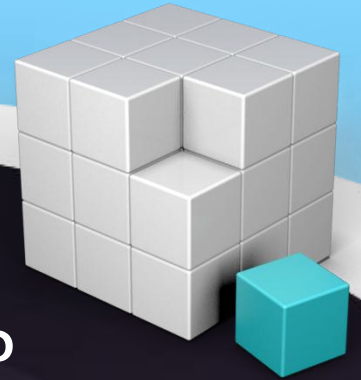


The Role of the Analyst in Business Analytics

Neil Foshay
Schwartz School of
Business
St Francis Xavier U

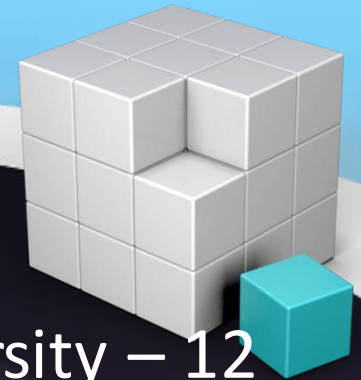


Contents



- Business Analytics – What's it all about?
- Development Process Overview
- BI Analyst Role
- Questions and Discussion

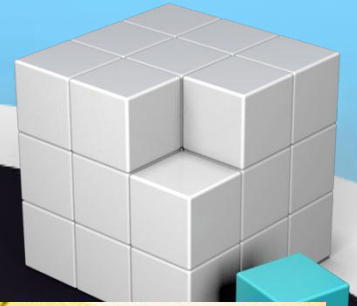
Introduction: Neil Foshay



- Department of IS – St Francis Xavier University – 12 years
- Current research: integration of business intelligence in health systems to support decision processes
- 27 years IT experience
- 17 years professional experience in business analytics: IBM, Apple, Disney, Honda, Caterpillar
 - Strategy, methodology, architecture and design
- Member, CARET team
 - Developing curriculum for BI/Analytics Professionals

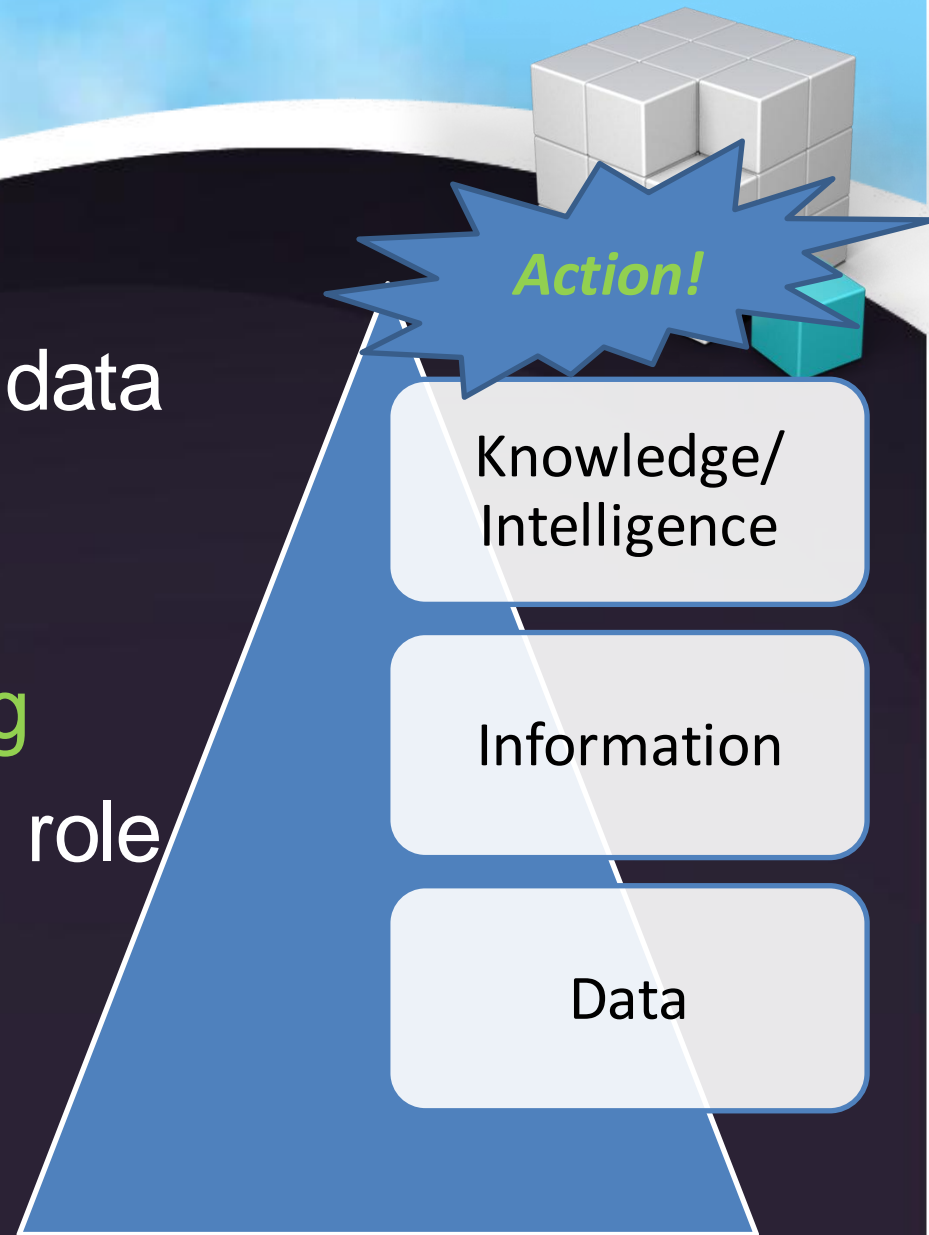
The Information Economy

- Information (not data) is one of the most important asset of most modern corporations.
- Companies that best gather, analyze, and act upon information sustain competitive advantages.

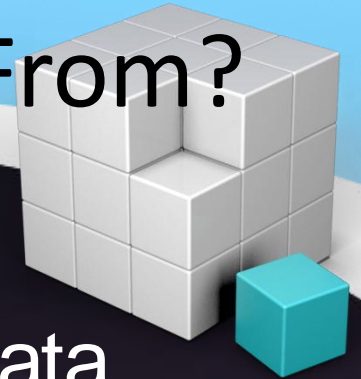


Drowning in Data

- The transformation of data into knowledge is key.
- The goal: **information driven decision making**
- **BI Analysts** play a key role

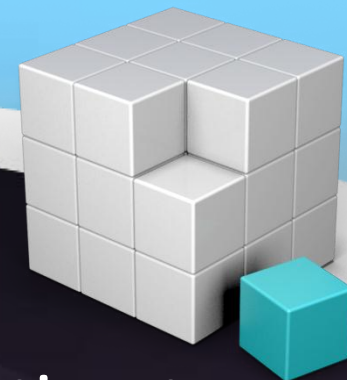


Where Does all this Data Come From?



- Companies have more and more data from a growing number of sources:
 - Transaction and customer data **Internal operational systems**
 - Enterprise systems: ERP, SCM, CRM
 - Survey data **“psychographics”; attitudes and beliefs**
 - Government data **Census; “Open Data”**
 - Commercial sources – data aggregators
 - **Social Media**

Challenges



- It can be a tough slog getting an organization to the point where it has a data asset that it can leverage
 - In many organizations data lies dormant, spread across inconsistent formats and incompatible systems, unable to be turned into anything of value
 - Many firms have been shocked at the amount of work and complexity required to pull together an infrastructure that empowers its decision makers
 - Highly specialized skills & knowledge required.

Helping organizations exploit their data could be a big deal locally....

Herald Business **MEGA MILES**

Home News Opinions **Business** Sports Arts & Life Wheels Homes Com

Business News Business Columns

IBM to launch analytics centre, hire 500

November 8, 2012 - 9:18pm **BY BRETT BUNDALE BUSINESS REPORTER**

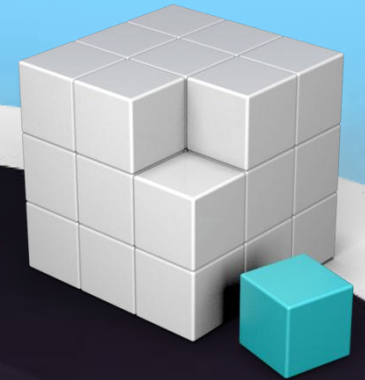
[f](#) [t](#) [in](#) [+](#) Average: 3.5 (6 votes) [Print](#) [Email](#)

N.S. contract worth \$8.4m raising some eyebrows



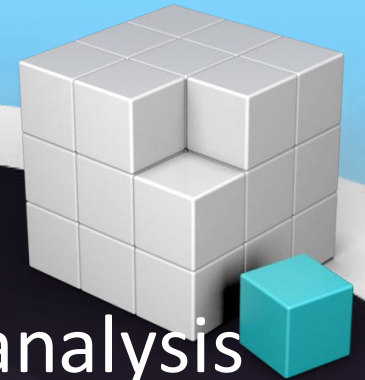
Nova Scotia Premier Darrell Dexter speaks with IBM Canada president John Lutz on Thursday at a news conference at the Dartmouth waterfront campus of the Nova Scotia Community College. The company plans to hire 500 people in Nova Scotia over eight years to staff a new global delivery centre. (CHRISTIAN LAFORCE / Staff)

Definitions



- **Business intelligence (BI):**
 - Organized information that helps individuals in an organization make better, more informed decisions more quickly.
 - Business processes to turn data into information
 - A broad category of technologies and applications that support / enable Business Analytics
- **Business Analytics:**
 - The extensive use of data, statistical and quantitative analysis, explanatory and predictive models, and fact-based management to drive decisions and actions.

Definitions



- **Big Data Analytics:** Methods for the analysis of huge data sets that cannot be handled using “traditional” approaches.
 - Requires **multiple computers** and a high degree of **parallel processing:** (breaking big jobs into smaller components that are worked on independently and concurrently) and specialized software tools and programming techniques.

Volume



Size of the data
Size of the computation

Velocity



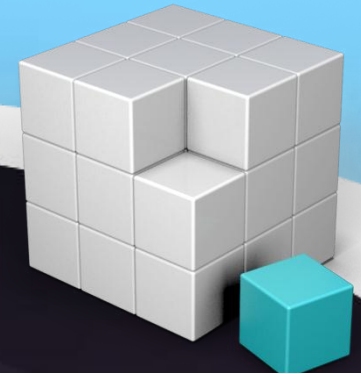
Rate of arrival
Rate of response

Variety



Structured, semi-structured, and unstructured data

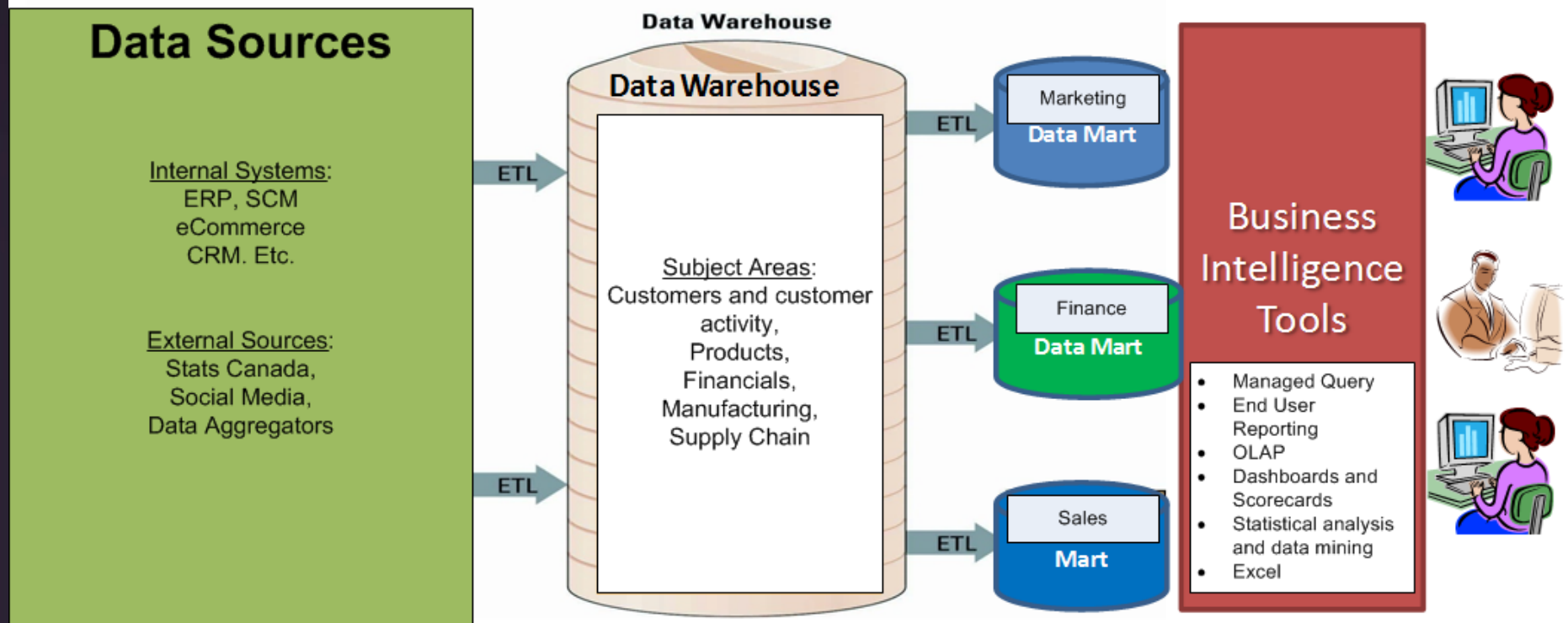
The Technical Environment



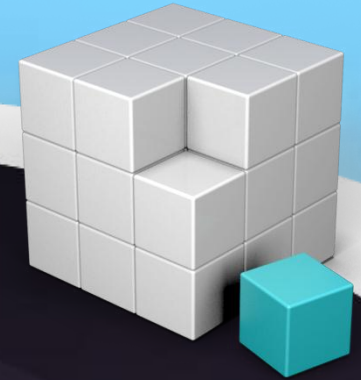
Back End

Front End

Data Warehouse Model

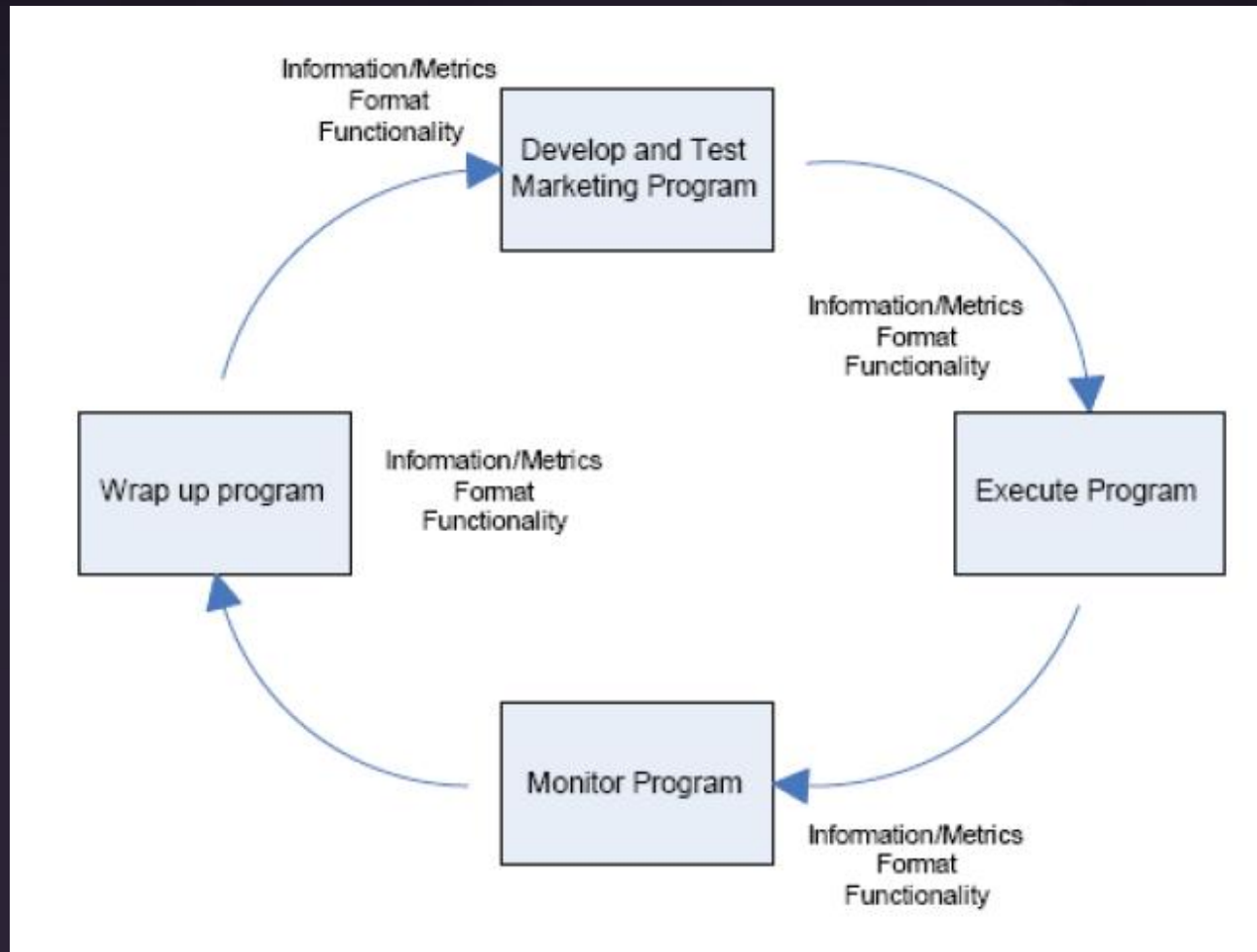
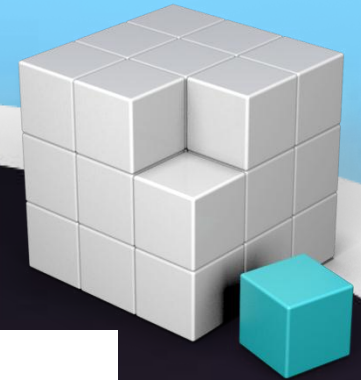


BI/Analytics Application Development

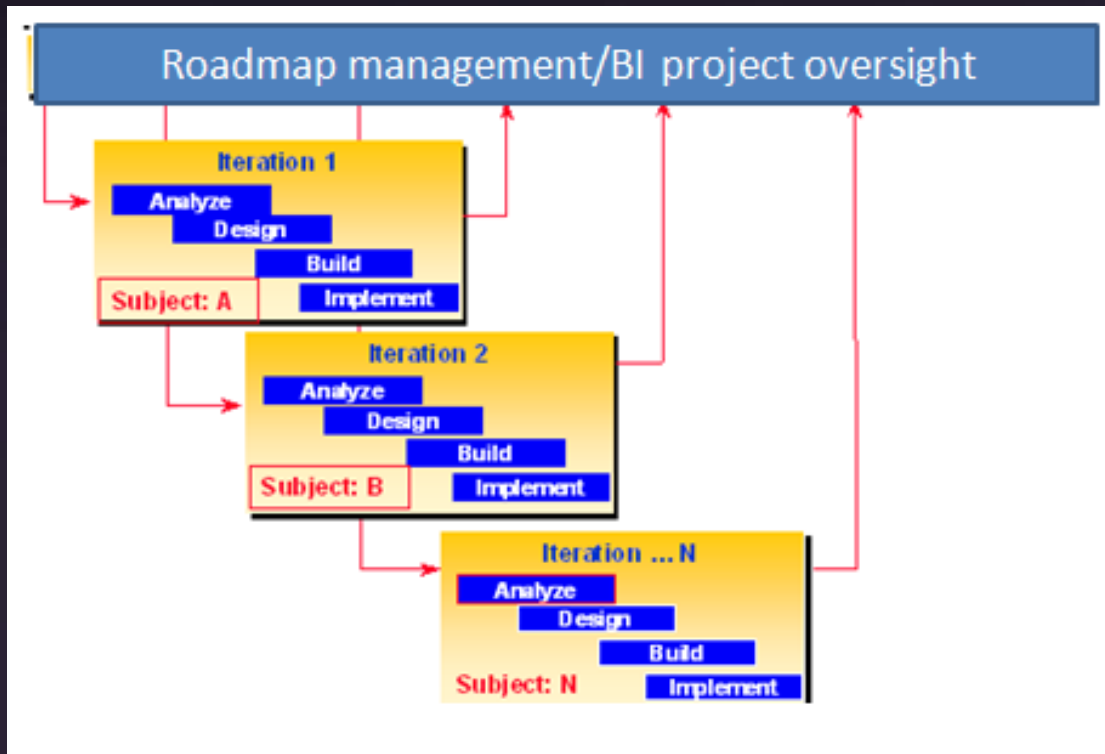
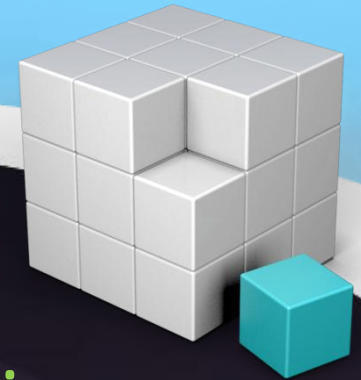


- Developing Analytic applications is.... Different
- “Use Cases” are of limited utility
- You are **NEVER FINISHED** – needs evolve continuously
 - Must treat application development as an ongoing process ...
“Analytic Factory”
- Analytic applications are about:
 - Understanding business processes / programs, stakeholders, objectives
 - Defining metrics, KPIs and other information required to support analysis and decision making at various levels and stages
 - Delivering the precise information to individuals when they need it, in the format that best suits their needs.

Simple Example: Develop Marketing Program



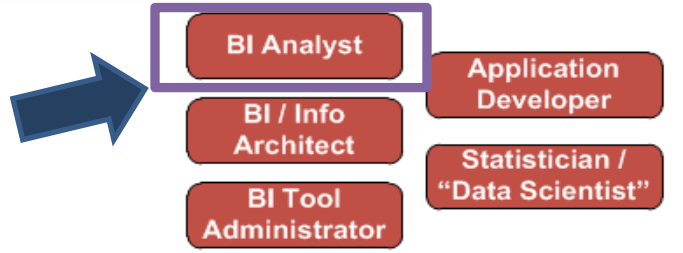
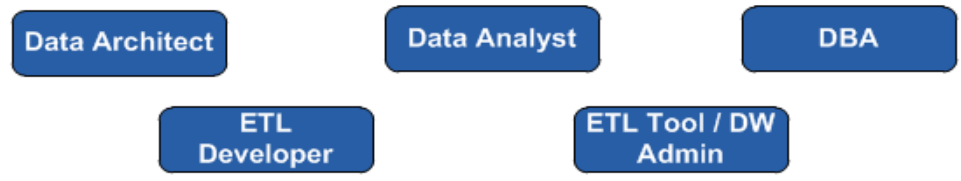
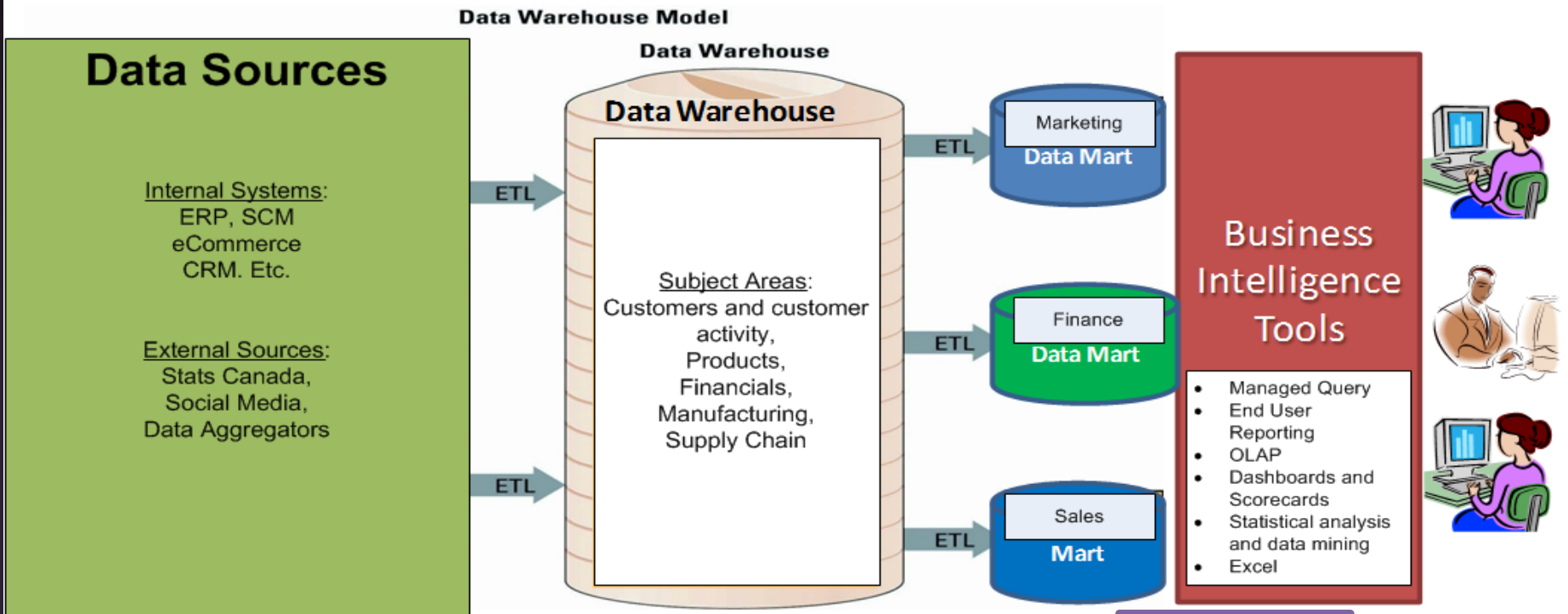
BI/Analytics Application Development



- **Key goals:**

- Iterative, short duration projects
- Tangible business value provided from each increment
- Agile development
- Roadmap revisited after each increment
- Parallel vs. sequential delivery

Key Roles in BI / Analytics Application Development



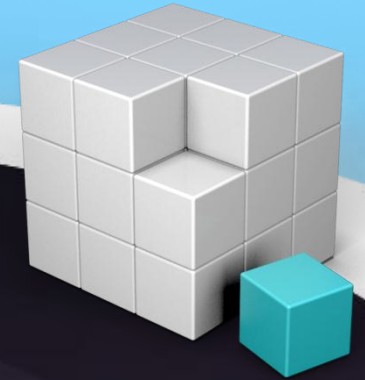
Program Management, Project Management, Training and Change Management

What is a 'BI Analyst'?



- The BI Analyst role is a specialization of the more generic Systems Analyst role.
- A Systems Analyst's primary function is to assist organization exploit technology in order to solve business problems.
- Primary responsibilities: business requirements gathering and modeling, high-level systems design, various forms of system testing and elements of project management and communications.

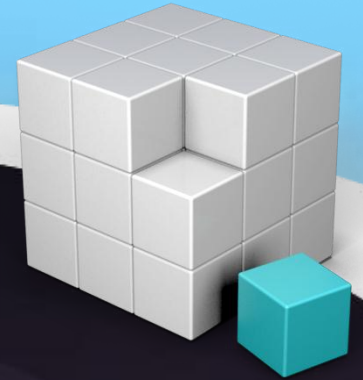
What is a 'BI Analyst'?



- A BI Analyst is a type of Systems Analyst who helps organizations with the definition, design and construction of various types of Business Intelligence applications.
- BI Analysts require Systems Analyst skills and knowledge, combined with business intelligence specific skills and knowledge.

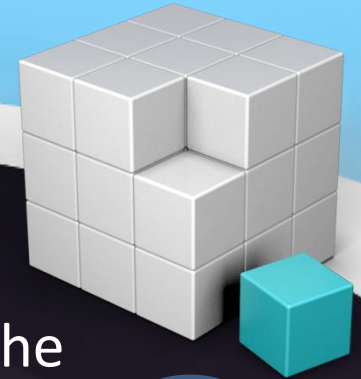
Question: What does the 'ideal' BI Analyst look like?

Competency Levels



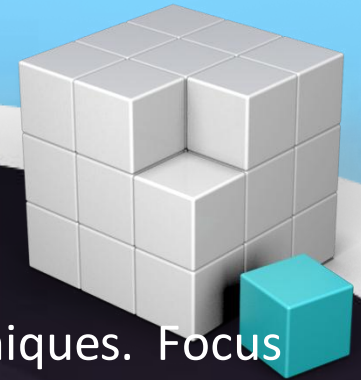
1. **Minimal** Knowledge of the subject area
2. **Basic** Knowledge of the subject matter – Ability to apply theory in practice in simple situations
3. **Good** knowledge of the subject matter – ability to apply theory in practice in most complex situations
4. **Expert** level knowledge of subject matter – teach others / adapt to unique situations

Ideal Systems Analyst Skills and Knowledge



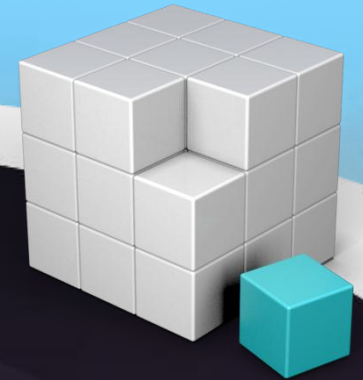
- Business domain knowledge (e.g., understanding of the primary functions of organizations – Accounting, Finance, Operations, Marketing, Management/Leadership, etc.) 2
- Organization-specific business domain knowledge (developed ‘on the job’) 3
- General understanding of business and IT strategy development concepts, including value chain analysis, 5 forces, etc.). Focus: 2
 - BPR and business process mapping techniques 3

Ideal Systems Analyst Skills and Knowledge



- Overall SDLC and IS development methodology, tools and techniques. Focus areas:
 - Project management 2
 - Analysis and Design 3
 - Requirements gathering and modeling 3-4
 - Testing 2-3
- Technology: hardware, software, networks, databases, security 2
- Programming:
 - Procedural (at least one of: C++, Java, Python, PHP, etc.) 2
 - SQL 3
- Soft Skills:
 - Verbal and written communications 3
 - Facilitation 3

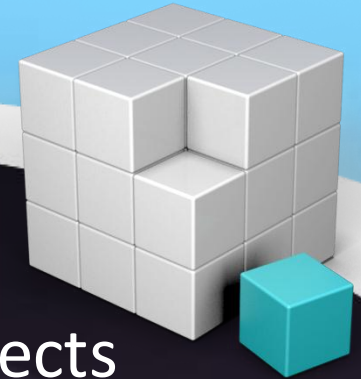
BI Analyst Skills and Knowledge



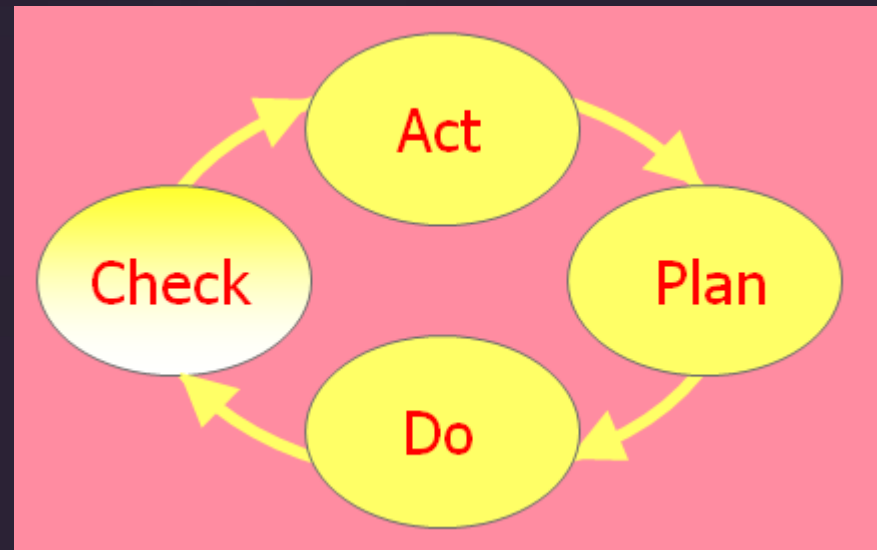
Systems Analyst skills and knowledge plus.....

- Data warehousing / analytics concepts:
 - ETL 2
 - metadata management 2
 - data warehouses and data marts 2
 - BI tools and capabilities 3
 - Data mining / knowledge discovery 2
- Understanding of **BI-specific** methodology, tools and techniques
 - Requirements gathering and prioritization techniques 3
 - Dimensional and multidimensional (OLAP) data modeling 2-3
 - Analytic Application Design 2-3

BI Analyst Skills and Knowledge



- Specific BI-tool knowledge (e.g., Business Objects Cognos, SAS) 2-3
- Data driven decision making approach 3



DISCUSSION

