International Institute of Business Analysis™

BABOK® v3 Demystified Webinar Series

Chapter:	Chennai IIBA® Chapter
Date & Time:	24-Nov-16 | 6:30 to 7:30 PM IST
Topic:	Data Mining
Presenter:	Jegan Jayabal, MBA

Case Study - Banking

- Business goal: Sell more Credit Cards & Loans
- Old business Model:
  - Customers will approach bank or bank will approach customers, then it will be approved by the bank depends on the salary, CIBIL Score, etc..
- Current models:
  - Design the eligibility for the Specific bank products
  - Filter the account holders profile (salary account, SB account..,)
  - Discrete the accounts depends on the AMB or AQB
  - Pre-approve eligible offers

Case Study – E-Commerce

- “Flipkart - Big Billion Day” or “Amazon – Great Indian Festive sale”.
- Extracting data from Individual profile i.e Customer’s wish list, Person stayed on that particular product page.
- Provide offers on that particular product
- Displaying recommended products

Data Mining

- Data mining is used to improve decision making by finding useful patterns and insights from data.
- Data mining is an analytic process that examines large amounts of data from different perspectives and summarizes the data in such a way that useful patterns and relationships are discovered.
- Data mining can be utilized in either **supervised or unsupervised** investigations.

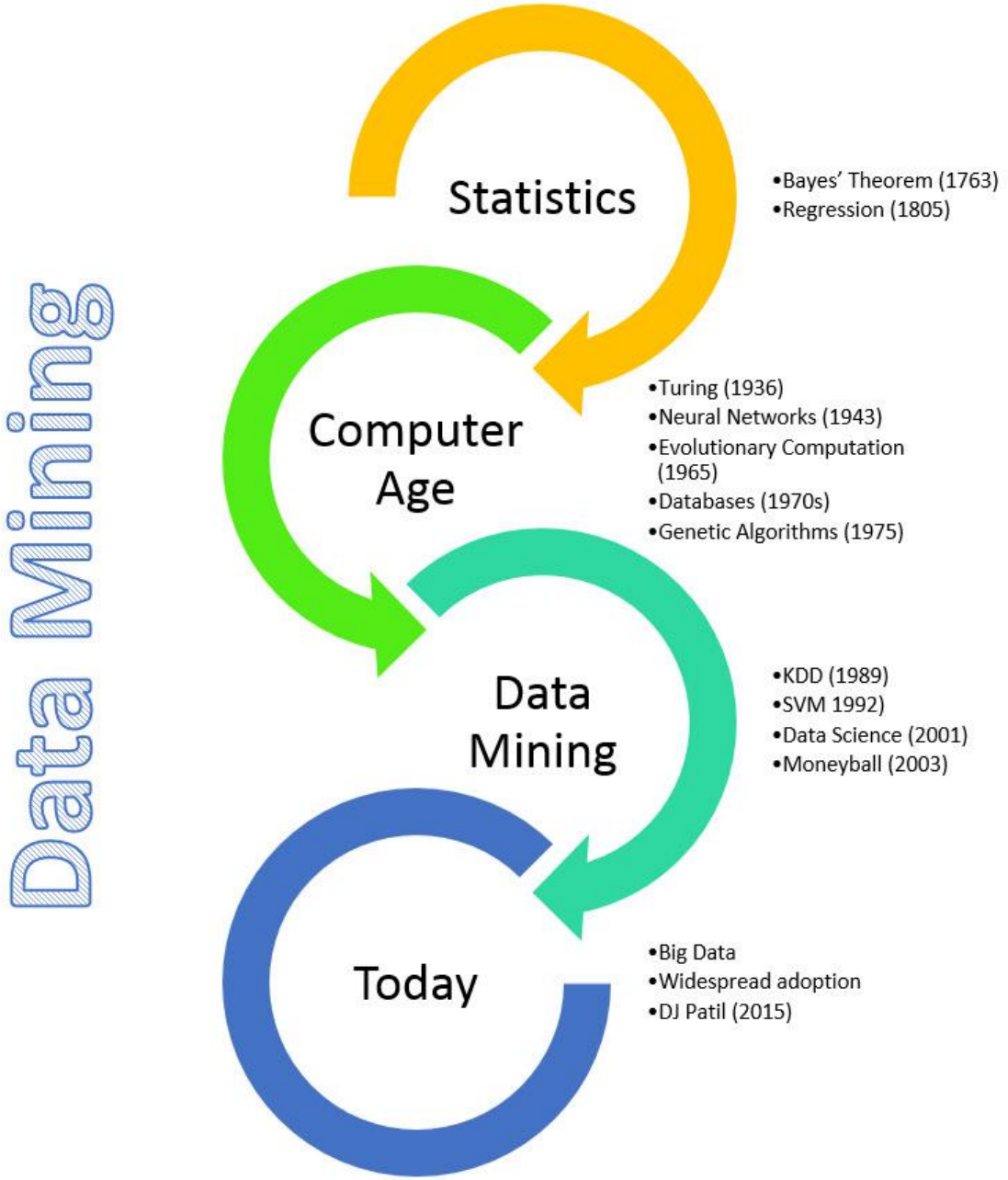
Examples: What is (not) Data Mining?

- **What is not Data Mining?**
  - Look up phone number in phone directory

- **What is Data Mining?**

  Certain names are more prevalent in certain US locations (O'Brien, O'Rurke, O'Reilly… in Boston area)

History


Data Mining
Statistics
•Bayes' Theorem (1763)
•Regression (1805)
Computer Age
•Turing (1936)
•Neural Networks (1943)
•Evolutionary Computation (1965)
•Databases (1970s)
•Genetic Algorithms (1975)
Data Mining
•KDD (1989)
•SVM 1992)
•Data Science (2001)
•Moneyball (2003)
Today
•Big Data
•Widespread adoption
•DJ Patil (2015)

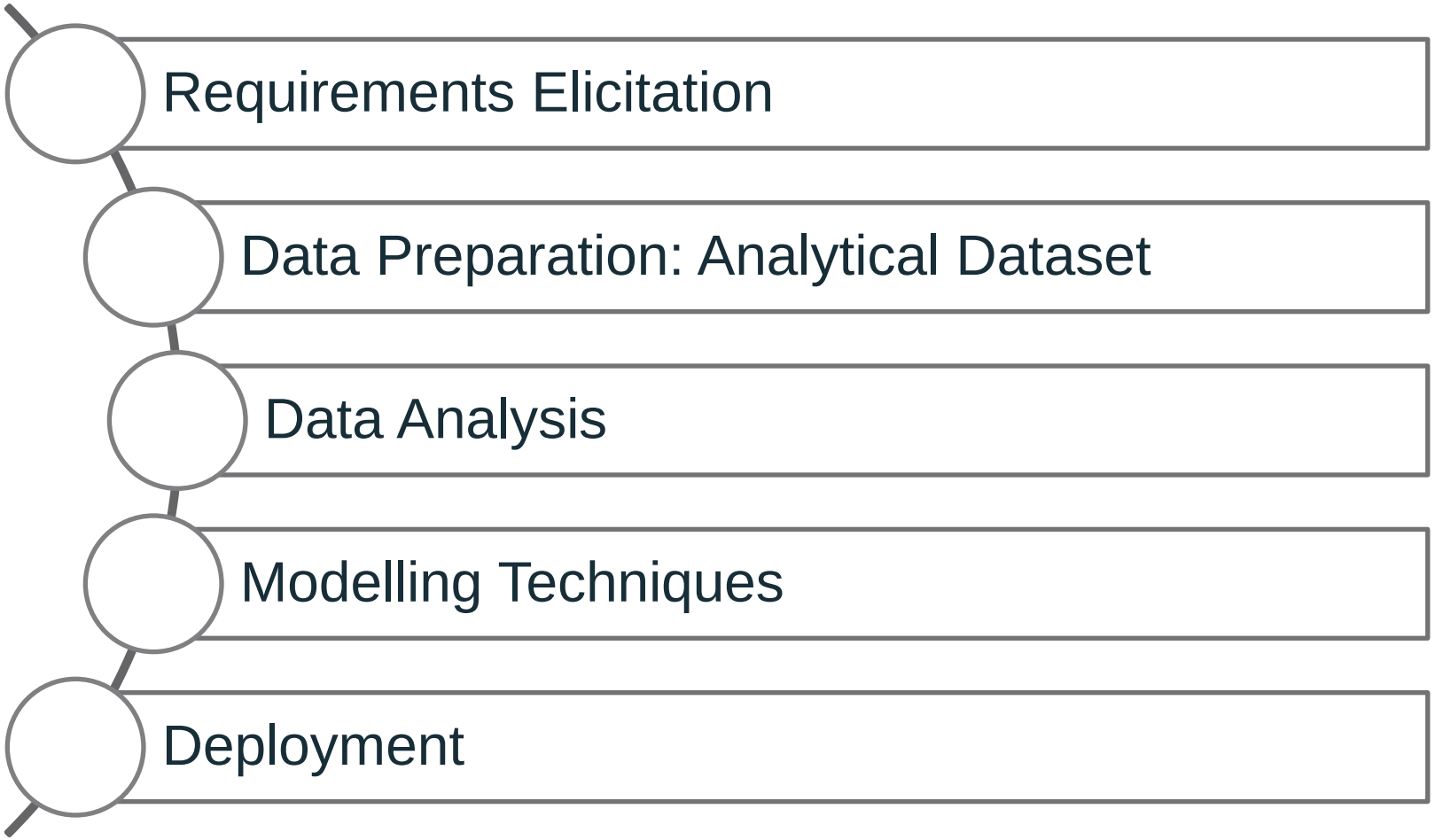
Data Mining

Descriptive: Such as clustering make it easier to see the patterns in a set of data, such as similarities between customers.

Diagnostic: Such as decision trees or segmentation can show why a pattern exists, such as the characteristics of an organization's most profitable customers.

Predictive: Such as regression or neural networks can show how likely something is to be true in the future, such as predicting the probability that a particular claim is fraudulent.

Elements of Data Mining



Elements: Requirements Elicitation

- The goal and scope of data mining is established either in terms of decision requirements for an important identified business decision, or in terms of a functional area where relevant data will be mined for domain-specific pattern discovery.

- Data mining exercises are productive when managed as an agile environment. They assist rapid iteration, confirmation, and deployment while providing project controls.

Elements: Data Preparation: Analytical Dataset

- Data mining tools work on an analytical dataset. This is generally formed by merging records from multiple tables or sources into a single, wide dataset.

- Analytical datasets are split into a set to be used for analysis, a completely independent set for confirming that the model developed works on data not used to develop it, and a validation set for final confirmation.

Elements: Data Analysis

- Once the data is available, it is analyzed. A wide variety of statistical measures are typically applied and visualization tools used to see how data values are distributed, what data is missing, and how various calculated characteristics behave.

- Much of the power of a data mining effort typically comes from identifying useful characteristics in the data.

Elements: Modelling Techniques

Some examples of data mining techniques are:

- Classification and regression trees (CART), C5 and other decision tree analysis techniques
- Linear and logistic regression
- Neural networks
- Support sector machines, and
- Predictive (additive) scorecards
- Clustering

Elements: Deployment

- Once a model has been built, it must be deployed to be useful. Data mining models can be deployed in a variety of ways, either to support a human decision maker or to support automated decision-making systems.
- Many data mining techniques identify potential business rules that can be deployed using a business rules management system.
- Such executable business rules can be fitted into a decision model along with expert rules as necessary.

Strengths

- Reveal hidden patterns and create useful insight during analysis
- Can be integrated into a system design to increase the accuracy of the data.
- Can be used to eliminate or reduce human bias by using the data to determine the facts.
- Predict future trends, customer habits
- Help with decision making
- Improve company revenue and lower costs

Limitations

- Applying some techniques without an understanding of how they work can result in erroneous correlations and misapplied insight.
- Many techniques and tools require specialist knowledge to work with.
- User privacy/security
- Amount of data is overwhelming
- Great cost at implementation stage
- Possible misuse of information
- Possible in accuracy of data

About Fhyzics

Fhyzics, a leader in Business Analysis Services and Training, is an Endorsed Education Provider [EEP™] of International Institute of Business Analysis [IIBA®], Canada.

www.fhyzics.com

For more details about our course, please speak to Bharathi at
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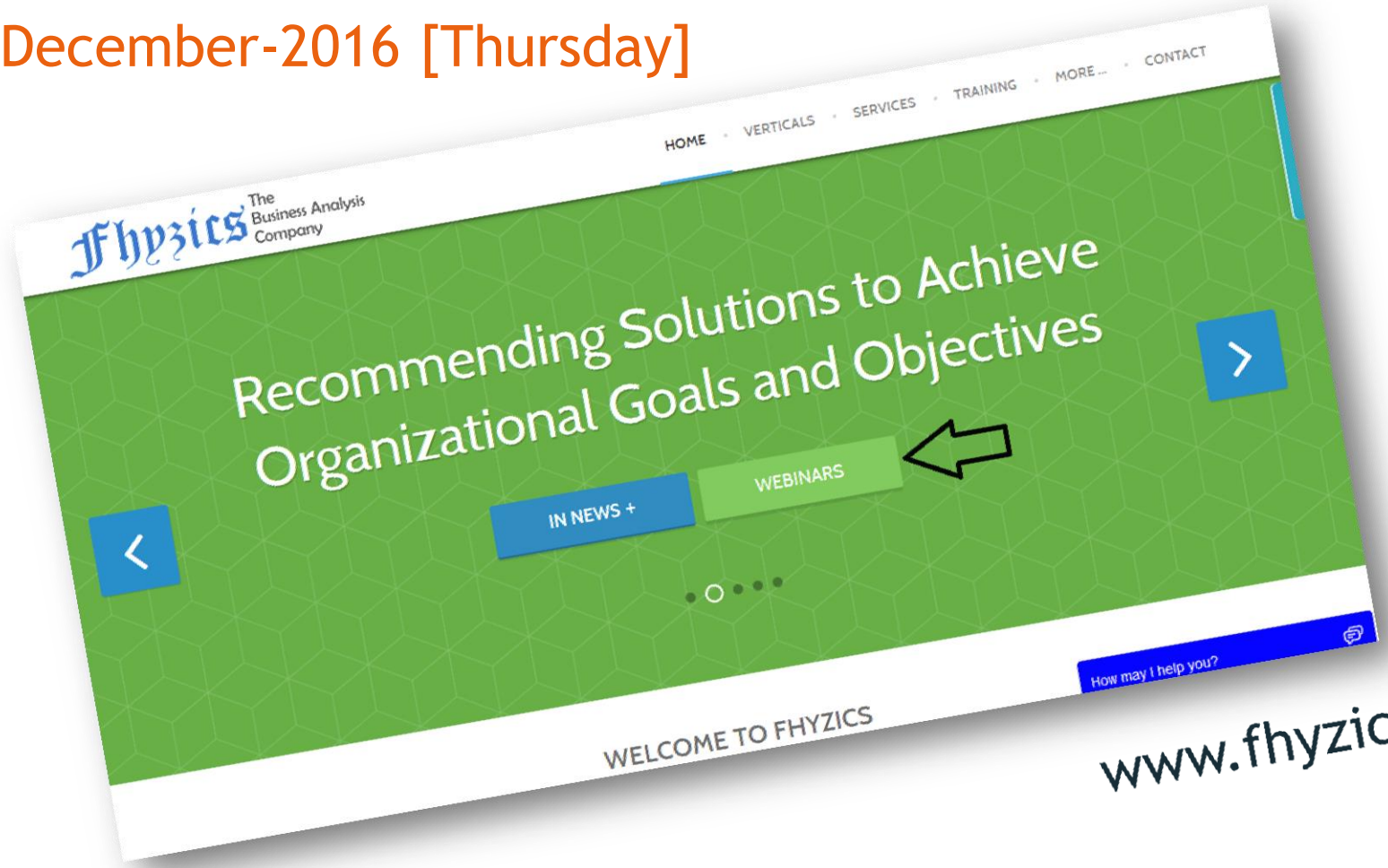
Next Webinar: Decision Modelling

29-December-2016 [Thursday]



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Presented By
Mr. Jegan Jayabal, MBA
Assistant Vice President [Training]