

AgriSolutions®

AgIQ®

Benchmarking

{ Data's Future Role in Driving
{ Business Intelligence on Farm





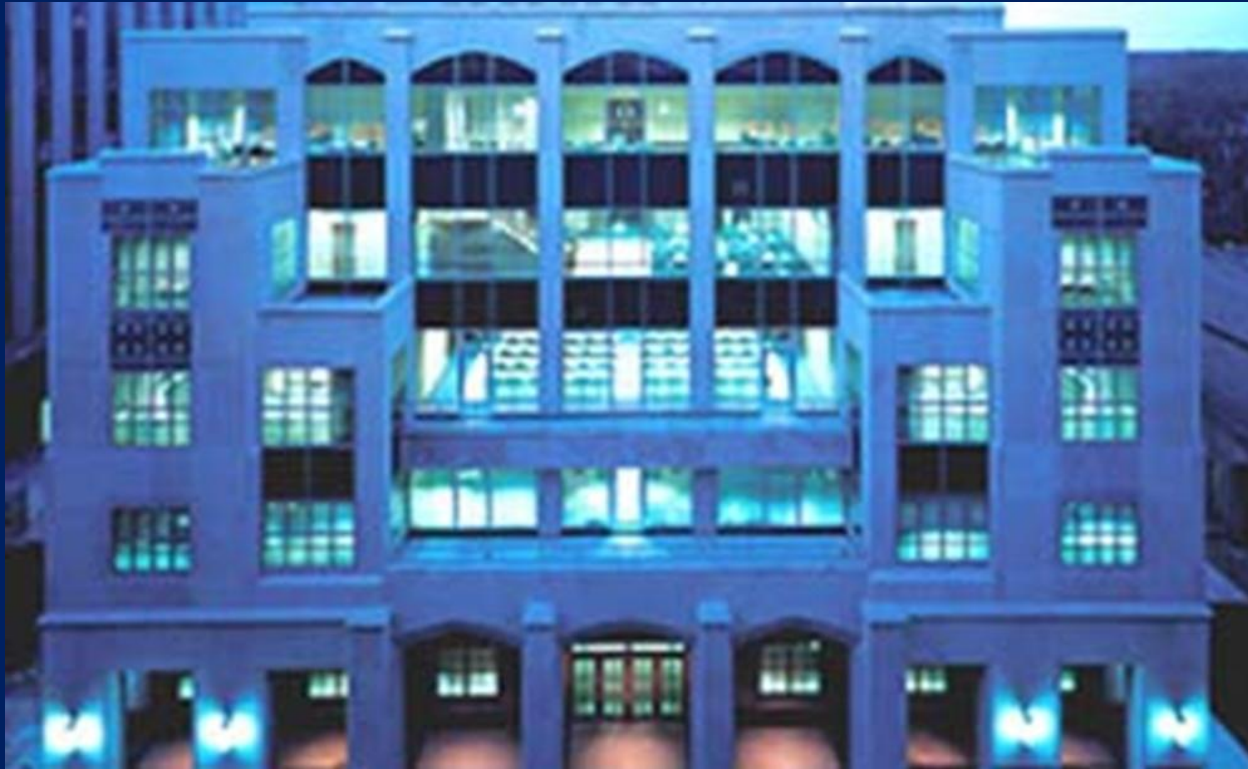
Welcome to Chicago



Chicago Avenue



Northwestern University



Wieboldt Hall

Kellogg Graduate School of Management
Northwestern University



1985



What are they doing?



Factory Floor Automation



1994



Strike Three

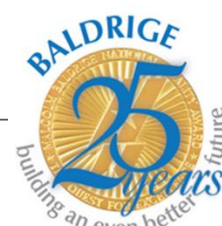
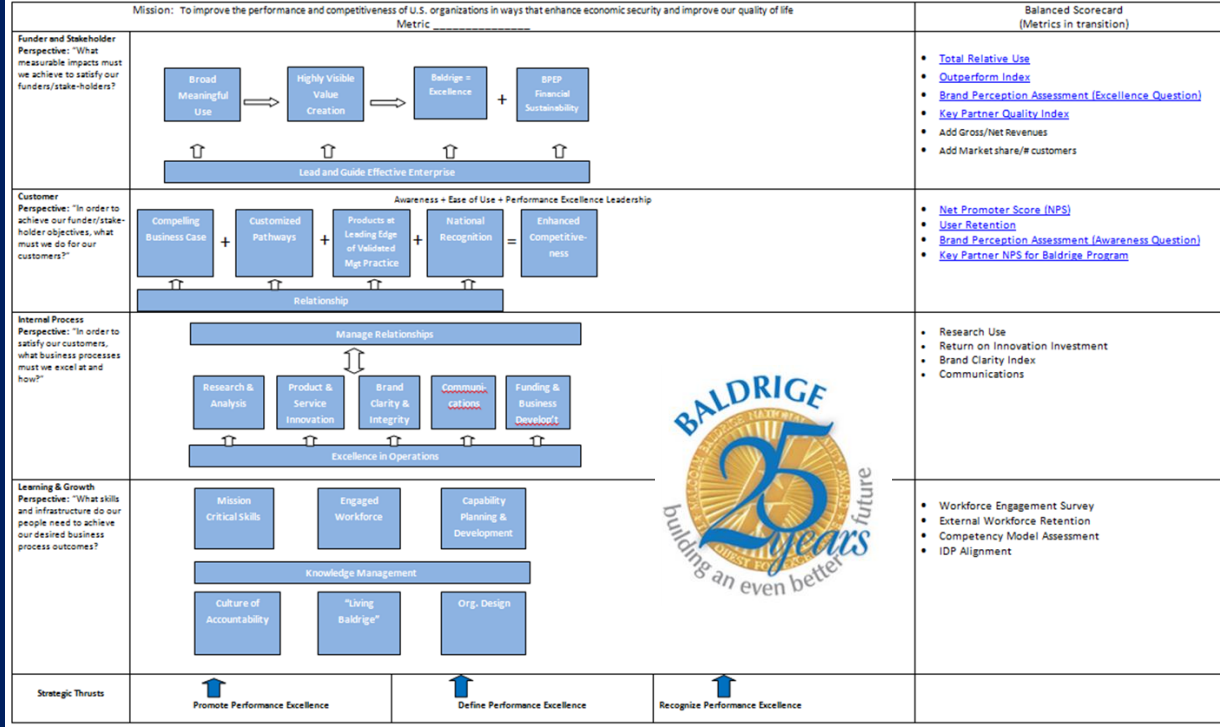


Porter' Five Forces



Kotler's Four-P's

Baldrige Performance Excellence Program Strategy Map



Kaplan's Balanced Score Card

Robert S. Kaplan and David P. Norton, "Using the Balanced Scorecard as a Strategic Management System," Harvard Business Review (January-February 1996): 76.



1996



Benchmarking



2002



2008



2010

HOW BIG DATA IS
RESHAPING OUR WORLD:
A PHOTO GALLERY
PAGE 147

MANAGEMENT LESSONS
FROM ALABAMA COACH SABAN
by Brian O'Keefe PAGE 130

THE 100 FASTEST-
GROWING COMPANIES:
WHO MADE THE CUT?
PAGE 237

FORTUNE



IS IT STILL OK TO BE RICH IN AMERICA?

IN THIS POLITICAL
SEASON, THE RICH ARE
AN EASY PUNCHING
BAG. INSTEAD OF
TAKING THEM DOWN,
SHOULDN'T WE FIGURE
OUT HOW TO LIFT
EVERYBODY UP?

by Nina Easton
PAGE 134

SEPTEMBER 24, 2012
FORTUNE.COM

2012



PHOTO: (C) DANIEL RCKER 2012 FROM THE HUMAN FACE OF BIG DATA

A cornfield can be a billion points of information

Big Data

- Data collection
- Data storage
- Data access
- Data analysis

Fundamental Economics



Film



Digital



Don't Miss Fundamental Changes



Local Want Ads



International
Market Marker



Don't Miss Fundamental Changes



Publishing



Googling



Don't Miss Fundamental Changes



Local Retail



Cyber Monday



Don't Miss Fundamental Changes



Paper



Electronic



Don't Miss Fundamental Changes



Consultants



Wiki's



Don't Miss Fundamental
Changes

Ag Summit

Hosted by DTN/The Progressive Farmer

A banner for 'Agriculture 2.0: Business Intelligence for Tomorrow's Farms'. The background is a landscape of green fields and trees, overlaid with a semi-transparent blue grid and a red line graph showing an upward trend. The graph has several data points, including '+354.88' and '9.302.94'.

Agriculture 2.0:
Business Intelligence for Tomorrow's Farms

Business Intelligence

- Intelligence is all about decisions
- Decisions made by you and your team
- What is required to make a good decision?
 - Sound decision process
 - Information

Intelligence

$$\text{Value} = \frac{(\text{Real Benefits} + \text{Perceived Benefits})}{(\text{Real Costs} + \text{Perceived Costs})}$$

#1) Decision Process

Lacking Sound Decision Process we use...

- Gut feel
- Rule of Thumb
- Conventional wisdom
- Educated guess
- Tradition/Experience
- Common sense

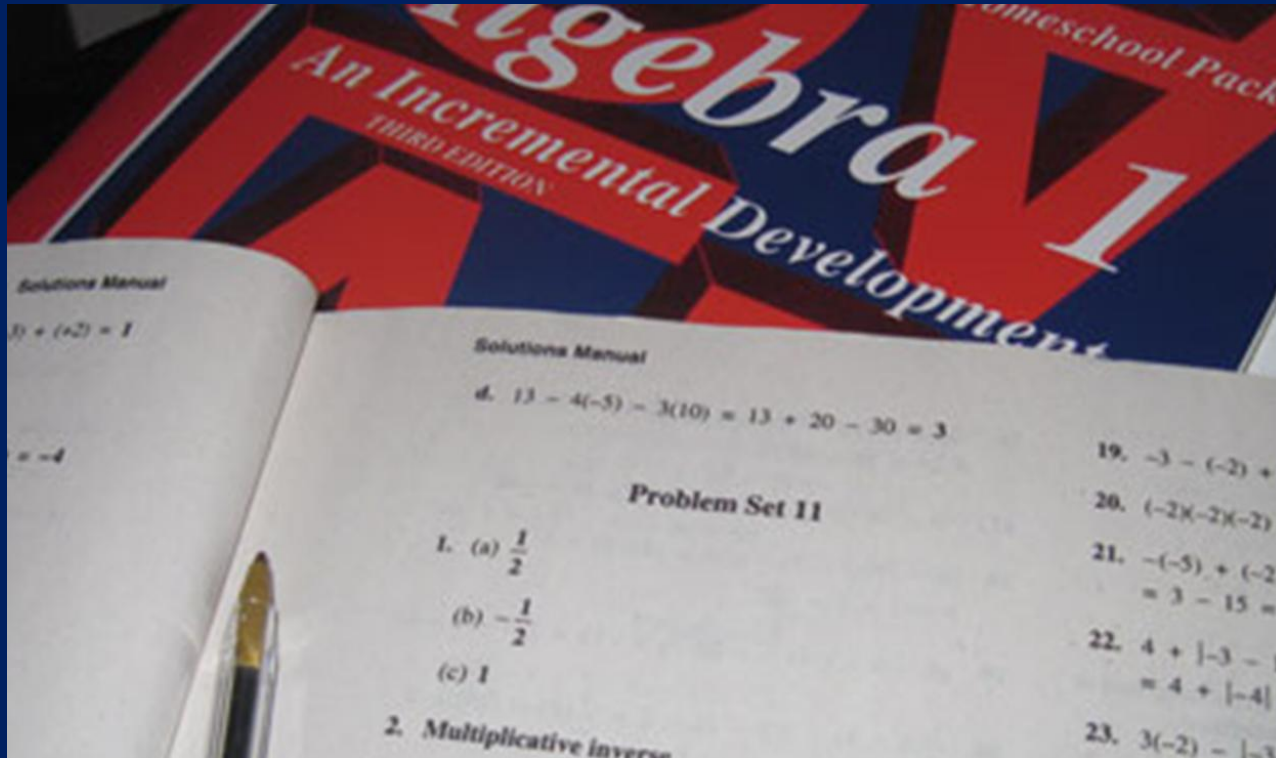
Decision Heuristics

- We anchor from previous
- We assess from our available memories/experience
- We overstate the likelihood of favorable events
- We overly discount the probability of bad events
- We assume our sample is representative
- We fail to look for disconfirming information

Decision Failings

- Data: one little piece of reality
- Share it: Data → Information
- Throughout History:
 - Insatiable consumer demand for it
 - People want to know the answer

#2 Information



What's The Answer?

Intelligence \neq Answers

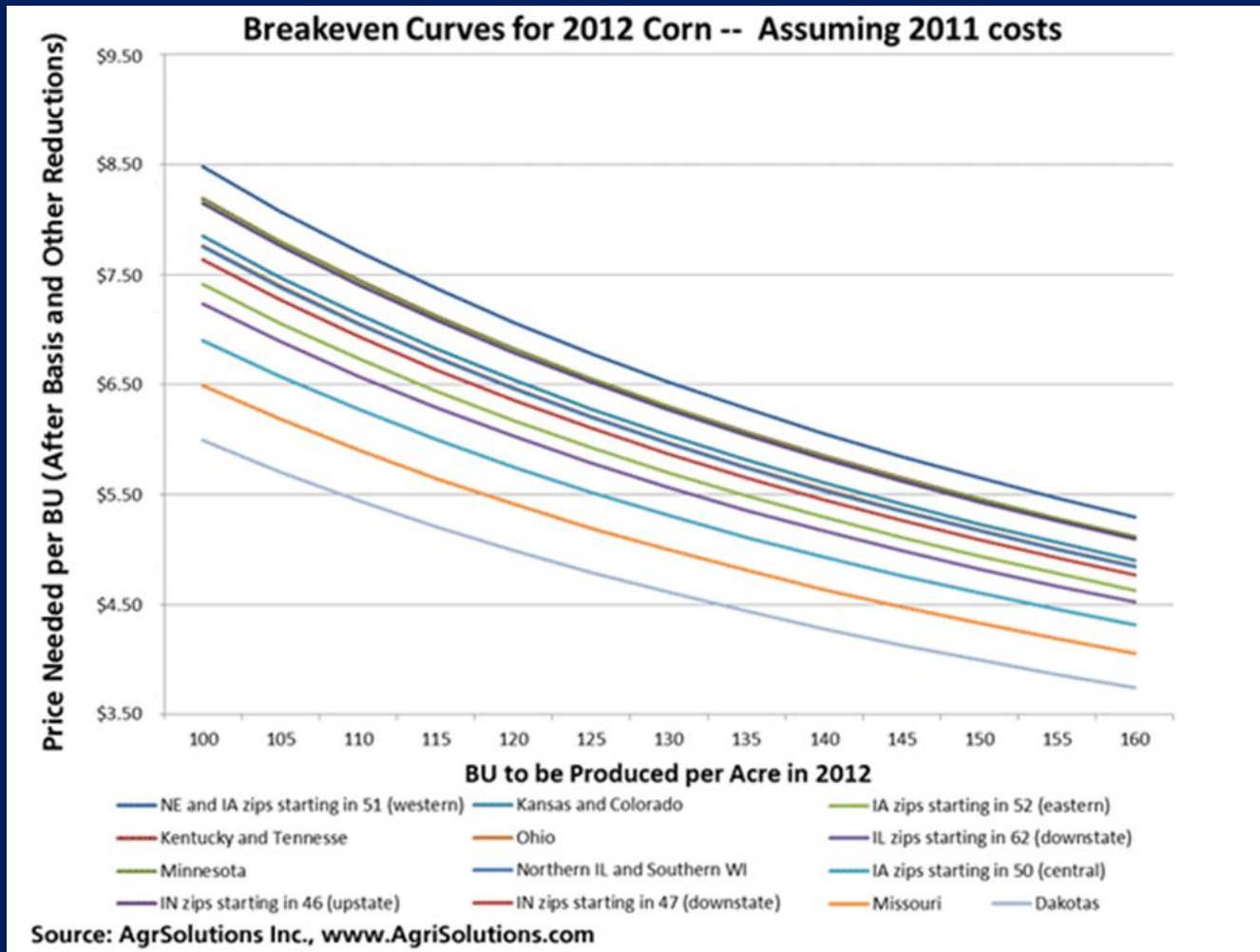
Because if you can formulate the question
And if the answer exists,
ANYONE can access that
information in seconds.



The World Has Changed

- Can you formulate the questions
- Can you query for the answers
- Can you access the data?

The Point Becomes...



Benchmarking ≠ Answers

Actual Corn Sales

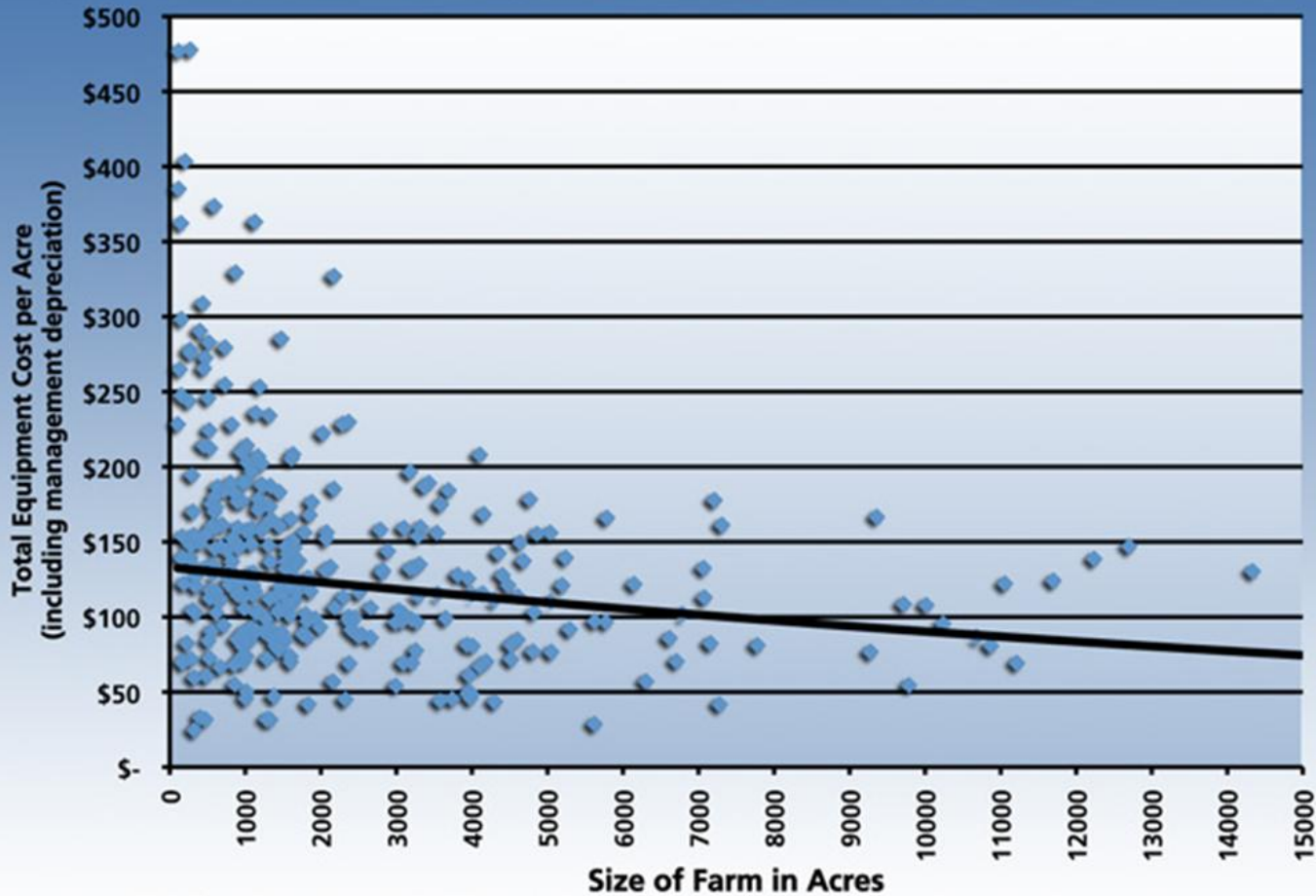
AgriSolutions® AgIQ® Database
vs. USDA, National Agricultural Statistics Service



Source: AgriSolutions Inc., www.agrisolutions.com

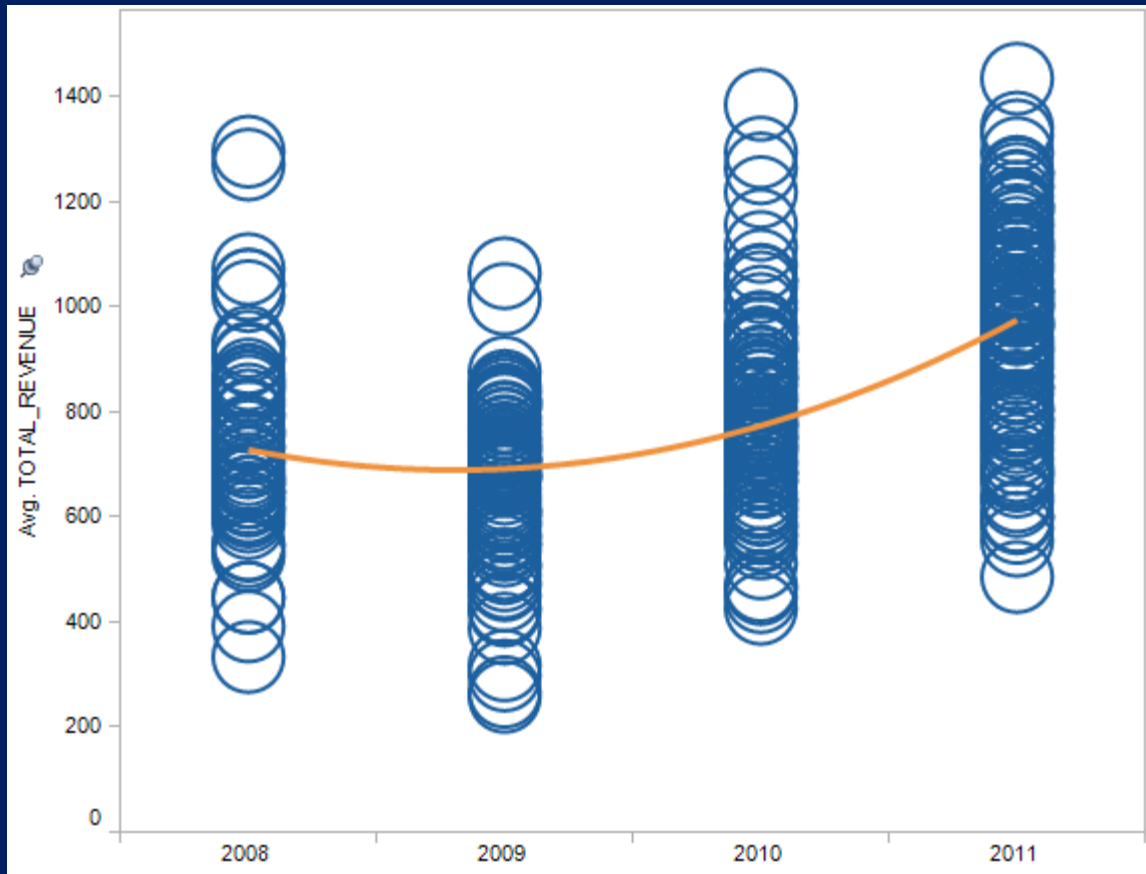
Benchmarking \neq Answers

Equipment Cost Per Acre by Size '08-'11 Corn, Soybean, Wheat Farms



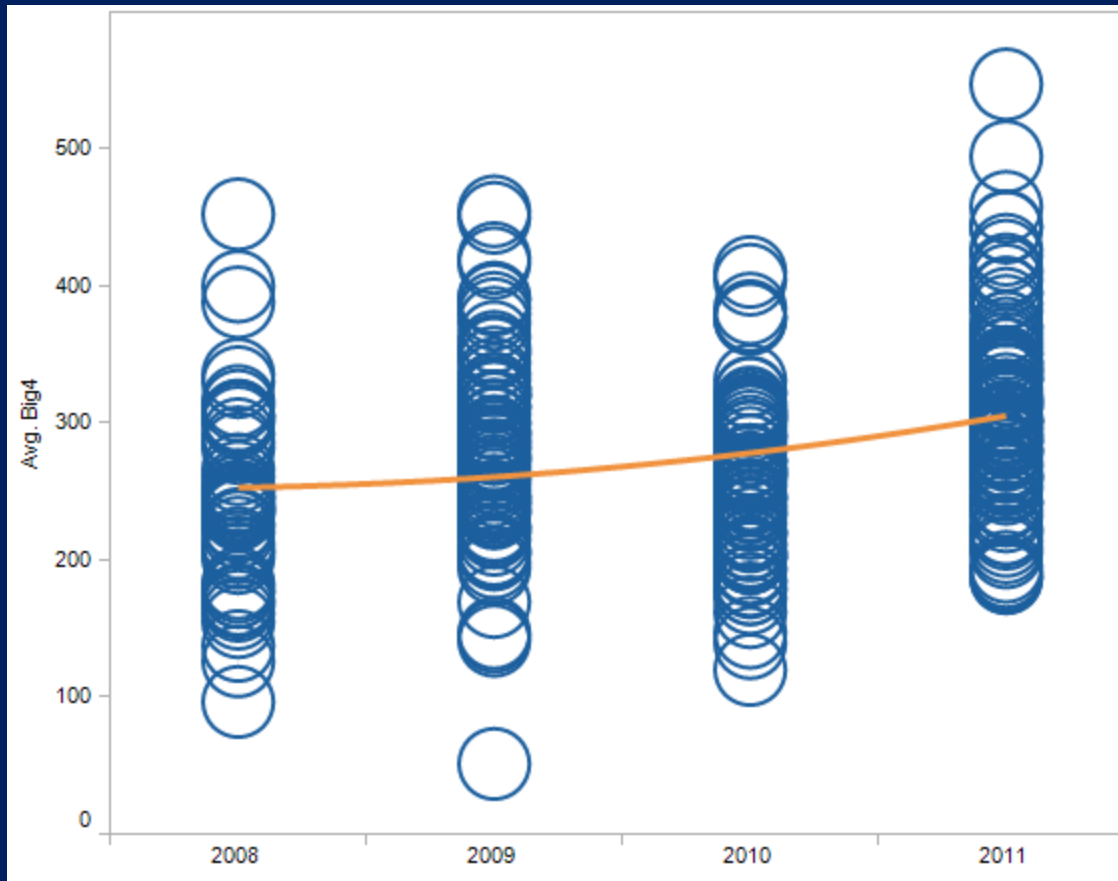
Source: AgriSolutions Inc., www.agrisolutions.com

Benchmarking \neq Answers



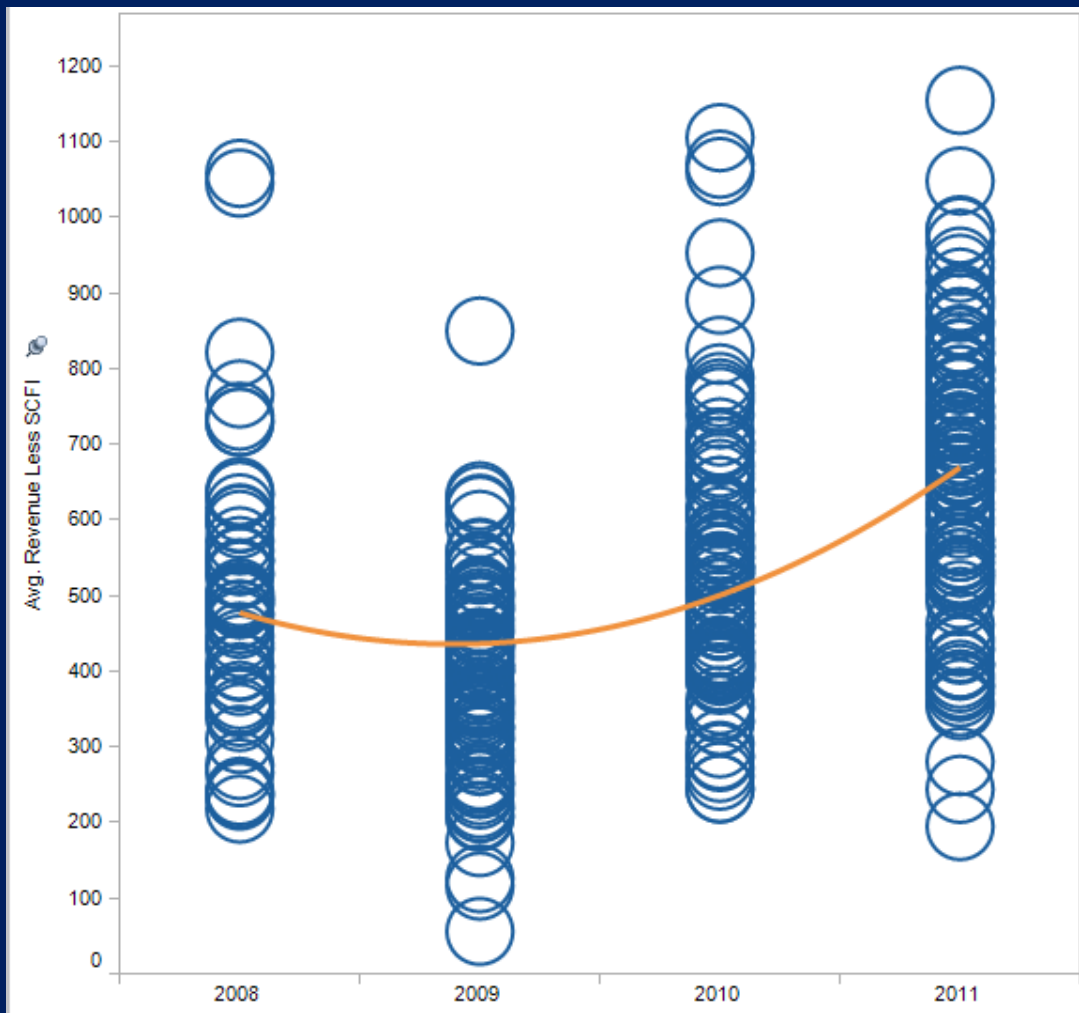
Corn Production's Math

Dollars of Total Revenue per Acre of Corn



Corn Production's Math

Dollars Spent on Seed + Chem + Fert + Crop Ins



Corn Production's Math

Revenue – (Seed + Chem + Fert + Ins)

You make some money and then...

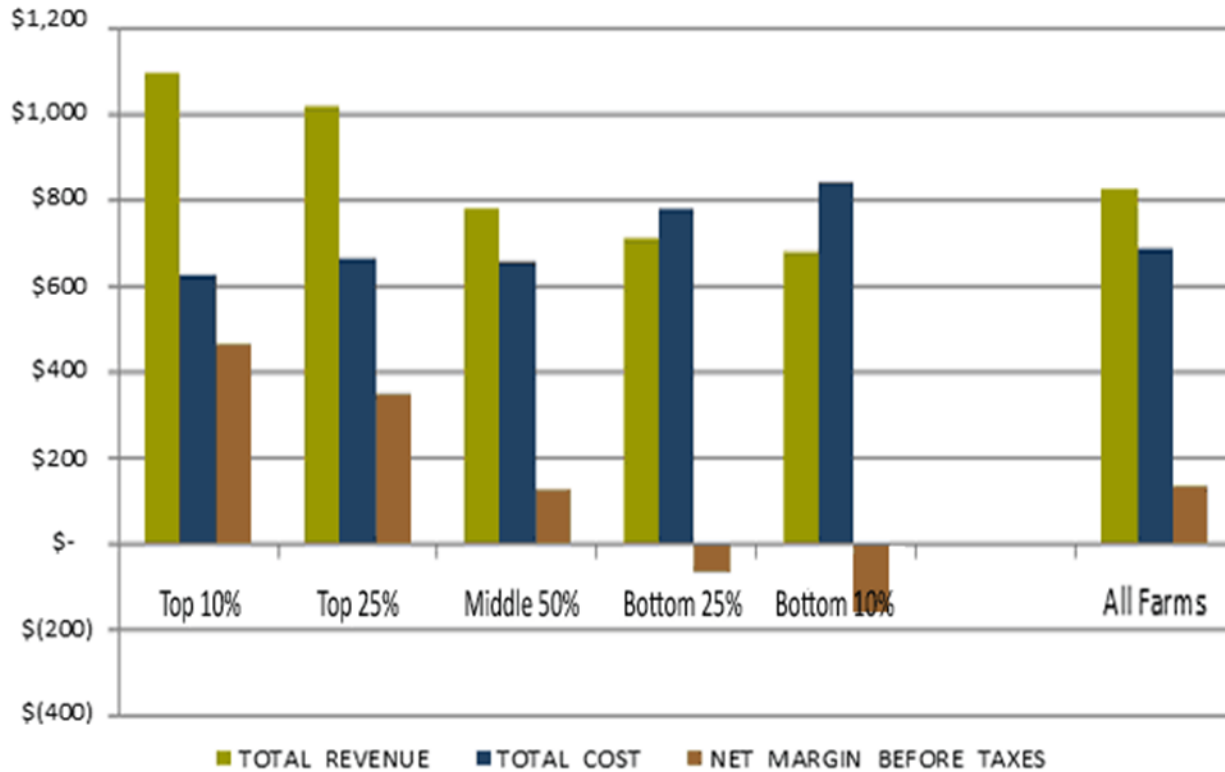
You start writing checks to:

- Remaining Vendors
- Landlords
- Bankers
- Staff
- Self

\$500

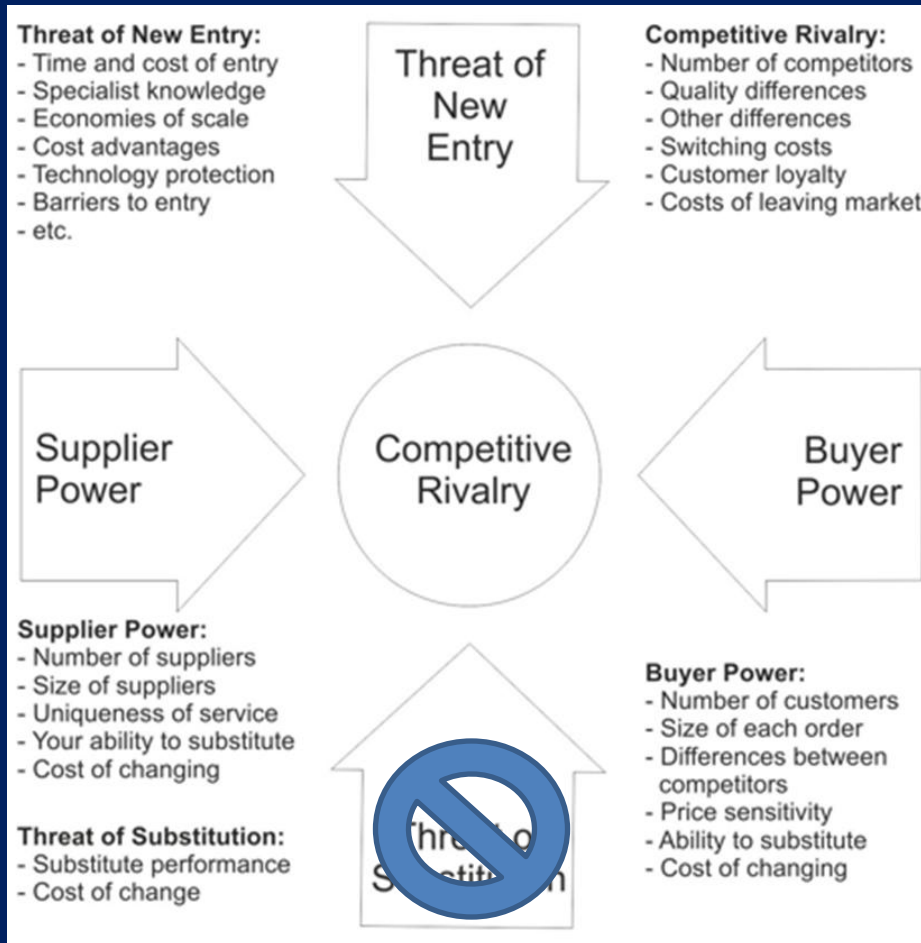
Revenue – Expense =

Top to Bottom Performance on Corn 2008-2011 Ranked by Bottom Line (Net Margin)



Source: AgriSolutions Inc., www.agrisolutions.com

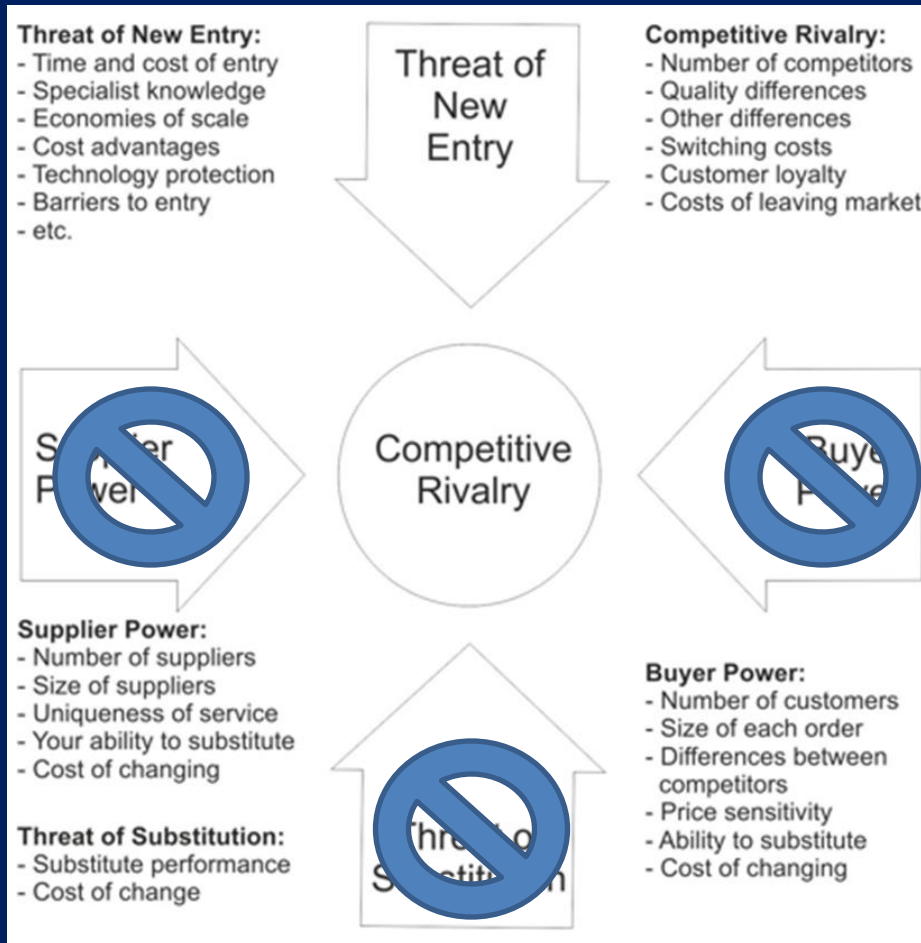
The Middle 50% Makes It



Porter' Five Forces

Total Farm Acres		2008	2009	2010	2011	Average
Soybeans	8000+	\$ -	\$ 306.76	\$ 458.37	\$ 500.32	\$ 406.96
	4000-7999	\$ 437.10	\$ 402.41	\$ 420.82	\$ 422.60	\$ 418.81
	2000-3999	\$ 344.45	\$ 404.71	\$ 335.63	\$ 417.95	\$ 380.59
	1000-1999	\$ 358.87	\$ 351.98	\$ 408.77	\$ 401.83	\$ 383.02
	<1000	\$ 382.17	\$ 350.55	\$ 295.57	\$ 414.42	\$ 360.88
Corn	8000+	\$ 730.94	\$ 585.17	\$ 620.81	\$ 660.93	\$ 637.37
	4000-7999	\$ 394.08	\$ 549.04	\$ 576.88	\$ 655.17	\$ 589.25
	2000-3999	\$ 554.62	\$ 615.95	\$ 586.74	\$ 669.08	\$ 612.47
	1000-1999	\$ 509.56	\$ 556.30	\$ 571.16	\$ 660.27	\$ 585.35
	<1000	\$ 514.26	\$ 583.66	\$ 580.72	\$ 712.92	\$ 605.46

Total Production Cost



Porter' Five Forces

- Confusing the issue
- Misdirecting our focus
- Misappropriating our resources
- Underemphasizing key areas of
 - Learning
 - Internal Process

where as a group we have great lack

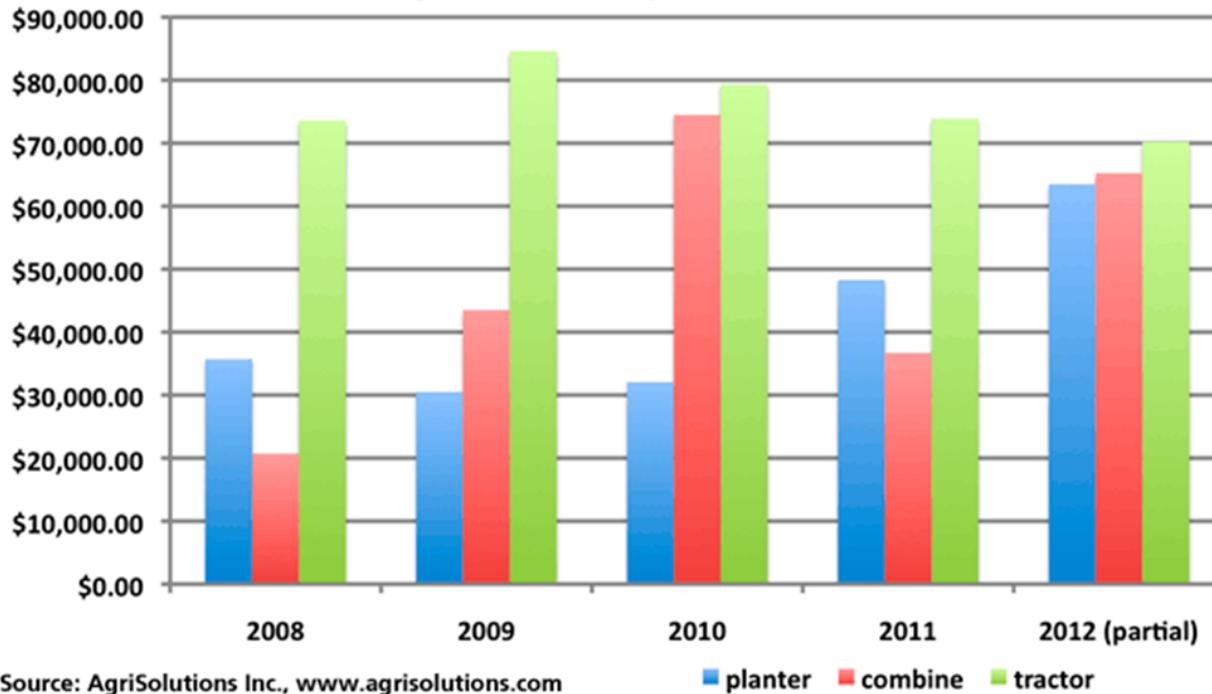
Competitive Rivalry

Average Spending on Equipment

Midwest Crop Operations

(2012 for Q1-Q3 only)

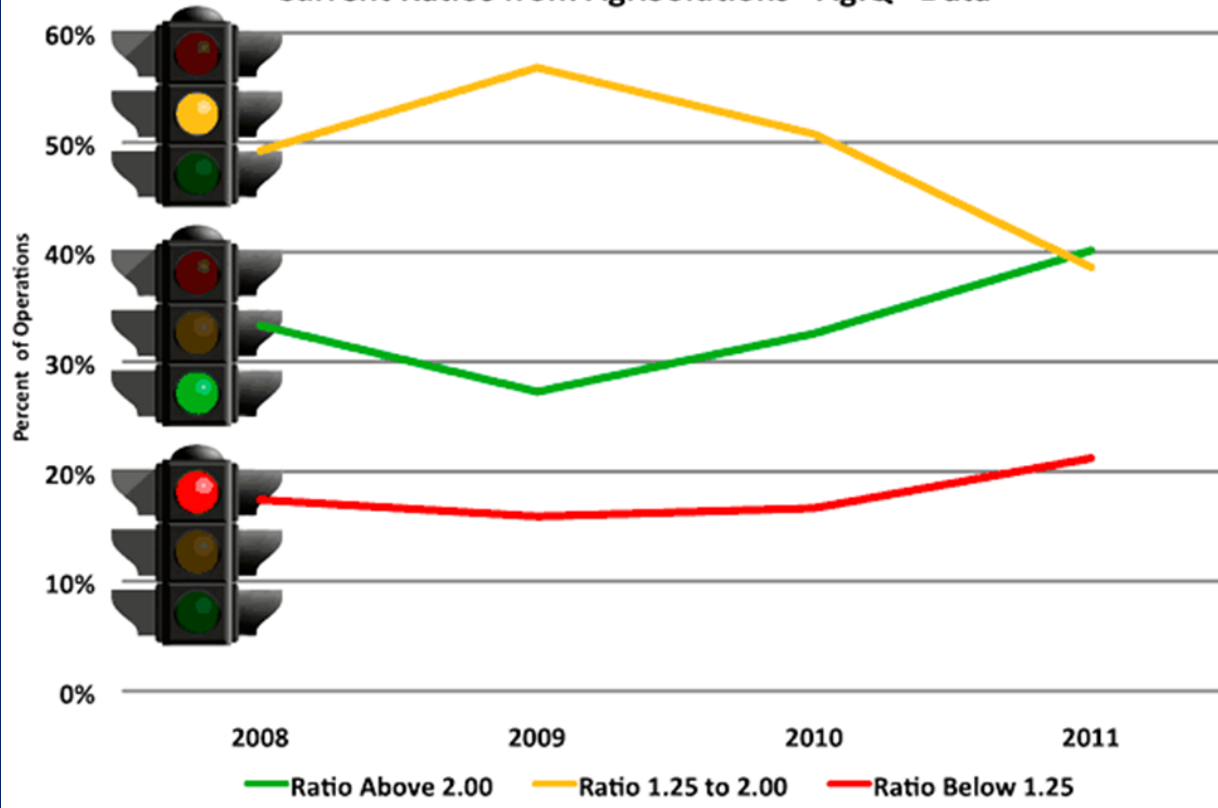
AgriSolutions® AgIQ® Database



Buying Technology

Strong Strengthen Their Debt Ratios

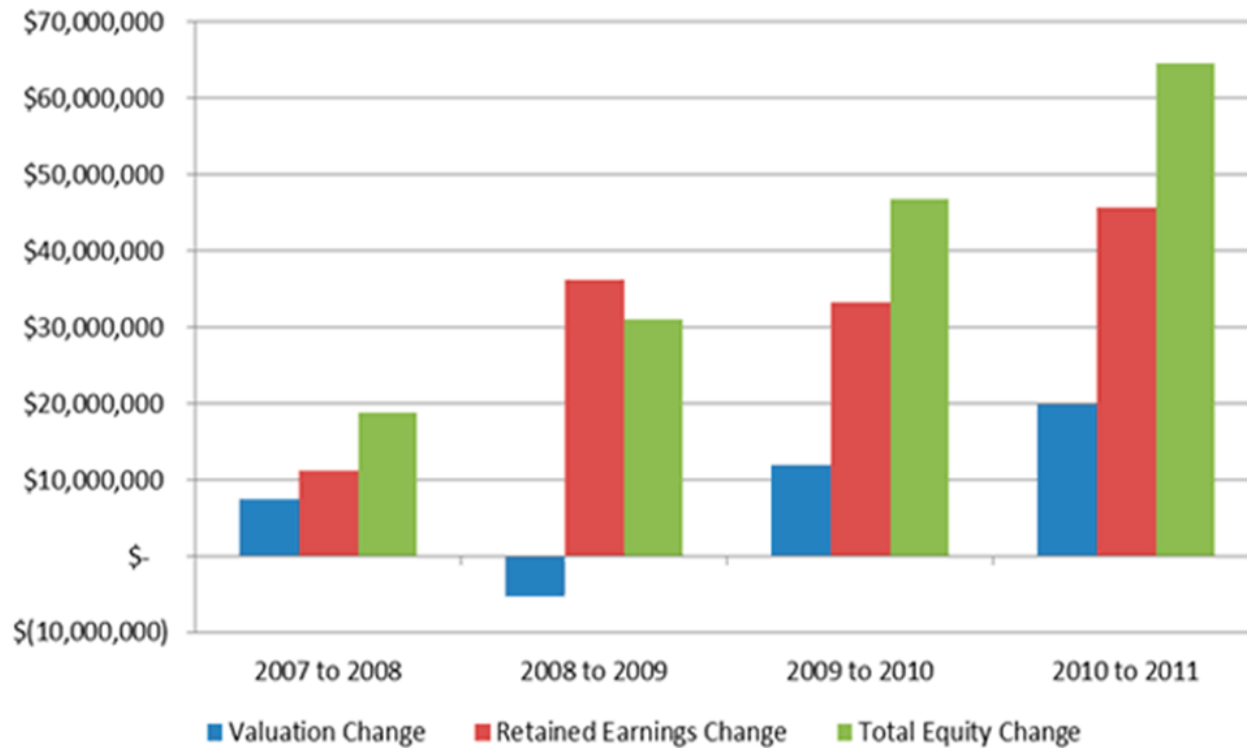
Current Ratios from AgriSolutions® AgIQ® Data



Strengthening Balance Sheet

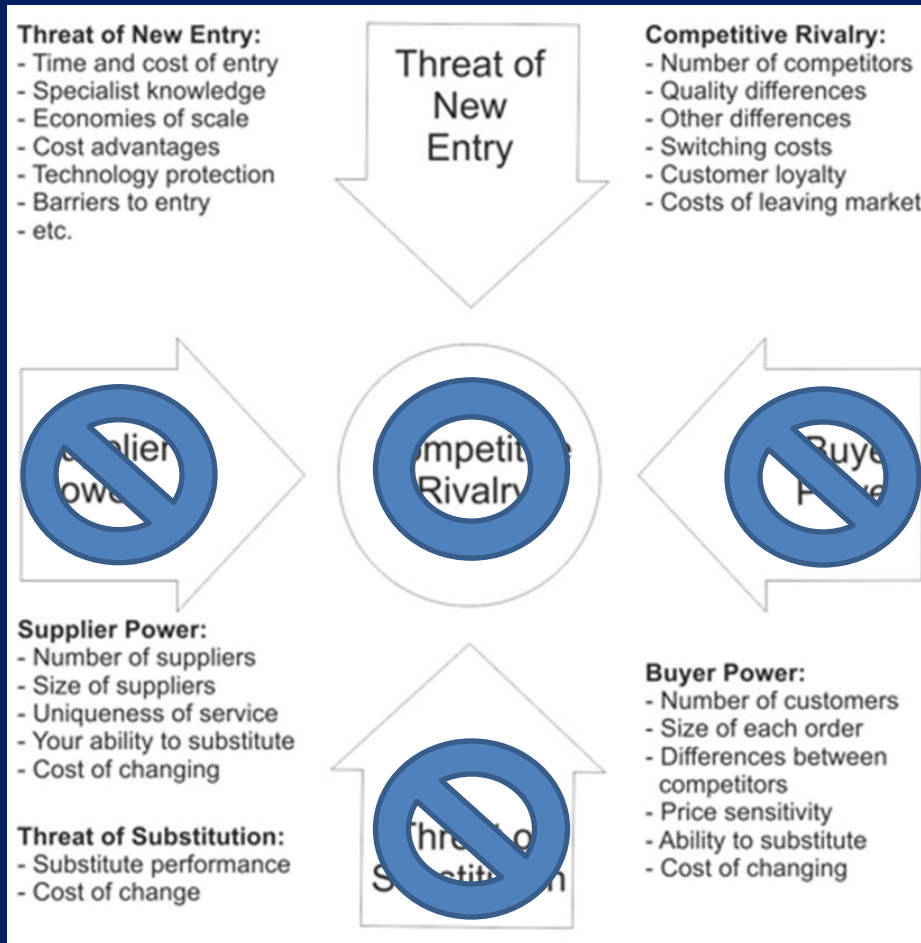
Annual Equity Change and Source

(chart shows the change for the group, not total equity)
AgriSolutions® AgIQ® Data



Source: AgriSolutions Inc., www.agrisolutions.com

Strengthening Balance Sheet



Threat of New Entry

Is hasn't happened yet, so what Barriers to Entry Remain?

- Agency Issues
- Access to Land
- Customer relations
- Lack of a trigger

- Agency is the set of issues a principal has getting the agent to act in the principal's best interest
- It is how do you manage when you are not physically present

Agency Issues



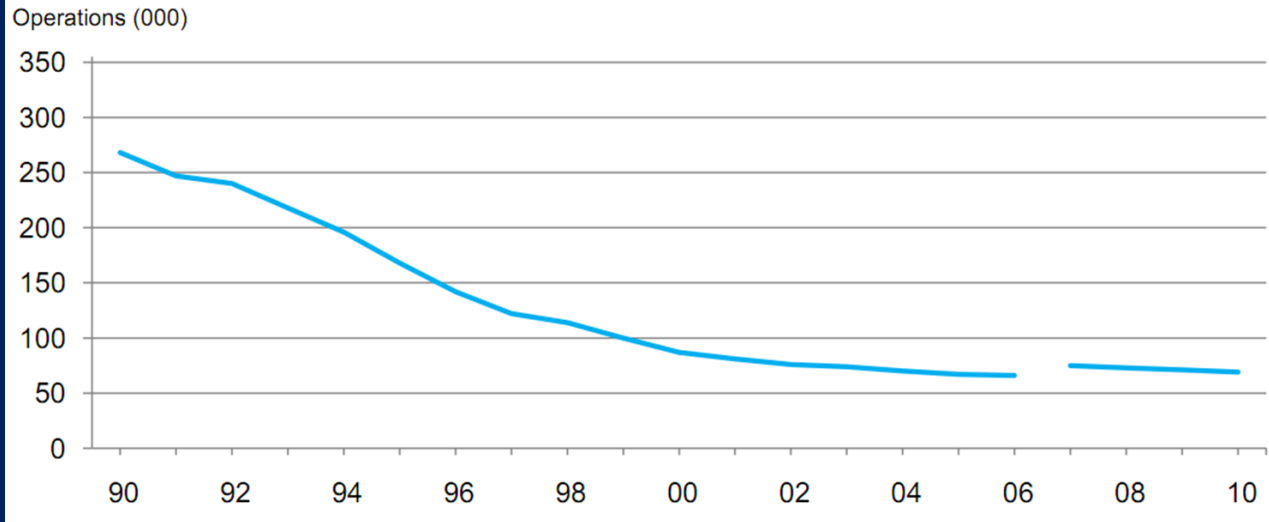
- Ownership
- Relationship and trust
- Contract
- Incentive Compensation
- Direct Supervision

Managing Agency

- The most efficient way to play the game (Game Theory)
- Why trust and relationship remain an effective barrier to entry in production agriculture

Tit for Tat

Number of Hog Operations – United States: 1990-2010



Agency issues have slowed
crop's consolidation
compared to livestock's



AUTOMATE • 2013

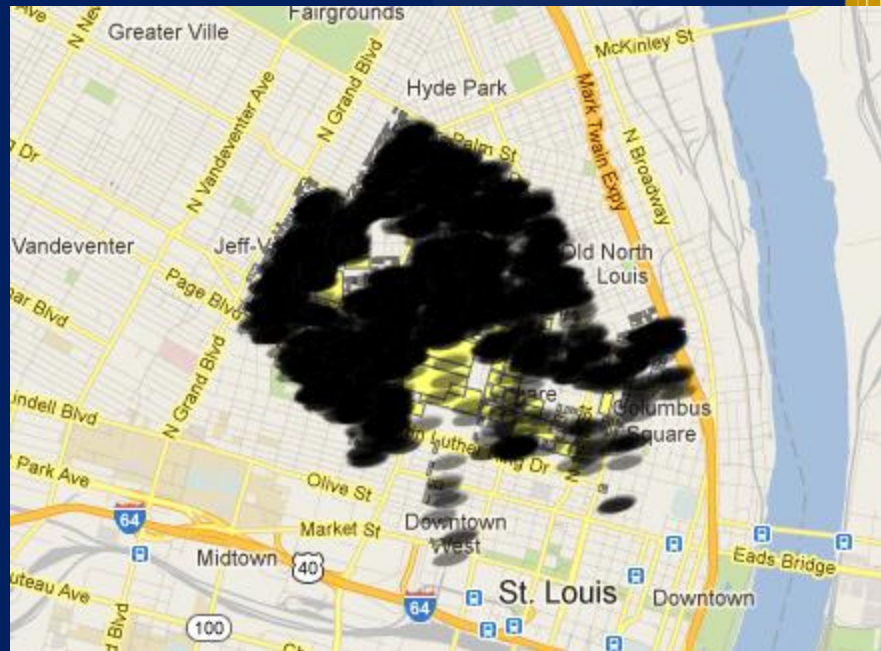
Technology will Nullify Agency as Barrier to Entry

- As the crop production “Factory Floor” automates over the next decade or two, technology erode this barrier allowing corporate competition for landlord relationships
- Producers will have to compete on price – leveraging their “installed base” for competitive advantage

Prediction

Is hasn't happened yet, so what Barriers to Entry Remain?

- ~~Agency Issues~~
- Access to Land
- Customer relations
- Lack of a trigger



Paul J. McKee Jr. of McEagle Properties LLC

A graphic for AgGateway with a green background and blue wavy lines. The text is arranged in a central column. At the top left is the AgGateway logo. Below it are the phrases: 'better communication', 'fewer manhours', 'proven standards', 'faster transactions', and 'real-time'. To the right of the central text is the phrase 'more accurate'. There are small circular icons on the left and right sides, and three small circles in the top right corner.

AgGateway

more accurate

better communication

fewer manhours

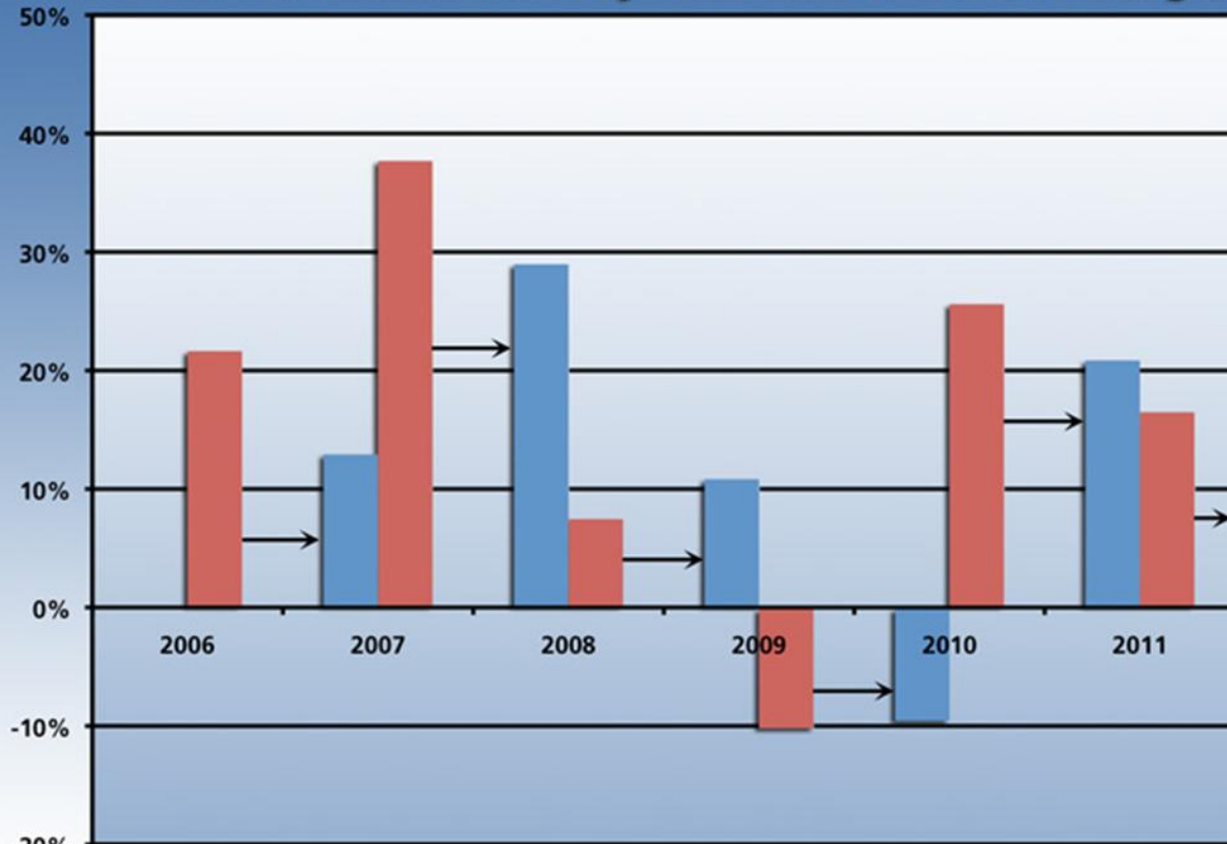
proven standards

faster transactions

real-time

Customer Relations?

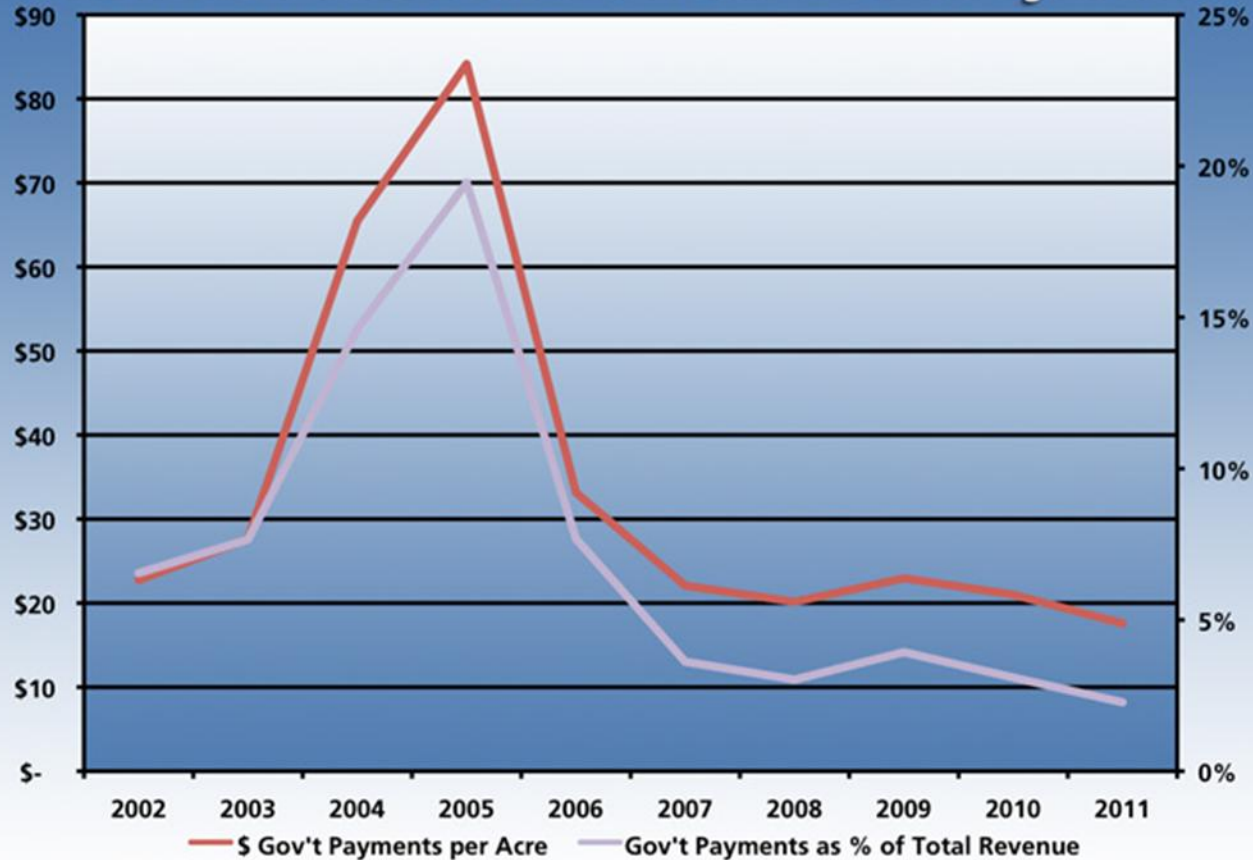
One Year's Corn Revenues Sway Next Year's Costs (% Change)



Source: AgriSolutions Inc., www.agrisolutions.com ■ % change cost ■ % change revenue

Ag-Retailers are efficient

Midwest Farm Benefit from Gov't Payments



Source: AgriSolutions Inc., www.agrisolutions.com

Government Support?



Trigger?



You are the agent

Consider other public consumption industries

- Transportation
- Municipal water and sewer
- Energy
- Pharmaceuticals
- Health Care

Think Just Briefly

- Process Control
- Automation and Systems
- Proactive Reporting
- Regulatory Compliance
- Detailed record keeping
- Transparency
- Don't do anything to violate trust



Implications



- 5-25 year horizon
- Its not that hard or expensive anymore
- Automate instead of staffing up
- Change your expectation and motivation about benchmark data
 - Compliance
 - Identifying opportunities
 - Improving efficiencies so you can compete
 - Management metrics
 - Start documenting your profile

Success is a Dozen things

- Brands are important because they give the consumer confidence and assurance in purchase
- Almost all of you will not be able to build a brand for yourselves individually (too > \$\$\$)
- But you can build an e-bay like sell rating
- Someone will build an online market where land owners like me can shop for the best operator with the best price for my land.

Brands

How will that seller rating be determined

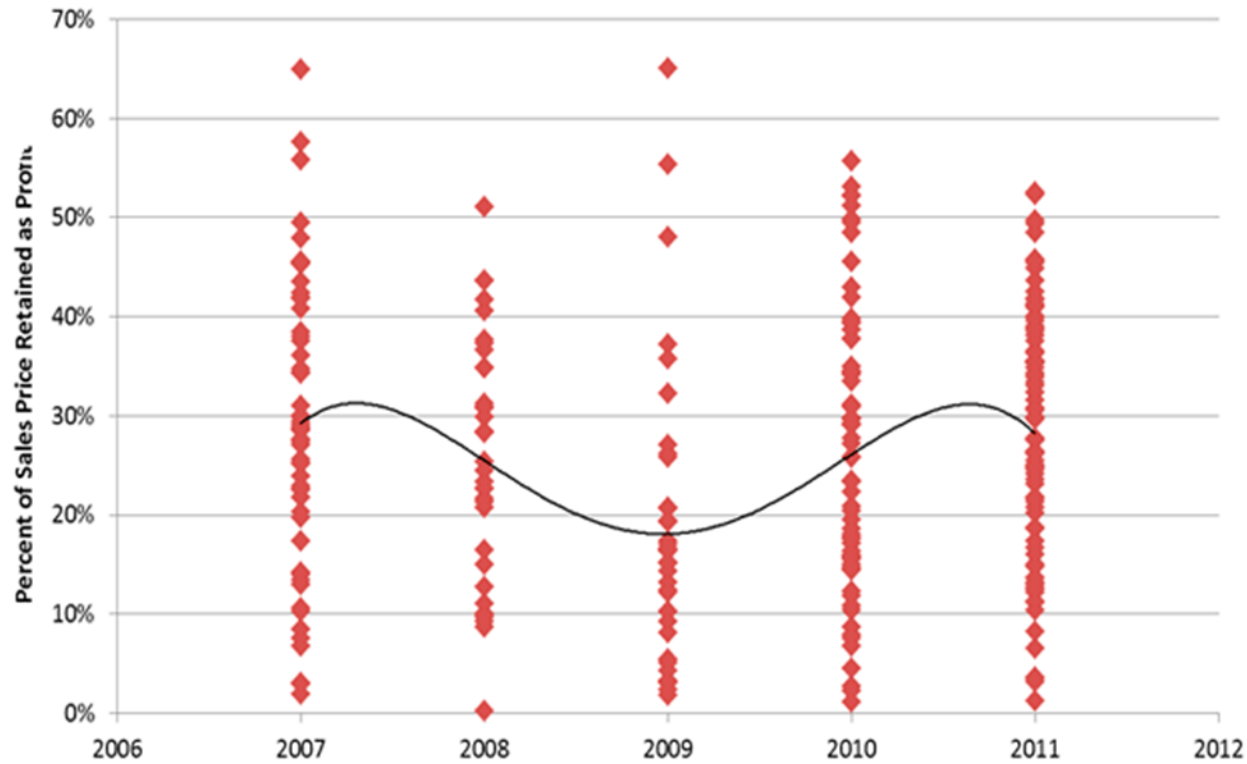
- With an environmental stewardship score (and all the other internal business processes)
- With an automated customer communications score and client satisfaction ranking
- With a Financial Performance score
- With a innovation and learning score

Remember you do not want a brand you want a love mark.

You do not want landlord, you want an advocate

Seller Rating

Percent of Sales Price Retained Corn (AgriSolutions® Farm Average)



Source: AgriSolutions Inc., www.agrisolutions.com

Benchmarking

- Stop looking for the answer in benchmark data
- Start looking for the questions
- And focus most of your effort on internal benchmarking
- On data collection and business process
 - Which needs to be AUTOMATED (or at least captured at point of creation)
 - Make sure you OWN it (competitive imperative)

Intelligence \neq Answers

- The economics of data collection have changed. It is a “C” change
- You need tools in your hand that gives you the information to make better decisions, but
 - Accurate
 - Consistent
 - Timely
 - Intuitively accessible
 - Intuitively clear
 - Integrated (not fragmented , not disparate)

Tools in Your Hands

Visualize your key data. Control who on your team has access to which reports with an architecture that is scalable, customizable, efficient, and as mobile as you are.

Integrate disparate data so you can build from your existing applications without the risk and cost of a one-size-fits-all, enterprise-class solution

Requirements

Collect and integrate data from your existing accounting, markets, weather, production, planning, and operations management systems

It is about the cloud, mobile internet, and data integration, but it is also about a managerial structure that fits the way you intend to manage your operation.

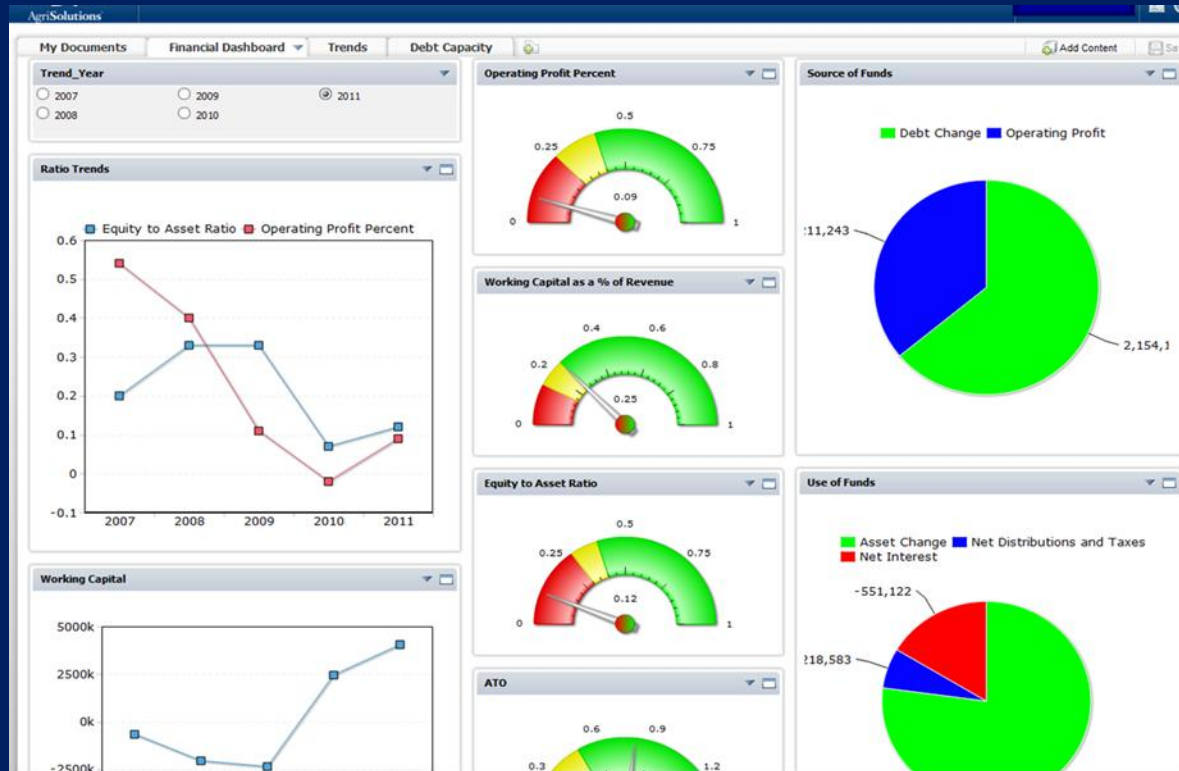
Requirements

It is about the ability of data architects and financial consultants to transform data streams into better management decision making.

It is about networking with other operations and shared involvement

Requirements

Where all that data comes together



AgriSolutions® AgIQ® Dashboard