

Analytics for Managerial Decision Making

IBM 322

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Department of Management Studies

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Introduction to the Course

What can you expect to learn?

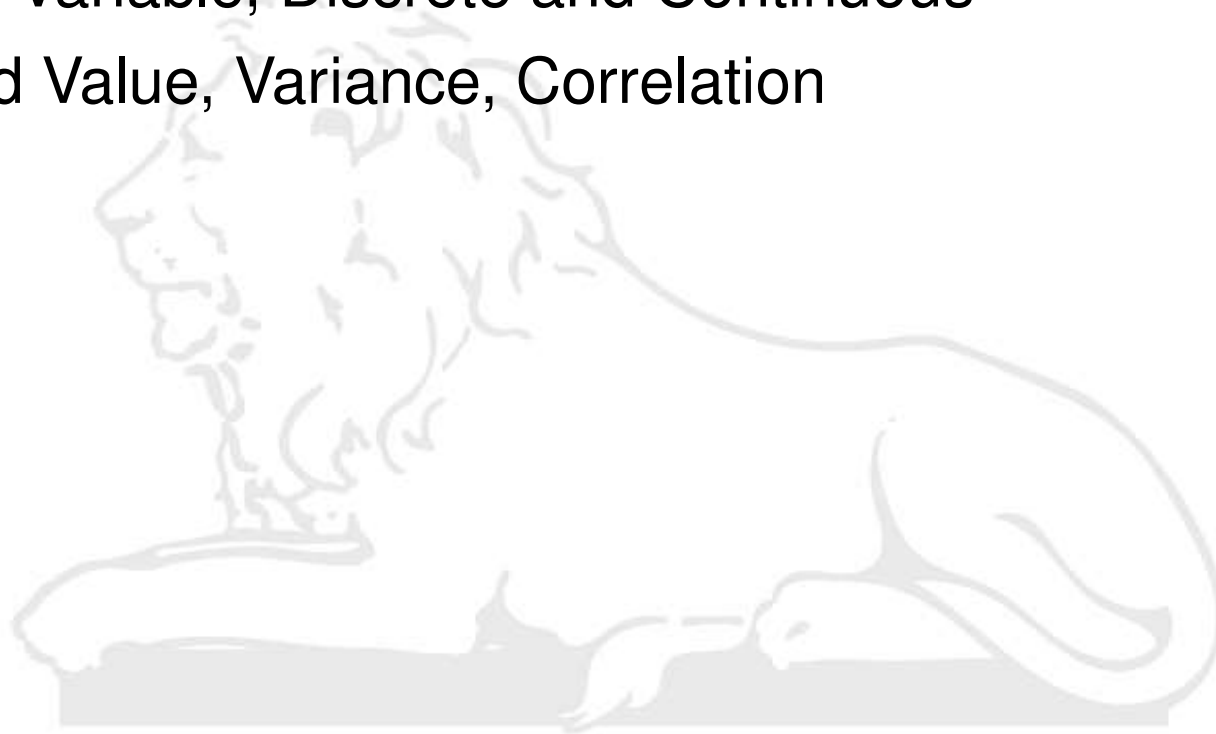
- ❑ Basics of Probability and Statistics
- ❑ Distributions
- ❑ Linear / Multiple Linear Regression
- ❑ Logistic Regression, SVM, ANN, Clustering
- ❑ Text Analytics
- ❑ (Look at the Outline for More details)

Course Logistics

- ❑ Book - No single text book for the course, various references will be provided
- ❑ TA-1 - Raja Babu Adityan, Research Scholar, DoMS - raja_ba@ms.iitr.ac.in
- ❑ TA-2 - Shivani Jaiswal, Research Scholar, DoMS - shivani_j@ms.iitr.ac.in
- ❑ Attendance - Institute Rules will be enforced
- ❑ Evaluation
 - ❑ MTE - 20%
 - ❑ Assignments/in-class quiz - 15%
 - ❑ Group Assignment - 15%
 - ❑ Course Participation/Attendance - 15%
 - ❑ ETE - 35%
- ❑ All course material/assignment submission etc. will be posted on MS Teams platform and <https://tinyurl.com/autumnadm>

Learning Outcomes Session - 1

- ☐ Descriptive Statistics
- ☐ Concept of Probability
- ☐ Random Variable, Discrete and Continuous
- ☐ Expected Value, Variance, Correlation

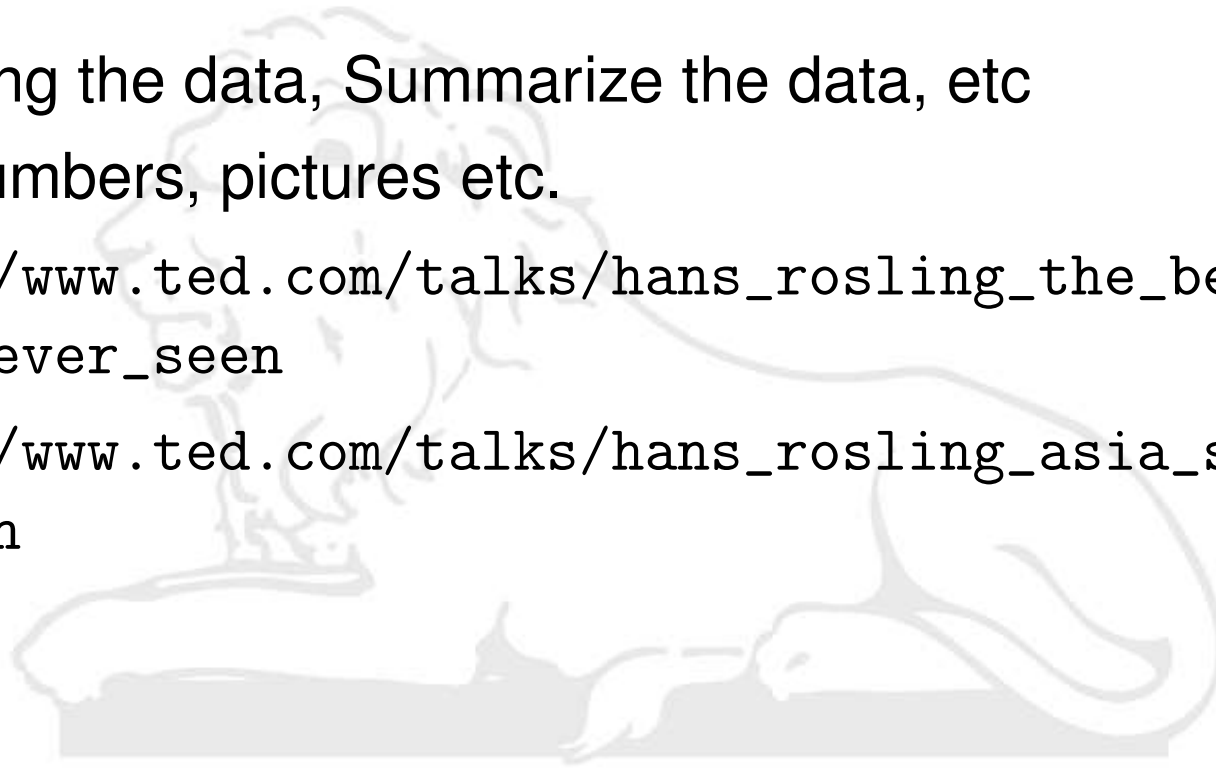


Definitions of Statistics

- ❑ Art of learning from data – Sheldon M. Ross, Introduction to Probability and Statistics for Engineers and Statistics
- ❑ Statistics is a branch of mathematics working with data collection, organization, analysis, interpretation and presentation. - Wikipedia
- ❑ Statistics may be regarded as (i) the study of populations, (ii) as the study of variation, (iii) as the study of methods of the reduction of data. – Fisher, 1925

Descriptive Statistics

- ❑ Describing the data, Summarize the data, etc
- ❑ Using numbers, pictures etc.
- ❑ https://www.ted.com/talks/hans_rosling_the_best_stats_you_ve_ever_seen
- ❑ https://www.ted.com/talks/hans_rosling_asia_s_rise_how_and_when



Summary Statistics

- ❑ Measures of Central Tendency(mean, median)
- ❑ Measures of Dispersion (Range, Variance)
- ❑ Chebyshev Inequality

