



Kellogg

DECS 915: ANALYTICAL CONSULTING LAB

Department of Managerial Economics and Decision Sciences
Kellogg School of Management • Northwestern University

Russell Walker, Ph.D.
SPRING 2012

ANALYTICAL CONSULTING LAB CANDIDATE PROJECTS SPRING 2012

Welcome to the Analytical Consulting Lab!

In the following pages, you will find candidate projects from sponsoring companies under the Analytical Consulting Lab (DECS 915) for SPRING 2012.

The projects listed include working with actual company data, developing meaningful analytical models for managerial decision-making, and presenting results and recommendations to company executives. Most projects will require some level of Non-Disclosure Agreement (NDA) with the sponsoring company.

More information about the class can be found at its website:

<http://kellogg.northwestern.edu/faculty/walker/htm/acl/>

Please feel free to contact me at

847 467 2148 or russell-walker@kellogg.northwestern.edu
with any questions and interest

Thanks for your interest.

Russell Walker, Ph.D.
Associate Director of the Zell Center for Risk Research
Kellogg School of Management
Northwestern University



ELEMENT BARS
WWW.ELEMENTBARS.COM

About

We are a custom energy bar company located in Chicago. This means that at <http://www.ElementBars.com>, customers can create their own custom energy bar by selecting from all natural and organic ingredients and then naming their own bar. Our whole food ingredients are carefully handpicked and kept as nature intended. Then we hand make our bars using the ingredients our customers choose, bake them in our ovens and deliver them freshly baked from our ovens to their doors.

The Founder and CEO Jonathan Miller and VP of Marketing Prasanthi Gandhi are both Kellogg alums from the Class of 2008. They have worked with several students from Kellogg – including hiring summer interns and serving as clients for other class projects.

The Analytical Consulting Lab provides another great opportunity to provide students with rewarding experiences while allowing Element Bars to leverage student skills. Below are 3 projects of interest.

Project 1

In addition to custom bars, we recommend ‘our favorite recipes’ to customers. These are bars that are pre-made and proven in taste and nutrition. We would like to revise ‘our favorites’ using a data driven approach. The main question to be answered is ‘what favorite recipes are recommended for our customers and what simple changes in ingredients can be made to the favorite recipes to also have greatest appeal to our customers’? The recommendation should be based on both customer interest and cost of ingredients. Additional sub-questions are provided below:

- What flavors are customers asking for in their bars?
- What ingredients drive repeat rate and do not drive repeat rate?
- What ingredients cluster together?
- What core + ingredients are being requested by customers?

The data we can provide includes shopping cart, ingredients/bars purchased, price of ingredients, and customer ratings.

Project 2

Besides building a custom bar from scratch, customers can take a quiz and be matched up to a bar. We are interested in analyzing how customers have responded to the quiz, if they have purchased, what their satisfaction with the product was, and if they turn into repeat customers.



Kellogg

DECS 915: ANALYTICAL CONSULTING LAB

Department of Managerial Economics and Decision Sciences
Kellogg School of Management • Northwestern University

Russell Walker, Ph.D.
SPRING 2012

The data we can provide includes purchase behavior, quiz answers, and customer feedback.

Project 3

In our research we found that guidance is a critical service we need to provide to our customers. As such, we are interested in building out taste guidance on our website. This can be done by providing suggestions based on similar customer profiles. These suggestions can then be offered as customers are adding ingredients into their cart or as part of our pre-made bar creations.

We need to know what are the different customer profiles and what kind of taste suggestions can we offer new and existing customers.

The data we can provide is customer research on texture, taste and nutrition.

Students may also work on aspects of these three projects.



**NORTHSHORE HOSPITAL
THE NORTHSHORE CENTER FOR SIMULATION AND INNOVATION
WWW.NORTHSHORE.ORG**

About

The NorthShore Center for Simulation and Innovation (NCSI) at NorthShore University HealthSystem in Evanston, IL. recently expanded its simulation center to 13,000 square ft including 7 simulation rooms (2 fully operational trauma rooms, 3 patient rooms, and 2 operating rooms) and a surgical lab for advanced surgical training.

Our center is now in the top 5% nationally in terms of size for hospital-based simulation centers (ie not based directly on the campus of a medical school university campus) and our learner throughput is likely in the top 1% as we have 400-800 learners come through our center on any given month. We are multidisciplinary in nature with attendees from nursing, pre-hospital, medical students, residents in various fields, and attending physicians. As an institutionally based simulation center, our audience focuses more on "adult" learners (ie current practitioners - physicians and nurses) more than university-based medical school simulation centers who focus more on medical students and nursing students.

As such, we are interested in quantifying the following metrics:

- 1) What is the overall benefit (monetary, risk reduction, indirects) of our simulation training to our practitioners and other external learners? We want to show that our work justifies the investment of the time and money the hospital put in to the infrastructure of the physical plant and the ongoing human capital expenses required to run the facility. We also want to know what the risk reduction (medical malpractice, medical error) effect is. We want to determine how much more it would cost the institution to send our practitioners elsewhere to obtain the same type of learning that they receive in our sim center.
- 2) Develop several methods for quantifying effects of training and propose areas of investigation.
- 3) Identify areas for growth using our simulation center.

We would like to thank and acknowledge Mr. Joel Friedman who has been of tremendous support over the years and provided the impetus for this project.

Here is a video of our simulation center and a link to our center so that you can see what we do. The student team is expected and encouraged to visit the center in Evanston to learn more about this leading simulation center..

<http://vimeo.com/33200728>

<http://www.northshore.org/academics/Center-for-Simulation-and-Innovation/>

This project is sponsored by Dr. Ernie Wang, MD, director of the center.



SHORT HOP

START-UP JET SERVICE

Candidate Project

Background

Short Hop will offer the lowest-cost private aviation jet service available to businesses and individuals in Chicago and surrounding communities in the Midwest (over time, the business will expand nationally). The service will be provided with the Eclipse twin-engine jet, a four-seat aircraft that flies at the same speed and altitude as large airliners and has a range of about two hours (900-1100 miles). Clients will pay an initial fee, and an hourly rate for every trip; prices for each will be set based on how many hours they intend to use the aircraft each year.

We expect our clients to use the aircraft for travel (1) between congested markets (e.g., Chicago-New York) where commercial service today includes extensive delays and unpredictability, and (2) to and from areas without any commercial service (e.g., rural Iowa), where travel today includes costly and lengthy driving trips or a combination of flying and driving. (In most cases, general aviation airports will be nearby rural destinations).

In the former category, clients can expect door-to-door travel time to be about half that of commercial service; in the latter, time saving could exceed 70%. In both cases, trips that today require an overnight stay will usually be completed same-day at the client's discretion.

Relevance of this Task to Investors/Acquirers

The goal is to sell the business within 5 years to a strategic or financial buyer. We have developed the economic model and the forecasts to generate EBITDA levels that will be of interest to institutional investors. There are precedents for acquisitions in the space; in recent years Flight Options and Marquis were both sold for significant multiples of EBITDA.

This project should result in the development of an analytical framework for operations planning and the testing of key assumptions about our dominant cost driver: the number of aircraft in our fleet. This analysis is critical to our ability to grow and is of great interest to our partners and investors.

The work we undertake in this task will include intense focus on how to appeal to private equity and venture investors; how to develop a compelling pitch, economic proposition, and deal terms.

Value Proposition

Short Hop's value proposition for clients falls, broadly speaking, into two categories that align with the trip types described above.



1. We are offering private aviation tailored to one's travel needs at 30% below comparable products offered by other leading card providers like NetJets, Flight Options, FlexJet, Citation Shares, etc.
2. We are enabling clients to complete certain trips with nonstop, close-in service that today would only be achievable using a more-expensive private aviation alternative.

Project #1: TASK: OPERATIONS PLANNING

Students will have access to the business plan, included planned pricing and terms for all products.

Task Description

The acquisition, ownership, and operating costs of Eclipse aircraft are of course the key drivers of Short Hop's price advantage over its competitors. However, to sustain and grow our margins while maintaining the planned pricing program, we must become expert at deploying our fleet. This challenge will become more complex and more important as the business grows. There are four key parameters to managing the cost of fleet deployment, as follows:

1. **Deadhead** – these are flight segments that have no passengers onboard and that are operated to reposition aircraft (for example, if a client is staying at her destination for 3 days, we'll bring the aircraft back to Chicago to serve other clients and then fly it back 3 days later to pick up our client). While we can't control how our clients fly, we have to work strategically to minimize deadheads.
2. **Excess Charter** – these are flights for which Short Hop must charter aircraft outside of our fleet because all other airplanes are deployed for other clients. Typically, the excess charter rate far exceeds our normal operating costs. We must minimize the number of excess charter hours.
3. **Crew** – while Short Hop will outsource all flight crew from our operating partner (see business plan for more detail), we can expect to pay for more than 2 crew per aircraft in the fleet (crews are limited in the number of hours per day and days per week they can fly) and for more than just the hours we utilize the crew (because our operating partner must retain them on a full-time basis, we have to contribute a portion of that cost). We must ensure we always have 2 crew available for each flight while minimizing the time and money spent moving crew on commercial flights, money spent on overnights out of town, "excess" crew, etc.
4. **Maintenance Downtime** – our model is conservative about the number of hours each aircraft can be in service each year, which means that we should be able to match the number of aircraft with likely demand pretty well. However, we have to plan ahead as much as possible for maintenance events that cause aircraft to be out of service for hours, days, or weeks so that we minimize costs in the first three categories as much as possible.



While it is difficult to predict with precision actual or target metrics in each of these categories, Short Hop requires a sophisticated model to support planning, marketing, and capital raising efforts.

The task is to build a forecast model that tracks each aircraft each day based on a set of dynamic assumptions and helps us make key operational and financial decisions. For example, we have assumed for financial modeling purposes that each aircraft can only serve one client per day (on one, two, or three, etc. flight segments). With such an assumption in place, we can work to minimize the deadhead rate, perhaps by having an aircraft returning from Washington with client #2 take client #3 to Detroit before heading back to Washington empty to pick up client #1.

Project #2: CLIENT TARGETING

Students will have access to the business plan, included planned pricing and terms for all products.

Task Description

Each client will spend close to or more than \$100,000 per year with Short Hop (and in some cases, several times that amount). Therefore, we can expect, and should plan for, a close rate of 1% or less. This means for every 100 targets we approach, only one will become a paying client. To achieve our year-one target of 35 clients, we need a lead list of 3500 businesses and individuals. Our targeting framework should include, but will not be limited to, the following elements:

- Client profile – Chicago-area businesses with operations throughout the Midwest of course represent a key population. In addition, high-level executives at firms who use private aviation on a limited basis or not at all, such as law firms and consulting firms, are another.
- Data sources – what organizations and databases must we access to start building our lead list? Crain's Chicago Business publishes numerous lists about the Chicago business community, but much deeper analysis of the companies and individuals shown is required.
- Marketing plan – how will we spread the word about Short Hop (assuming a limited, start-up budget)? Customized mailings, carefully planned telephone outreach, special events (e.g., showing the airplane at the airport, offering demo flights, etc.) and of course in-person meetings will be included, but must be planned strategically and executed carefully.

The task is to develop this framework, execute each of the activities contemplated (and those not yet on the list), and produce a lead list.



**Biography on Justin P. Oberman
Founder of Short Hop**

Justin has 14 years of experience in transportation, including in aviation, trucking, high-speed rail, rail infrastructure, maritime, and logistics, and in homeland security, defense, and finance. This includes senior executive roles in the U.S. Departments of Transportation and Homeland Security, and in the private sector as a management consultant, co-founder of a boutique financial advisory firm, and now as an entrepreneur.

Justin is a Truman National Security Project Fellow and in the Emerging Leaders Program of the Chicago Council on Global Affairs. Justin was a candidate for Illinois State Treasurer in 2010, and a policy advisor to the campaigns of President Obama in 2008 and Cook County Board President Preckwinkle in 2010.

Transportation Entrepreneur. Justin founded and is now raising capital for Short Hop, an air service using Eclipse twin-engine jets. Justin is partnered with the manufacturer, Eclipse Aerospace, Inc., half of whose workforce is in Illinois, and its largest shareholder, Sikorsky Aircraft Company, and will begin offering hourly jet cards in early 2012. Justin is also exploring setting up a digital aggregation service for deadhead legs for private aviation. Justin is also helping develop an aviation biofuels infrastructure for a major US air carrier.

Independent Consultant, 2009-present. Justin provides strategic and financial consulting services to middle market companies and institutional investors in the transportation, homeland security, business aviation, aerospace, and defense sectors. He also serves clients on special projects involving Congress and the Executive Branch.

Other clients (and services) include three government/defense contractors (new revenue opportunities), a \$30B+ hedge fund (strategy and financial modeling for a \$2B portfolio company), private equity funds (buy-side advisory for "363" asset sales), and a regional airline (Federal strategy). NEXA Capital Partners, 2007-2009, co-founder. This boutique financial advisory firm focused on transportation.

Justin and his colleagues reviewed more than 200 business plans, engaged with a dozen clients, and presented to more than 75 institutional investors on capital raising opportunities.
L-1 Identity Solutions, 2006-2007. Corporate Vice President of this \$1B+ public company. Responsible for Federal government strategy and new market development, including working with TSA and the major airlines to design new baggage check-in processes, authoring an M&A strategy for maritime and intermodal facility security, and supporting large-scale Federal revenue priorities.

U.S. Departments of Transportation and Homeland Security, 2001-2005. Justin was a founding member of TSA in November 2001. In July 2003, he created and ran the Office of Transportation Threat Assessment and Credentialing (TTAC) as an Assistant TSA Administrator reporting to the head of TSA. The office had more than 150 employees and 400 contractors, an annual budget of \$150 million, and more than a dozen programs covering more than 5 million transportation workers and travelers. These included Secure Flight, Registered Traveler, TWIC (for maritime), and Hazprint (for hazmat truck drivers).

Justin administered programs required by statute, the 9/11 Commission, and Presidential directive. Responsibilities included daily interaction with the agency's and Department's leadership, as well as



Kellogg

DECS 915: ANALYTICAL CONSULTING LAB

Department of Managerial Economics and Decision Sciences
Kellogg School of Management • Northwestern University

Russell Walker, Ph.D.
SPRING 2012

with policy makers in Congress (including as a testifying witness), the White House, state and local government, industry groups, labor, privacy advocates, foreign governments, and the media. Justin also co-chaired a working group for Secretary Chertoff on DHS reform.

Prior to 9/11, Justin served under DOT Secretary Mineta, performing a financial review of Amtrak and high-speed rail policy.

Arthur Andersen, 1996-2000. Helped establish the aviation practice, becoming one of the youngest managers at the firm. Served clients in the U.S., Europe, former Soviet Union, and Southeast Asia.

THE CHICAGO BEARS
WWW.CHICAGOBEARS.COM**Project Description**

The Fan Marketing and Research department of the Chicago Bears is tasked with strengthening the current fan base of the Chicago Bears as well as building engagement with *growing* fan bases including women, youth and Hispanics. These segments are growing rapidly across the sports landscape, especially in the NFL. The Bears are looking for ways to strengthen the passion and connection these groups have toward the Bears. The goal of these projects is to determine where to best dedicate marketing dollars and resources. How can the Bears grow these fan segments while also increasing revenue opportunities for the team?

Objective 1 (Chicago Bears Women's Initiative):

- What do we know about women and their affinity toward sports? Affinity towards the Chicago Bears?
 - How knowledgeable are women/Bears fans about football?
 - How are women engaged during games (fantasy football, tailgating, X's and O's)
 - How do women differ from our male fan base in how they consume football?
- How can the Bears build a platform where women can engage with the Bears brand?
 - What can the Bears do to increase engagement with the female fan base?
 - Should we consider doing a women's club? What should the Club be called? What does the revenue model look like for such a club?
 - How can we improve the annual Football 101 event ([Football 101](#))?
- Miscellaneous
 - What are other professional sports team doing?
 - What's the best way to communicate?
 - Where to advertise?
 - What are current sponsorship opportunities? Possible collaboration with Bears partners?

Objective 2 (Chicago Bears Hispanic Initiative)

- What do we know about Hispanics and their affinity toward sports? Affinity towards the Chicago Bears?
 - How knowledgeable are Hispanic fans about American football?
 - How are Hispanics engaged during games (fantasy football, tailgating, X's and O's)
 - Do they prefer to watch games in English or Spanish? (i.e. American-born Hispanics)
- How can the Bears build a platform where Hispanics can engage with the Bears brand?
 - What can the Bears do to increase engagement with the Hispanic fan base?
 - How can increased engagement with the Hispanic fan base translate to increased revenue? (Keep in mind that the Bears are currently sold out during the season)

- Should the Bears consider doing a Hispanic/Latino event? If so, what kind?
- What is the best way to market to Hispanic Bears fans?
 - What's the best way to communicate? English? Spanish? Both?
 - Best way to advertise? (i.e. print, outdoor, etc.)
 - Among Hispanics, there are different ethnicities. Is this important when building a marketing campaign?
 - What social networking opportunities are there?
- Miscellaneous
 - What can the Bears do to celebrate Hispanic Heritage Month (September 15 – October 15)?
 - What are other professional sports team doing?
 - What are current sponsorship opportunities? Possible collaboration with Bears partners? Can this initiative be a “sellable” asset for the Bears?

Objective 3 (Chicago Bears Kids Club Initiative):

- What do we know about youth and their affinity toward sports? Affinity towards the Chicago Bears?
 - When did they first become Bears fans?
 - Who are their biggest influencers?
- How can the Bears build a platform where youth can engage with the Bears brand?
 - What can the Bears do to increase engagement with the youth fan base?
 - Should we consider doing a Kids Club? What should the Club be called? What does the revenue model look like for such a club? Should it be free?
 - What about a “Crib Club”?
 - What type of kid-friendly fan events should the Bears consider? (i.e. Halloween Party)
- Kids are increasingly savvy with technology:
 - Should we continue to house a “Kids Zone” on ChicagoBears.com ([HERE](#))? Are there ways to enhance this community?
 - Are there opportunities to use social media?
 - Would young Bears fans use a kid-friendly mobile app?
- The Bears currently have a [Youth Football Initiative](#). How can the Bears incorporate these existing efforts with a youth platform?
- Miscellaneous
 - What are other professional sports team doing?
 - What's the best way to communicate? What legal limitations are there when marketing to kids?
 - Where to advertise?
 - What are current sponsorship opportunities? Possible collaboration with Bears partners?

List of current Chicago Bears partners:**Hall of Fame Partners**

- Chase

- Coca Cola
- Comcast
- Miller Lite
- Motorola
- University of Phoenix
- United

Official Partners

- BP
- Fox Chicago
- Gatorade
- WBBM News Radio
- MasterCard
- Athletico
- NorthShore University Health System
- Ticketmaster
- Prime Sport

Proud Partners

- Subway
- McDonalds
- Hyatt
- Boeing
- Sports Authority
- Chicago Tribune
- Geico
- Palermo's
- Walgreens
- Jewel Osco

This project is sponsored by Scott Hagel, Kellogg alumnus.



DULCE VITA TEQUILA

WWW.DULCEVITATEQUILA.COM

Dulce Vita is a premium organic tequila. It has won many awards for its quality but so far needs to better develop a strategy to grow market share in the competitive spirits market. The project opportunities revolve around developing business entry models that would attract buyers of this brand and or PE investors.

Topic 1

Determine Best Fit for the Brand

- Examine and Measure Distribution synergies
- Potential exit strategy
- Determine optimal partnerships:
- Competitive analysis vis-a-vis other brands
- Portfolio analysis of brand owners

Topic 2

Leverage Market Penetration

- Goal:
- Create unfair advantage for Dulce Vida through technology utilization
- Beginning Premise: Dulce Vida has...
- Brand distinctions
- Quality juice
- Recognized value in the marketplace
- Successful growth story to date
- Our current technology platform/web presence sucks

This project is sponsored by Richard Sorenson, Kellogg alumnus, and successful serial entrepreneur. Dulce Vita is backed by the McCombs family of Texas.

**MICROSOFT LEARNING
WWW.MICROSOFT.COM/LEARNING****Who We Are and What We Do**

Microsoft's Learning Product Group builds innovative learning products that enable customers to make the most of their investments in Microsoft technology. We offer a diverse range of products—including classroom training, e-learning, certification, Microsoft Press books, skills assessments, and more—to serve the needs of customers and partners worldwide. Through cutting-edge technology and world-class training, we provide the tools to help individuals and organizations fulfill their potential.

Certification

Microsoft Certification is the premier credential of IT professionals worldwide. Available for a diverse spectrum of job roles and responsibilities, our certifications validate candidates' ability to successfully perform critical IT functions. Microsoft Learning designs, develops, and delivers these credentials with leading industry partners through a rigorous exam development process. We are committed to keeping up with the latest advances in technology and—with more than 4.5 million Microsoft Certified Professionals worldwide—furthering the expertise of the global workforce.

Resources

- Meet our team and learn more about our mission in this short video:
<http://www.microsoft.com/learning/multimedia/about/MLR-001-Final-800x600.wax>
- Visit our homepage to learn more about our products and offerings:
<http://www.microsoft.com/learning>

Analytics Lab Project Overview:

Microsoft Official Training products and Microsoft Certifications are two distinct, yet integrated revenue streams for Microsoft. Individuals may choose to learn about our platform and technology solutions via myriad ways – on the job experience, free online resources, Microsoft's own official learning product portfolio, or other third party training solutions to name a few. Upon completion of that training, they may or may not choose to validate their knowledge by earning a Microsoft Certification. Further, some individuals choose to attempt certification exams without first beginning a structured training curriculum.

This project is all about identifying key sales drivers and enabling explosive revenue growth for Microsoft. You will be provided with transaction level detail for up to two years of both training and certification product sales data for Microsoft Learning's U.S. market.

Desired Outcomes:

1. Define and quantify the relationship, if any, between Microsoft Certification sales and Microsoft Official Training sales. We aim to understand:
 - a. Can we better predict certification sales as a function of training sales?
 - b. Can we better predict training sales as a function of certification sales?



DECS 915: ANALYTICAL CONSULTING LAB

- c. Initial research indicates the ratio of training volume to exam volume varies widely across our top 51 markets, ranging from 2.81 to 0.08. What market and non-market factors most influence revenue production and in turn, this ratio?
 - d. What advantages exist for a training reseller that concurrently sells certification versus one that sells solely training?
2. Certifications are marketed along logical technology paths and are available for most Microsoft technologies and at all skill levels. Credentials often build upon one another to offer candidates an opportunity to demonstrate advanced levels of proficiency on current version technologies. However, exams are sold individually one exam at a time. If time permits, we aim to understand:
- a. If bundle or subscription pricing presents an opportunity for increased revenues and exam volume.
 - b. Which bundling scenarios present the most lucrative opportunities?
 - c. Can we encourage a greater percentage Microsoft Certified Professionals to remain current with their credentials through an ongoing subscription or bundle offering and how could it be structured?

This project is sponsored by Ryan Danner, Kellogg EMP student, and executive with Microsoft. Ryan is based in Chicago.



THE CME GROUP
WWW.CME.COM

Candidate Project

The candidate project with CME is sponsored by Christopher Mead, Director at CME and Kellogg EMP alumnus and Jake Siddall, Kellogg alumnus. Students may select one of the following projects.

Project Descriptions

1. Modeling an Individual Component:

The goal of this project is to use simulation to replicate the input/output flow of an Electronic Options Matching Engine (a server that takes incoming orders, matches best prices, and post data to the user community). This simulation will mirror that order entry into the options engine and the market data that is disseminated to the world. The goal will be to project the capacity of the single engine with different possible variables that could effect and impact it. Examples of variables are: market dynamics, amount of trade, amount of incoming data, amount of outgoing data, human intervention, etc. The CME goal is to model several engines and optimize output by determining optimum input.

2. Modeling an Entire System:

The goal of this project is to review the model that CME has determined as the optimal model for predicting system capacity increase needs. Specifically, the CME must increase or decrease hardware based on the amount of messages big received and sent on a daily basis. CME has determined a model to guide the increase (we have yet to see a need to decrease) based on historical level increases. This project would involve creating a similar model and using it to test the current model that we are employing. The goal is to confirm or optimize the current model.



CDW
WWW.CDW.COM

Candidate Projects

CDW has many projects available. Teams may select a combination of the below. The projects are sponsored by Maria Sullivan, a Kellogg EMP graduate.

Ideal Book of Business by Segment by Length of Service

Description

CDW's seven marketing segments focus on a specific set of customers. Within those segments, Account Managers generally manage a book of accounts that vary in number, firmographics, and buying patterns. Managing the book of business workload is an ever-changing proposition, and understanding what the ideal book of business "looks" like is critical to meeting customer needs.

Solution Sought

In order to align our selling resources with our customers for the best possible outcomes, CDW would like to develop an ideal book of business by marketing segment and by LOS (CDW selling time in months).

Analytical Tools Likely Required

ANOVA, Optimization, and Multiple Regression Analysis

Account Manager Recruiting Analysis

Description

CDW currently employs approximately 2,500 sales Account Managers. In order to meet our customers' needs, we must continue to attract top talent which is both customer focused and has a passion for sales.

Solution Sought

CDW would like to better understand the competencies, skills, and attributes of the top 25% of Account Managers. This project would look to identify the types of extracurricular activities, education, personality traits, and behaviors that are common in top performers.

Analytical Tools Likely Required

Survey Data Collection and Analysis, ANOVA, Data Mining, Multiple Regression Analysis

Sales Forecasting Process Development

Description



Kellogg

DECS 915: ANALYTICAL CONSULTING LAB

Department of Managerial Economics and Decision Sciences
Kellogg School of Management • Northwestern University

Russell Walker, Ph.D.
SPRING 2012

CDW's sales teams have access to a group of Inside Solutions Architects which specialize by technology area called "practices." For instance, CDW has several ISAs that focus on telephony solutions. In order to manage their workloads and identify trends, CDW would like to develop a more sophisticated forecasting process. This team supports the direct sellers which makes an "overlay" sales forecasting process slightly more difficult.

Solution Sought

Develop a forecasting process that takes into account changes in key performance metrics such as: 1) Practice sales and gross profit 2) invoice count change 3) quote count change 4) CDW overall sales and gross profit and more.

Analytical Tools Likely Required

Time Series Analysis, Monte Carlo Simulation, and Multiple Regression Analysis