SCM 651: Business Analytics

WEEK 6

Agenda

Welcome/Polls

Homework #2: discussion

Homework #3: overview

Review of concepts

Group discussion of articles

Wrap up/upcoming assignments

Homework #2

Campaign time frames, costs, effectiveness

Future campaign: geographic regions, key words, day of week and time of day

Allocation of costs by program and region

Performance measures

Other data that would be helpful

Homework #3

1. Graph, regression, calculated sales, revenue, profit
2. Constrained optimization
3. Discussion of risks, other data which would be valuable

Week 6 - Review

Goal Seek

- Searches for one goal such as break even point (profit = 0)
- Allows one variable to be changed in search of the goal
- Does not allow constraints on the search

Week 6 - Review

Unconstrained optimization

- Does not constrain any variables in the search
- Can search for maximum, minimum, or specific values
- Can use linear programming (straight line functions) or non-linear programming (curved functions)

Valuable functions: Sumproduct

- Multiplies rows or columns together, than adds result

Constrained optimization

- Can set variables to less than or greater than some constraint
- Can set variables to be integer or binary

Article #1: Modern Analytics and the Future of Quality Performance Excellence

Modern Analytics and the Future of Quality Performance Excellence

- Define analytics (page 6)
- How are companies using analytics in (page 7):
  - Banks
  - Manufacturing
  - Retail
  - Pharmaceuticals
  - Sports
- Modern analytics integrates which three fields (page 8)?
- What are some examples of data sources (page 9)?
- What are examples of data visualization (page 11)?

Modern Analytics and the Future of Quality Performance Excellence

- Define analytics (page 6)
  - “a process of transforming data into actions through analysis and insights in the context of organizational decision making and problem solving”
  - “the use of data, information technology, statistical analysis, quantitative methods, and mathematical or computer-based models to help managers gain improved insight about their business operations and make better, fact-based decisions”

Modern Analytics and the Future of Quality Performance Excellence

- How are companies using analytics in (page 7):
  - Banks: prevent fraud
  - Manufacturing: production planning, purchasing, inventory mgt
  - Retail: recommend products and optimize marketing promotions
  - Pharmaceuticals: get drugs to market more quickly
  - Sports: determine game strategy and optimal ticket prices

Modern Analytics and the Future of Quality Performance Excellence

- Modern analytics integrates which three fields (page 8)?
  - Business intelligence/information systems
  - Statistics
  - Quantitative methods/operations research
- What are some examples of data sources (page 9)?
  - Supermarket scanners
  - Click streams from the web
  - Customer transactions
  - Email, tweets, social media
- What are examples of data visualization (page 11)?
  - Dashboards and scorecards

Article #2: A Process of Continuous Innovation: Centralizing Analytics at Caesars

A Process of Continuous Innovation: Centralizing Analytics at Caesars

- Why does Caesars use analytics (pages 1 & 2)?
- What are four lessons learned from their experience (page 3)?

A Process of Continuous Innovation: Centralizing Analytics at Caesars

- Why does Caesars use analytics (pages 1 & 2)?
  - Create a rich customer experience
  - Marketing based not only on their preferences but on their actions
  - Gaming analytics, revenue management, finance, marketing analytics, hotel operations and labor
- What are four lessons learned from their experience (page 3)?
  - Sense of scale
  - Adequate infrastructure
  - Communications with stakeholders
  - Visible and meaningful wins

Upcoming assignments

1. Homework –

Homework #3 due before live session #8

Submissions instructions:

a) Each team member submits the same team documents in the 2SU site: MS Word homework assignment

b) One team member emails a copy of the team assignment (MS Word and Excel document) to lflee100@syr.edu noting both the team name and day/time of class

2. Hands-on: Week 7 online materials

R: Statistical Analysis – Section 7.3 provides downloading instructions, website is: https://cran.r-project.org/

Complete before our next live session