

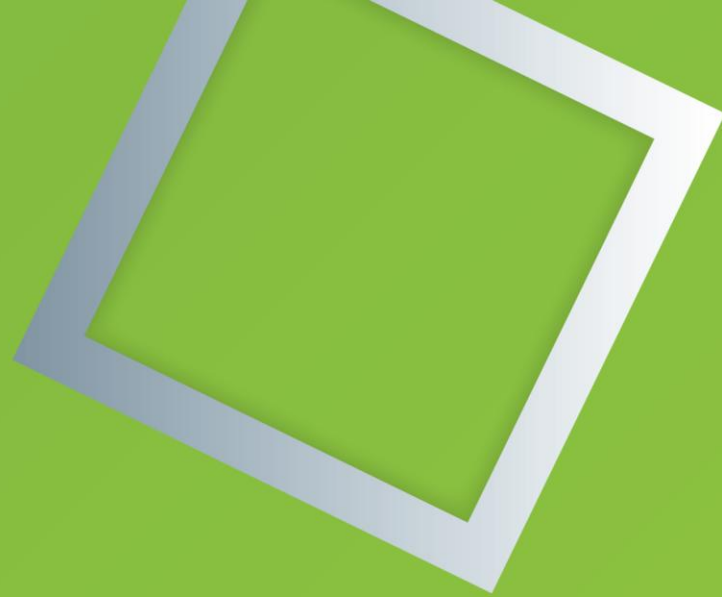


Business Intelligence as a Strategic Investment

ABTCP OCTOBER 2017

October 31, 2017

BETTER INTELLIGENCE. BETTER DECISIONS.

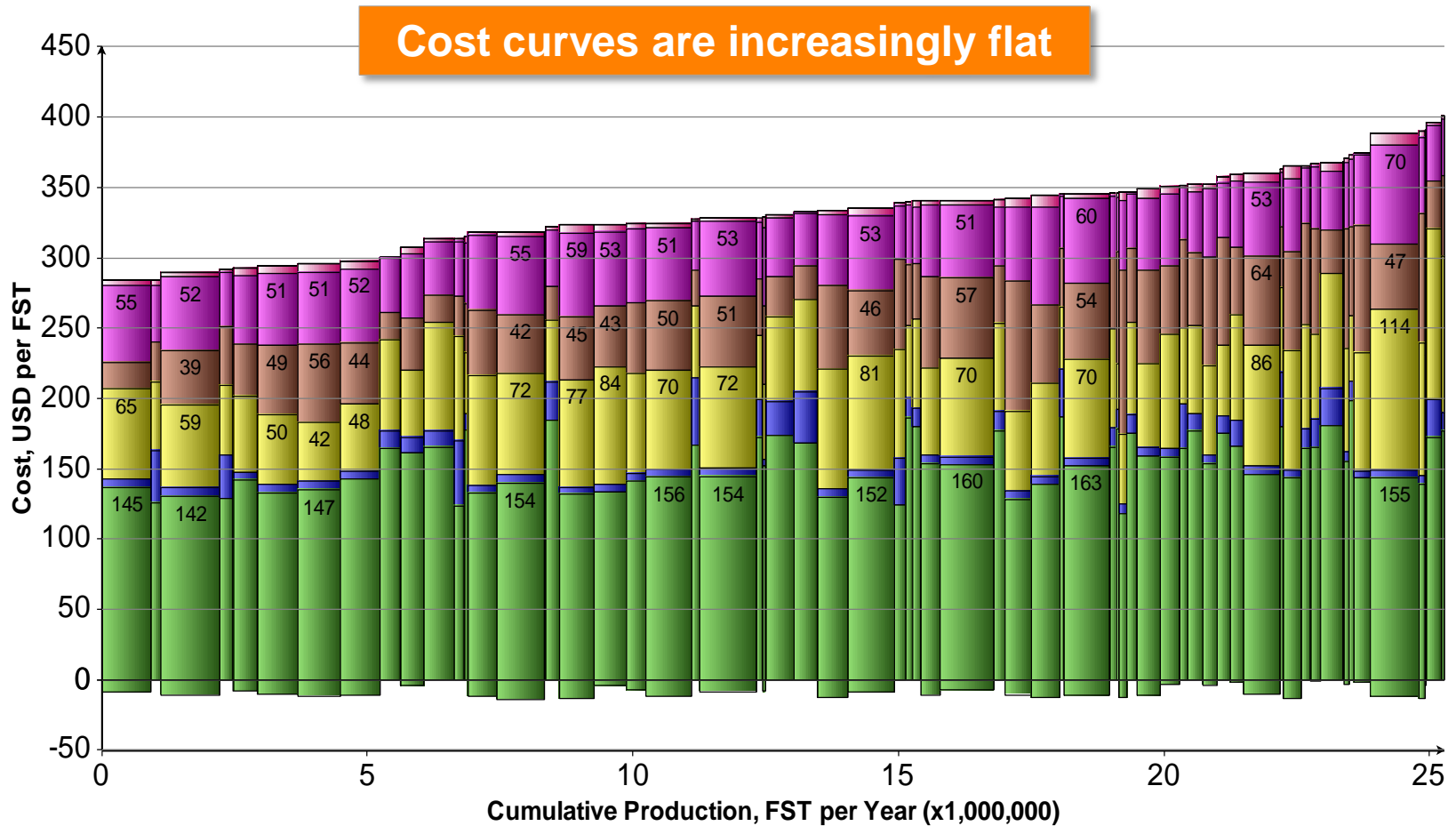


“Business Intelligence” is a set of resources that transforms data into strategic, tactical, and operational insights for decision-makers via collection, data quality assurance, data integration, and analytics.

Why Is Business Intelligence So Important?

- The industry's assets – people, plants, and products – are *not unique*

Machines Aren't Unique; Competitiveness Comes from Unique Business and Operating Decisions



Why Is Business Intelligence So Important?

- The industry's assets – people, plants, and products are *not unique*
- Profit comes from the effectiveness with which assets are utilized
- Effectiveness is driven by a wide range of decisions which, when made marginally better, result in higher prices, higher operating rates, lower costs, and lower volatility than in less well-run firms
- Profitability comes from superior decision making...
- ...which comes from the skill of the organization's people and the information that informs their decisions

What Decisions Do We Mean?

Every company has a decision chain

PRODUCT DEVELOPMENT

What attributes should the new product have?
Which customers should we interview?
How much will customers pay for it?

MARKETING

Is the market growing?
How big is the market?
Where can we run trials?
Where is the most potential?
What are market shares?
What message for each segment?
Who are the right contacts?

SALES & SERVICE

Where can we duplicate past successes?
Where do we offer the best ROI?
Where are we vulnerable to closures?
How can salespeople be better prepared?
How can we collect our sales representatives' knowledge?
How can we prove our capabilities?

PERFORMANCE MEASUREMENT

Which reps have the best margins?
Which reps have the highest market share?
Do sales territories need rebalancing?
Will we make our targets?
Where is there more opportunity?
Is our market share growing?

M&A AND ASSET MANAGEMENT

Where should we put inventory?
Where should the next plant go?
Who should we buy?

Every Company Has a Decision Chain

A good business intelligence resource can address the whole chain

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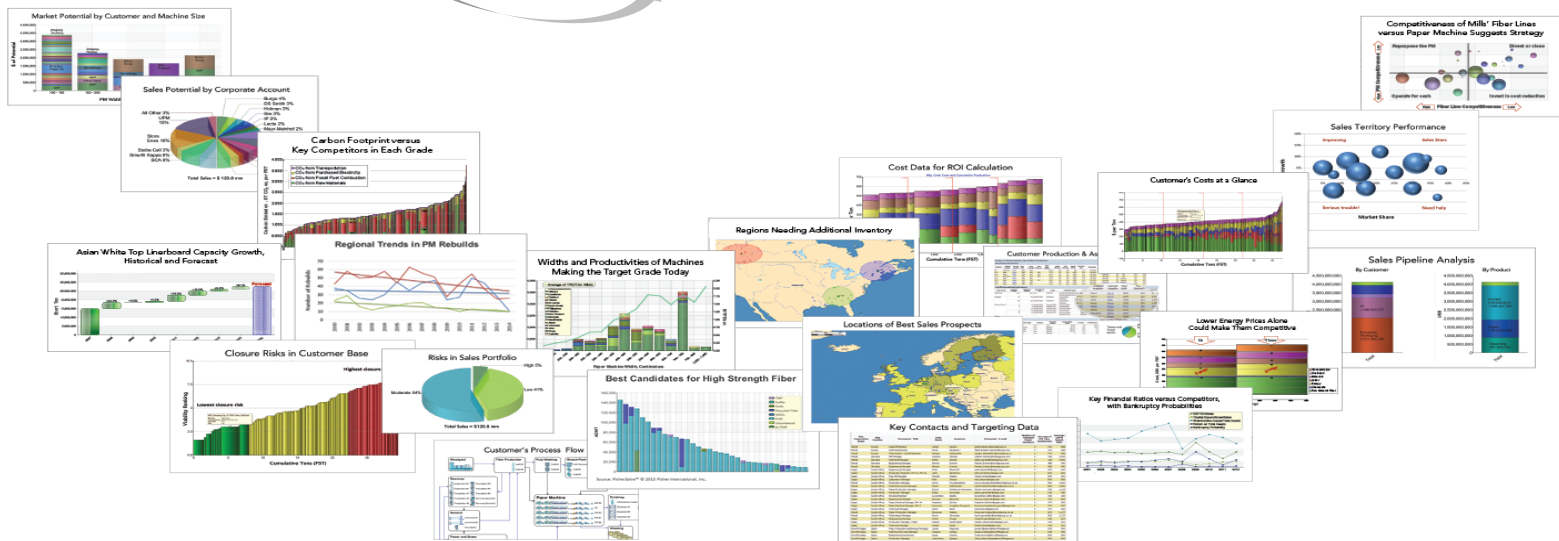
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Business Intelligence Has Changed

- Traditionally, professionals in the pulp and paper industry used directories and personal experience
 - Pulp and paper has globalized; companies are bigger and managements' staffs are smaller; no one can gather enough experience and intuition
 - And competition has commoditized the industry
- Traditional business intelligence resources – directories and canned reports – gave everyone the same answers
- To escape commoditization, companies now use business intelligence in a new way ... for precise, accurate and rapid differentiation

What Does It Take for Business Intelligence to Perform at the New Level? Three Principles:

- **Principle # 1:** business intelligence requires a corporate culture of data-driven decision making
- **Principle # 2:** a business intelligence system must be quantifiably reliable (which can happen only by meeting certain requirements, one of which is near-perfect data quality)

What's Wrong with Unproven Business Intelligence?

Which machines are the most vulnerable to new linerboard production?

- Tons produced
- Technical Age of the machine
- Width of the machine
- Productivity: tons/ day /cm of width
- Grades produced

Decision Making

40

20

0

0

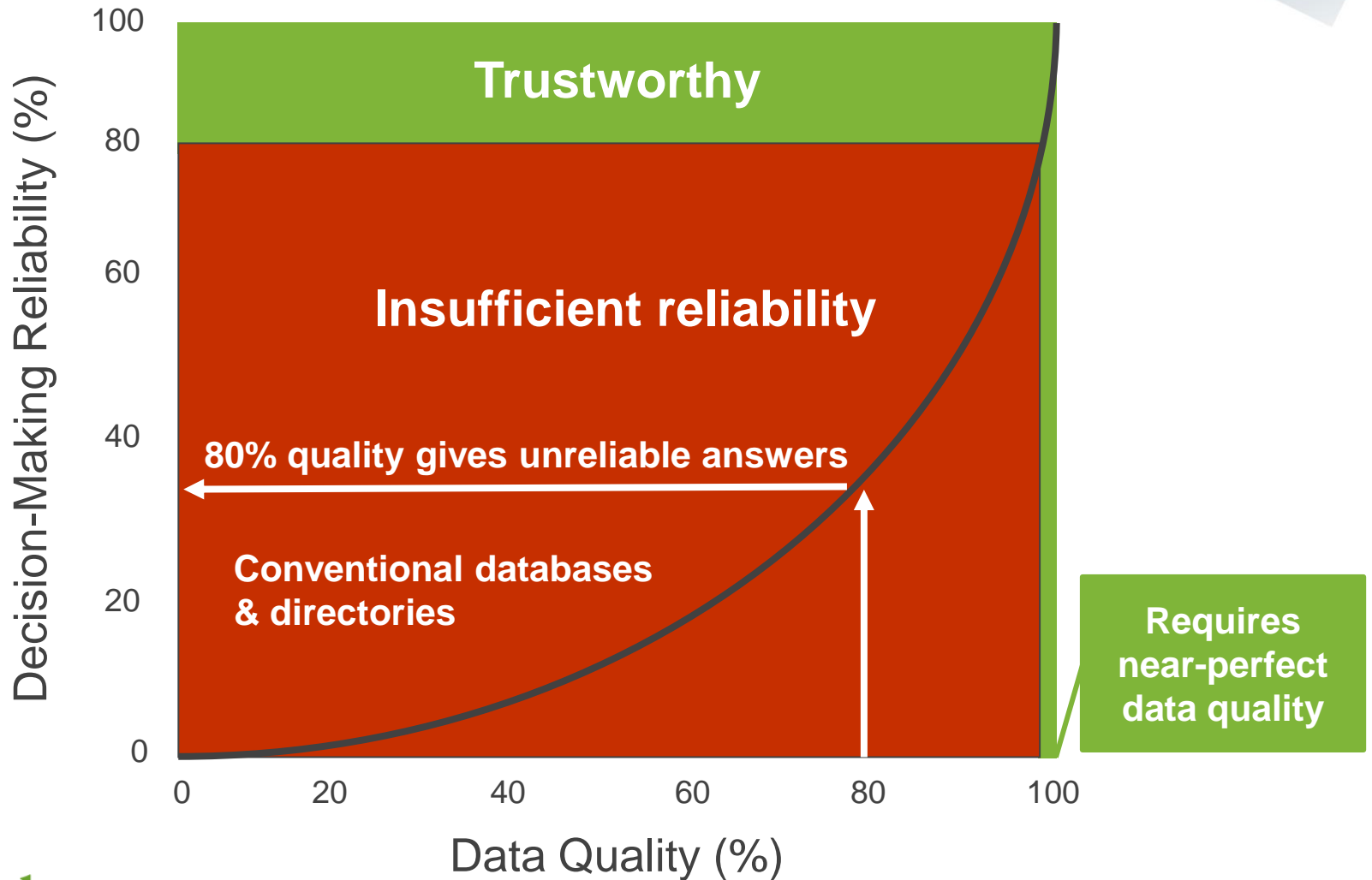
If your data was 80% complete, you would find

- 80 % of the tons
- 80 % of the machine Technical Ages
- 80% of the machine widths
- 80% of productivity data
- 80 % of grade data

but ...

80% of 80% of 80% of 80% of 80% is wrong by a factor of 3

How Database Reliability Behaves



What Does It Take for Business Intelligence to Perform at the New Level? Three Principles:

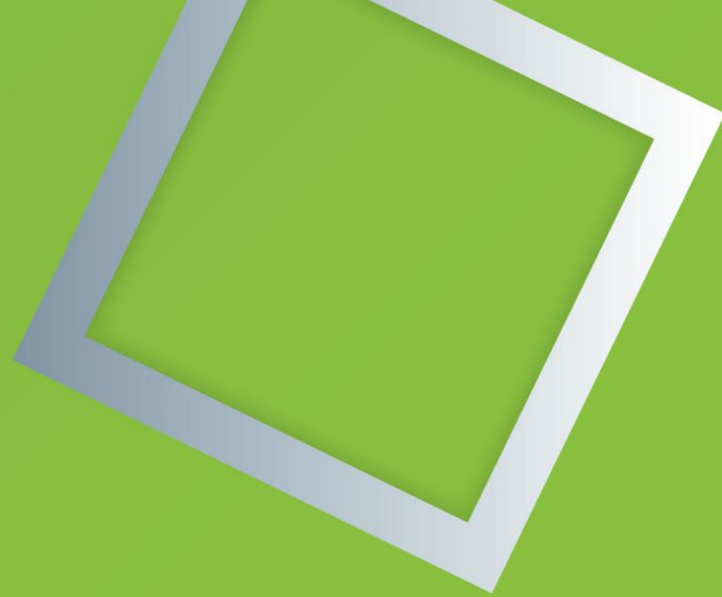
- **Principle # 1:** business intelligence requires a corporate culture of data-driven decision making
- **Principle # 2:** a business intelligence system must be quantifiably reliable (which requires near-perfect data quality)

The Third Business Intelligence Principle Is Driven by the Need to Differentiate Each Business

- An antidote to commoditization is differentiation, where one demonstrates an advantage over competitors valuable enough to warrant a premium
- Finding and convincingly demonstrating differentiation requires displaying deep and precise understanding of customers' needs
- But everyone's business and every situation is different ...
- ... so, business intelligence has to be able to answer very specific questions posed by its user, not just deliver standard reports

What Does It Take for Business Intelligence to Perform at the New Level? Three Principles:

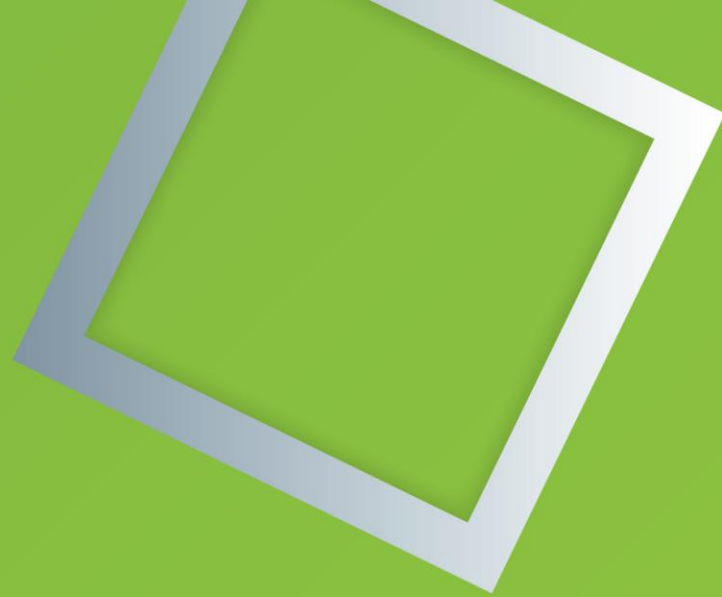
- **Principle # 1:** getting full value from business intelligence requires a corporate culture of data-driven decision making
- **Principle # 2:** a business intelligence system must be quantifiably reliable (which can happen only by meeting certain requirements, one of which is near-perfect data quality)
- **Principle # 3:** a business intelligence system must have the power and flexibility to address any differentiated, precise question its user asks (which can happen only with enough data detail, foundational database structure, and tool design)



Aren't we already using business intelligence?

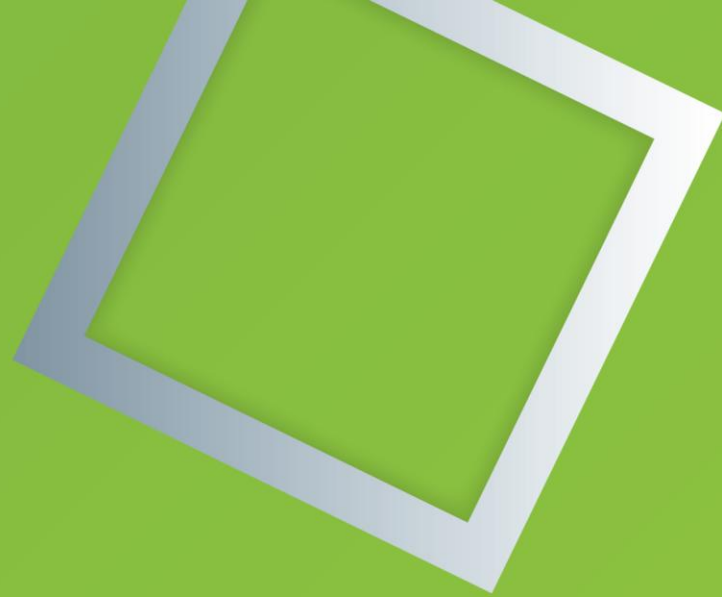
The Gap in Common vs. Effective Use of Business Intelligence Can Be Closed

- The most common uses of business intelligence are “lookup” functions. Most companies (just over 80%) use business intelligence for this
- About 40% of clients initially used business intelligence also for estimating market size
- The third most common use (just under 25% of clients) is identifying potential customers and competitors for specific products
- Less than 10% of companies use business intelligence more deeply, e.g. for micro-segmentation, optimization, or forecasting



With business intelligence that meets the threshold criteria, what specifically can it do for you?

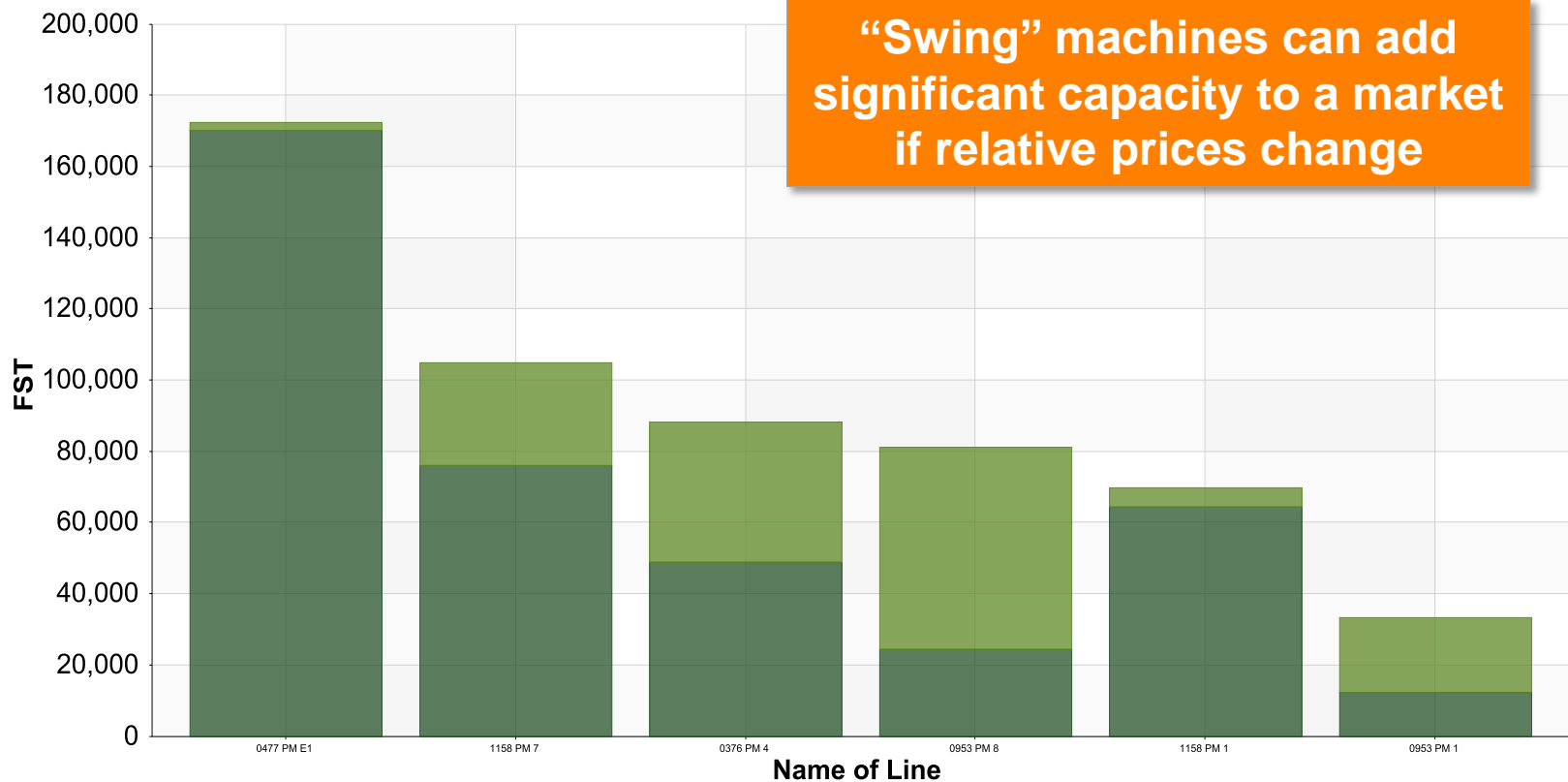
Case examples ...



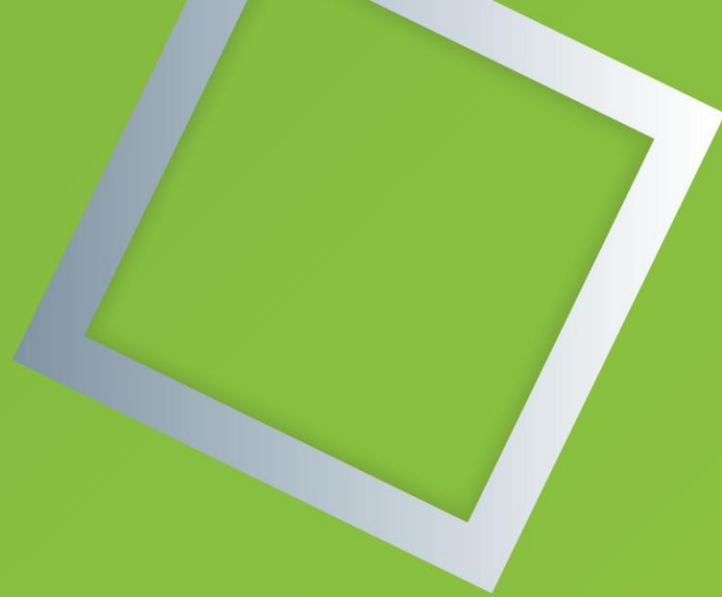
Defending an M&A deal to anti-trust regulators

A large paper producer made a successful offer to acquire a peer but the deal was challenged by the Department of Justice (DOJ) for having the potential to overly-concentrate the market's capacity.

Defending an M&A Deal to Anti-Trust Regulators



Swing machines have significant hidden capacity, expanding the market definition

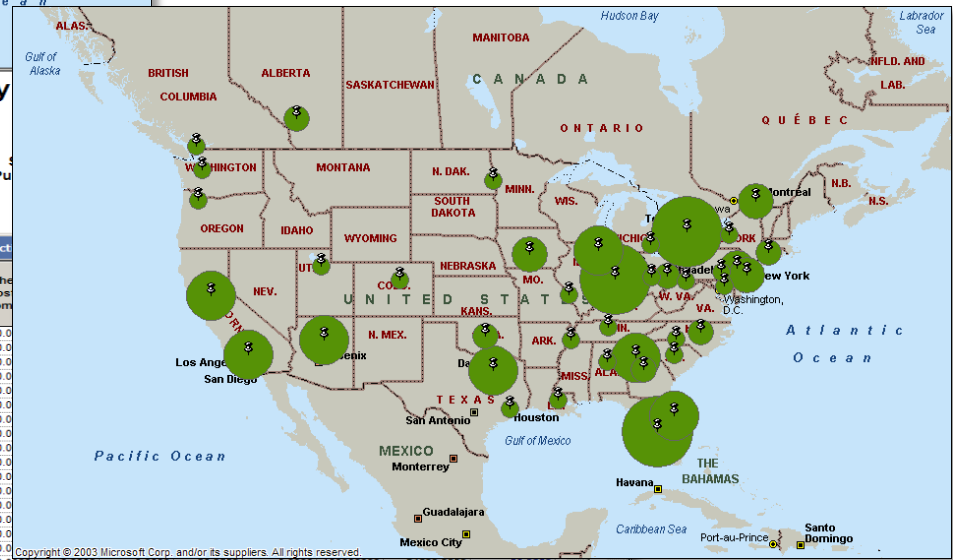
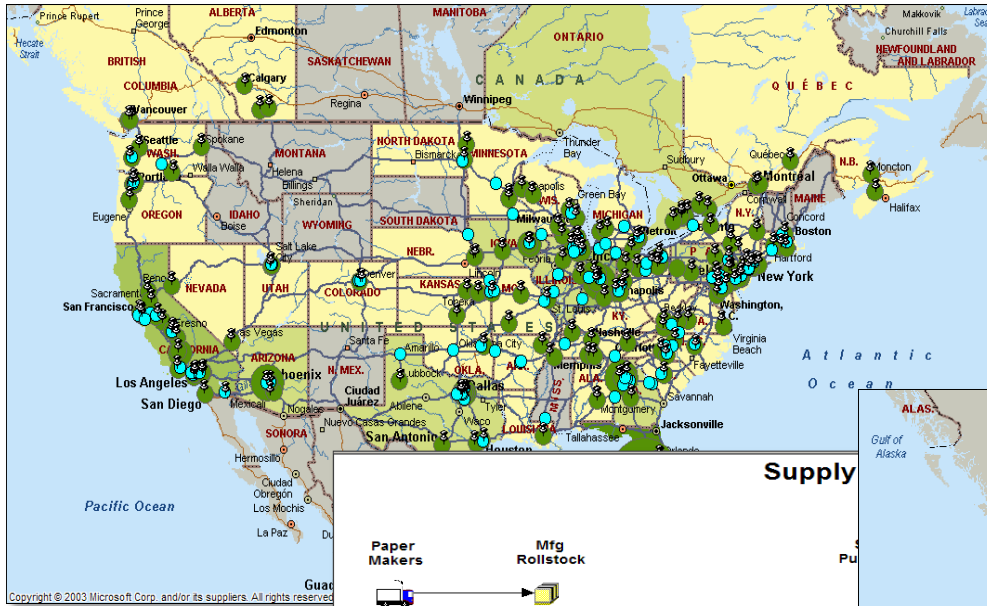


Supply Chain Optimization

A major consumer goods company buying hundreds of millions of dollars of corrugated boxes believed significant savings should be available through changes to its supply chain.

Supply Chain Optimization

Reliable data on producers and converters used in a supply chain optimization model produces millions in savings



Supply

Paper Makers → Mfg Rollstock

converter.cor [Converter Boxes to End User Boxes - 1. Transfer Act]

	To End User Site	Product Identifier	Attribute 1	Attribute 2	Attribute 3	Attribute 4	Cost USD / Truckload	Other Costs Shipped
1	0010-PEP	2006	n/a	n/a	n/a	n/a	2917.2200	0.0
2	0010-PEP	2060	n/a	n/a	n/a	n/a	2917.2200	0.0
3	0020-PEP	2001	n/a	n/a	n/a	n/a	3147.4100	0.0
4	0020-PEP	2002	n/a	n/a	n/a	n/a	3147.4100	0.0
5	0020-PEP	2151	n/a	n/a	n/a	n/a	3147.4100	0.0
6	0020-PEP	2207	n/a	n/a	n/a	n/a	3147.4100	0.0
7	0030-PEP	2001	n/a	n/a	n/a	n/a	2927.6700	0.0
8	0030-PEP	2028	n/a	n/a	n/a	n/a	2927.6700	0.0
9	0030-PEP	2030	n/a	n/a	n/a	n/a	2927.6700	0.0
10	0030-PEP	2035	n/a	n/a	n/a	n/a	2927.6700	0.0
11	0030-PEP	2036	n/a	n/a	n/a	n/a	2927.6700	0.0
12	0030-PEP	2038	n/a	n/a	n/a	n/a	2927.6700	0.0
13	0040-PEP	2115	n/a	n/a	n/a	n/a	2680.9500	0.0
14	0050-PEP	2001	n/a	n/a	n/a	n/a	2854.2700	0.0
15	0060-PEP	2001	n/a	n/a	n/a	n/a	2798.8900	0.0
16	0060-PEP	2066	n/a	n/a	n/a	n/a	2798.8900	0.0
17	0070-PEP	2001	n/a	n/a	n/a	n/a	3379.9900	0.0000
18	0070-PEP	2002	n/a	n/a	n/a	n/a	3379.9900	0.0000
19	0080-PEP	2001	n/a	n/a	n/a	n/a	3347.2700	0.0000

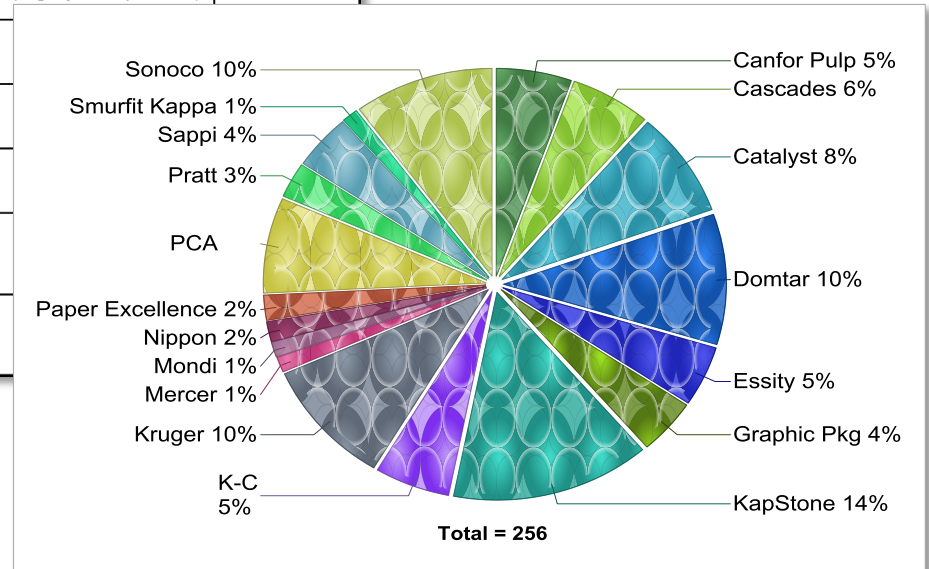


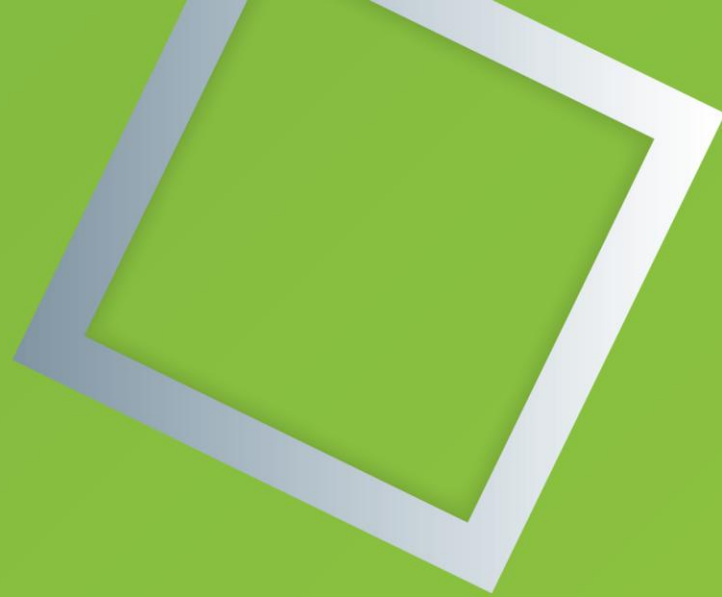
Sales Management's Resource Allocation

The head of sales of a major automation supplier wanted more sales without hiring more sales people.

Sales Management's Resource Allocation

<u>Prioritization Rule</u>	<u># mills</u>	<u>Maximum</u>	<u>Minimum</u>	<u>Average</u>
Number of DCS suppliers	541	10	1	2.8
Company presence	75			
Age of DCS system >7 years	407	20 systems	1 system	~ 6 systems
Bailey or Moore or Mod 300	157	11 systems	1 system	~ 5 systems
Competitiveness index	527	9.9 (uncompetitive)	0.3 (highly competitive)	6.0
Energy costs (all grades)	541	\$121/tonne		
Size rank (all grades)	527	9.9 (smallest)		
Total costs (all grades)	541	\$4,055/tonne		
Fuel mix (number of mills with hog fuel)	302			
Number of mills	541	24 mills (GP)		

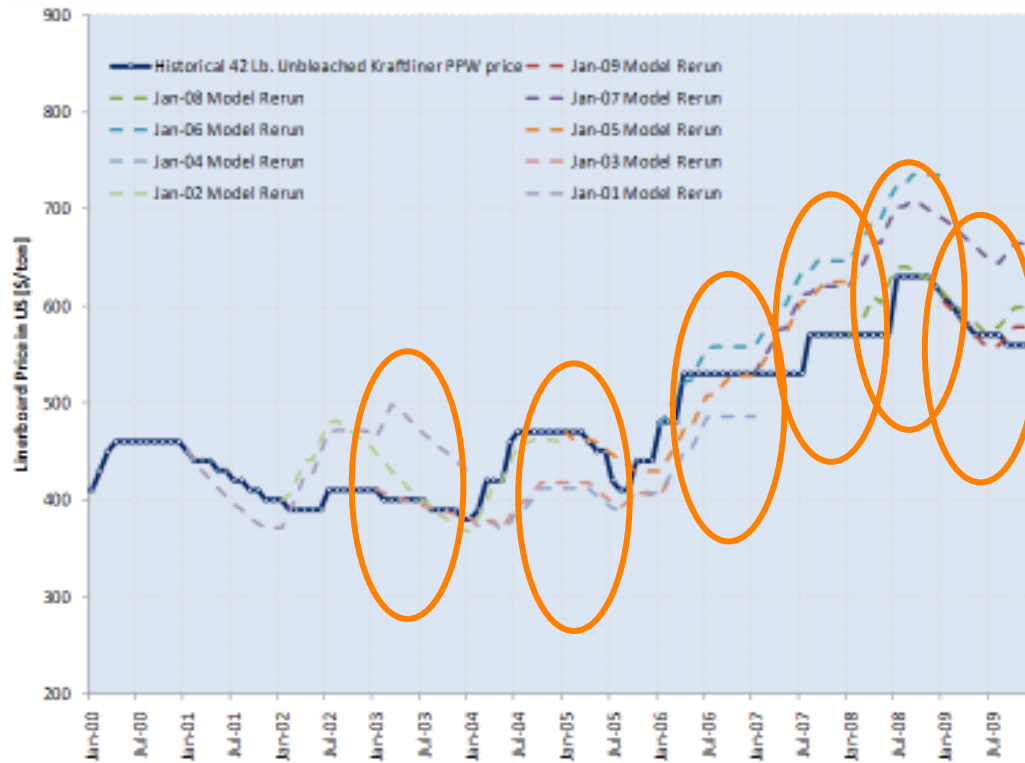




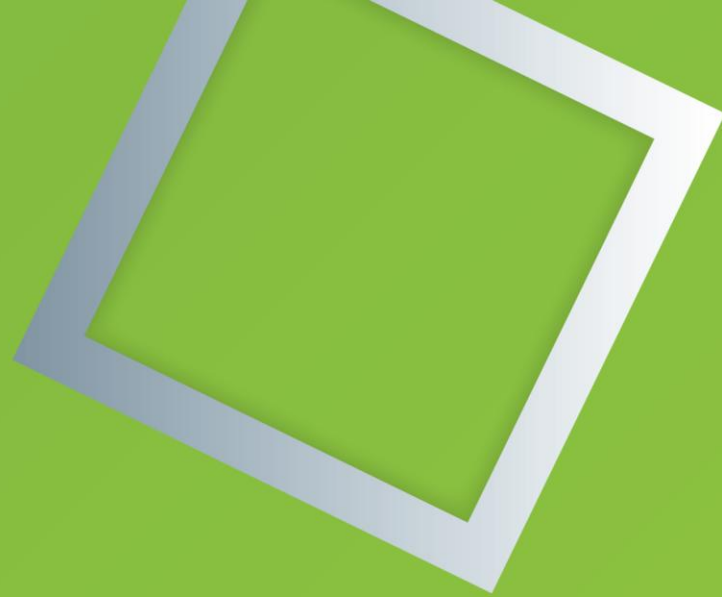
Bankruptcy Court Case

The creditors and shareholders of a major paper company in bankruptcy went to court to settle a dispute over the value of the company.

Bankruptcy Court Case



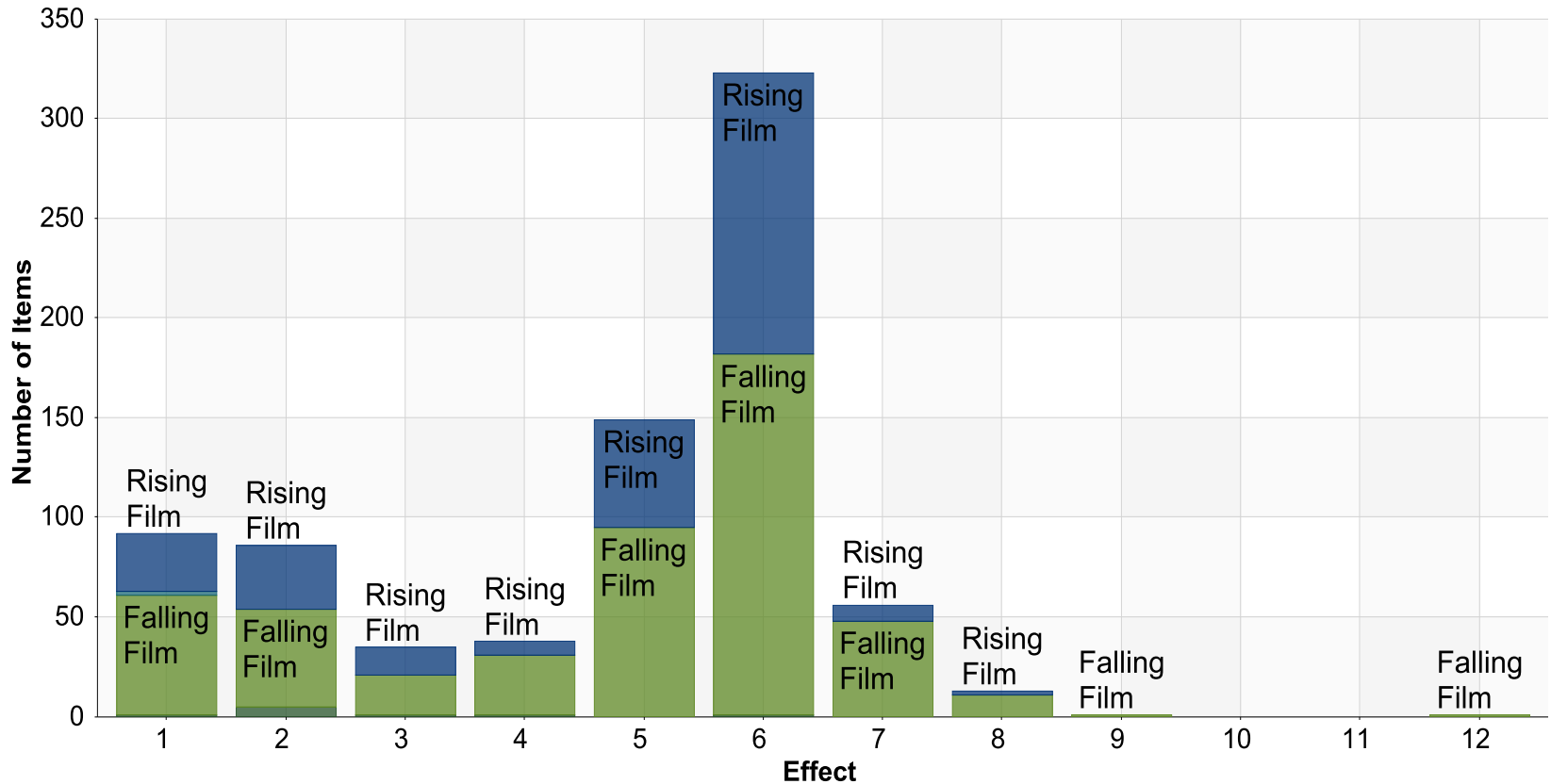
**Fisher-STE Linerboard model has forecasted reliably
for a decade**



New Product Development Analysis

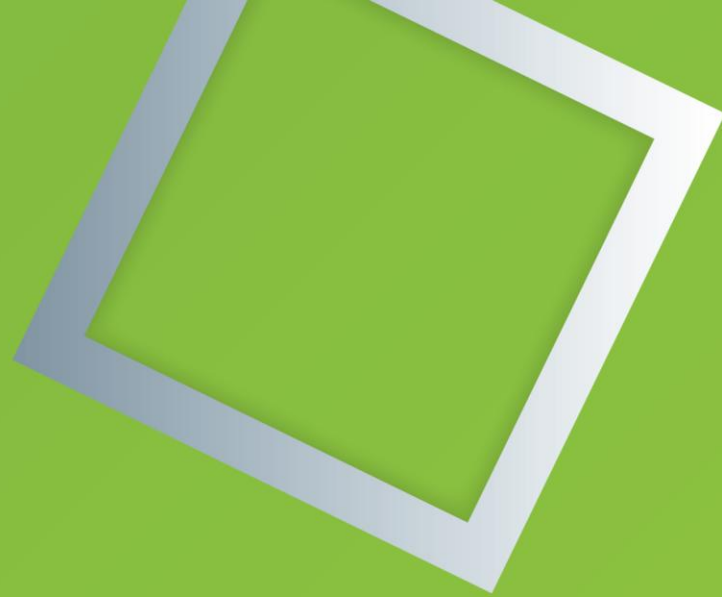
A large supplier to the paper industry developed a new material with advanced heat-transfer properties.

New Product Development Analysis



A Thought Experiment ...

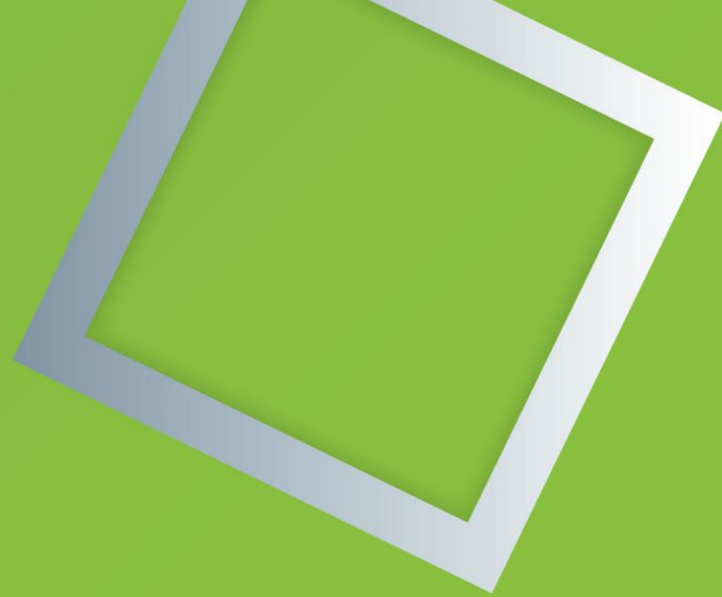
- The industry today spends less than \$75 million annually on BI
- The pulp and paper industry has over half of a trillion dollars in assets on a replacement value basis and about half a trillion dollars in sales
- An improvement in capital efficiency or margin of one percentage point would earn shareholders \$5 billion
- If shareholders demanded an average multiple on that investment, to get just that one percentage point more, they would be willing to spend ten times as much as is spent total on business intelligence all year
- If you believe that business intelligence is the fuel powering the industry's decision making, investments in BI meeting the quality and functionality requirements should have the highest returns of any investment you can make



Given what it can accomplish, it is almost *always* worth investing in the use of capable and reliable business intelligence.

Business Intelligence as a Strategic Investment

- The critical components in data-driven decision making are credible, high quality business intelligence and the habit of using it
- To perform, business intelligence resources have to exceed certain thresholds for data quality, data structure, and tool design
- Companies that use business intelligence well earn more money, usually at the expense of their competing peers
- Data-driven decision making isn't just a way to become a better business; it's a strategic investment
- We encourage you to talk with us about developing or enhancing a data-driven decision making culture of your own



Fisher International is a strategy consulting firm known for its data-driven leverage – databases, models, and technologies – that help clients address important business issues.

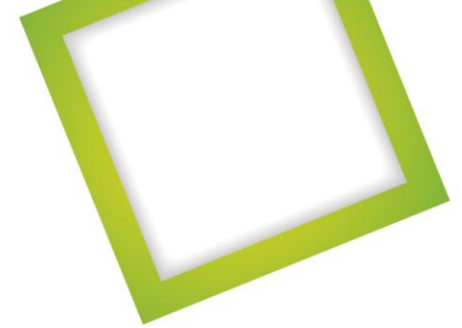
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Selected Clients





Thank you for your time.

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