

SCM 651: Business Analytics

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Week 2

Agenda

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- Google Analytics Access
- Teams
- Homework #1
- Review of concepts
- Group discussion of articles
 - Sustaining an Analytics Advantage
 - Creating Business Values with Analytics
 - Raising the Bar with Analytics

Google Analytics, Team Formation & Homework #1

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- Google Analytics
 - An account will be set up with your access
 - You will receive an email when your access is authorized
- Teams
 - Form teams of 4-5 students each
- Homework #1 – Pivot Tables & Charts, Correlation, Regression
 - due before class in Week 4 live session

Week 2 - Review

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- NPV
 - Calculates today's value of a cash flow stream
 - Investments are entered as negative numbers
- IRR
 - $IRR > \text{interest rate} \rightarrow \text{positive NPV}$
 - $IRR < \text{interest rate} \rightarrow \text{negative NPV}$
- Statistics
 - Skewness: curve is shifted left or right
 - Kurtosis: curve is peaked higher or lower

Week 2 - Review

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- Correlation
 - Strongest (highest positive or negative correlation): INTC & MSFT = 0.39
 - Weakest (closest to zero): CAT & MSFT = 0.08
- Correlation versus regression
 - If one variable changes, does the other variable go up or down? (correlation)
 - If one variable changes, how much does the other change? (regression)

Week 2 - Review

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- Regression Example
 - Fixed Costs
 - Measured by intercept
 - Variable costs
 - Measured by coefficient of variable
- Exponential regression
 - Compounded growth
- Power regression
 - Learning curve or volume efficiencies

Week 2 - Review

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- Multivariate regression (multiple X variables)
 - T-statistics measures the significance of one coefficient
 - F-statistic measures the significance of the entire equation
 - R^2 measures the goodness of fit of the equation, i.e., how much of the change in Y is explained by changes in X
- Seasonality (check answer)
 - Periodicity of 4 - quarterly
 - Periodicity of 12 - monthly
 - Periodicity of 52 - weekly

Article #1: Sustaining an Analytics Advantage

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- Sustaining an Analytics Advantage
 - What are some examples of creating competitive advantage with analytics (companies and their techniques)?

Article #1: Sustaining an Analytics Advantage

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- Sustaining an Analytics Advantage
 - What are some examples of creating competitive advantage with analytics (companies and their techniques)?
 - Wal-Mart: keep analytics techniques secret (consumer choice and human resources)
 - ABB: implement analytics fast (customer choice)
 - Procter & Gamble: apply to the right problem (reengineer the supply chain)
 - American Airlines (Sabre): data is more important (schedules)
 - Amazon: become data driven (algorithms)

Article #1: Sustaining an Analytics Advantage

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- Sustaining an Analytics Advantage
 - Analytics does not provide a sustainable competitive advantage
 - Analytics capability to change and innovate does provide a sustainable competitive advantage
 - Analytics is becoming a competitive necessity; ATM machines were initially a competitive advantage, now are a competitive necessity
 - ATM: Barclays Bank, London, 1967
 - ATM: Chemical Bank, Rockville Centre, New York, 1969

Article #2: Creating Business Value with Analytics

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- Creating Business Value with Analytics
 - What are the differences between competencies in information management and analytics expertise?
 - What are the advantages of starting with each?

Article #2: Creating Business Value with Analytics

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- Creating Business Value with Analytics
 - What are the differences between competencies in information management and analytics expertise?
 - Information management: develop enterprise wide data systems
 - Analytics: developing functional expertise
 - What are the advantages of starting with each?
 - Information management: break down cultural barriers, leverage customer focused data (expand sales)
 - Analytics: leverage algorithms to optimize activities (order placement, fulfillment, shipping, delivery)

Article #3: Raising the Bar with Analytics

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- Raising the Bar with Analytics
 - What new opportunities did StyleSeek and Entravision encounter when they used analytics?
 - What opportunity allowed MillerCoors to create efficiencies with analytics?

Article #3: Raising the Bar with Analytics

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- Raising the Bar with Analytics
 - What new opportunities did StyleSeek and Entravision encounter when they used analytics?
 - StyleSeek: sold their technology to partners
 - Entravision: expanded beyond media spots to information services for the Latino market
 - What opportunity allowed MillerCoors to create efficiencies with analytics?
 - MillerCoors: applied analytics to identify efficiencies with the joint venture