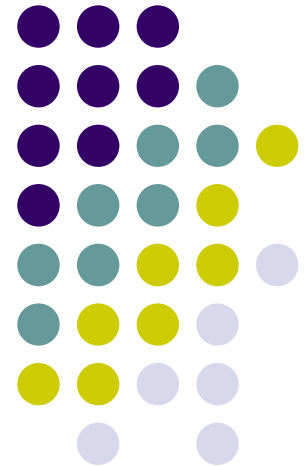




The Business Intelligence of Corrections

Stuart Alter, Indigo Solution

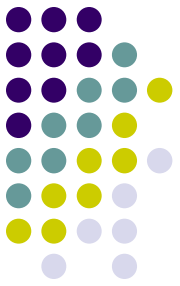
Correctional Technology
Association Conference



May 6, 2008



The Business Intelligence of Corrections



- Definition
- Objectives
 - Maximize the benefit
 - Widen functionality and utilization
 - Capitalize on the potential impact on goals
 - Evaluate initiatives and programs
 - Provide fact-based, non-anecdotal data
 - Effect population management and control



Introductions

Stuart Alter - Business Intelligence Professional

- Bachelor of Science in Management Information Systems in 1982.
- Schering-Plough Pharmaceuticals
- Oracle - Data Warehousing Consultant
- VerticalNet.com - Director, Data Warehousing
- Indigo Solution, Founder and Principal 2001
 - *information technology design*
 - Business Intelligence Entrepreneur



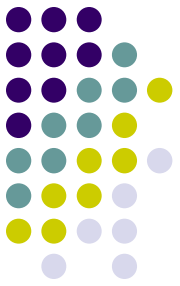
Introductions

Audience

- How many are management?
- How many are technologists?
- How many have been directly involved in the implementation or operation of a Business Intelligence application?
- How many have been unable to get their hands on data they need?



Business Intelligence (BI)



- Data-Based, Facts, Non-Anecdotal
- Correlative
- Cause and Effect / Causal and Effectual
- Chartable and Graphable
- Insightful
- “Ascending to the Peaks of Technology”



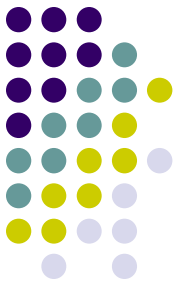
Business Intelligence

- Q. If a tree falls in the woods, does it really make a sound?
- A. “Sound” is the human observation of the event. Reverberation *does* occur.

- Q. If an action does actually have consequence, does that causality generate intelligence?
- A. Only if it's observe and perceived - and the causality understood.



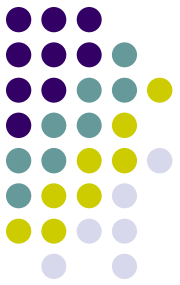
Business Intelligence Components



- The Source Data
 - Data Warehouse *is not operational*
 - A Data Warehouse is a database.
- The Reporting, Analysis, Dashboards, PDAs
- The Intelligence
- The User Community
- The Data Warehouse Design
- Implementation of Business Intelligence



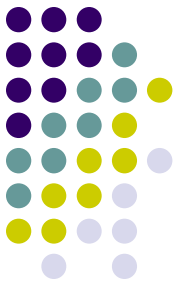
Business Intelligence Data



- Business Requirements Analysis
- The Subjects >>> The Data
 - Products
 - Customers
 - Time
 - Geography
 - Organizational Structure
 - Occurrence of an Event



Business Intelligence Users



- Who are the customers of BI?
- Who experiences the effects?
- Who will be able to utilize the intelligence?
 - Experience and wherewithal
 - Capacity
 - Relevant involvement
 - Positioning
 - Funding

Business Intelligence The Cycle

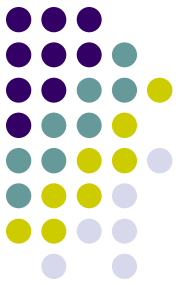


- Operate
- Capture Data
- Gather Data
- Create BI
- Analyze
- Assess (Reassess)
- Retool Operations - Change
- Operate



DrugEmpire.com

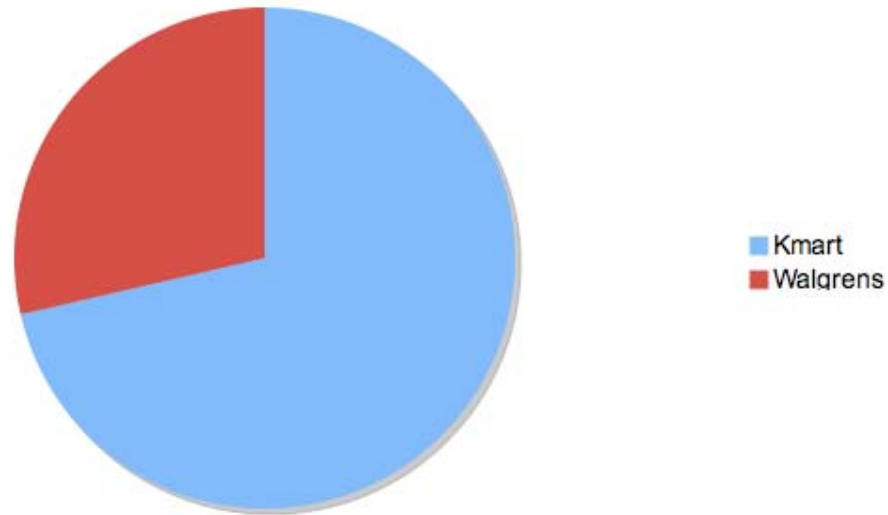
Web Site Traffic Analysis



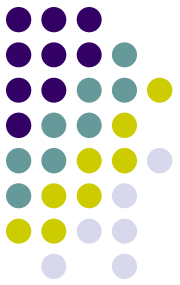
Source	Traffic
Kmart	15
Walgreens	6

DrugEmpire.com

Web Site Traffic Analysis

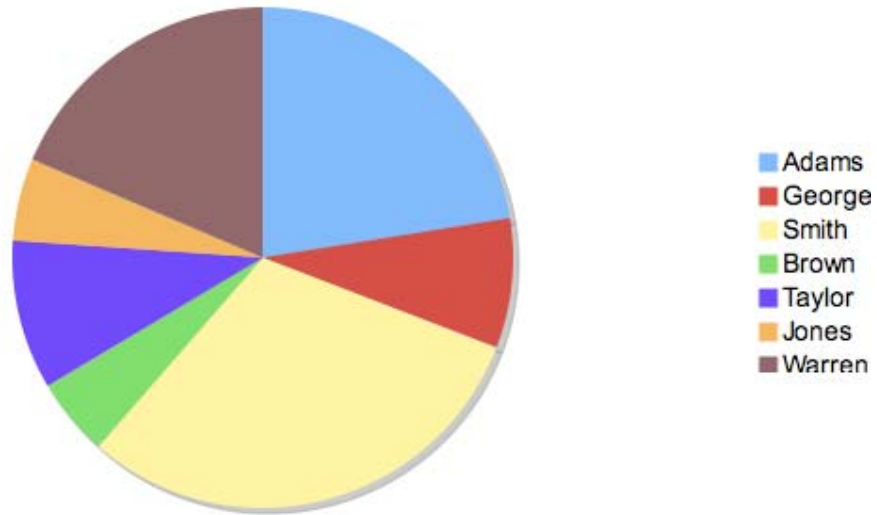
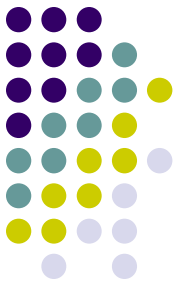


DrugEmpire.com Sales Analysis



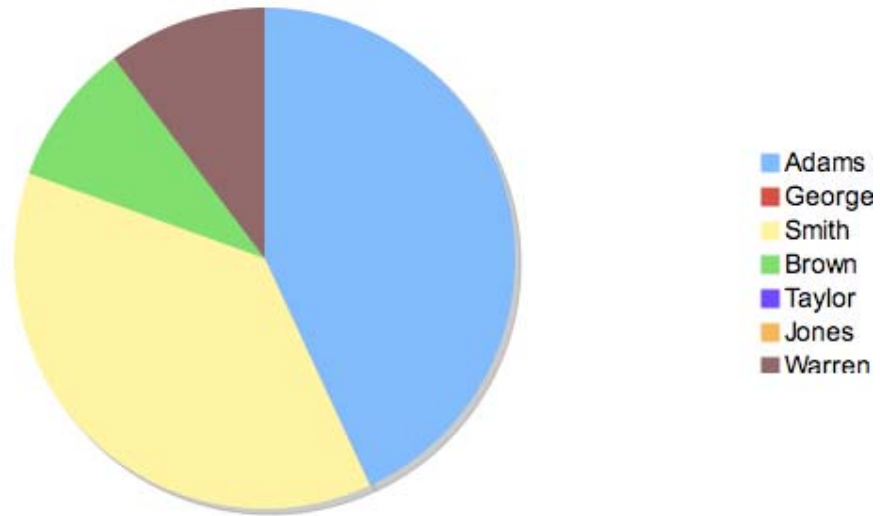
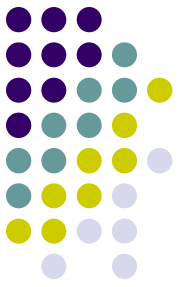
Customer	Sale	Bad Debt
Adams	55	55
George	20	0
Smith	48	48
Brown	12	12
Taylor	24	0
Jones	45	0
Warren	13	13

DrugEmpire.com Sales

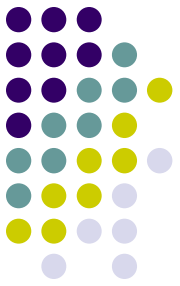


DrugEmpire.com

Bad Debt

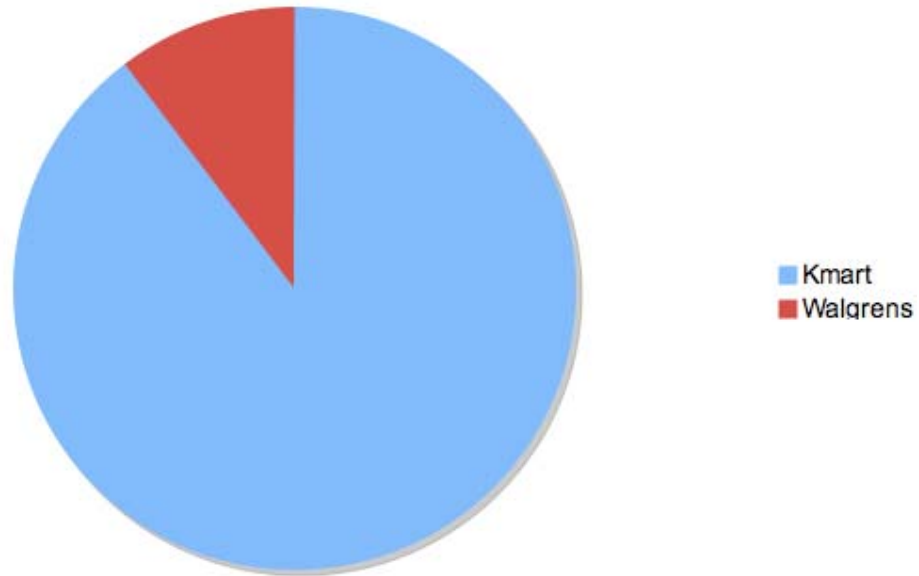
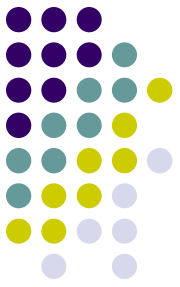


DrugEmpire.com Data Warehouse



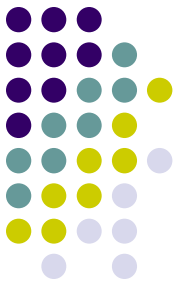
Customer	Source	Sale	Bad Debt
Adams	Kmart	55	55
George	Kmart	20	0
Smith	Kmart	18	48
Brown	Kmart	12	12
Taylor	Kmart	24	0
Jones	Walgreens	45	0
Warren	Walgreens	13	13

DrugEmpire.com Data Warehouse





Correctional Business Intelligence (CBI)

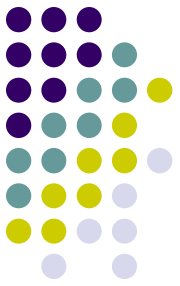


Google – 390,000 pages

- Chicago Bridge and Iron
- Center for Business Intelligence
- Central Bank of India, of Iran, of Ireland
- California Bureau of Investigation, Colorado
- College Basketball Invitational
- Cosmic Background Imager
- College Broadcasters Inc
- Continuous Brainstorming Investigations
- Corrupt Babbus of India
- Constant Bladder Irrigation



Correctional Business Intelligence Business Requirements

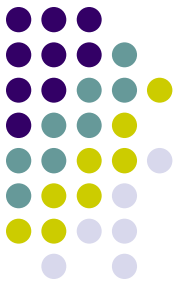


- Population Management
- Capacity
- Staffing
- Comprehensive knowledge
 - “Complete” picture virtually impossible
- Where’s the Pain?



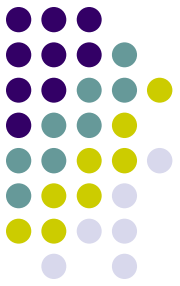


Correctional Business Intelligence Subjects



- The Subjects >>> The Data
 - Product
 - Customers
 - Time
 - Geography
 - Organizational Structure
 - Occurrence of an Event

Correctional Business Intelligence Data



- Product - Widgets / Units
- Incarceration Days
 - Who? (the inmate)
 - When? (the time period)
 - Why? (the case and charges)

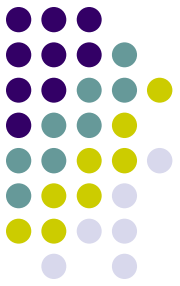


Correctional Business Intelligence Data



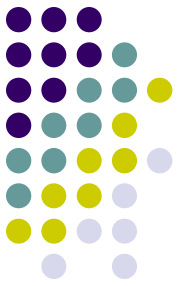
- Customers - Incarcerated Individuals
 - Identity / Demographic
 - E.g. Juveniles, Veterans
 - Immigration and Customs Enforcement
 - Incarceration History
 - Judicial History
 - Physical and Behavioral Health
 - Visitors / Gangs / Affiliations (phone numbers)

Correctional Business Intelligence Data



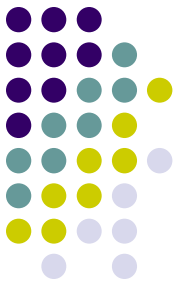
- Incarceration Time
 - Per Case
 - Sentenced vs Detainee
 - State vs County Sentence
 - Aggregate Sentence
 - Minimum Release, Maximum Release
- Reentry
- Recidivism

Correctional Business Intelligence Data



- Incarceration Events
 - Bail
 - Intake and Release
 - Lockdowns
 - Court Appearances
 - Yard Time
 - Meals, Medications
 - Contraband, Misconducts
 - Segregations

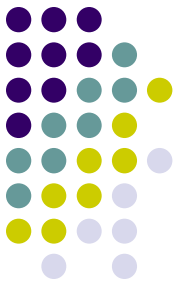
Correctional Business Intelligence Data



- Geography
 - Internal
 - Cells - specific, category
 - Other Locations - specific, category
 - External
 - Address (district, zip code)
 - Homelessness



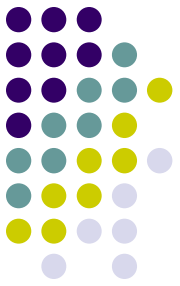
Correctional Business Intelligence Data



- Organizational Structure
 - Internal
 - External
- Understanding of the *Users* of the CBI
- Understanding of the *Uses* of the CBI



Correctional Business Intelligence Data



- Completeness of the data
- Validation of the data
- Relationship between the data
- Level of Detail (the grain) of the data
- Standardization
- History



Correctional Business Intelligence Application

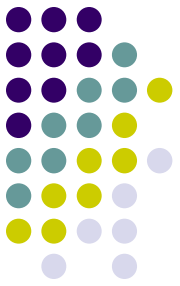


- Associate data
- Correlate, trend
- Aggregate
- Reuse
- Slice and Dice
- Provide perspective





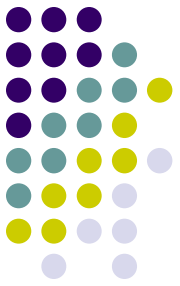
Correctional Business Intelligence Users



- Who will be able to utilize the intelligence to effect impact on goals and objectives?
 - Experience
 - Wherewithal
 - Capacity
 - Relevant involvement
 - Positioning
 - Funding / Money

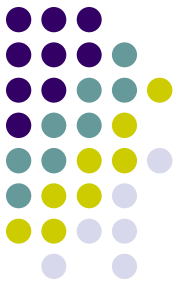


Correctional Business Intelligence Customers



- Who gets effected? Who is Primary?
- Community
- Funders
- Agency with decision-making capacity
- Inmates
- Law Enforcement
- Courts
- Employees
- Policy Makers
- Task Forces - criminal justice partnering agencies

Correctional Business Intelligence Utilization

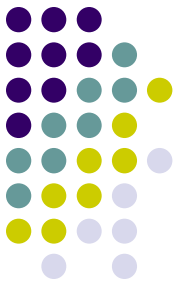


The creative exploitation of the
Correctional Business Intelligence
is the key point of this workshop.





Correctional Business Intelligence Utilization



- Operations
 - Daily Alerts - Dashboard
 - Real-Time Alerts
 - Parameter-Driven
 - Lockdowns vs Incidents vs Staffing
 - Staffing vs Overtime vs Positions
 - Use of Force vs. Level of Resistance
 - Medical Health
 - Mental Health vs Incidents

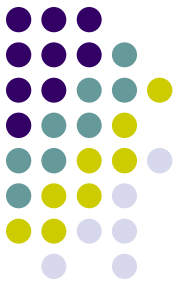
Correctional Business Intelligence Utilization



- Assessment / Reassessment
 - target of initiative – too broad, too narrow?
 - impact of initiative
 - social services, inmate programs, movement modifications
- Litigation Preparation / Prevention
- Government Regulatory Conformation
- Accreditation by Correctional institutions
- Accreditation by Medical institutions
- Funding, Grants



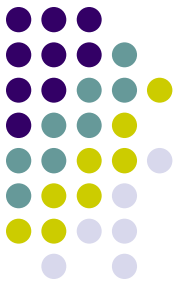
Correctional Business Intelligence Utilization



One in One Hundred



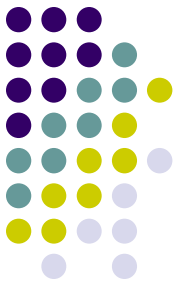
Correctional Business Intelligence Utilization



- Inmate Population Control
 - Length of Stay Analysis
 - Early Release
 - Incarceration Costs - transportation, intake process
 - Halfway Houses / Day Reporting Center
 - on the way in / on the way out
 - Reentry
 - Recidivism
 - Initiatives
 - Inmate Programs

Correctional Business Intelligence

The Technology - Excel



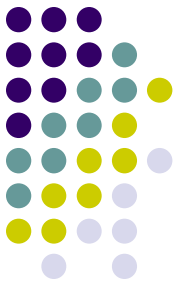
- Worksheet 1
- Worksheet 2
- CBI Worksheet (Data Warehouse)
 - Relationship of Data [via lookup, conversion]
 - Filters, Pivot Tables
- Reports, Analytics, Charts
- Intelligence - Cause and Effect

- Great place to start, worksheets already exist, proof of concept.
- Not recommended in the long run - too volatile, unsecured, not validated



Correctional Business Intelligence

The Technology



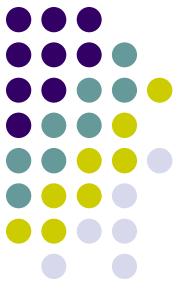
Database

- Source 1 - Cases and Charges data from Police - XML
- Source 2 - Sentences data from Courts - Oracle
- Source 3 - Incarceration data from the Prison - VMS



Correctional Business Intelligence

The Technology



Database

- Database - Data Warehouse - SQL Server
 - Might only be logical, but usually physical
 - Relationship of Data
 - Real-time
 - Slicing and Dicing
- Reports, Analytics, Charts
- Intelligence - Cause and Effect (history, inter-agency)

- Database - great place to end up, production. Implementation is difficult technologically, and politically between agencies - security, ownership, privacy.
- RECOMMENDED in the long run - protected by IT staff, secured, validated

Correctional Business Intelligence Implementation

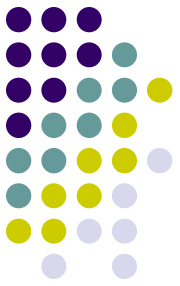


- Cross-Functional Implementation Team
 - Executive Internal representation
 - Executive External representation (if possible)
 - Operational representation
 - Technological representation
- Single, focused, relevant Subject
- Just do it
- Observation in and of itself will effect change on an experiment.

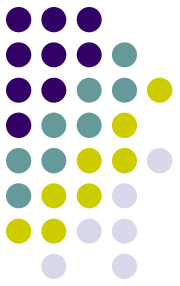


Correctional Business Intelligence

The Design



- Data
 - Cleansing, Errors
 - Transformation, Business Rules
- Inmates
- Cases
- Incarcerations
 - Activities
 - Incidents
 - Time Served



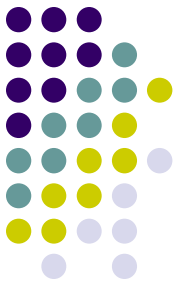
Conclusion

- Related Data
- Subject-oriented
- User-oriented
- Wide functionality
- Broad exploitation



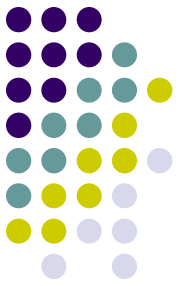
Correctional Business Intelligence

The Cycle



- Operate
- Capture Data
- Gather Data
- Create BI
- Analyze
- Assess (Reassess)
- Retool Operations - Change
- Operate

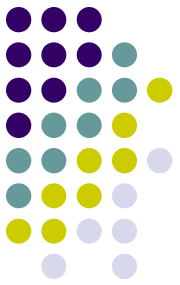




Conclusion

Fitting right in with this year's theme,
“Ascending to the Peaks of Technology Together”,
an effective business intelligence application is the
ultimate destination in using the technology of data.

Contact Information



Indigo Solution, Inc.
information technology design



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267 496 4168



The “Business Intelligence of Corrections” PowerPoint presentation is available on the web site.