

## ABSTRACT

ADVANCES IN TECHNOLOGY have been enhancing the power of research environments for many years. Progress in information infrastructures improves the capability for access to a wider range of data stores and creates analytic and research opportunities which were inconceivable in the past. Improved infrastructure offers better system connectivity and allows analytic models to be customized, linking data from disparate data sets to create innovative perspectives of the world around us. Platform computing has become a mainstay of today's technological advances offering analysts a rich environment for research studies. Business Intelligence (BI) is changing the research environment into a more dynamic system, enabling business users to identify relationships between variables at their discretion. Business users and policy analysts are directly involved with the planning of such systems to expedite quick responses to multi-faceted research questions concerning our health systems.

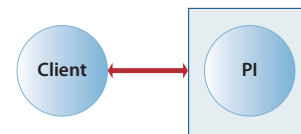
### POINTS OF TOPIC:

1. An examination of traditional research models will be compared to new BI research models.
2. What is platform computing and BI and how has it changed research?
3. Planning a research study using BI: it's a team effort.
4. How can BI improve / enhance health systems?

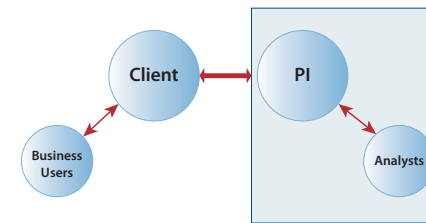
## A TRADITIONAL RESEARCH MODEL

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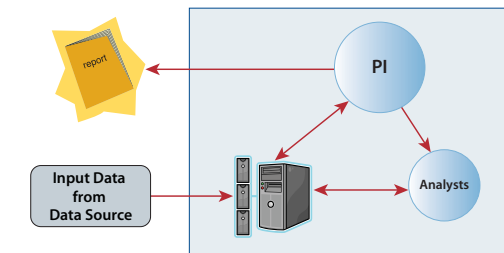
- ▲ Client & PI formulate an hypothesis
- ▲ Analysts provided with data
- ▲ Analysts test initial hypothesis
- ▲ Analysts confer results with the client
- ▲ Analysts produce report of results



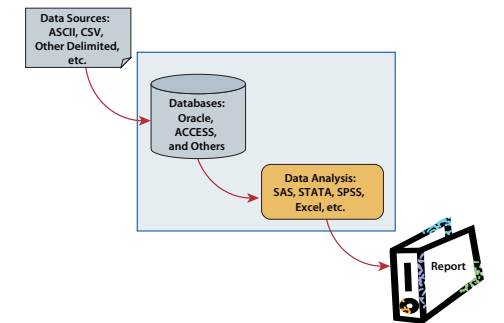
### A TRADITIONAL RESEARCH OPERATION MODEL



### A TRADITIONAL SYSTEM MODEL



### TRADITIONAL DATA FLOW



## WHAT IS BUSINESS INTELLIGENCE?

### WHAT IS BUSINESS INTELLIGENCE?

#### BI Definitions:

- ▲ BI platforms are interactive system/software environments
- ▲ BI computing provides for the creation and management of metadata
- ▲ Metadata is information describing the data and is the source for creating information maps
- ▲ Information maps allow the original data to be viewed and transformed into On-Line Analytic Processing (OLAP) data cubes
- ▲ OLAP data cubes are a relational reporting of the data
- ▲ BI platforms provide customizable data studios for business users

### BI SYSTEM FEATURES

#### BI Infrastructures are ...

- ▲ Web systems
- ▲ Relational data management systems
- ▲ Interactive programming environments

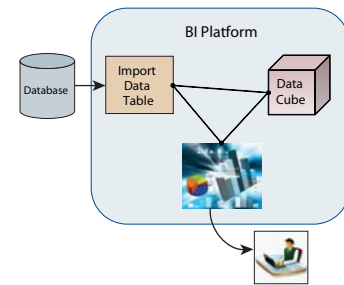
#### BI systems offer...

- ▲ Data analysis tools
- ▲ Data dashboards
- ▲ Data visualization
- ▲ Report studios

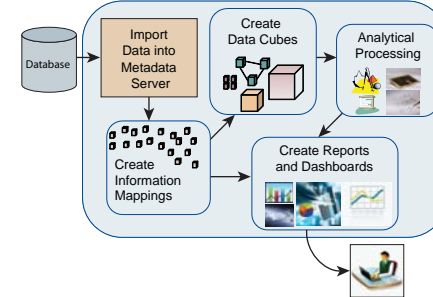
#### BI systems can offer...

- ▲ Data exploration
- ▲ Data mining
- ▲ Data warehousing

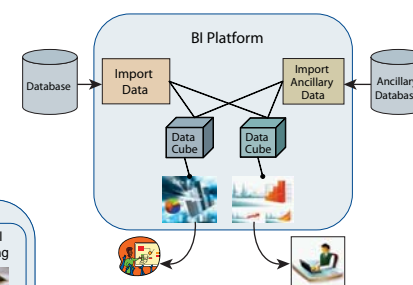
### A BUSINESS INTELLIGENCE MODEL



### DATA FLOW IN A BI SYSTEM MODEL



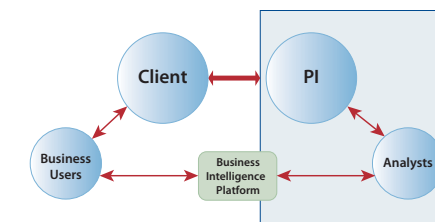
### CUSTOMIZABLE DATA STUDIOS



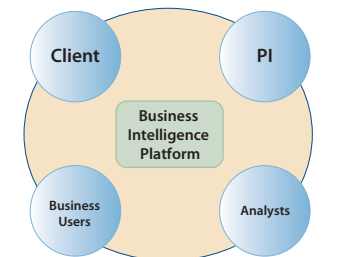
## A NEW RESEARCH MODEL

### A NEW RESEARCH MODEL

- ▲ Client, Business users, PIs, and Analyst all plan the system
- ▲ All view data on the system
- ▲ Hypothesis is formulated [from data views]
- ▲ Analysts work out initial study of hypothesis
- ▲ All view hypothesis results on the system
- ▲ Analysts produce report of results

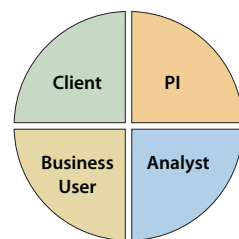


### A BI SYSTEM RESEARCH ENVIRONMENT



## A BUSINESS INTELLIGENCE RESEARCH ENVIRONMENT

### A BUSINESS INTELLIGENCE RESEARCH ENVIRONMENT



### PROS OF A BI RESEARCH ENVIRONMENT

- ▲ Systems can be made directly available to users
- ▲ Systems can be restricted only to those who need access
- ▲ Analytic tools and graphics are built into the system
- ▲ Data studios can be customized
- ▲ Data exploration now becomes a value added feature

### CHALLENGES OF A BI RESEARCH ENVIRONMENT

- ▲ There are many choices for selecting the best BI tool
- ▲ All players should be involved with system planning
- ▲ Good system planning ensures the data are well defined
- ▲ Well defined data ensures the usefulness of the system

## CONCLUSIONS

### FINAL POINTS

- Business Intelligence has created a new research model by...
- ▲ Bringing all players into the decision making process
  - ▲ Utilizing today's information infrastructures
  - ▲ Creating a more direct path to data for those who need it