searched for "*.*"

Facet Navigation

Default order

Filter:

Clear

▶ Part of Speech

▶ Phrase Constituent

▶ Named entity

My Keywords

▼ Manufacturer Information

Manufacture Name

Report to Manufacturer

Remedial Action

▼ Device Information

Brand Name

Generic Name

Device Availability

Device Problem

Device Age

Device Report Code

Device Evaluated by Manufacturer

Product Problem Flag

Date Removed Flag

▼ Patient

Patient Treatment

Patient Outcome

▼ Report Information

Date Received

Event Location

Show:

Keywords

Filter: infusion

Sort:

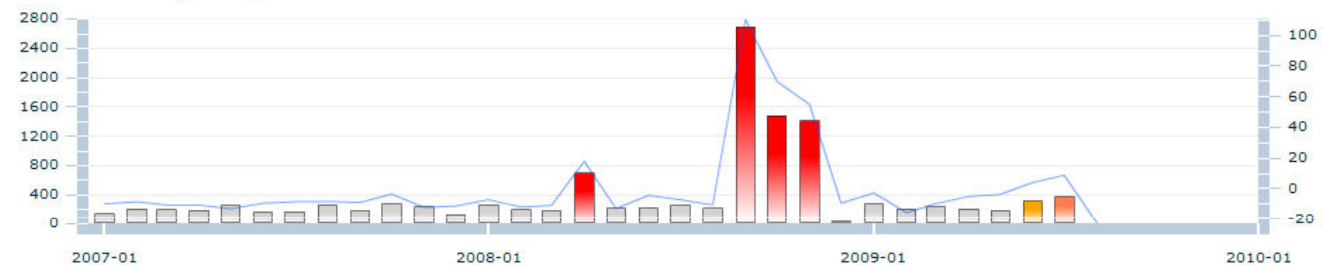
Frequency

Time scale: Month

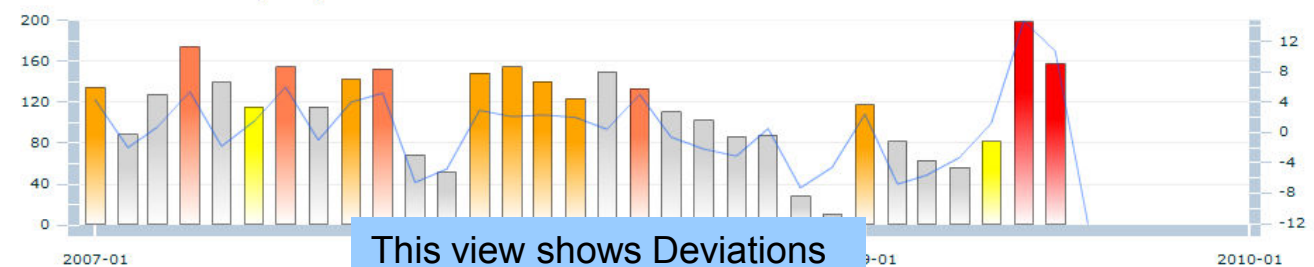
Charts per page:

Index Amount:

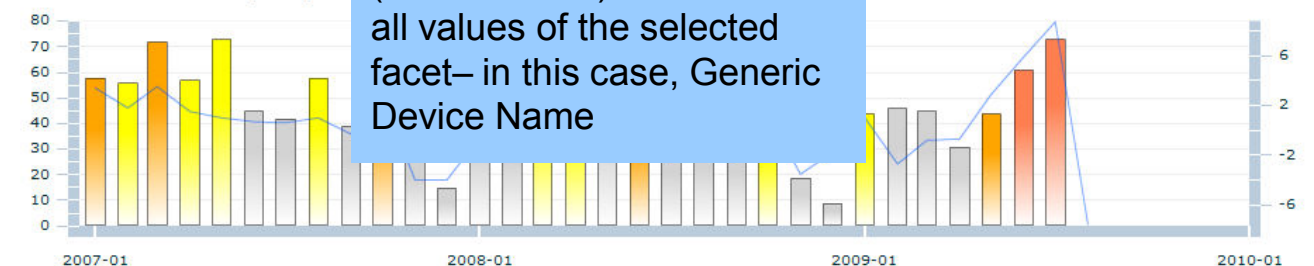
INFUSION PUMP (12403)



INSULIN INFUSION PUMP (3513)



INSULIN INFUSION SET (1405)



This view shows Deviations (or anomalies) over time for all values of the selected facet—in this case, Generic Device Name

[Help for query syntax](#)

.

Search

Clear

 Search within results

Saved Searches (0)

Advanced Search

Query Tree

Documents Facets Time Series Deviations Trends Facet Pairs

363562 results matched

You searched for "*.*"

Facet Navigation

Default order

Filter:

Clear

Part of Speech

Phrase Constituent

Named entity

My Keywords

Manufacturer Information

Manufacture Name

Report to Manufacturer

Remedial Action

Device Information

Brand Name

Generic Name

Device Availability

Device Problem

Device Age

Device Report Code

Device Evaluated by Manufacturer

Product Problem Flag

Date Removed Flag

Patient

Patient Treatment

Patient Outcome

Report Information

Date Received

Event Location

Show: Keywords



Filter: infusion

Sort: Frequency

Time scale: Month

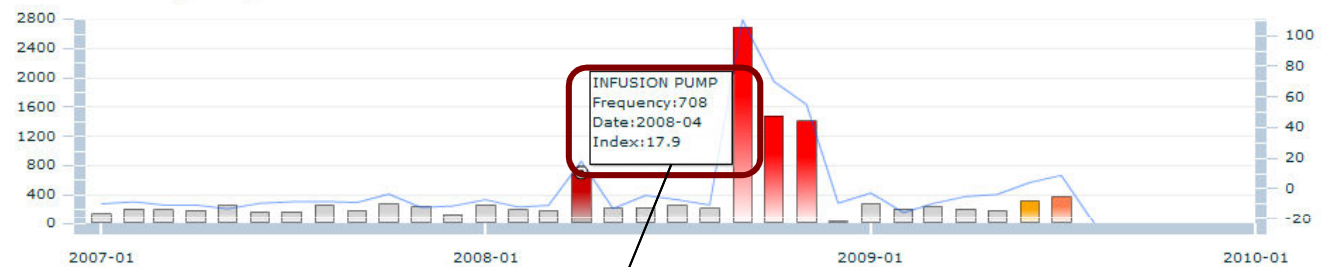


Charts per page:

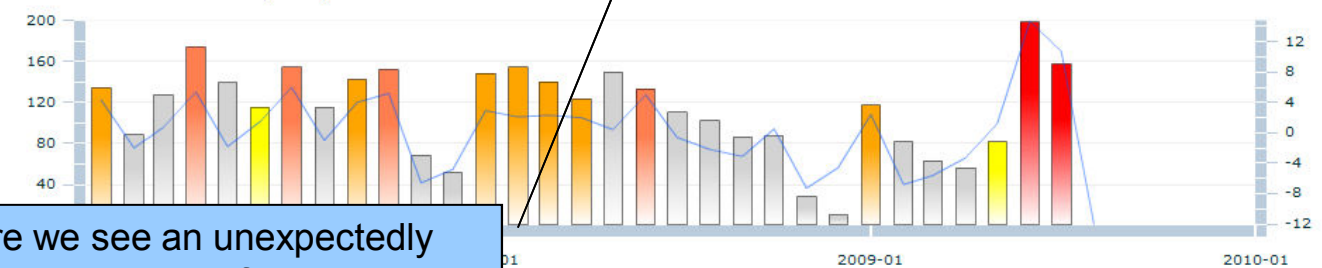
Index Amount:



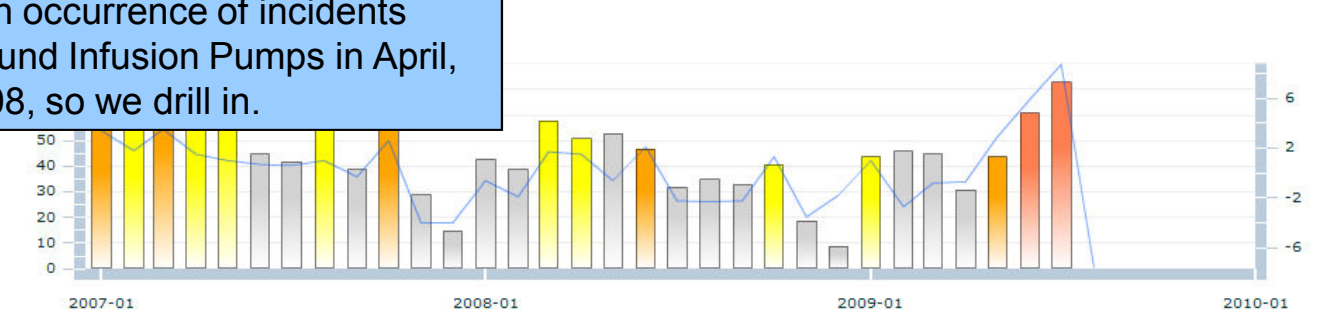
INFUSION PUMP (12403)



INSULIN INFUSION PUMP (3513)



Here we see an unexpectedly high occurrence of incidents around Infusion Pumps in April, 2008, so we drill in.



[Help for query syntax](#)

: /"keyword\$.deviceinformation.genericname"/"INFUSION PUMP" /"date\$.month"/"200804"

Search Clear ?

Search within results

Saved Searches (0)

Advanced Search

Query Tree

Documents Facets Time Series Deviations Trends Facet Pairs

708 results matched

You searched for "*/*/"keyword\$.deviceinformation.genericname"/"INFUSION PUMP" /"date\$.month"/"200804"

Facet Navigation Default order

Filter:

Clear

- ▶ Part of Speech
- ▼ Phrase Constituent
 - ▶ Noun Phrase
 - ▼ Predicate Phrase
 - Predicate with Adverb
 - Noun - Predicate
 - Verb - Noun**
 - ▶ Conjunction Phrase
- ▶ Named entity
- My Keywords
- ▼ Manufacturer Information
 - Manufacture Name
 - Report to Manufacturer
 - Remedial Action
- ▼ Device Information
 - Brand Name
 - Generic Name
 - Device Availability
 - Device Problem
 - Device Age
 - Device Report
 - Device Evaluate Manufacturer
 - Product Problem Flag
 - Date Removed

Show: Keywords

Filter:

	Keywords	Frequency	Correlation
<input type="checkbox"/>	report ... issue	397	28.5
<input type="checkbox"/>	report ... condition	219	31.1
<input type="checkbox"/>	investigate ... under	213	30.2
<input checked="" type="checkbox"/>	deplete ... battery	126	63.2
<input type="checkbox"/>	be ... report	113	3.2
<input type="checkbox"/>	display ... error	108	10.9
<input type="checkbox"/>	be ... UNK	104	6.6
<input type="checkbox"/>	be ... unknown	98	4.2
<input type="checkbox"/>	be ... known	87	12.4
<input type="checkbox"/>	circuit ... board	45	34.7
<input type="checkbox"/>	be ... defective	38	19.4
<input checked="" type="checkbox"/>	damage ... battery	33	54.2
<input type="checkbox"/>	replace ... due	32	18.9
<input type="checkbox"/>	print ... circuit	32	26.1
<input type="checkbox"/>	be ... in	27	1.8
<input type="checkbox"/>	confirm ... in	21	13.8
<input type="checkbox"/>		16	23.3
<input type="checkbox"/>		14	7.5
<input type="checkbox"/>		14	11.4
<input type="checkbox"/>		13	6.6
<input type="checkbox"/>		13	2.0
<input type="checkbox"/>		13	1.4
<input type="checkbox"/>		10	62.3
<input type="checkbox"/>		8	5.2
<input type="checkbox"/>		8	6.0

Switching to the Facets view of key phrases, we see frequent mentions of battery issues in Infusion Pump incidents reported in April, 2008. We drill down into these battery issues.

[Help for query syntax](#)

```
*:* /"keyword$.deviceinformation.genericname"/"INFUSION PUMP" /"date$.month"/"200804" ( /"keyword$.phrase.pred_phrase.verb_noun"/"deplete ... battery" OR /"keyword$.phrase.pred_phrase.verb_noun"/"damage ... battery" OR /"keyword$.phrase.pred_phrase.verb_noun"/"fail ... battery" )
```

Search

Clear

 Search within results

Saved Searches (0)

Advanced Search

Query Tree

Documents

Facets

Time Series

Deviations

Trends

Facet Pairs

Results 1-10 of 154
(154 results matched)

View by file type: ALL

Results per Page 10

1 2 3 4 5 6 7 8 9 10

You searched for "*/*/"keyword\$.deviceinformation.genericname"/"INFUSION PUMP" /"date\$.month"/"200804" (/"keyword\$.phrase.pred_phrase.verb_noun"/"deplete ... battery" OR /"keyword\$.phrase.pred_phrase.verb_noun"/"damage ... battery" OR /"keyword\$.phrase.pred_phrase.verb_noun"/"fail ... battery")"

Facet Navigation	Default order	Source	Relevance	Date	Title	Thumbnail
Filter:		Windows file system	100.00%	4/4/08	MAUDE-1023177.xml	
Clear		INFUSION PUMP BAXTER HEALTHCARE PTE. LTD. NA 2M8153 NA NA Device was returned to ... DEVICE EVALUATION WS COMPLETED AND THE FAILED BATTERY TEST REVEALED DEPLETED BATTERIES. THE ...				
▶ Part of Speech		Windows file system	100.00%	4/3/08	MAUDE-1023097.xml	
▶ Phrase Constituent		INFUSION PUMP BAXTER HEALTHCARE PTE. LTD. NA 2M8151 NA NA Device was returned to ... WAS CONFIRMED (3 DISCHARGES BELOW ALARM THRESHOLD FOUND) DUE TO POTENTIALLY DAMAGED BATTERIES. DURING SERVICE TESTING, DEPLETED BATTERIES WERE FOUND. ACCORDING TO THE HOSPITAL REPRESENTATIVE, ...				
▶ Named entity		Windows file system	100.00%	4/3/08	MAUDE-1023105.xml	
My Keywords		RY CONDITION WAS CONFIRMED DUE TO POTENTIALLY DAMAGED BATTERIES. TTERIES WERE FOUND. ACCORDING TO THE HOSPITAL REPRESENTATIVE ...				
▼ Manufacturer Information		4/3/08			MAUDE-1023116.xml	
Manufacture Name		Device was returned to ... AND THE DEPLETED BATTERY CONDITION WAS CONFIRMED DUE TO POTENTIALLY DAMAGED BATTERIES. BAXTER DURING SERVICE TESTING DEPLETED BATTERIES WERE FOUND. ACCORDING TO THE HOSPITAL REPRESENTATIVE ...				
Report to Manufacturer						
Remedial Action						
▼ Device Information						
Brand Name						
Generic Name						
Device Availability						
Device Problem						
Device Age						
Device Report Code						
Device Evaluated by Manufacturer						
Product Problem Flag						
Date Removed Flag						
▼ Patient						
Patient Treatment						
Patient Outcome						
▼ Report Information						
Date Received						
Event Location						

In the documents view, we can see the original source documents about these 154 battery-related infusion pump incidents. Relevant matching text from the original documents is highlighted.

[Help for query syntax](#)

```
*:* /"keyword$.deviceinformation.genericname"/"INFUSION PUMP" /"date$.month"/"200804" (  
/"keyword$._phrase.pred_phrase.verb_noun"/"deplete ... battery" OR /"keyword$._phrase.pred_phrase.verb_noun"/"damage ...  
battery" OR /"keyword$._phrase.pred_phrase.verb_noun"/"fail ... battery" )
```

Search

Clear

 Search within results

Saved Searches (0)

Advanced Search

Query Tree

Documents Facets Time Series Deviations Trends Facet Pairs

154 results matched

You searched for "*/*/"keyword\$.deviceinformation.genericname"/"INFUSION PUMP" /"date\$.month"/"200804" (/"keyword\$._phrase.pred_phrase.verb_noun"/"deplete ... battery" OR /"keyword\$._phrase.pred_phrase.verb_noun"/"damage ... battery" OR /"keyword\$._phrase.pred_phrase.verb_noun"/"fail ... battery")"

Facet Navigation

Default order

Filter:

Clear

Part of Speech

Phrase Constituent

Named entity

My Keywords

Manufacturer

Information

Manufacture Name

Report to

Manufacturer

Remedial Action

Device Information

Brand Name

Generic Name

Device Availability

Device Problem

Device Age

Device Report Code

Device Evaluated by

Manufacturer

Product Problem

Flag

Date Removed Flag

Patient

Patient Treatment

Patient Outcome

Report Information

Date Received

Event Location

Show: Keywords

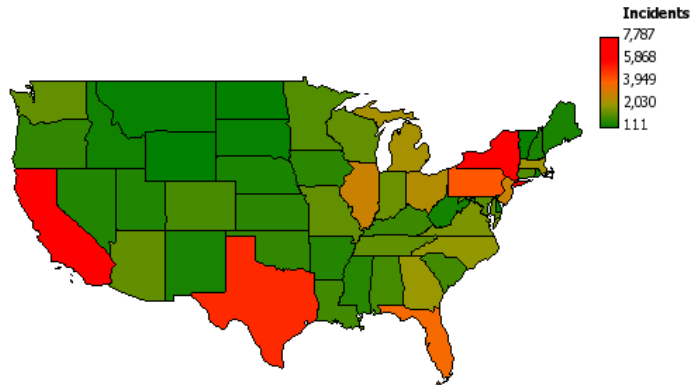


Filter:

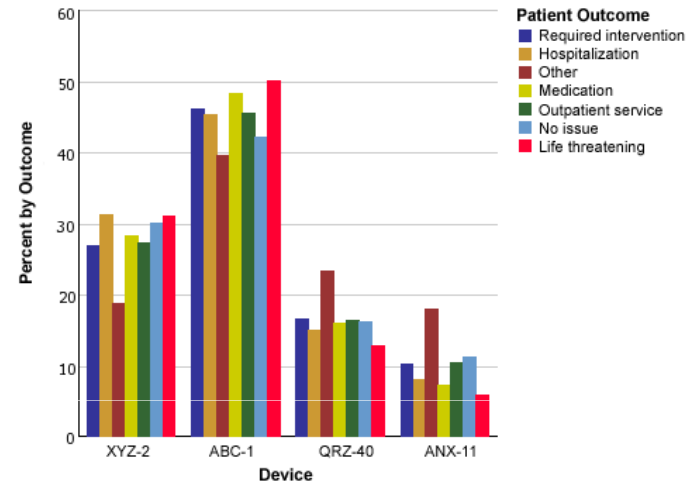
	Keywords	Frequency	1	Correlation
<input type="checkbox"/>	COLLEAGUE CX VOLUMETRIC INFUSION	56	91.8	■
<input type="checkbox"/>	COLLEAGUE VOLUMETRIC INFUSION PU	41	107.1	■
<input type="checkbox"/>	COLLEAGUE 3CX VOLUMETRIC INFUSIO	22	58.3	■
<input type="checkbox"/>	COLLEAGUE 3 VOLUMETRIC INFUSION	14	60.8	■
<input type="checkbox"/>	COLLEAGUE CX VOLUMETRIC INFUSION	11	1,178.6	■
<input type="checkbox"/>	COLLEAGUE 3CX VOLUMETRIC INFUSIO	7	1,232.1	■
<input type="checkbox"/>	COLLEAGUE TRIPLE CHANNEL VOLUMET	2	55.3	■
<input type="checkbox"/>	REFURBISHED COLLEAGUE VOLUMETRI	1	49.2	■

Switching to a Brand Name facet view, we can immediately see a summary, by frequency and correlation, of the devices that are mentioned in these battery-related incidents.

Incidents by State



Patient Outcomes by Device

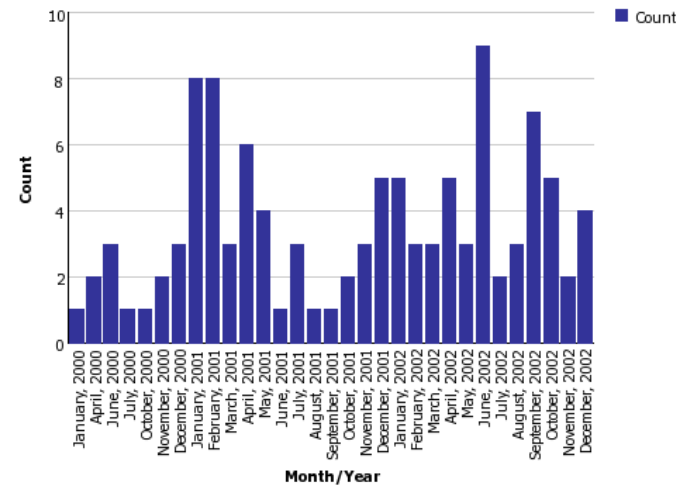


Top correlated medications reported by device

Top medications for XYZ-2		Top medications for ABC-1	
Medication	Count	Medication	Count
MOTRIN	1,066	TYLENOL	425
TYLENOL	808	VICODIN	353
IBUPROFEN	452	TORADOL	222
ASPIRIN	435	TETANUS TOXOID	218
			214
			205
			171
			169
		TOXOID	159
			132
			131
			130
ATIVAN	140	NORMAL SALINE	100
TYLENOL NO. 3	137	IBUPROFEN	96

Through Cognos Content Analytics OLAP/Star Schema export ability, Cognos BI reports and dashboards can be created to monitor and track these issues over time.

Battery mentions by Date





[Help for query syntax](#)

colleague volumetric infusion pump

Search

Clear

Saved Searches (0)

Advanced Search

Search within results

Results 1-10 of 47
(47 results matched)

View by file type: ALL - Results per Page 10 -

1 2 3 4 5

You searched for "colleague volumetric infusion pump"

Narrow Your Results		Source	Relevance	Date	Title	Thumbnail
<p>Facet Tree</p> <p>Dynamic Facet Chart</p> <p>date</p> <p>2009 (47)</p> <p>2009/9 (47)</p> <p>2009/9/25 (47)</p> <p>2009/9/25/3 (47)</p>		Web	89.76%	9/25/09	U.S. Products - Large Volume Infusion Pumps	
		<p>Us<< Back To Infusion Pumps Ambulatory Pumps IV Stands and Accessories Large Volume Infusion Pumps Global ... Pumps >>...COLLEAGUE Volumetric Infusion Pump The COLLEAGUE Volumetric Infusion Pump and COLLEAGUE CX Volumetric ... Pump with GUARDIAN feature are designed to meet the fluid therapy needs of today's evolving healthcare ... FLO-GARD Volumetric Infusion Pump The FLO-GARD 6201 Volumetric Infusion Pump and the FLO-GARD 6301 Dual ... Pump are industry standard in standard set infusion pump technology.Copyright & Legal Disclaimer Privacy ...</p>				
		Web	89.76%	9/25/09	U.S. Products - Large Volume Infusion Pumps	
		<p>Us<< Back To Infusion Pumps Ambulatory Pumps IV Stands and Accessories Large Volume Infusion Pumps Global ... Pumps >>...COLLEAGUE Volumetric Infusion Pump The COLLEAGUE Volumetric Infusion Pump and COLLEAGUE CX Volumetric ... Pump with GUARDIAN feature are designed to meet the fluid therapy needs of today's evolving healthcare ... FLO-GARD Volumetric Infusion Pump The FLO-GARD 6201 Volumetric Infusion Pump and the FLO-GARD 6301 Dual ... Pump are industry standard in standard set infusion pump technology.Copyright & Legal Disclaimer Privacy ...</p>				
		Web	88.16%	9/25/09	U.S. Products - Large Volume Infusion Pumps	
		<p>Us<< Back To Infusion Pumps Ambulatory Pumps IV Stands and Accessories Large Volume Infusion Pumps Global ... Pumps >>...COLLEAGUE Volumetric Infusion Pump The COLLEAGUE Volumetric Infusion Pump and COLLEAGUE CX Volumetric ... Pump with GUARDIAN feature are designed to meet the fluid therapy needs of today's evolving healthcare ... FLO-GARD Volumetric Infusion Pump The FLO-GARD 6201 Volumetric Infusion Pump and the FLO-GARD 6301 Dual ... Pump are industry standard in standard set infusion pump technology.Copyright & Legal Disclaimer Privacy ...</p>				
		Web	88.16%	9/25/09	U.S. Products - Large Volume Infusion Pumps	
		<p>ulatory Pumps IV Stands and Accessories Large Volume Infusion Pumps Global ... Pumps >>...COLLEAGUE LEAGUE Volumetric Infusion Pump and COLLEAGUE CX Volumetric ... Pump with GUARDIAN feature are needs of today's evolving healthcare ... FLO-GARD Volumetric Infusion Pump The FLO-GARD 6201 FLO-GARD 6301 Dual ... Pump are industry standard in standard set infusion pump technology.Copyright &</p>				
		Web	73.05%	9/25/09	COLLEAGUE Volumetric Infusion Pump	
		<p>Us<< Back To Infusion Pumps Infusion Pump Customer Notifications IV Stands and Accessories Large Volume ... Services Pain Pumps<Conditions Therapies Products Services About Baxter Baxter Worldwide > United States ... Accessories Large Volume Infusion Pumps Global Technical Services Pain Pumps Syringe Pumps COLLEAGUE Volumetric ... it?The COLLEAGUE Volumetric Infusion Pump is a medical device that delivers intravenous fluids and medicine to ... units.Links to COLLEAGUE customer letters Where can customers go for more information?Links to recent press ... on Baxter's Colleague Infusion Pump as a Class I Recall August 7, 2007 : Baxter Provides Update on</p>				

When a potential regulatory, legal, or compliance issue is identified, the same Content Analytics interface can be used to search for internal documents that might be relevant.



[Help for query syntax](#)

colleague volumetric infusion pump

Search Clear

Saved Searches (0)

Advanced Search

Search within results

Results 1-10 of 47
(47 results matched)

View by file type: ALL Results per Page 10

You searched for "colleague volumetric infusion pump"

Narrow Your Results	Source	Relevance	Date	Title	Thumbnail
<p>Facet Tree</p> <p>Dynamic Facet Chart</p> <p>date</p> <p>2009 (47)</p> <p>2009/9 (47)</p> <p>2009/9/25 (47)</p> <p>2009/9/25/3 (47)</p>	Web	89.76%	9/25/09	Baxter U.S. Products - Large Volume Infusion Pumps	
	Web	88.16%	9/25/09	Baxter U.S. Products - Large Volume Infusion Pumps	
	Web	73.05%	9/25/09	COLLEAGUE Volumetric Infusion Pump	

Export Search Results

Name:

Content to be exported:

Schedulable: Yes No

Description:

Apply Cancel

These internal documents from across the enterprise can be gathered and exported for archiving into a centralized IBM ECM repository.

Discovering Unexpected Correlations in ER medical records data



Skip



Gain actionable insights
from data

[Help for query syntax](#)

.

Search

Clear

?

[Search within results](#)

Hospital Emergency Room Survey: Visit 2006-10593 - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://colfax4.charlotte.ibm.com:8393/analytics/NHAMCS%2F2006%2F2006ERVisit10593.html

Form Approved: OMB No. 0920-0278

FORM: NHAMCS-100(ED)

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

PATIENT RE

PATIENT NA

NATIONAL HOSPITAL AMBULATORY MEDICAL CARE SURVEY
2009 EMERGENCY DEPARTMENT PATIENT RECORD

Assurance of Confidentiality - All information which would permit identification of an individual, a practice, or an establishment will be held confidential, will be used only by NCHS staff, contractors, and agents only when required and with necessary controls, and will not be disclosed or released to other persons without the consent of the individual or establishment in accordance with section 909(d) of the Public Health Services Act (42 USC 242m) and the Confidential Information Protection and Statistical Efficiency Act (PL -107-347)

1. PATIENT INFORMATION

a. Date of visit:	b. Wait time: 0016	f. Sex: Male	h. Reason for visit:	i. Medications:						
c. Length of visit: 0211	g. Age: 018	e. DOA: No	Irregular heartbeat Nausea Foot and toe pain, ache, soreness, di... Abnormal pulsations and palpitations Nausea Foot and toe symptoms	PHENERGAN REGLAN ANAPROX DS						
d. Day of week: Saturday										
<table border="1"> <thead> <tr> <th>Month</th> <th>Day</th> <th>Year</th> </tr> </thead> <tbody> <tr> <td>07</td> <td>01</td> <td>2006</td> </tr> </tbody> </table>	Month	Day	Year	07	01	2006				
Month	Day	Year								
07	01	2006								

2. DIAGNOSTIC TESTS PERFORMED

1 <input type="checkbox"/> None	11 <input type="checkbox"/> Extremity X-ray
2 <input checked="" type="checkbox"/> Urinalysis	12 <input type="checkbox"/> Other X-ray
3 <input checked="" type="checkbox"/> Pregnancy Test	13 <input checked="" type="checkbox"/> MRI
4 <input checked="" type="checkbox"/> HIV Serology	14 <input checked="" type="checkbox"/> Ultrasound
5 <input checked="" type="checkbox"/> EKG	15 <input checked="" type="checkbox"/> CAT scan
6 <input checked="" type="checkbox"/> Cariac Monitor	16 <input type="checkbox"/> Other diagnostic imaging
7 <input checked="" type="checkbox"/> Pulse oximetry	17 <input checked="" type="checkbox"/> Pulse oximetry
8 <input type="checkbox"/> Blood alcohol concentration	18 <input type="checkbox"/> Blood alcohol concentration
9 <input checked="" type="checkbox"/> CBC	19 <input checked="" type="checkbox"/> CBC
10 <input type="checkbox"/> Chest X-ray	20 <input type="checkbox"/> Chest X-ray

3. PHYSICIANS DIAGNOSIS

j. Diagnosis:	k. Cause of injury (broad):
Closed fracture of other metatarsal b... Nausea alone Palpitations (825) Fracture of one or more tarsal ... (787) Symptoms involving digestive sy... (785) Symptoms involving cardiovascul...	Other and unspecified environmental a...
l. Cause of injury: (verbatim)	
STEPPE ON ROCK INJURED FOOT	
m. Controlled substance:	n. Generic Drugs:
No control No control No control	

4. MEDICATIONS PRESCRIBED

Over 70,000 emergency room records from the Center for Disease Control were crawled and ingested into CCA. These XML records contain both structured and unstructured data



oration

Done

[Help for query syntax](#)

,

Saved Searches (0)

Search Clear ?
 Search within results

The documents view lets you browse all of the records matching your search criteria.



Documents Facets Time Series Deviations Trends 2D

Results 1 - 10 of 3000 (71848 results matched)

View by file type: ALL Results per Page 10

You searched for "*,*"

- Facet Navigation
- Filter:
- Clear
- Part of Speech
 - Phrase Constituent
 - Month of visit
 - Year of visit
 - Day of week of visit - recoded
 - Time of visit - military time
 - Patient age in years
 - Patient sex
 - Patient race - recoded
 - Waiting time to see physician (in minutes)
 - Primary expected source of payment for this visit
 - Were medications/injections ordered/provided?
 - Generic drugs
 - Brand name drugs
 - Immediacy with which patient should be seen
 - Geographic region of hospital
 - Is visit related to injury or poisoning?
 - Intentionality of injury from checkbox
 - Verbatim cause of injury
 - Mental status exam

Source	Relevance	Date	Title	Thumbnail
JDBC database	100.00%	7/1/06	2006ERVisit10593.h	
Other and unspecified environmental a... Single entity drug Single entity drug Single entity drug No control No control No control Closed fracture of other metatarsal b... Nausea alone Palpitations (825) Fracture of one or more tarsal ... (787) Symptoms involving digestive sy... (785) Symptoms involving cardiovascul... PHENERGAN REGLAN ANAPROX DS Prescription drug Prescription drug Prescription drug Irregular heartbeat Nausea Foot and toe pain, ache, soreness, di... Abnormal pulsations and palpitations Nausea Foot and toe symptoms				
JDBC database	100.00%	7/1/06	2006ERVisit10592.h	
Accidents caused by cutting and pierc... Single entity drug Combination drug Single entity drug Combination drug Single entity drug No control No control No control No control Open wound of toe(s), without mention... (893) Open wound of toe(s) alone MARCAINE TETANUS DIPHTHERIA TOXOID BETADINE NEOSPORIN ADVIL Prescription drug Prescription drug Nonprescription drug Nonprescription drug Nonprescription drug Laceration/cut of lower extremity				
JDBC database	100.00%	7/1/06	2006ERVisit10591.h	
Other injury caused by animals Single entity drug No control Opn wound of hand except fing(s) alo... Other cellulitis and abscess of hand,... (882) Open wound of hand except finge... (682) Other cellulitis and abscess ZINACEF Prescription drug Carbuncle, furuncle, boil, cellulitis... Injections				
JDBC database	100.00%	7/1/06	2006ERVisit10590.h	
Accidents caused by machinery Single entity drug Single entity drug No control No control Blisters, epidermal loss [2nd degree]... (944) Burn of wrist(s) and hand(s) MOTRIN SILVADENE Undetermined Prescription drug Postoperative visit				
JDBC database	100.00%	7/1/06	2006ERVisit10589.h	
Inhala/ingest of foreign body in esophagus Examination following other t... Foreign body in esophagus Examination up examination (530) Diseases of esophagus ASAC Difficulty in swallowing (dysphagia) Difficulty in swallowing (dysphagia) Difficulty in swallowing (dysphagia)				
JDBC database	100.00%	7/1/06	2006ERVisit10588.h	
Accidents caused by machinery Single entity drug Single entity drug No control No control Multiple/unspe... NEOSPORIN TYLENOL Prescription drug				
JDBC database	100.00%	7/1/06	2006ERVisit10587.h	
Striking against or struck accidental... Combination drug Schedule III Contusion of face, scalp, and neck ex... (920) Contusion of face, scalp, and neck... LORTAB Prescription drug Other symptoms of nose Headache, pain in head Fainting (syncope) Other symptoms of nose Headache, pain in head Fainting (syncope)				
JDBC database	100.00%	7/1/06	2006ERVisit10586.h	

The facets on the left hand side show you all of the dimensions that were extracted from the data. These include pre-existing structured data, as well as snippets of unstructured text such as meaningful phrases and entities.

[Help for query syntax](#)

Search Clear ?

Search within results

Saved Searches (0) Advanced Search Query Tree



Documents Facets Time Series Deviations Trends 2D Map

Results 1 - 10 of 3000 (71848 results matched)

You searched for "*:*"

- Facet Navigation
- Filter:
- Clear
- Part of Speech
 - Phrase Constituent
 - Month of visit
 - Year of visit
 - Day of week of visit - recoded
 - Time of visit - military time
 - Patient age in years
 - Patient sex
 - Patient race - recoded
 - Waiting time to see physician (in minutes)
 - Primary expected source of payment for this visi**
 - Were medications/injections ordered/provided?
 - Generic drugs
 - Brand name drugs
 - Immediacy with which patient should be seen**
 - Geographic region of hospital
 - Is visit related to injury or poisoning?
 - Intentionality of injury from checkbox
 - Verbatim cause of injury
 - Mental status exam

Flat Bird Table Rows = Primary expected source of payment for this visi Rows Show: Columns = Immediacy with which patient should be seen Columns Show:

Subfacets/ keywords	Less than 15 minutes 1110	15- 60 minutes 2597	>1 hour - 2 hours 1464	
Private insurance 27935	446	1136	614	328
	0.9	1	1	0.9
Self-pay 11928	200	452	266	174
	0.9	0.9	0.9	1.1
Medicaid 8089	114	301	194	108
	0.7	0.9	1	0.9
Medicare 7777	141	263	126	62
	0.9	0.8	0.6	0.5
Medicaid/SCHIP 4610	0	0	0	0
	0	0	0	0
Workers compensation 4062	73	219	129	78
	0.9	1.3	1.2	1.3
Other 2352	59	73	69	22
	1.2	0.6	1.1	0.5
No charge 327	2	4	1	6
	0	0.1	0	0.4
All sources of payment 111	0	0	0	0
	0	0	0	0
No charge/charity 107	0	0	0	0
	0	0	0	0
No charge/ charity 73	0	0	0	0
	0	0	0	0

The 2D Map shows relationships between two facets. In this case, between expected payment type and triaged immediacy. We see both the frequencies of co-occurrence as well as the correlations (which factor out normal distributions in the data). Here, there are no anomalies highlighted implying that people are triaged the same regardless of expected payment type.

[Help for query syntax](#)

Search Clear ?

Search within results

Saved Searches (0)

Advanced Search

Query Tree



Documents Facets Time Series Deviations Trends 2D Map

Results 1 - 10 of 3000 (71848 results matched)

You searched for "*:*"

Facet Navigation

Filter:

Clear

- Part of Speech
- Phrase Constituent
- Month of visit
- Year of visit
- Day of week of visit - recoded
- Time of visit - military time
- Patient age in years
- Patient sex
- Patient race - recoded
- Waiting time to see physician (in minutes)
- Primary expected source of payment for this visit**
- Were medications/injections ordered/provided?
- Generic drugs
- Brand name drugs**
- Immediacy with which patient should be seen
- Geographic region of hospital
- Is visit related to injury or poisoning?
- Intentionality of injury from checkbox
- Verbatim cause of injury
- Mental status exam

Flat Bird Table

Rows = Primary expected source of payment for this visit Rows Show: Keywords

Columns = Brand name drugs Columns Show: Keywords

Subfacets/keywords	MOTRIN 5346	TYLENOL 3995	VICODIN 3435	IBUPROFEN 2691	TORADOL 1928	TETANUS TOX...	KEFLEX 1577	LORTAB 1429	PERCOCE 1249
Private insurance 27935	2297	1655	1424	1159	668	636	610	523	504
Self-pay 11928	870	542	643	445	414	292	297	321	233
Medicaid 8089	658	563	278	253	188	120	188	130	81
Medicare 7777	169	425	353	96	222	218	130	131	132
Medicaid/SCHIP 4610	408	245	130	113	56	40	39	43	37
Workers compen 4062	335	161	14	11	6	9	10	16	6
Other 2352	211	135	0.9	1	0.6	0.5	0.5	0.6	0.6
No charge 327	26	26	0.5	0.4	0.2	0.5	0.6	1.3	0.3
All sources of pa 111	8	4	4	3	3	1	1	2	2
No charge 107					6	2	4	10	4
No charge 73					0	0	0.5	0.1	0.1

High correlations are highlighted in shades of yellow and orange.

In this 2D Map, we've switched to look at expected payment type vs. brand name drugs prescribed.



[Help for query syntax](#)

**.*

Search Clear ?

Search within results

Saved Searches (0)

Advanced Search

Query Tree



Documents Facets Time Series Deviations Trends 2D Map

Results 1 - 10 of 3000
(71848 results matched)



You searched for "**.*"

Facet Navigation

Filter:

Clear

- Part of Speech
- Phrase Constituent
- Month of visit
- Year of visit
- Day of week of visit - recoded
- Time of visit - military time
- Patient age in years
- Patient sex
- Patient race - recoded
- Waiting time to see physician (in minutes)
- Primary expected source of payment for this visi**
- Were medications/injections ordered/provided?
- Generic drugs
- Brand name drugs**
- Immediacy with which patient should be seen
- Geographic region of hospital
- Is visit related to injury or poisoning?
- Intentionality of injury from checkbox
- Verbatim cause of injury
- Mental status exam

Flat Bird Table

Rows = Primary expected source of payment for this visi

Rows Show:

Keywords

Columns = Brand name drugs

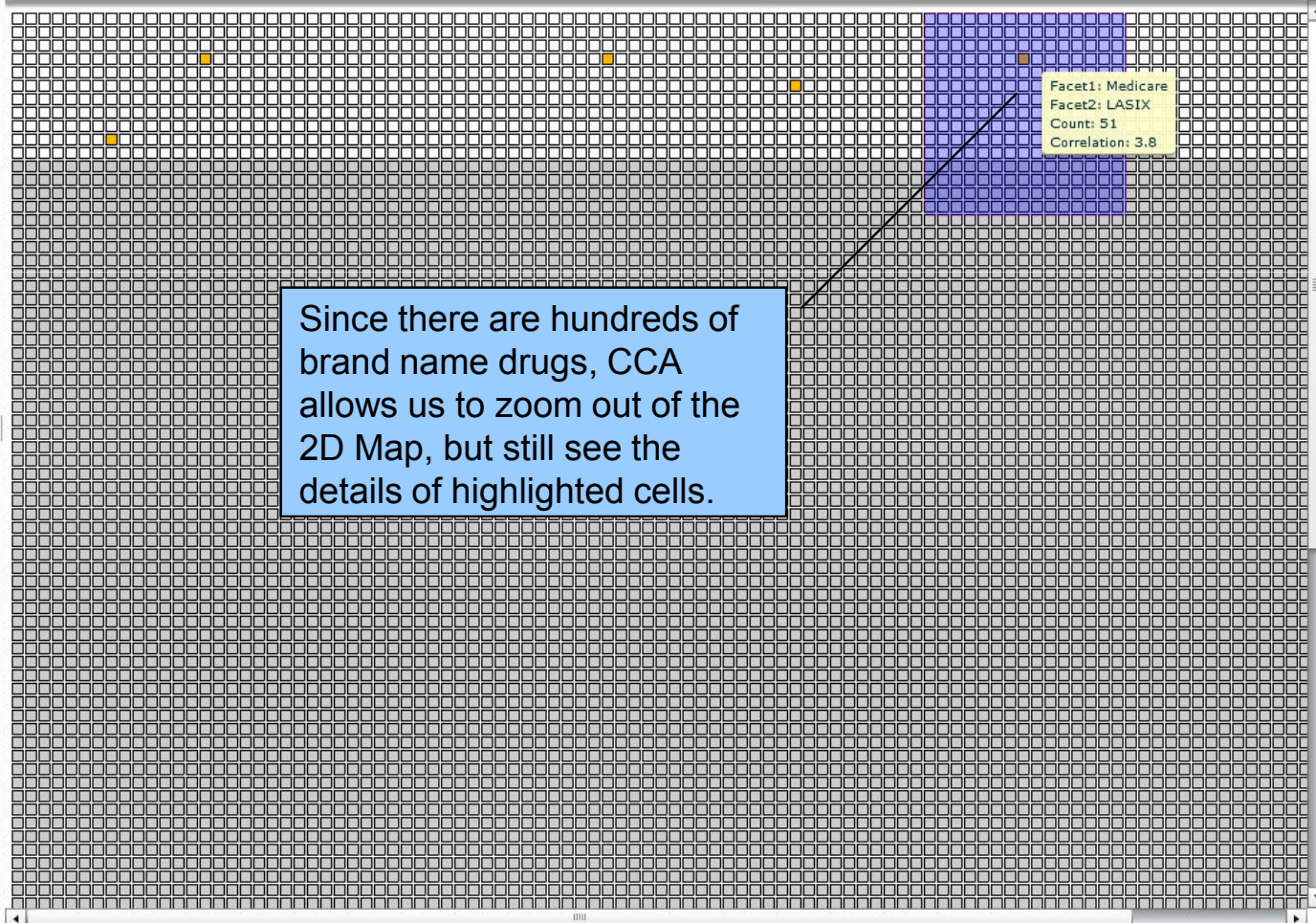
Columns Show:

Keywords



Filter Rows:

Filter Columns:



Since there are hundreds of brand name drugs, CCA allows us to zoom out of the 2D Map, but still see the details of highlighted cells.



[Help for query syntax](#)

Search Clear ?

Search within results

Saved Searches (0)

Advanced Search

Query Tree



Documents Facets Time Series Deviations Trends 2D Map

Results 1 - 10 of 3000
(71848 results matched)



You searched for "*:*"

Facet Navigation

Filter:

Clear

- Part of Speech
- Phrase Constituent
- Month of visit
- Year of visit
- Day of week of visit - recoded
- Time of visit - military time
- Patient age in years
- Patient sex
- Patient race - recoded
- Waiting time to see physician (in minutes)
- Primary expected source of payment for this visit**
- Were medications/injections ordered/provided?
- Generic drugs
- Brand name drugs**
- Immediacy with which patient should be seen
- Geographic region of hospital
- Is visit related to injury or poisoning?
- Intentionality of injury from checkbox
- Verbatim cause of injury
- Mental status exam

Flat Bird Table

Rows = Primary expected source of payment for this visit

Rows Show: Keywords

Columns = Brand name drugs

Columns Show: Keywords



Filter Rows:

Filter Columns:

Subfacets/keywords	LIDOCAINE H...	VIOXX 97	ERYTHROMYC...	PEPCID 93	SALINE 91	LASIX 88	CELEBREX 87	TYLOX 85	ALEVE 84
Private insurance 27935	53	39	39	31	37	19	32	25	40
	1	0.7	0.7	0.6	0.7	0.3	0.6	0.5	0.8
Self-pay 11928	12	7	17	26	13	1	9	27	13
	0.4	0.1	0.6	1	0.4	0	0.3	1.2	0.5
Medicaid 8089	12	10	12	6	9	10	10	11	7
	0.5	0.4	0.6	0.2	0.4	0.5	0.5	0.5	0.2
Medicare 7777	6	21	1	15	14	51	27	6	4
	0.2	1.2	0	0.8	0.7	1.8	0.2	0.1	0.1
Medicaid/SCHIP 4610	2	0	4	5	9	4	0	1	1
	0	0	0.1	0.2	0.7	0.1	0	0	0
Workers comper 4062	6	11	11	2	0	1	6	6	13
	0.3	0.9	1	0	0	0	0.3	0.3	1.4
Other 2352	2	3	1	1	2	0	0	6	0
	0	0	0	0	0	0	0	0.6	0
No c 327					0	0	1	0	2
					0	0	0	0	0.4
All s 111					1	0	0	0	0
					0.1	0	0	0	0
No c 107					0	0	0	0	0
					0	0	0	0	0
No c 73					0	0	0	0	0
					0	0	0	0	0

When we zoom back in to our area of interest, we can see that LASIX is highly correlated with Medicare patients. We can drill-down our search to focus on just these records.

[Help for query syntax](#)

: /keyword\$.PAYTYPE/"Medicare" /keyword\$.MED1/"LASIX"

Search

Clear

 Search within results

Saved Searches (0)

Advanced Search

Query Tree



Documents Facets Time Series Deviations Trends 2D Map

Results 1 - 10 of 51
(51 results matched)

You searched for " *:* /keyword\$.PAYTYPE/"Medicare" /keyword\$.MED1/"LASIX" "

Facet Navigation

Filter:

Clear

Part of Speech

- Noun
- Verb
- Adjective
- Adverb
- Conjunction
- Interjection
- Numeral
- Phrase Constituent
- Month of visit
- Year of visit
- Day of week of visit - recoded
- Time of visit - military time
- Patient age in years
- Patient sex
- Patient race - recoded
- Waiting time to see physician (in minutes)
- Primary expected source of payment for this visit
- Were medications/injections ordered/provided?
- Generic drugs
- Brand name drugs
- Immediacy with which patient should be seen

Show: Keywords Filter:

Keywords	Frequency	Correlation
LASIX	46	248.2
FUROSEMIDE	41	222.1
diuretic	13	168.0
heart	13	95.8
failure	13	92.0
ISOSORBIDE	3	84.5
vomit	3	67.0
due	3	67.0
Pneumonitis	3	65.0
solid	3	...
DIGOXIN	4	...
nitroglycerine	5	...
solution	7	...
replacement	7	...
I	3	...
bromide	3	...
AMLODIPINE	3	...
NORVASC	3	...
PAXIL	3	...
food	3	...
PAROXETINE	3	...
potassium	7	...
shortness	8	21.9
breath	8	21.9
blocker	4	20.5

Once we've drilled down, we can switch over to the Facets view and see all of the most highly correlated concepts (in this case Nouns) for our current search (Medicare patients receiving LASIX).

It looks like LASIX is a diuretic that is preferentially prescribed in Medicare patients for treatment of certain types of heart failure.



[Help for query syntax](#)

eye

Search Clear ?

Search within results

Saved Searches (0) Advanced Search Query Tree



Documents Facets Time Series Deviations Trends 2D Map

Results 1 - 10 of 2474 (2474 results matched)

View by file type: ALL Results per Page 10 1 2 3 4 5 6 7 8 9 10

You searched for "eye"

Facet Navigation

Filter:

Clear

Part of Speech

Noun

Verb

Adjective

Adverb

Conjunction

Interjection

Numeral

Phrase Constituent

Month of visit

Year of visit

Day of week of visit - recoded

Time of visit - military time

Patient age in years

Patient sex

Patient race - recoded

Waiting time to see physician (in minutes)

Primary expected source of payment for this visit

Were medications/injections ordered/provided?

Generic drugs

Brand name drugs

Immediacy with which patient should be seen

Source	Relevance	Date
JDBC database	90.26%	4/1/01
eye Conjunctivitis, unspecified (379) Other disorders of eye (372) Disorders of conjunctiva Antidote itching Discharge from eye--pus, matter, whit... Discharge from eye Abnormal sensations of ... fro		
JDBC database	90.21%	11/1/06
eye Injury, other and unspecified, of eye Eye pain Abnormal color of eyes Abnormal sensations of the eye Abnormal ...		
JDBC database	88.28%	6/1/06
2006ERVisit8895.html III Other ill-defined disorders of eye Superficial injury of cornea (379) Other disorders of eye (918) Superficial ... drug Foreign body in eye Eye pain Swelling of eyes Abnormal sensations of the eye Other symptoms referable to eye, NEC ...		
JDBC database	86.93%	8/1/06
2006ERVisit9421.html ... Foreign body accidentally entering ey... Foreign body of unspecified site of eye (930) Foreign body on external ... Foreign body in eye Eye pain Abnormal sensations of the eye ...		
JDBC database	86.93%	9/1/06
... Foreign body accidentally entering ey... Foreign body of unspecified site of eye (930) Foreign body on external ... Foreign body in eye Eye pain Abnormal sensations of the eye ...		
JDBC database	86.93%	5/1/06
site of eye (930) Foreign body on external eye OFLOXACIN Prescription drug Foreign b		
JDBC database	86.24%	8/1/06
2006ERVisit4160.html ... Other specified disorders of eye and ... Foreign body of unspecified site of eye (379) Other disorders of eye (930) ... body on external eye Eye pain Foreign body in eye Accident, NOS Abnormal sensations of the eye ...		
JDBC database	86.24%	1/1/01
2001ERVisit1586.html periocular area Foreign body of unspecified site of eye (379) Other disorders of eye (921) Contusion of eye and adnexa ... Foreign body on external eye Analgesics, narcotic FIXED COMBINATION No PERCOCET-5 Prescription drug ... of facial area Abnormal sensations of the eye ...		
JDBC database	86.24%	11/1/03
2003ERVisit5565.html control Superficial injury of cornea (918) Superficial injury of eye and a... UNDETERMINED No ARTIFICIAL TEAR ... eye--tearing, watering... Eye itching Abnormal sensations of the eye Discharge from eye Abnormal sensations of the ...		
JDBC database	86.24%	4/1/03
2003ERVisit3790.html		

In addition to browsing and navigating for insights, CCA allows you to issue direct queries against the data.

All matching documents are returned, and all of our views are now updated to reflect only the matching records.

[Help for query syntax](#)

eye

Search Clear ?

Search within results

Saved Searches (0) Advanced Search Query Tree



Documents Facets Time Series Deviations Trends 2D Map

Results 1 - 10 of 2474 (2474 results matched)

You searched for "eye"

Facet Navigation

Filter:

Clear

Part of Speech

- Noun
- Verb
- Adjective
- Adverb
- Conjunction
- Interjection
- Numeral
- Phrase Constituent
- Month of visit
- Year of visit
- Day of week of visit - recoded
- Time of visit - military time
- Patient age in years
- Patient sex
- Patient race - recoded
- Waiting time to see physician (in minutes)
- Primary expected source of payment for this visit
- Were medications/injections ordered/provided?
- Generic drugs
- Brand name drugs
- Immediacy with which patient should be seen

Show: Keywords Filter:

Keywords	Frequency	Correlation
cornea	627	29.4
eye	2138	29.2
ey	694	29.2
ALCAINE	100	28.8
fluorescein	65	28.5
PROPARACAINE	136	28.4
SULFACETAMIDE	66	
TOBREX	82	
anti-inflammatory	111	
eyeball	81	
TOBRAMYCIN	118	
appearance	130	
conjunctivitis	157	
conjunctiva	247	25.7
color	128	24.1
gentamicin	187	23.1
adnexa	464	23.0
eyelid	122	22.6
discharge	92	15.8
sensation	691	15.2
erythromycin	208	14.3
vision	108	13.0
tetracaine	153	12.2
body	856	11.8
anti	205	9.8

The Facets view shows us all the highly correlated terms found in the results for our search for "eye". Notice that "cornea" has a high correlation.

[Help for query syntax](#)

eye

Search Clear ?

Search within results

Saved Searches (0) Advanced Search Query Tree



Documents Facets Time Series Deviations Trends 2D Map

Results 1 - 10 of 2474
(2474 results matched)

You searched for "eye"

Facet Navigation

Filter:

Clear

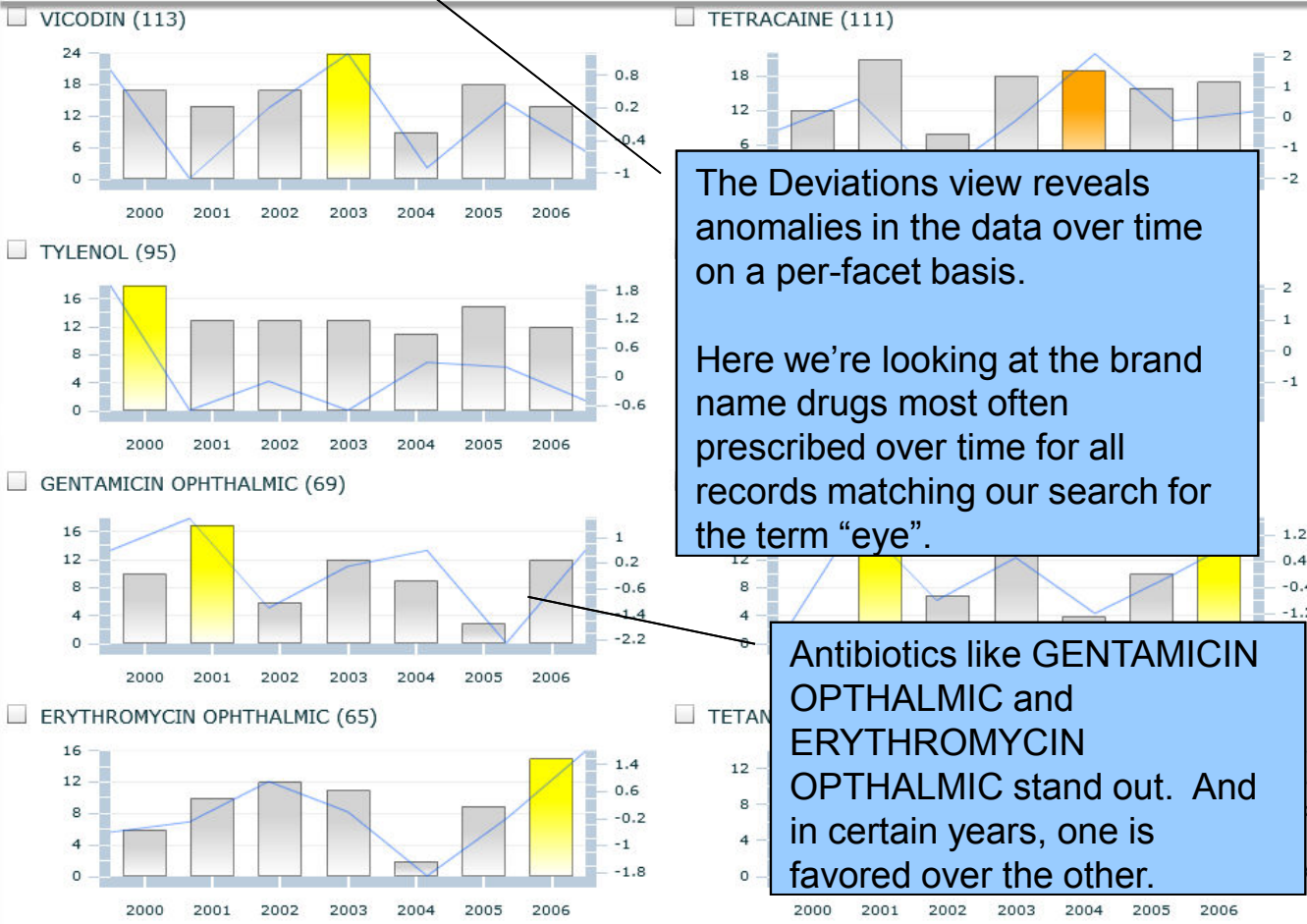
Part of Speech

- Noun
- Verb
- Adjective
- Adverb
- Conjunction
- Interjection
- Numeral

Phrase Constituent

- Month of visit
- Year of visit
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- Brand name drugs**
- Immediacy with which patient should be seen

Show: Keywords Filter: Sort: Frequency Time scale: Year Index Amount: Least Most



The Deviations view reveals anomalies in the data over time on a per-facet basis.

Here we're looking at the brand name drugs most often prescribed over time for all records matching our search for the term "eye".

Antibiotics like GENTAMICIN OPHTHALMIC and ERYTHROMYCIN OPHTHALMIC stand out. And in certain years, one is favored over the other.

[Help for query syntax](#)

eye

Search

Clear

 Search within results

Saved Searches (0)

Advanced Search

Query Tree



Documents Facets Time Series Deviations Trends 2D Map

Results 1 - 10 of 2474
(2474 results matched)

You searched for "eye"

Facet Navigation

Filter:

Clear

Part of Speech

Noun

Verb

Adjective

Adverb

Conjunction

Interjection

Numeral

Phrase Constituent

Month of visit

Year of visit

Day of week of visit -
recodedTime of visit - military
time

Patient age in years

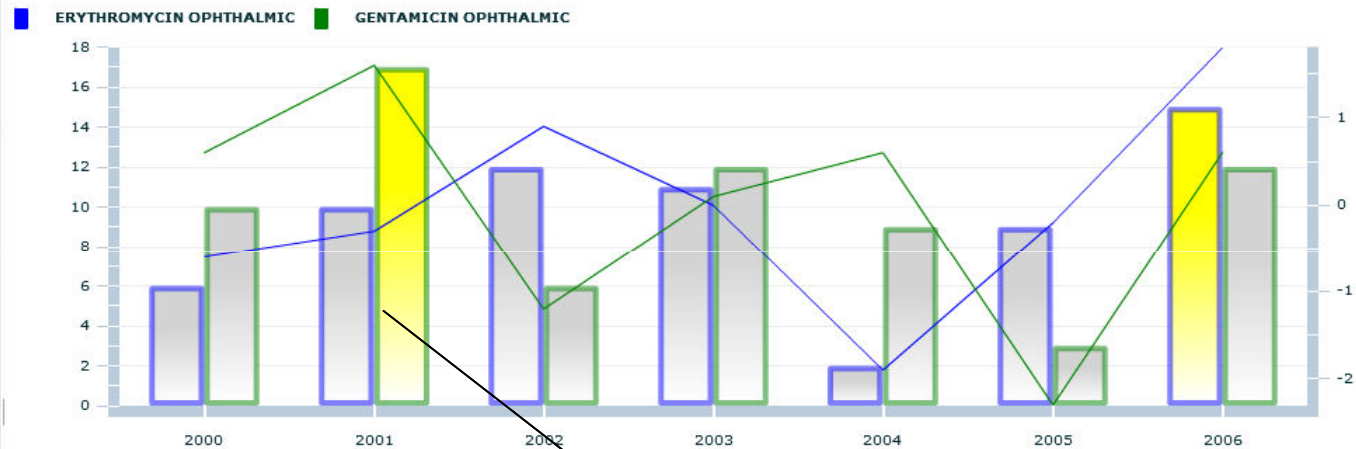
Patient sex

Patient race - recoded

Waiting time to see
physician (in minutes)Primary expected
source of payment for
this visitWere
medications/injections
ordered/provided?

Generic drugs

Brand name drugs

Immediacy with which
patient should be seenShow: Keywords Filter: Sort: Frequency Time scale: Year Index Amount: Least Most
Charts per page: 

We can also see a side-by-side view of these two drugs over time, making comparisons easier.