



# SNS COLLEGE OF TECHNOLOGY

Coimbatore - 35



23BAT613 – Artificial Intelligence for Managers

## Unit I – TECHNOLOGY OVERVIEW AND FUNDAMENTALS



Presented by

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*Design Thinker*

Redesigning Common Mind & Business Towards Excellence

**1<sup>st</sup>** Indian  
Institution  
to Implement  
& Patent  
Design  
Thinking  
FrameWork

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Build an Entrepreneurial Mindset through our Design Thinking FrameWork

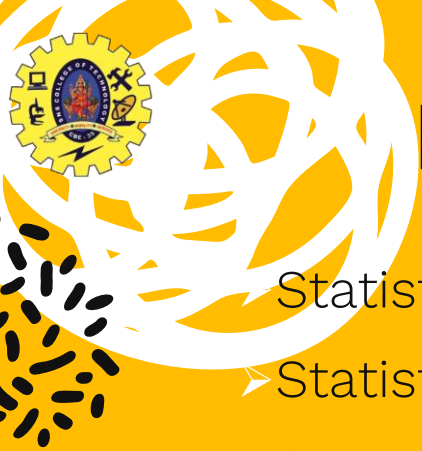


# Guess the Topic!!!



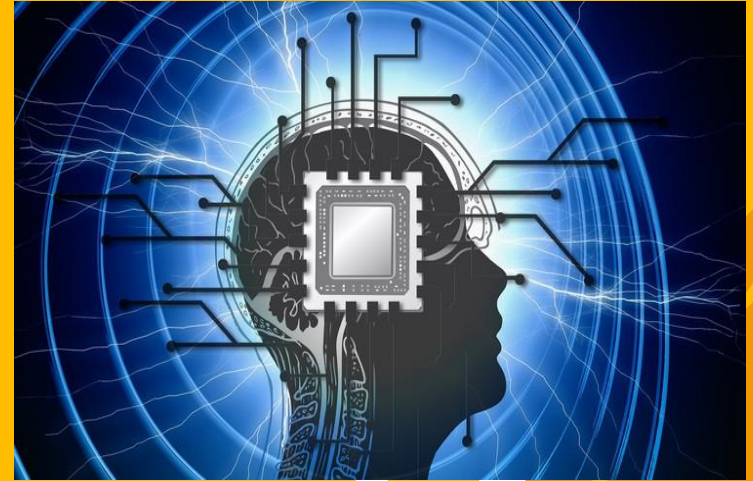
## Statistical Foundations





# Recap

- Statistics Meaning
- Statistical Learning in AI
- Categories and Algorithms of ML
- Statistical Methods for Data Analysis

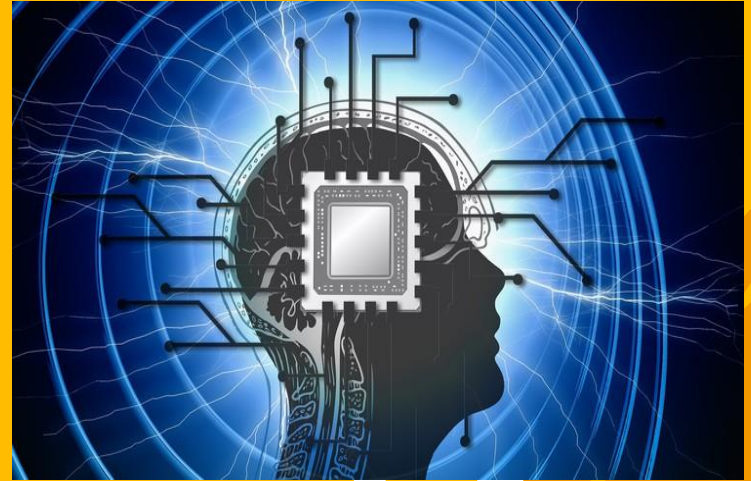




# Discussion about....

Importance of Statistics in  
Managerial Decision Making

- X Types of Charts
- X Taxonomy of Business Charts
- X Decision Situation and  
Corresponding Statistical  
Techniques
- X Decision Making with  
Statistical Modelling in AI
- X Consumer Data Insight for  
Product Attributes





- 
- 1.) Focus on Future Picture
  - 2.) Backing Judgments
  - 3.) Interaction and correlation between significant variables
  - 4.) Interpretation of the output of Analysis

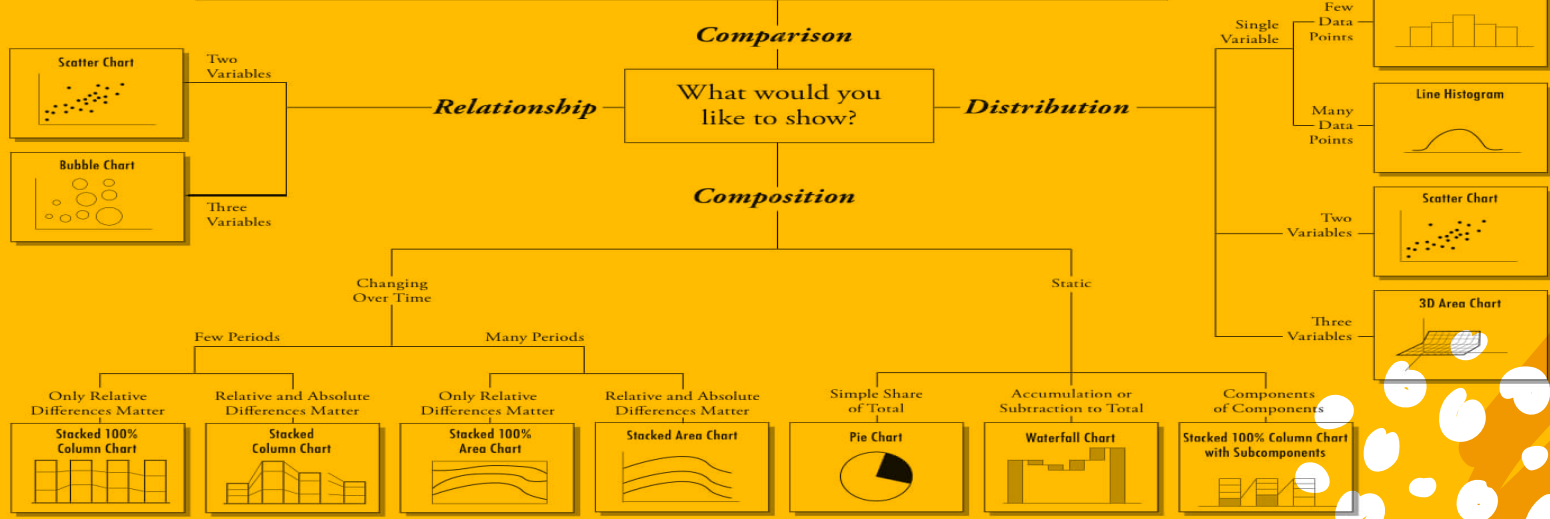
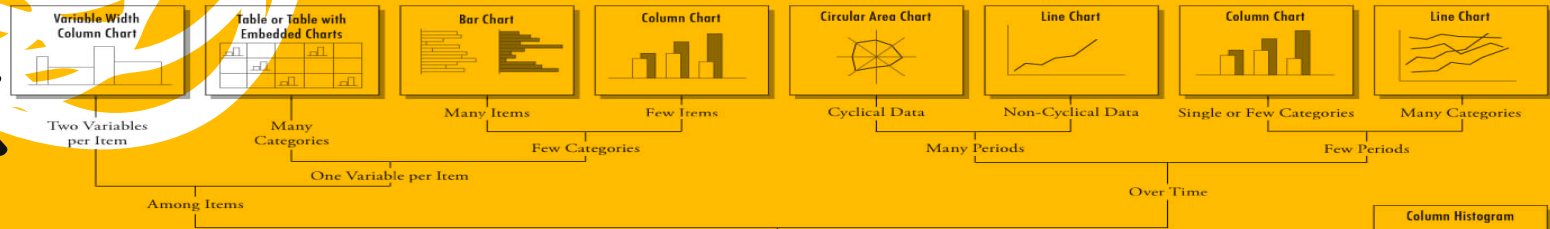




# Types of Charts

## Chart Suggestions—A Thought-Starter

www.ExtremePresentation.com  
© 2009 A. Abela — a.v.abela@gmail.com





# Taxonomy of Business Charts



## Taxonomy of Business Charts by Task, Orientation & Shape

	Time series   Charts with horizontal axis				Structure   Charts with vertical axis				Multiple charts	
<b>Comparison</b> Trend analysis or Breakdown and ranking									Small multiples 	
<b>Part-to-whole</b> Compare part to total or analyze accumulation										
<b>Contribution</b> Contribution of parts to total or calculation analysis										
<b>Opposition</b> Compare opposing series <i>(avoid these charts)</i>										
<b>Series comparison</b> Compare 2 or more data series									Combo charts 	
<b>Variance</b> Analyze deviation/variance to plan, PY, forecast, benchmark.										
<b>Integrated variance</b> Compare variance to base value (gap analysis)									Extended charts 	
<b>Contribution of variance</b> Contribution of variances to total change										
<b>Portfolio &amp; Correlation</b> Analyze correlation Analyze a portfolio										
	Column	Line	Area	Dot	Bar	Dot	Circle	Pie		



# Decision Situation and Corresponding Statistical Techniques`

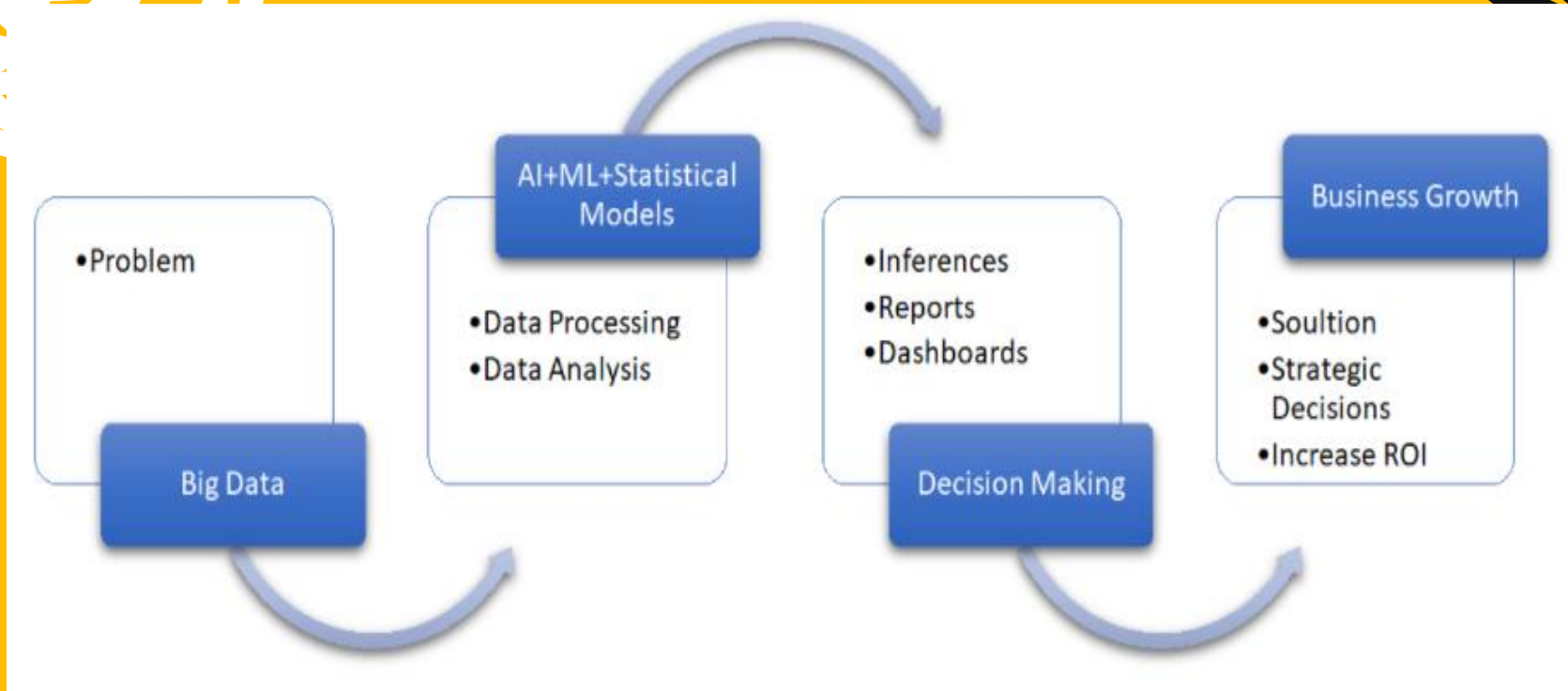
<i>Area</i>	<i>Decision Situation</i>	<i>Statistical Techniques Applicable</i>
<b>Marketing</b>	<ul style="list-style-type: none"><li>• <b>Assessment / Forecast of Demand for the Product or a Service</b></li><li>• <b>Customer Profiling Market Research</b></li></ul>	<b>Time series</b> <b>Correlation and Regression</b> <b>Cluster Analysis</b> <b>Conjoint Analysis</b> <b>Multidimensional Scaling</b>
<b>Retail Management</b>	<b>Identifying Customer Buying Behaviours and patterns</b>	<b>Correlation and Regression</b> <b>Cluster Analysis</b> <b>Conjoint Analysis</b>
<b>Finance and Banking</b>	<b>Evaluation of Investment</b> <b>Volatility of Stocks</b> <b>Predicting EPS</b> <b>Derivatives</b>	<b>Regression Analysis,</b> <b>Decision Analysis</b> <b>Beta analysis</b>
<b>Insurance</b>	<b>Determining the Premium</b>	<b>Profitability, Time series and Regression Analysis</b>
<b>Operations</b>	<b>Controlling and Improving Production Process and Quality</b> <b>Inventory Management</b>	<b>Statistical Quality Control</b> <b>Six Sigma</b> <b>Sampling inspection</b> <b>ABC Analysis</b>
<b>HRD</b>	<b>Performance Appraisal and Reward System</b>	<b>Normal Distribution</b> <b>Percentiles</b>

Source: Statistics for management by T N Srivastava and Shailaja Rego, Published by the Tata McGraw- Hill Publishing Company Limited.



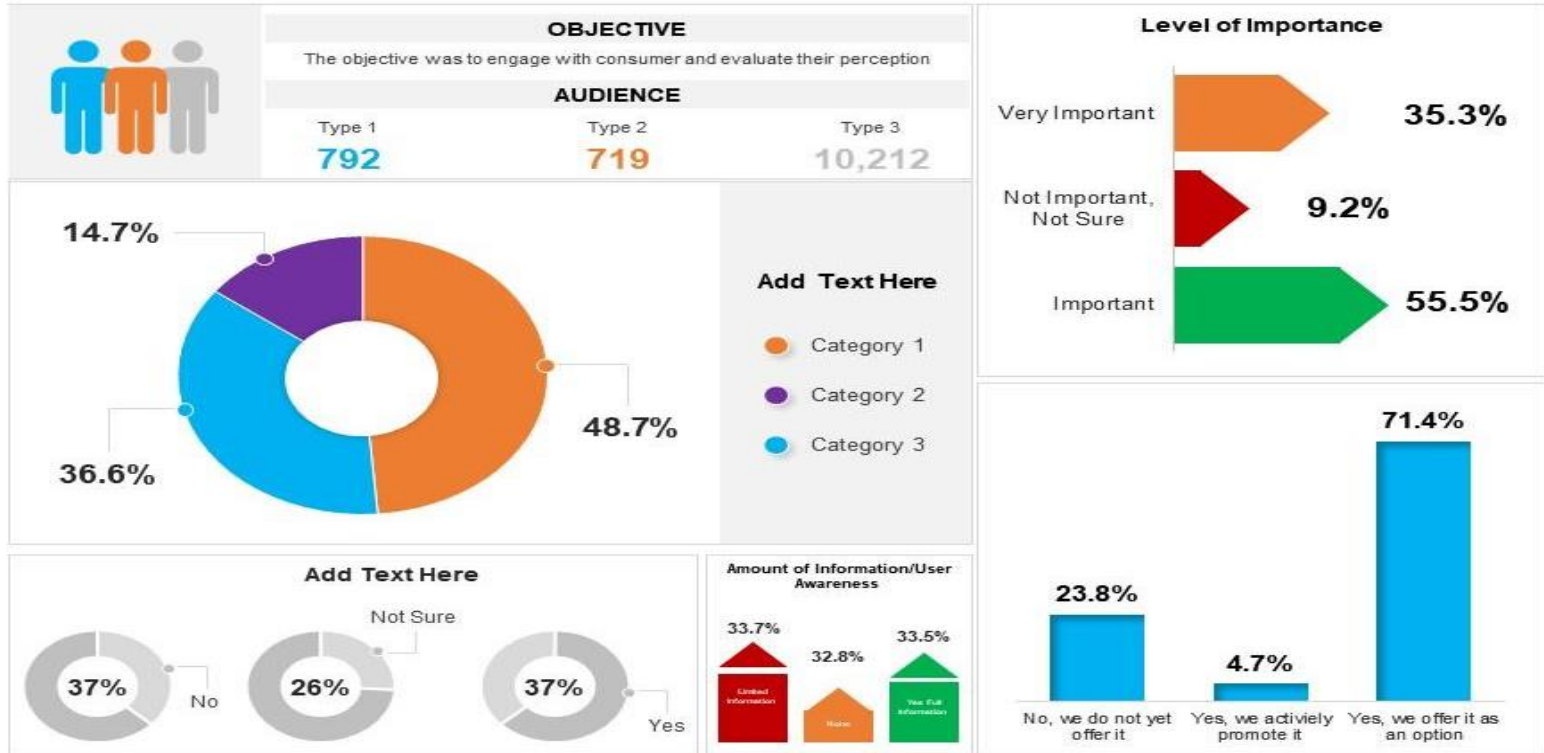


# Decision Making with Statistical Modelling in AI





# Consumer Data Insight for Product Attributes



This graph/chart is linked to excel, and changes automatically based on data. Just left click on it and select "Edit Data".



# Knowledge Check

Which statistical technique is commonly used for unsupervised learning tasks such as clustering?

- X a) Logistic regression
- X b) K-means clustering
- X c) Decision trees
- X d) Support Vector Machines (SVMs).
- X **Answer: K-means clustering**



# Summary

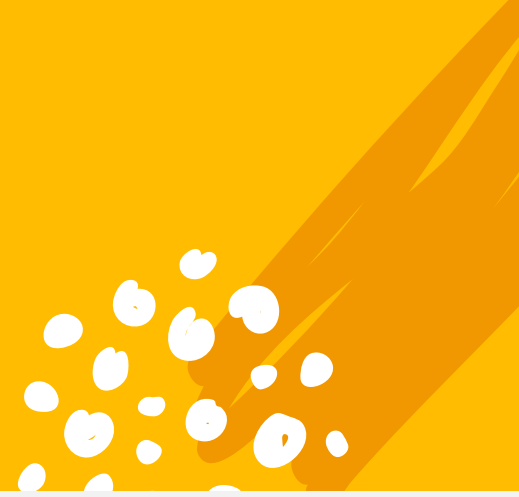
- x Importance of Statistics in Managerial Decision Making
- x Types of Charts
- x Taxonomy of Business Charts
- x Decision Situation and Corresponding Statistical Techniques` `
- x Decision Making with Statistical Modelling in AI
- x Consumer Data Insight for Product Attributes





# References

- <https://www.relyservices.com/blog/importance-data-processing-in-machine-learning>







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# Thanks!

