

# FUNDAMENTAL BUSINESS DATA VISUALIZATION NOTES

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Based on course material provided through King Mongkut's  
University of Technology Thonburi (KMUTT)

## All Learning Unit Documents

### Course Introduction

Human interprets picture better than words

like plotting chart to look pattern

- Start by Asking Question
- Understand data collection
  - transform data to proper data
  - data cleaning
- 3 Libraries

With data visualization   
for users  
for team

### Introduction to Data Science for Business

#### Stages of Data Science

##### 1. Data Acquisition & Understanding

- involves collecting raw data from various sources like databases, API, web scraping

##### 3. Deployment

- used to make prediction and decision in **REAL TIME**

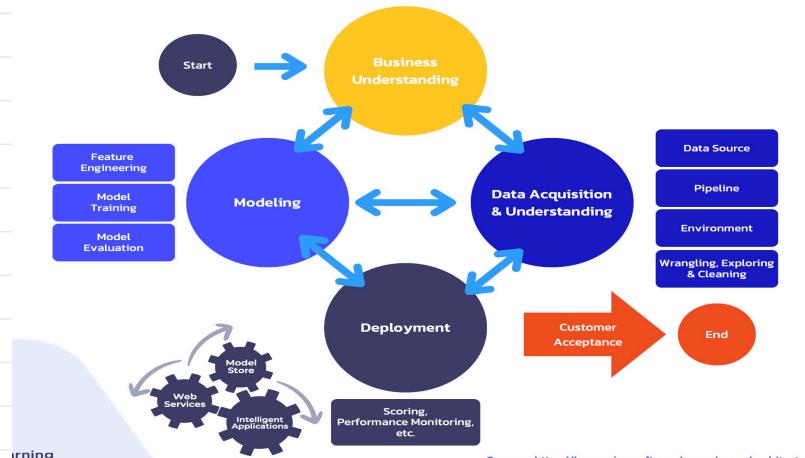
#### Data Modeling

- ##### 2.
- analyze and process data to create model that can identify pattern for prediction
  - involves **STATISTICAL ANALYSIS**

##### 4. Customer Acceptance

- presented to stakeholders / end user for feedback

## Stages of Data Science



Before data analysis, we need to understand Business

① What problem are we solving?

- ask the right questions
- find the right data

## Business Understanding



### Define Objectives

- Identify the business problem.
- Ask questions that define business goals achievable with data science.

Examples:

- How much will sales increase? (Regression)
- Which customer will churn? (Classification)
- Which products are similar? (Clustering)
- Is this transaction suspicious? (Anomaly Detection)
- What's the best product recommendation? (Recommendation)

### Identify Data Sources

- Identify relevant data to answer your questions.
- Ensure data accurately reflects both the target outcome and related features.

## Data Acquisition and Understanding

- prepare data before analyzing

### Ingest the data

- get the data into the system

### Explore the data

- check quality of data, ensure clean (data cleaning)

### Set up the data pipeline

## Modeling

### Feature engineering

- process in which we transform raw data into features so that the model can understand

### Model training

- test model and pick that solves problem accurately

### Determine if your model is suitable for production

- test in real time

## Deployment

### Operationalize the model

transfer model to the special environment

### Expose model with an API interface

API allows applications to easily talk to the model  
and get predictions

## Customer Acceptance

### System Validation

### Project handoff