Boardroom Analytics
MGMT 5200

Masters of Business Analytics (MSBA)

Albers School of Business & Economics, Seattle University
Spring, 2018

April 4th – June 6th
Boardroom Analytics  
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Faculty: Dr. Rubina’ Mahsud  
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Venue: Pigott 100

Background

My request to you as our second batch of graduating MSBAs’ is to keep sight of wisdom in search of knowledge, to keep sight of knowledge in search of information, to keep sight of information in search of data, and not to lose a sense of larger purpose of serving global society.

Overview

This course is designed using Search Conference Methodology originally introduced by Fred Emery and Eric Trist (1959) in order to address strategy, tactics, and implementation of high level decisions within organizations. Search Methodology Conference is a participative method that enables participants to create a plan for the most desirable future for an organization, a community, or the world. The Search Conference brings to life the concept called open systems suggesting that any system has an open and direct relationship with its larger social system. As graduating MSBAs you should be able to discern meta-level trends and build plans that are executive ready at the tactical level http://www.elementsuk.com/libraryofarticles/searchconference.pdf.

The term system means that any organization, community, or a network that draws a boundary around itself to establish its relationship to its environment. Environment means everything outside the system. It includes all the aspects of global society that are changing fast (technology, information, and communication, etc.) and things that are unchanging such as human needs and aspirations (physical, safety, belongingness, worthiness, and self-actualization). You are called participants of this seminar because you bring relevant knowledge and acquired skills with boundless excitement and energy. You also possess diverse perspectives with different life experiences making the process richer and rewarding to all.

Purpose

The purpose of this seminar is to provide participants with strategic tools, techniques, and skills of analyzing big data to make executive level decisions clear, comprehensive, and practical. The deliverables associated with this seminar will be a real corporate board book that is worthy of distribution to an actual board of directors.

There will be 4 tabs in the board book that will map to each session/module. The content of most sessions/modules is designed in partnership with corporate executives from various companies. Each guest designer will have a tab in the board book. Hypotheses generation, structuring, analysis, and interpretation of the provided content will be your responsibility.

This course will go beyond the typical academic exercise and will tap into and bring in the experience and psyche of the executives. Participants will be placed in the real seat of either the presenter and or the recipient of the data and the actual decision makers, and be exposed to what goes through the mind of executives when they are confronted with the responsibility of data driven decisions.
Learning Outcomes

1. You will be able to discern how executive decision makers use big data.
2. You will synthesize (quantitative and qualitative information) and apply your learned skills to real world scenarios.
3. You will be able to learn communicating your data analysis and results effectively to executive board members.
4. You will leave this seminar with the ability to differentiate yourself from the competition by gaining insights about simultaneously thinking from an analyst as well as strategist mindset – a combination that is rare and highly valued by employers.

Grading Criteria

Boardroom Analytics is designed with practitioner partnership. The academic angle helps participants develop systems thinking reasoning skills around the purpose, questions/hypotheses, pros and cons when preparing mathematical models, generating algorithms for finding solutions to complex problems. It will also prepare you to keep the timeline horizon in mind (short, medium, and long-term) in your decisions.

Exposure to designers helps participants understand the complexity of working for an actual organization, the interrelatedness of issues/problems, the intended and unintended consequences of the data generated solutions, and finally its impact on firm’s financial, customer, employee, and stakeholder constituents. Since it is a partnership based seminar, each session will be graded separately due to the nature of each module addressing a different tab on the board book generated and designed by different designers.

In order to maintain a common theme across the modules below there are some general criteria for grading. These judging criteria may be modified for each module according to the project needs and requirement.

1. Does the team have a coherent/cogent thesis to the issue they are addressing?
2. Do they have enumerating statement/s (providing detail or specificity of the issue)?
3. What options/alternatives have they explored?
4. What final decision the team/individual came up with and why?

Grade Assessment:

*External Project (4x15) – 15% each (60% total)
**Exploratory Presentation – 20%
**Seminar Participation – 20%

*External Project grades will be jointly determined by Professor and a project Designer. Even though each External Project might have another scoring assessment, overall contribution of every project will remain 15%.

** It is critical that you read assigned chapters even if you are not the presenting team. Grade is highly skewed towards discussion. Anyone not contributing to the verbal discussions will impact their final grade negatively.

Readings

Two books need to be purchased – available at SU bookstore.


1. Total of five articles/cases are assigned from Harvard Business School. A course pack is created at HBR. Here is the link: http://cb.hbsp.harvard.edu/cbmp/access/78154179

2. Bring in contemporary news on data and analytics from around the world for enriching discussion.

**Seminar Activities and Deliverables**

This seminar is comprised of two types of activities. One activity will be around meta-understanding of the data and the issues that come with it. The second activity will be around how organizations/analysts think, generate, clean, use, and interpret data. I call the meta-understanding or systems thinking approach an exploratory exercise. Whereas, the second activity I call the experiential exercise where actual data will be used to reach the systems understanding.

**Exploratory Presentations:**

Exploratory exercise will be achieved through presentations by participants divided into teams (3 participants in each). Each team will be assigned 2 chapters—one from each of the assigned books to analyze, synthesize, reflect, relate, and present in two slides only. Based on the same readings, each audience team needs to generate TWO questions for the presenting team. Participation grade will be determined by asking appropriate questions. These presentations will start the second week of the seminar. Each presentation will last for 30 minutes including Q&A. Team formation will be decided during the first class and teams must sit together during the presentations.

**Experiential/Project Presentations:**

Participants will be divided into 5-6 teams in consultation with the designer of each module. Participants will be working on data and problems provided by designers representing industries ranging from online real state, software, retail, sales and marketing, and consulting. For each module participants are expected to work 4-7 hours outside the seminar time. Non-participants are also expected to spend at least one hour researching their questions.

Note: Prior to exploratory presentations, at least **ONE WEEK** in advance, the presenting teams **MUST** meet with the professor to discuss the framework of the topic under research, sources, citations, scope, and presentation guidelines. Bring stories, scenarios, data, statistics, and visuals to your presentation to relate to real-life. The quality of a team presentation will be judged through content, research rigor, reflection, animation, and engagement.

Attendance: I expect each one of you to be present for each module for the following reasons: Firstly, it will reflect poorly on SU if the executives (your prospective employers) come and bring their data to the seminar and instead of seeing you they see empty seats. Secondly, it will affect our chances to get such high profile executives in the future.

Please bring your laptop to each class and if you don’t have one, then let me know in advance to make necessary arrangements.

**Board Book:** This is a **One Page** (500-600 words max.) deliverable that your Project Team needs to submit for every Client project both online and in hardcopy. This one page should comprise of following sections: **Problem Identified**, **Analysis** that describe what model you have use and why you have used those models, **Conclusion** that describes alternative solution options that you have considered and **Final Recommendations**. I expect each team to maintain a client presentable Board Book folder with each company as a tab in that folder.
Tentative Outline

April 4 – Module 1
Strategy & The Systems Thinking

Readings:

Note: We will have: (1) Introductory session (2) syllabus clarification and expectations (3) D r . R . M . Presentation – management and the world work and Strategic Management Process (4) Team Formation (Exploratory Presentations– Team of 3 and External Project and Presentations– Team of 5) (5) breaks, contingencies, and Q&As.

April 11 – Module 1 Cont.
Corporate Environment Analysis

Readings: None

Exploratory Presentation: Team 1 presentation and Q&A (30 mins – 15 mins presentation and 15 mins Q&A)

Note: We will have: (1) Team 1 presentation and Q&A (2) D r . R . M . Presentations – Corporate Environment Analysis (3) breaks, contingencies, and Q&As.

April 18 – Module 2
Positioning Strategies


Designer: Griffin Deebach, Director of Analytics - Triomphe Global Marketing

Exploratory Presentation: Team 2 presentation and Q&A (30 mins – 15 mins presentation and 15 mins Q&A)

Note: We will have: (1) Team 2 presentation and Q&A (2) D r . R M . Presentations – Positioning (3) Griffin Deebach (Project Information – data, scope of work and background) (4) breaks, contingencies, and Q&As.

Project Duration: 1 hour

April 25 – Module 2 Cont.
Data Warehouse Project Report


Designer: Griffin Deebach, Director of Analytics - Triomphe Global Marketing

Exploratory Presentation: Team 3 presentation and Q&A (30 mins – 15 mins presentation and 15 mins Q&A)

Project Description: While other courses in the MSBA program may have discussed the technical aspects of data warehousing, this module will provide the business value proposition of data warehousing. The discussion will cover tangible benefits of data warehousing, such as automated reporting/analytics, as well as intangible benefits such as the value created from having a common “language” about a company’s data. The Designer will give a primer on what data warehousing is, explain some real-life examples of data warehousing success and failures, and cover some
best practices. We will discuss an academic case (Ross, et al.) that supports the Designer’s philosophies on data warehousing. Lastly, we will work through an in-class project case based on real Business Analyst scenarios. In the project, we will learn about a company that has good analysts and strong technology, but nonetheless finds themselves with little faith in their data. We will answer the question, why is this happening? The project will allow participants to apply some of the ideas from the primer on data warehousing, and give them a chance to write some SQL in the Periscope Data tool using a very simple data warehouse schema. Each one of you will need to turn in one page reflection on the above case.

Scoring Rubric:

<table>
<thead>
<tr>
<th>Component</th>
<th>% of Grade</th>
<th>Expectation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ross, et al.</td>
<td>30%</td>
<td>One page or more with 5 thoughts about the case. Individual assignment.</td>
</tr>
<tr>
<td>Task 1 – In class case *</td>
<td>20%</td>
<td>5 reasons. One page handed in as team. Bullet points are acceptable.</td>
</tr>
<tr>
<td>Task 2 – In class case *</td>
<td>30%</td>
<td>Everyone should get the same numbers for this one as in Exhibit I.</td>
</tr>
<tr>
<td>Task 2 – In class case *</td>
<td>20%</td>
<td>Numbers do not matter for these, just show some curiosity with the tool.</td>
</tr>
</tbody>
</table>

* These tasks may not make sense until in class case is presented. This is by design.

Project Duration: 2 hours

May 2 – Module 3
Vertical Integration & Diversification

Readings: None

Designers – Chris Heiden, Director of Business Analytics & the Team – Zillow Group

Exploratory Presentation: Team 4 presentation and Q&A (30 mins – 15 mins presentation and 15 mins Q&A)

Note: We will have: (1) Team 4 presentation and Q&A (2) D r. R. M. Presentations – Vertical Integration & Diversification – Contingent upon time (3) Chris Heiden (Project Information – data, scope of work and background) (4) breaks, contingencies, and Q&As.

Project Summary & objectives: A typical way real estate agents begin to interact with Zillow looks something like this: At some point, they will likely search something like “real estate agent advertising” in Google, they’ll see an SEM placement for ZG which sends them to the PA lead form (above), a sales representative will call them directly, and this realtor and ZG are a perfect match. The realtor’s face starts showing up on HDPs all over ZG sites. But stop and imagine the agent experience leading up to the day in which they actually talk to a sales representative...and perhaps the days after their first discussion with a sales representative but before they finally decide to advertise. One agent may submit the lead form (above) multiple times. They may see an advertisement on social media before they are
even conscious of their need to purchase advertising impressions. ZG may send the agent a number of e-mails before and after they fill out the lead form. In short – a prospective PA may interact with ZG marketing and sales many times before a sale is actually made. Certainly each lead form, discussion, e-mail or advertisement view eventually contributes to a sales person’s ability to close the deal with a prospective PA.

**Project Duration:** 1 hour

**May 9 – Module 3 Cont.**  
Sales and Marketing ROI (ZG)

**Readings:** None

**Designers** – Chris Heiden, Director of Business Analytics & the Team – Zillow Group

**Exploratory Presentation:** Team 5 presentation and Q&A (30 mins – 15 mins presentation and 15 mins Q&A)

**Project Description:** Our annual B2B marketing budget is $10 million. We need to drive incremental revenue without increasing the overall marketing budget. How can we do this? Which channels should we spend more on? Which should we cut back? How can we assign credit to each of the different marketing touch points in a way that gives greatest value to the touch points that are most effective at generating sales? If we know how effective each channel is, how do we simulate a redistribution of funds away from less effective channels and towards more effective ones?

**Project Duration:** 2 hours

**May 16 – Module 4**

**Readings:**


**Designers** – Brett Durfee, Director IT Solutions and Brooke Valdez, Director Materials, PACCAR Parts

**Exploratory Presentation:** Team 6 presentation and Q&A (30 mins – 15 mins presentation and 15 mins Q&A)

**Note:** We will have: (1) Team 6 presentation and Q&A (2) Discuss HBR Articles, Provide a PACCAR Overview and Data Walkthrough (Brett Durfee & Team) (4) breaks, contingencies, and Q&As.

**Project Duration:** 2 hour

**May 23 – Module 4 Cont.**

**Readings:**


**Designers** – Brett Durfee, Director IT Solutions and Brooke Valdez, Director Materials, PACCAR Parts

**Exploratory Presentation:** Team 7 presentation and Q&A (30 mins – 15 mins presentation and 15 mins Q&A)

**Project Description:** You are part group of data analysts who work for the PACCAR Parts Materials team, an aftermarket planning team which manages the dealer parts inventory for PACCAR products used in vehicles (brands: Kenworth, Peterbilt and DAF) globally. As a group of data analysts, your jobs are to ensure that all dealer globally have parts inventory on hand to service the vehicle. If the dealership doesn’t have the part in inventory the part has to be delivered within hours to the Dealer using a centralized distribution network. Since all dealers are independently owned, a dealer may sell other trucks products, aftermarket parts and services for competing brands...
There are some common parts that are shared across all brands of vehicles (air filters, lubricants, nuts, bolts, etc.). In addition, the same suppliers used to support the aftermarket are also used in manufacturing new products.

During an economic slowdown which typically increases the demand for aftermarket parts, you establish an improvement process in managing the supply chain and improve your distribution center fill rate. You recently were notified that PACCAR manufacturing build rates are increasing and you want to maintain the improvements in the distribution chain process that you and your team achieved during an economic slowdown. Your job is to use a common set of data to determine options for maintaining a complex network and maintaining or improving fill rates as the manufacturing teams increase vehicle production.

**Project Duration:** 2 hours; Review Team Results

**Readings:**
1. Kim & Mauborgne, “Creating new market space: A systematic approach to value innovation can help companies break free from the competitive pack” (*HBR Jan - Feb 1999*).

**Designer:** Vivek Jain, Principal Product Manager, Amazon

**Exploratory Presentation:** Team 8 presentation and Q&A (30 mins – 15 mins presentation and 15 mins Q&A)

**Note:** We will have: (1) Team 8 presentation and Q&A (2) D r . R . M . Presentations – Blue Ocean Strategy (3) Vivek Jain (Project Information – data, scope of work and background) (4) breaks and Q&As.

**Project Duration:** 1 hour

**June 6 – Module 5 Cont.**
Seller Inbound Forecasting


**Designer:** Vivek Jain, Principal Product Manager, Amazon

**Project Description:** We run a specialized fulfillment program within Amazon that caters to Small and Light products (typically sized less than 6x3x1 in, weighing less than 5oz). Our Sellers span both the US and International and usually send in consignments that are smaller and lighter than full pallet loads using a variety of transportation options. Prior to sending the items, they tell us how many units, packages and SKUs are being shipped to our warehouses, but their lead times to both actually ship the packages to us, and the packages getting delivered to us vary. Objective is to create a model to forecast how many such packages, SKUs and units will hit our warehouses (at a network level) at various forecast time periods (t+2 weeks; t+4; t+8; and so on)?

**Note:** We will have: (1) Review Team Results - Amazon (2) Fun & Reflections (3) breaks and Q&As.

**Project Duration:** 2 hour
Logistics

University resources and policies:
Library and learning commons (http://www.seattleu.edu/learningcommons/): Resources include the Research [Library] Services, Learning Assistance Programs, Writing Center, and Math Lab.

Academic integrity tutorial (https://www.seattleu.edu/academic-integrity/resources-for-students/)

Academic policies (https://www.seattleu.edu/redhawk-axis/academic-policies/): Academic Integrity Policy, Academic Grading Grievance Policy, and the Performance Criteria for the Albers School of Business & Economics Policy.

Disabilities services (https://www.seattleu.edu/disabilities-services/): If you have, or think you may have, a disability (including an ‘invisible disability’ such as a learning disability, a chronic health problem, or a mental health condition) that interferes with your performance as a student in this course, you are encouraged to arrange support services and/or accommodations through Disabilities Services staff in Loyola 100, (206) 296-5740. Disability-based adjustments to course expectations can be arranged only through this process. You are responsible for seeking help in a timely fashion to obtain disability-based adjustments to course expectations.

Datasets: You will be provided with the relevant datasets from each designer. If you would like to incorporate additional datasets, start by looking at Kaggle (https://www.kaggle.com/datasets).

**Exploratory Presentations schedule**

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<thead>
<tr>
<th>April 11 – Team 1</th>
<th>May 9 – Team 5</th>
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<tbody>
<tr>
<td>Book A – Chapters 1</td>
<td>Book A – Chapters 5</td>
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<tr>
<td>Book B – Chapters 1</td>
<td>Book B – Chapters 6</td>
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<tr>
<th>April 18 – Team 2</th>
<th>May 16 – Team 6</th>
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<tbody>
<tr>
<td>Book A – Chapters 2</td>
<td>Book A – Chapters 6</td>
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<tr>
<td>Book B – Chapters 2</td>
<td>Book B – Chapters 8</td>
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<tr>
<th>April 25 – Team 3</th>
<th>May 23 – Team 7</th>
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<tbody>
<tr>
<td>Book A – Chapters 3</td>
<td>Book A – Chapters 7</td>
</tr>
<tr>
<td>Book B – Chapters 3</td>
<td>Book B – Chapters 9</td>
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<table>
<thead>
<tr>
<th>May 2 – Team 4</th>
<th>May 30 – Team 8</th>
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<tbody>
<tr>
<td>Book A – Chapters 4</td>
<td>Book A – Chapters 8</td>
</tr>
<tr>
<td>Book B – Chapters 4</td>
<td>Book B – Chapters 10</td>
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