In 3D
(Data-Driven Decisions)
IDMG Summer School 2012
BPAWG-CAN-CFO-CO-WE-OE-PAR
What if we could **view the University the same way we look at the night sky?**

UCB Organization Structure
bigger dots = more money

**Mapping Relationships between Departments and Vendors** can provide Information about how we buy

UCB Vendor/Department Relationships
bigger dots = more relationships

**Yeah? So what?**

UCB is a large, complex organization. Procurement Services has limited resources to develop relationships to influence procurement decisions and reduce the overall cost of procurement. Traditional analytic tools (spreadsheets, charts) have identified discrete opportunities for improvement, but has been limited in providing visibility to the "big picture". The more we understand about the environment, the more effective our efforts can be.

How'd you do that?

Data used is Vouchers from FY2012 Q3 and UCB Organizational Hierarchy extracted from PeopleSoft (BP). Data was transformed into network attributes, Nodes (Departments & Vendors) and Arcs (relationships between Vendors) Network Diagrams were generated using Gephi, a network visualization tool.
• 1/2 of lives are at 2.50%.
• Children affect poverty.
• It is possible to pull in China.
• 0 millions - billions - access death.
• 1/2 pop is urban.
• 1/3 lives in slums.
• Rich 20% consume 77% resources.
• Are things getting better or worse?
• What is your priority?
• Selling to Larry.
Larry's Net Worth: $36.5B

Bill Gates Endowment: $35.5B

Larry is ?

Bill is Well Endowed

LEGACY

1.8 million children are dying...
2012 IDMG Summer School & Symposium

Sponsored by Business Process Analysis Working Group (BPAWG), Cal Assessment Network (CAN), Associate Vice Chancellor-Chief Financial Officer (CFO) and Office of Planning & Analysis (OPA), Center for Organizational & Workforce Effectiveness (COrWE), Operational Excellence (OE), and Policy Analysts Roundtable (PAR)

All sessions will be held in 60 Barrows Hall from 10:30am to noon, with an optional networking lunch to follow. Sessions will be streamed and archived on the IDMG website (http://idmg.berkeley.edu/summerSeries.html).

Friday, June 1st
CAN presents: 2012 IDMG Summer School Kick-Off and Just the Facts: Creating a Catchy One-Pager

Monday, June 18th
BPAWG presents: Collaborative Tools – Which Should I Use?

Monday, June 25th
PAR presents: Cal Answers – What Is It and How Do I Use It?

Friday, July 6th
CAN presents: Metrics: What to Measure?

Friday, July 13th
BPAWG presents: OE Productivity Suite

Friday, July 20th
PAR presents: Panel Discussion on How Campus Leaders Use Data to Make Decisions

Early August – IDMG Summer Symposium
WHICH STUDENTS ARE OUR COURSES SERVING?
The L&S Social Sciences Division asks

What’s the scene campus-wide? (10 largest undergrad teaching units, 93% of enrollments)

- Engineering
- College of Nat Resources
- College of Chemistry
- L&S Biological Sciences
- L&S Math & Physical Sciences
- L&S Arts & Humanities
- L&S Social Sciences
- L&S Undergrad Division
- Haas School of Business
- Grad Sch of Ed similar: SPH

Non-majors in the upper division can be HUGE in some heavy-service units.

Where are the non-majors in L&S Social Science?

Upper-div summary

- 41% majors
- 9% majors in other depts in L&S Soc Sci
- 29% majors outside of L&S Soc Sci
- 21% undeclared
- 59% of upper-div enrollments are not declared majors in the dept.

Wow.

Even though upper-div curricula are often built for majors.

KEY

- "majors" undergrad students who have declared a major
- "non-majors" undergrad students who are undeclared or have declared "undeclared major"

Where non-majors take courses

- Lower Div undeclared
- "Common" (majors)
- Upper Div undeclared
- Upper Div other majors

Non-majors in lower division can also be significant.

DataViz Contest Winner for Greatest Clarity!
Symposium
Featured Speaker
Jeffrey Heer
1/2 of humanity lives on less than $2.50/day

1/4 humanity lives without electricity

1.8 billion children die of illness each year

5¢ per day per child will end poverty in 1 generation
IDMG Roadmap Recommendations

Data Decisions and Directions
1a) Establish Clear Institutional Data Leadership and 1b) a Governance Structure

Data Collection
3) Develop and Utilize Common Data Definitions

Data Analysis
4) Identify and Implement Shared Tools and Approaches

Data Presentation
5) Improve Presentation of Information to Decision Makers

Data Storage, Sharing and Security
6) Evaluate, Prioritize and Implement Campus-wide (Enterprise) Technologies Needed to Support These Recommendations

GOAL: Make institutional data easily accessible, reliable, consistent and secure to support informed planning, decision making, and communication by campus leaders.
1. 1.4M children die annually due to lack of safe water
2. 1 crank saves X
3. 2 cranks saves XX

Super Ellison saves the world

You can’t buy happiness but can live in peace.

So crank!
WHAT DO YOU WANT YOUR LEGACY TO BE?

HOW DO YOU WANT TO BE REMEMBERED?
**Superheroes vs. Super Models**

**Analysis Question:** Are comic book superheroes’ bodies more like top athletes’ or top models’? Are comparisons the same for both men and women? To account for differences in height and weight, body mass index (BMI) is used: BMI = 703 X weight / height^2. Comparing the BMI distributions will reveal similarities or differences.

**Summary:**
- Male superheroes tend to have a higher BMI than top male athletes and a much higher BMI than top male models. So male superheroes are beyond super human - but more like top male athletes than like top male models.
- Female superheroes tend to have a lower BMI than top female athletes and a higher BMI than top female models. So female superheroes are neither super humans nor super models but between top female athletes and top female models. Female superheroes also have less variation in their BMI than male superheroes or top athletes of either gender.

**Sources:** DC Comics (DC.com), Marvel Comics (Marvel.com), American Olympic Team (www.americansport.com), Model.com (model.com)
77% of resources are consumed by 20%

Priorities?
$12 billion on perfume
$11 billion on ice cream
$105 alcohol

$2.50 per day

1 billion in poverty
10.6 million die

900 million no access to safe water
What is the Institutional Data Management and Governance Initiative?

In 2007, UC Berkeley launched the Institutional Data Management and Governance (IDMG) Initiative to address a critical challenge about our campus's institutional data — including data related to applicants, students, faculty, staff, alumni, and donor prospects — stated in the IDMG proposal as follows:

How can we make UC Berkeley's institutional data easily accessible, reliable, consistent, and secure to support informed planning, decision-making, and communications by campus leaders?
less is more
OPERATIONAL SUCCESS
KEY INDICATORS
OSKI Metrics for your team

Metrics: a fair, simple, transparent measure of a unit’s ability to accomplish its goals.
Stock Certificate

$h_2O$ equity

Workforce
Customers
Stockholders
GLOBAL PRIORITIES
VS.
SPENDING
WE HAVE A PROBLEM...

22,000 CHILDREN DIE EVERY DAY

...They die quietly in the poorest villages on earth, far removed from the scrutiny and the conscience of the world.

THE SOLUTION...

Global Priority

Pet foods

Military spending

Water + sanitation

Billions

17

780

9

Even a small shift changes lives!
Operational vs. Transactional Metrics

**Inputs**

One laboratory safety inspector

**Activities**

Lab inspections are conducted

**Outputs**

Annual lab inspections are completed

**Outcomes**

Laboratory accidents decrease

“The Logic Model” by The Institute on Governance, Canada
80%
Live on less than $10.00 Per day...

- 2.6 billion lack basic sanitation
- 800,000 children die per year due to poverty
- 640 million without adequate shelter

A bold problem requires a bold leader
Who Has the D? How Campus Leaders Use Data to Make Decisions
1.4M children die annually w/o safe water

1 crank saves x

2 cranks saves xx

Super Ellison saves the world

$ anti
animate

1 in 5 children have no access to safe water (in developing world)

3 cranks saves xxx

So crank it up!

If you live you might go to school > might get out of poverty
$6BIL + $3BIL = 50% 

$3BIL / $38Billion * 18% ~ 50%
50% of world's children in poverty live on less than $2.50/day.
1 SHARE OF ORACLE

$30 = \text{12B}