

STATISTICAL METHODS FOR DECISION MAKING

CREDITS:	3
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OBJECTIVE:

- To learn the applications of statistics in business decision making.

UNIT I - INTRODUCTION

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Basic definitions and rules for probability, conditional probability independence of events, Baye's theorem and random variables, Probability distributions: Binomial, Poisson, Uniform and Normal distributions.

UNIT II - SAMPLING DISTRIBUTION AND ESTIMATION

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Introduction to sampling distributions, sampling distribution of mean and proportion, application of central limit theorem, sampling techniques. Estimation: Point and Interval estimates for population parameters of large sample and small samples, determining the sample size.

UNIT III - TESTING OF HYPOTHESIS - PARAMETIRC TESTS

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Hypothesis testing: one sample and two sample tests for means and proportions of large samples (z-test), one sample and two sample tests for means of small samples (t-test), F-test for two sample standard deviations. ANOVA one and two way.

UNIT IV - NON-PARAMETRIC TESTS

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Chi-square test for single sample standard deviation. Chi-square tests for independence of attributes and goodness of fit. Sign test for paired data. Rank sum test. Kolmogorov-Smirnov – test for goodness of fit, comparing two populations. Mann – Whitney U test and Kruskal Wallis test. One sample run test.

UNIT V - CORRELATION AND REGRESSION

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Correlation – Coefficient of Determination – Rank Correlation – Simple Regression – Estimation of Regression line — Method of Least Squares – Standard Error of estimate.

TOTAL: 45 PERIODS

OUTCOME:

- To facilitate objective solutions in business decision making under subjective conditions.

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1. Richard I. Levin, David S. Rubin, Statistics for Management, Pearson Education, 7th Edition, 2011.
2. Prem. S. Mann, Introductory Statistics, Wiley Publications, 2013.
3. Srivatsava TN & ShailajaRego, Statistics for Management, Tata McGraw Hill, 2008.
4. Ken Black, Applied Business Statistics, 7th Edition, Wiley India Edition, 2012.
5. Anderson D.R., Sweeney D.J. and Williams T.A., Statistics for business and economics, 11th edition, Thomson (South – Western) Asia, Singapore, 2012.
6. N. D. Vohra, Business Statistics, Tata McGraw Hill, 2012.