Essential Business Data Analysis

KCI
Knowledge Consultants Incorporated

Analytics For Business Decisions

The understanding of any enterprise and the basis for many decisions revolves around a basic understanding of the data involved. The acquisition, analysis, aggregation, presentation and interpretation of data are crucial to the effective and efficient running of the enterprise. Whether the purpose is o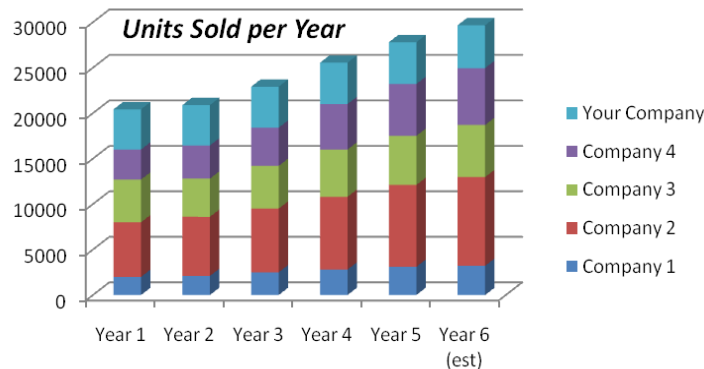perational performance, enterprise performance, financial analysis, competitive analysis, strategic direction setting or data for outside decision making of partners and customers the delivery of that data links the success of the business with the management. Understanding the basis and impact of decisions is crucial to improving enterprise performance.

This seminar is intended for people who want to put the ideas and concepts of data analysis and interpretation into effective use in their enterprise. Concepts of corporate measures such as critical success factors, key performance indicators and sensitivity analysis are also covered.

Further, the methods needed to make these ideas practical are discussed in exercises. Concepts such as measures development, statistical interpretations, strategic data analysis, business intelligence and scenarios are discussed along with newer techniques such as tornado diagrams for sensitivity and text mining. Techniques such as decision mapping are introduced as the context for decision-making and measures.

Linking business performance measures with technology is critical to the success of any data analysis approach and the ability to deliver results. The concepts of data analysis demand a competent technological infrastructure for enablement. Demonstrations of various tools used for data analysis are demonstrated to emphasize the techniques in the lectures.

Units Sold per Year — Your Company, Company 4, Company 3, Company 2, Company 1 (Year 1 – Year 6 (est))

Learning Outcomes

⇒ Apply statistical techniques in a constructive manner to improve operational understanding

⇒ Illustrate the relationship between decisions and data

⇒ Interpret how data analysis and business performance are related through measures

⇒ Design methods that analyze operational performance

⇒ Demonstrate how to use data to help understand and manage the business on a strategic level

⇒ Use that data to compare yourself to competitors and other companies

⇒ Define how uncertainty can be incorporated into decisions

Statistical Techniques, Manipulating data

Introduction – Data Analysis in the Enterprise

- Course Objectives and Structure
- About Data Analysis
- Business Measures for Performance
- Data Analysis Solutions
- Basic Data Analysis Concepts

Demonstration – Simple Data Delivery Tools

Core Statistical Techniques

- Statistical Thinking - Applying Statistical Concepts
- Using Data Effectively
- Data Analysis Techniques
- Estimating and confidence intervals
- Analysis of Variance of one and two variables
- Pattern Analysis of Data

Exercise – Identifying Business Measures of Value

Analyzing the Business with Numbers

- Issues in business data quality and availability
- Time series data
- Frequency analysis
- Populations and samples
- Types of regression
- Understanding regression techniques
- Interpreting regressions in the business
- Logistic regressions
- Understanding correlation techniques
- Interpreting correlations for the business

Exercise – Correlation and Regression Analysis

The Big Picture — Enterprise View

Strategic Enterprise Direction and Data Analysis

- Strategies and performance
- Models for Measurement
- Techniques of aggregating data
- Comparative analysis
- Strategy maps - Linking operational data with strategies
- Competitive analysis
- Issues in external data

Exercise – Creating a Strategy Map

Enterprise Performance Management – Measuring Business Activities

- Critical Success Factors
- Performance indicators
- The key indicators approach—KII, KRI, KPI
- Dimensionless indicators
- Vertical versus horizontal approaches such as business intelligence
- Process Performance
- Analytic workflows for aggregation

Exercise – Analytic Workflows plus Comparative Balanced Scorecard Analysis

Methods of Productivity Analysis

- Productivity of an organization
- Productivity in service organizations
- Output measures of productivity
- Throughput measures
- Productivity and work measurement

Exercise – Calculating Productivity

Demonstration – Strategy Mapping
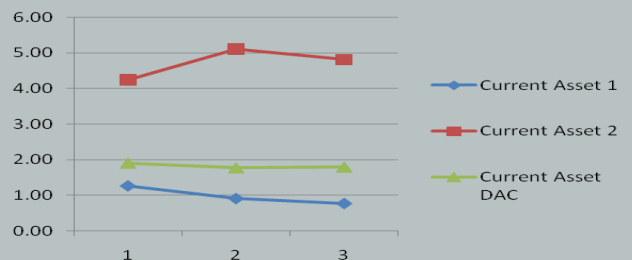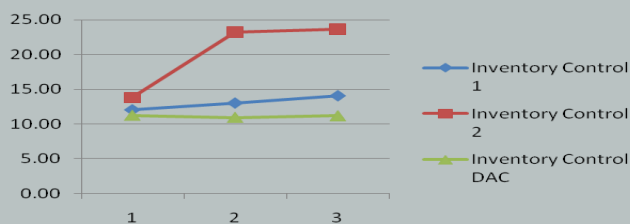
Analyzing Alternatives - Essential Decision Making

Decision Making Under Uncertainty Techniques

- Uses of uncertainty analysis
- Random Variables
- Discrete Events
- Simulation
- Forecasting
- Decision Trees
- Optimization

Exercise – Optimizing Product Mix

Tornado diagrams

- The concept of sensitivity and decisions
- Methods of sensitivity analysis
- What is at Tornado diagram?

- Determining the sensitivity factors
- Ranking sensitivity to create the diagram

Exercise – Analyzing sensitivity to risks

Data Mining – Looking for the Few Gems in the Pile

- Finding patterns in data
- Interpreting the results
- Issues in data access quality
- Presenting alternatives
- Using neural nets for patterns & forecasting

Demonstration – Neural Nets and Interpretation

Tornado Diagram

Typical profit based tornado diagram
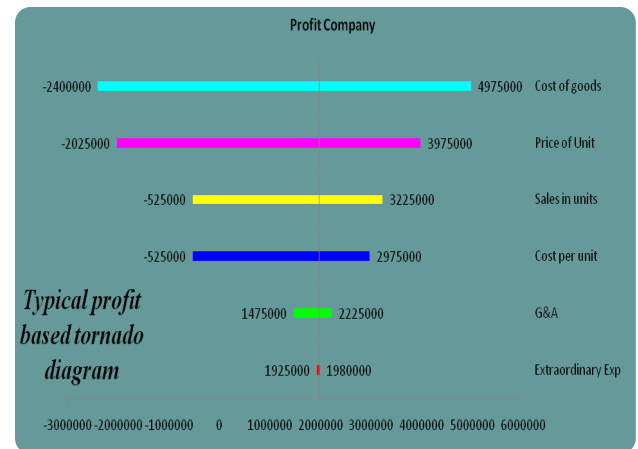
Applied Data Analysis – Typical Uses of Analysis

Marketing Data Analysis – Competitors, Consumers and the Economy

- Market share analysis
- Consumer buying and affinity analysis
- Competitive comparative analysis
- Projections and Forecasts
- Profit impact of market share
- Econometrics ideas

Demonstration – Consumer Buying Behavior – Affinity Analysis

Operational Data Analysis

- Process versus workflow analysis
- Statistics and Performance
- Benchmarking operations
- Quality - Control Charts and How to Use Them
- Inventory analysis
- The Value of Historical Data

Exercise – An Inventory Management Problem

Predictive text analysis

- What is predictive text analysis?
- Where do you use it?
- Getting the data
- Categorizing the results
- Interpreting what you have

Wrap and final questions

Demonstrations and Exercises let you apply the theory you learn in practical ways!

Who Should Attend?

This course is for business analysts, executives, financial analysts, planners, process analysts, operational analysts, auditors that are doing operational analysis, engineers that do project planning and analysis of alternatives and managers who are involved with quantitative decision making.

Knowledge Consultants, Inc. is a professional services firm founded in 1984. KCI provides consulting and professional education services. With over 30 courses taught worldwide, KCI provides the opportunity to develop core strengths in the following certification areas:

- Process Management
- IT Management
- Business Performance Management
- Business Analysis
- Analytical Techniques for Business
- Business and IT Architecture

KCI has expanded its training and consulting efforts internationally into Europe, Southeast Asia and the Middle East. KCI has an outstanding list of current and past clients including many of the Fortune's 100 companies.

KCI
PO Box 7286
Libertyville, Illinois 60048 USA

Phone: 847-543-1225
Respond@knowledgebiz.com

www.knowledgebiz.com

We're on the web:
Knowledgebiz.com

Meet the Expert - Frank Kowalkowski

Frank Kowalkowski is President and CEO of Knowledge Consultants Inc., a professional services firm founded in 1984 with practice areas in knowledge management, business intelligence, and performance, business and system architectures, application design and development and supply chain Management.

With more than three decades of management consulting and industry experience under his belt, Frank's spectrum of expertise mainly lies in manufacturing, distribution, insurance, financial services and the public sector. He has also played key roles in a

wide range of projects, including e-Commerce, Application Integration, ERP and Supply Chain Management Knowledge Management, Artificial Intelligence, Benchmarking, Business Performance Measurement, Business and Competitive Intelligence, Data Warehousing, Technology Deployment, and Process Improvement.

Prior to his presidential post at Knowledge Consultants, Inc., Frank was the Director of Consulting for the Spectrum Group, responsible for reengineering consulting, process improvement and operational systems consulting. His engagements also included senior management presentations, audits, assessments, organizational studies, methodology development and implementation.

In addition to being a keynote speaker at international conferences as well as a conference chair, he has

written numerous papers and spoken at conferences on a variety of subjects such as technology forecasting, process analytics and management, business analysis, management disciplines, and enterprise performance management.

Frank is also the author of a 1996 book on Enterprise Analysis and over 70 papers. He is currently working on a BPM book for managers and a new edition of the enterprise analysis book.

Frank focuses on training and consulting efforts internationally in regions such as North America, Europe, Southeast Asia and the Middle East. He has an outstanding list of current and past clients including many of the Fortune's 100 companies.