

Business Analytics

Course Objectives

This course offers a perspective to the business needs and trends in analytics space. The objective of the course is to assist the student in gaining a basic understanding of Business Analytics and its application in various functional areas.

Syllabus

Introduction to business analytics, financial analytics, supply chain analytics, HR analytics, marketing analytics, web analytics, predictive analytics and applications of analytics in other business areas

Expected Outcome

1. Acquire knowledge of Business Analytics terminologies and concepts 2. Understand and gain familiarity on the application of business analytics 3. Acquire knowledge on the tools and technique to answer business questions 4. Understand how to draw meaningful conclusions to business problems using analytics

References

1. Evans, J.R. (2013), Business Analytics: Methods, Models, and Decisions, 3rd ed. Pearson India
2. Malhotra, N.K. and Dash, S. (2011), Marketing Research, 6th ed. Pearson India
3. Baesens, B., Vlasselaer, V.V. and Verbeke, W. (2015), Fraud Analytics Using Descriptive, Predictive and Social Network Techniques, 1st ed. Wiley India
4. Prasad, R.N. and Acharya, S. (2011), Fundaments of Business Analytics, 1st ed. Wiley India
5. Davenport, T.H. and Harris, J.G. (2007) Competing on Analytics: The New Science of Winning, 1st ed. Harvard Business Review Press
6. Damodharan, A. (2007), Strategic Risk Taking, 1st ed., FT Press
7. Davenport, T.H., Harris, J.G., and Morison, R. (2010), Analytics at Work: Smarter Decisions, Better Results, 1st ed.
8. Raman, A & Fisher, M. (2010), How Analytics Are Transforming the Supply Chain and Improving Performance, 1st ed. HBS Press
9. Fitz-enz, J. (2010), The New HR Analytics: Predicting the Economic Value of Your Company's Human Capital Investments, 1st ed., American Management Association
10. Peterson, E. (2004), Web Analytics Demystified: A Marketer's Guide to Understanding How Your Web Site Affects Your Business, 1st ed. Celilo Group Media & Café Press

11. Lilien, G.L. and Rangaswamy, L. (2004), Marketing Engineering: Computer Assisted Marketing Analysis and Planning, 2nd ed. Revised, Trafford Publishing.

Course Plan

1 Introduction Introduction to Business Analytics, evolution and scope, business analytics process, decision models. Introduction to spreadsheets, spreadsheet functions, spreadsheet modeling overview. Datasets, data cleaning, missing data handling, outliers. Data Visualization – charts and graphs, data queries – sorting and filtering, summarizing data – frequency, relative frequency, histograms, percentages and quartiles, cross tabulation, pivots.

2 Financial Analytics and Operations Analytics Understanding Risk, credit risk analysis, fraud detection and prevention analytics, analytics in banking and financial services - analytics in retail banking and wealth management Demand Planning – Forecasting Model building, Supply planning - Procurement and Strategic Sourcing, Inventory Modeling - Aggregate planning and resource allocation decisions, Make/Buy decision

First Internal Examination

3 Human Resource Analytics Recruitment Analytics, On Boarding Analytics, Staffing Analytics, Performance & Skill Gap Analytics, Compensation & Benefit Analytics, Training & Learning Analytics, Promotion and Succession Planning Analytics, Compliance Analytics, Attrition & Retention Analytics

4 Marketing Analytics Basics of marketing analytics, marketing decisions models, characteristics, types and benefits of marketing decisions models, Segmentation using factors analysis and cluster analysis, regression and choice based segmentation, positioning - perceptual maps: developing perceptual map, multi dimensional scaling

Second Internal Examination

4 Web Analytics Click stream analytics, engagement quantification frameworks, anonymous vs. registered users analysis, Social Media Analytics - User generated content - Sentiment Analysis-Analytics in digital decoding consumer intent, decoding customer sentiments from comments, Text mining from opinion platforms

5 Predictive Analytics and Application of Analytics in Business Logic driven predictive models – single-period purchase decisions, multiple time period models, overbooking decisions, Data Driven predictive models - retail pricing markdowns, modeling relationships and trends Models involving uncertainty - what-if analysis, scenario manager, goal-seek Applications in other business areas - Analytics in telecom and location based intelligence marketing, analytics in consumer packaged goods (CPG), analytics in utilities, analytics in healthcare, analytics in online retail

Final Examination