

# Exploiting the Power to Predict -- towards proactive BI

**Krithi Ramamritham**



*IIT BOMBAY*

# RT info vs. RT business

- *RT information:*

lets one see what is happening right now

- provides the foreground  
whereas history provides the background

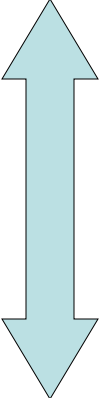
- *RT business:*

ability to meet customer needs

- what they want
- when they want it
- in the manner they want to receive it.

# RT info vs. RT business

- *RT information:*



Only when systems are coordinated,  
e.g., orders, returns, inventory, in-process inventory,  
in-transit inventory...

- *RT business:*

- Today – “presumptive scripting”
  - Invoking an automatic response when specific events occur
- Future – “prediction based”
  - forecast future using pattern recognition models
  - allowing actions to be taken ahead of the event curve
    - e.g. predict service disruption before it occurs, so we can re-route packets or notify customer early

# Better RT analytics

- To allow new levels of foresight
  - Detect meaningful patterns from historical & RT info
    - Before they become problems or lost opportunities
- Smart use of continuous information flow to “see around the corner”
  - Exploiting seemingly insignificant information through correlation, interpretation and processing

# Impact on supply chain: When to make?

- to-order:  
(Buy – plan – source – make)
- based on aggregated forecasts:  
(Plan – source -- make – deliver)
- based on short-term aggregated forecasts:  
Short (Plan – source -- make – deliver) cycles

# Dealing with “attack of the 3 Vs”

## **Volume, Variety, Velocity**

by constantly

- measuring, correlating, predicting, adjusting...
- filtering, disseminating, routing info more rapidly than ever before...

# Real-time Decisions to Real-Time prediction

- RT is not good enough...
- You've got to be thinking ahead and act on what "might" be happening
  - by augmenting past understanding of system behavior with current information
- When in predictive mode...
  - you anticipate the unexpected!