



IBM SolutionsConnect 2014

A New Era of Smart

February 2014 | Bangkok, Thailand



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Unlocking business insights:
Transform Business Management
Processes

Deb Mukherji
Lead, Industrial Sector - Asia Pacific
Smarter Planet Solutions





New Market Dynamics force Enterprises to Transform



Emerging Market Growth

Emerging markets, led by China fuels 2.6x the growth rate of developed markets, contributing over 50% of all new growth²



Cloud Computing

2011 spending on private cloud services is \$13B....growth over next four years will exceed 26% annual growth²



Security

Security remains robust for supporting regulatory and policy compliance needs²



Mobile Enterprise

By 2013, 80% of businesses will support a workforce using tablets¹



Compliance

The cost of non-compliance—fines, legal fees, and disrupted services—was almost 3x the cost of compliance³

**CFOs' Opportunity:
Be the agent of
innovation & growth as
the trusted advisor who
leads the transformation
for your enterprise**



Big Data

'Digital universe' will grow to 1.8ZB in 2011, up 47% from 2010, and rocketing toward over 7ZB by 2015²



Social Business

By 2015, 40% of large enterprises will have a corporate "Facebook," for circulating both business and personal data¹



Next-generation analytics

80% data growth is unstructured¹



Volatility Expense **Risk** Growth
Reporting **Forecasting** Cash Flow
Shareholders Revenues **Regulation**
Transparency **Uncertainty** Working Capital
Capital **Profitability** Variability





Organizations continue to struggle with Structural Complexity and Delivering Business Insight

Challenges

Nearly 40% of enterprises produce financial metrics manually (50% manually produce operational metrics)

Finance continues to spend **nearly 50%** of time on transactional activities

Over 25% lack the necessary common data definition and processes

Over 35% lack a common reporting platform and 50% lack a common planning platform

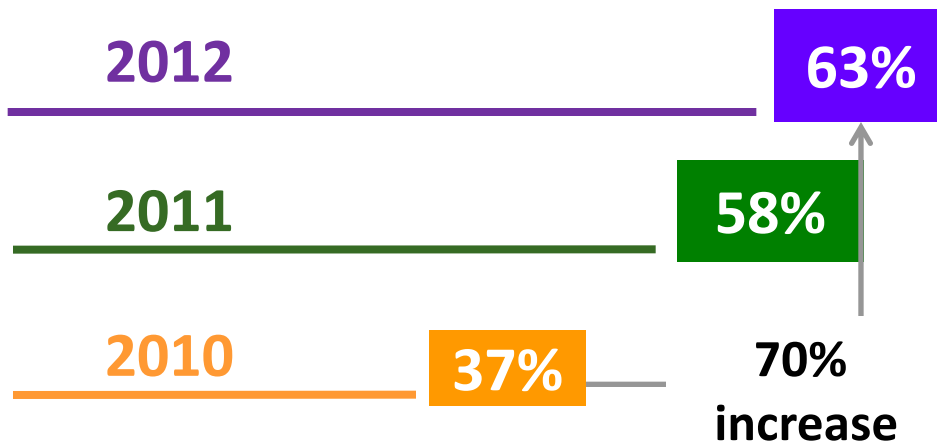
“fewer than 15% of CFOs are confident they get helpful information for making decisions about the future...”

—CFO Executive Board, March 2012



Analytics has evolved from Business Initiative to Business Imperative

Percentage of respondents who cited a competitive advantage from the use of information and analytics^{1,2}



Likelihood of organizations competing on analytics to outperform their peers²

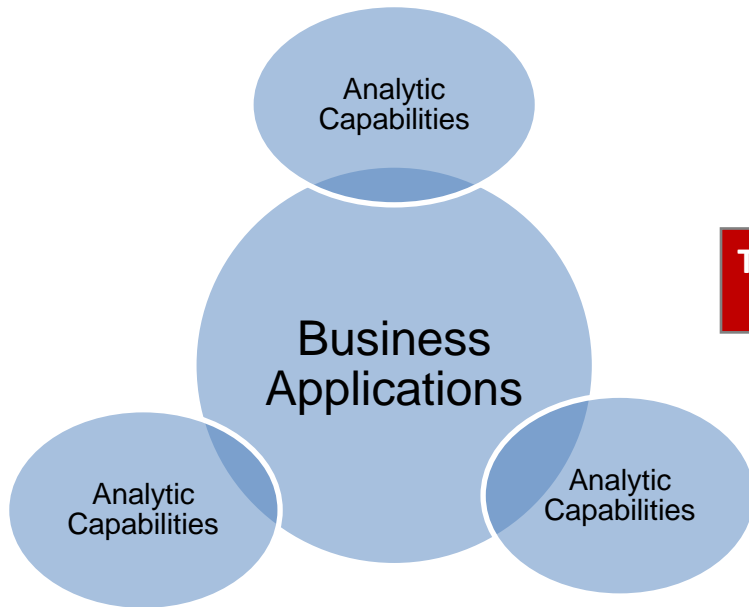


Source: ¹ 2010 and 2011 datasets © Massachusetts Institute of Technology. ² Analytics: The real-world use of big data. 2012 Study conducted by IBM Institute for Business Value, in collaboration with Säid Business School at the University of Oxford.

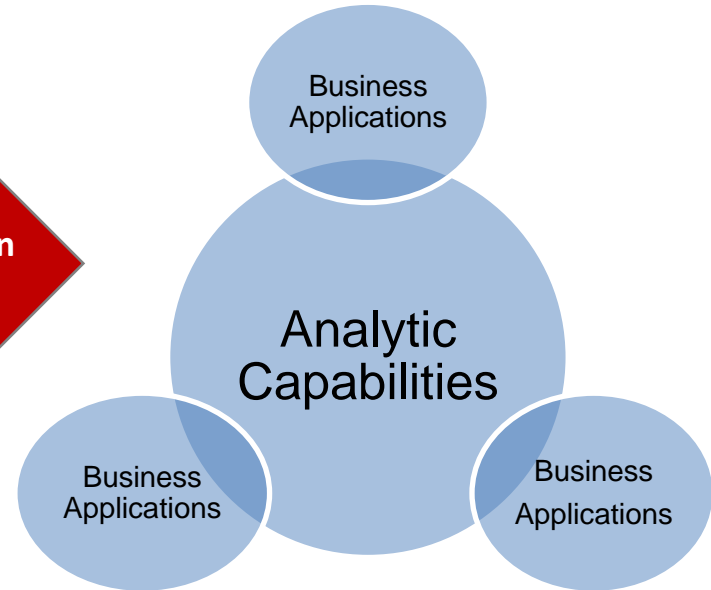


Moving to a New Paradigm

Application-Centered Today



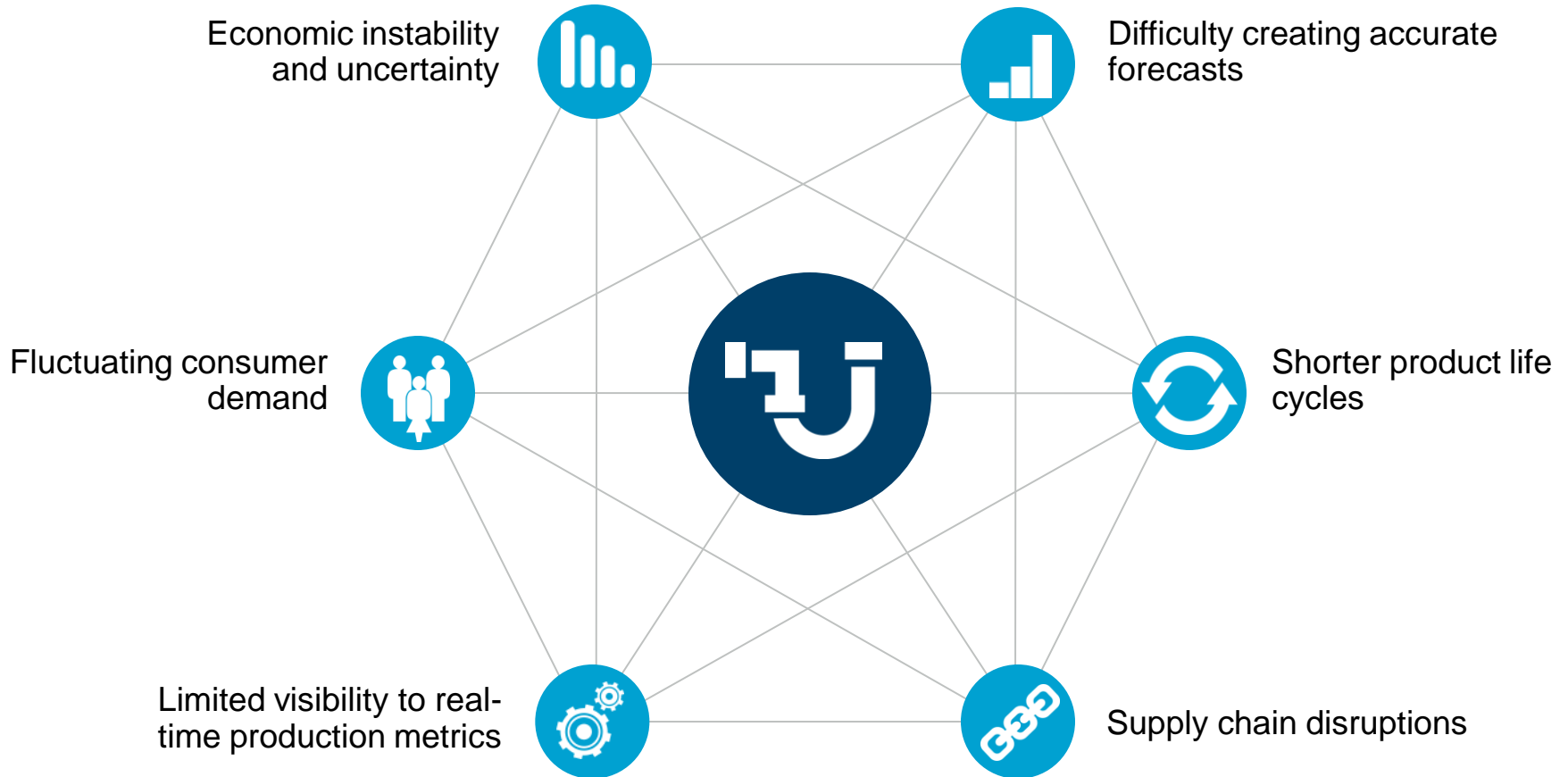
Business Analytics- Centered Tomorrow



Source: Gartner, 2012



Organizations must Adapt in the face of Global Economic Challenges and Changing Customer Demand





In spite of these challenges, Analytics is helping Manufacturing Organizations turn Threats into Opportunities

Intelligent Supply Chain	Customer Demand	Cost to produce
<p>Using advanced analytics gives the real time information and makes it available to the company which resulted in annual net benefit of nearly</p> <p>US\$ 1M</p>	<p>Using predictive analytics to help to manage inventory more efficiently, significantly reducing the need to carry surplus stock, resulting in a total cost saving in one year</p> <p>£31,1 M</p>	<p>Using analytics delivers a better and more cost-efficient product and the total investment was paid for and in the black in</p> <p>6 months</p>



Studies show that those organizations that are using analytics are outperforming those that are not—and the gap is widening

Analytically sophisticated organizations are

260%

more likely
to be top performers
than analytic beginners

Top performers are

84%

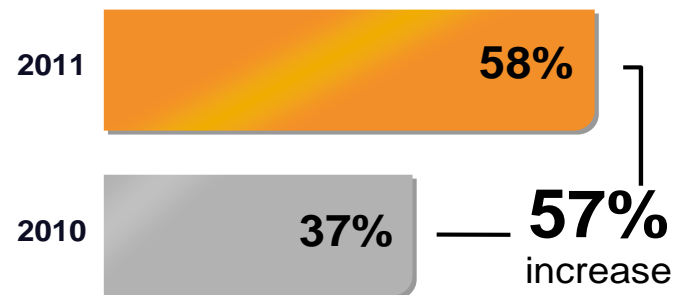
more likely to have info management and
business analytics integrated into their
core strategy and day-to-day operations

Organizations achieving competitive
advantage with analytics are

2.2x

more likely to be substantially outperform
their industry peers

Respondents who say analytics creates
a competitive advantage



Source: The New Intelligent Enterprise, a joint MIT Sloan Management Review and IBM Institute of Business Value analytics research partnership.
Copyright © Massachusetts Institute of Technology 2011



These Market and Technology Factors are driving Transformation in Business Process Optimization



Traditional View	Differentiated View
Product-Centric	Consumer & Customer-Centric
Push-Based	Demand-Driven
Ladder Planning	Cluster Planning to Tailored Assortments
Disconnected Channels	Integrated Cross Channel
Market Promotions	Personalized Promotions
Silo'd Visibility	Enterprise Visibility
Hindsight-based Decisions	Optimized Decisions



More Organizations are turning to Analytics to deliver Smarter Outcomes

What if ...

Customer service

... could offer personalized price promotions to different customer segments in real time?

Sales management

... could more accurately forecast demand, leading to better inventory management?

Executive team

... could make better business decisions using accurate data across all time horizons: past, present and future?

Finance

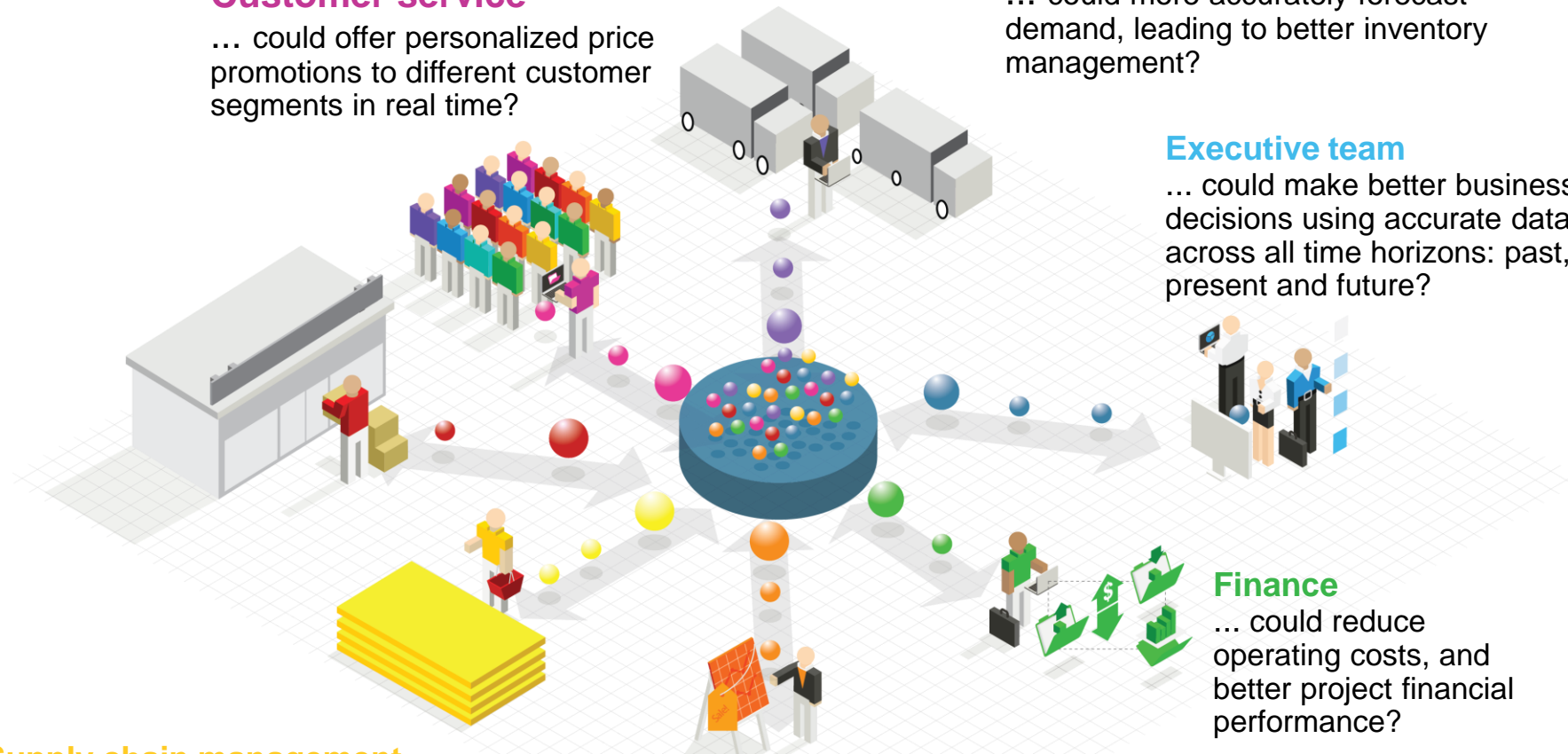
... could reduce operating costs, and better project financial performance?

Supply chain management

... could improve visibility into raw materials and inventory levels at every level of the supply chain?

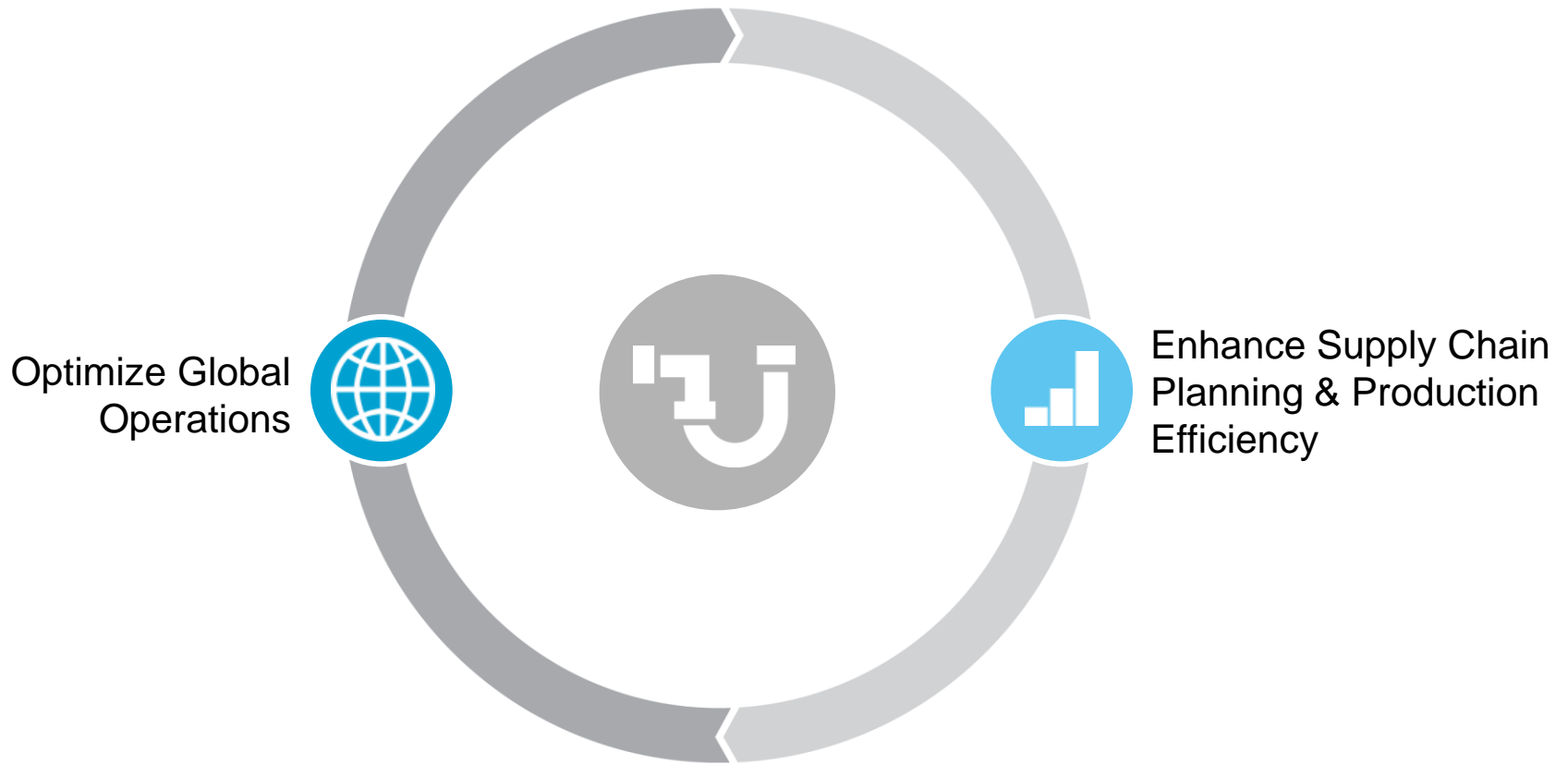
Marketing

... could develop targeted acquisition and retention campaigns with better results and lower costs?





Transforming Business Process with Deeper Insights





Focus on Optimizing Global Operations



Are my product plans aligned to the needs of customers?

How can I act on the vast amount of commentary from our blogs, forums, social media?

How can I have better visibility of my Supply Chain process?

What if I could monitor and act upon the vast amount of data generated in the sales cycle?



If I build a new product, what will be the demand for it?

How can better financial and demand forecasting improve the performance of my business?

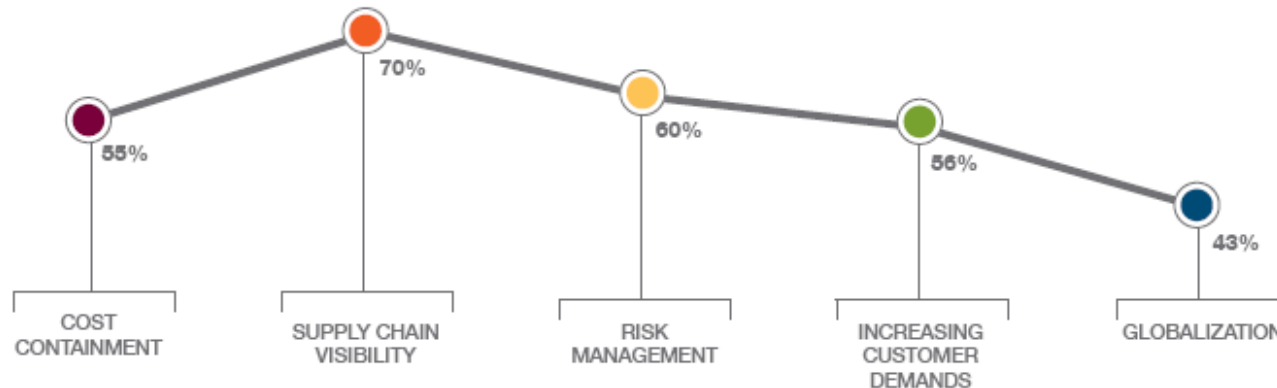
What intervention is required to meet sales and production goals?



Key Performance Management Drivers

SUPPLY CHAIN LEADERS WRESTLE WITH FIVE MAJOR CHALLENGES

Percentage who report this challenge impacts their supply chains to a significant or very significant extent.



- **Cost Containment** – Rapid, constant change is rocking this traditional area of strength and outstripping supply chain executives' ability to adapt.
- **Visibility** – Flooded with more information than ever, supply chain executives still struggle to “see” and act on the right information.
- **Risk** – CFOs are not the only senior executives urgently concerned about risk; risk management ranks remarkably high on the supply chain agenda as well.
- **Customer Intimacy** – Despite demand-driven mantras, companies are better connected to their suppliers than their customers.
- **Globalization** – Contrary to initial rationale, globalization has proven to be more about revenue growth than cost savings.

Source: IBM – Global Chief Supply Chain Office Study, 2009



Supply Chain Analytics is Critical Component of SCM

Traditional Supply Chain Visibility Approach Does Not Provide The Required Strategic View

- Users of supply chain technology are, and will continue to be, voracious consumers of analytics in their pursuit of understanding supply chain performance, and how to change/improve it.
- Although supply chain organizations have been predominately operationally/functionally focused, they will increasingly require a more-strategic, end-to-end supply chain analytical focus if they are to continue to perform in increasingly global and complex operating environments. This will drive the need for more of a PPM focus for analytical solutions.

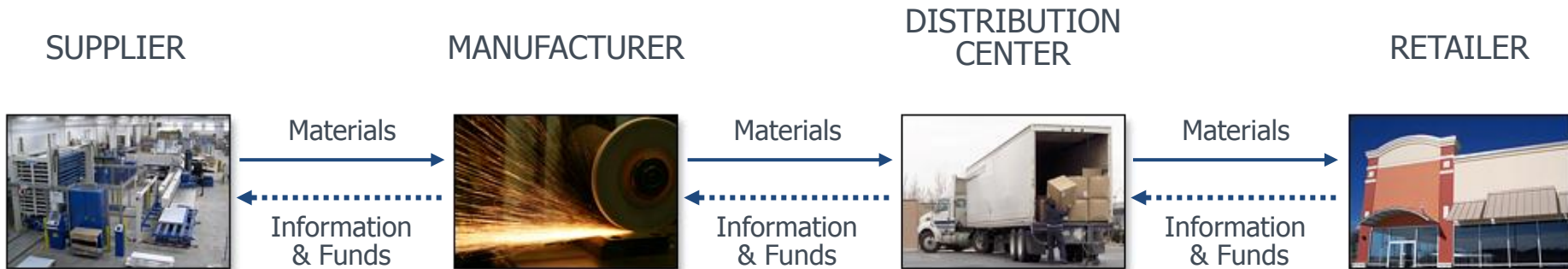
“Although supply chains should live and breathe analytics, because they are fundamental to understanding supply chain behavior, most supply chain groups struggle with an ad-hoc, “mishmash” of fragmented analytical approaches.”

... What is needed is an end-to-end enterprise scorecard for the Supply Chain

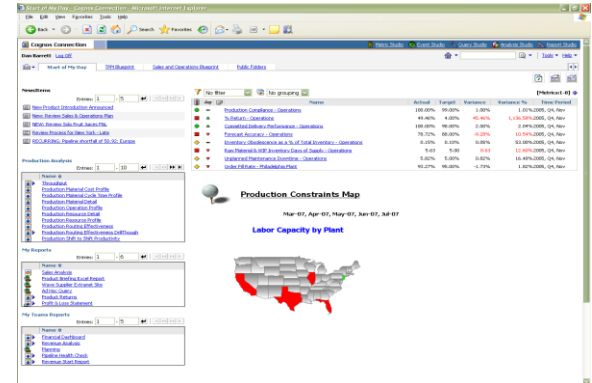
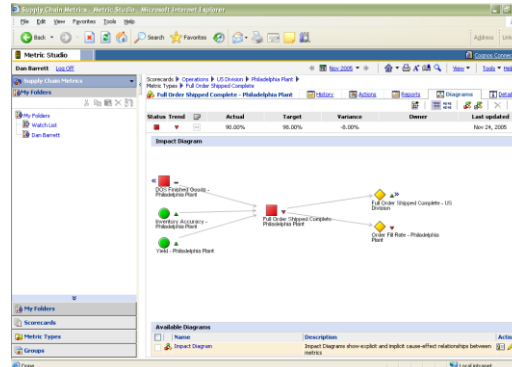
Source: Gartner Research - Supply Chain Analytics: Driving Toward Product Performance Management, 2009



What is Supply Chain Visibility?



Daily, Weekly, and Real Time Scorecards and Dashboards





Analytics for Optimizing Global Operations



Improved decision making through integrated strategic planning

Integrate sales, supply chain, and finance to collaborate on strategy and institute a financially-driven S&OP process

- Integrate supply and demand planning
- Balance planning with financial targets
- Link operational planning to the organization's strategic goals
- Improve organizational alignment, collaboration and performance
- Respond quickly to demand and supply changes
- Model the impact and trade-off among customer, supply and financial decisions
- Improve supply chain performance for better competitiveness and responsiveness
- Visualize the possible impact of product decisions at customer and product levels with SKU-level demand planning





Sales and Operations Planning (S&OP)



Draw data from all transaction systems that support finance, customer service, sales, marketing, and operations and provide an integrated solution to support an effective collaborative S&OP process. Pre-packaged models that support “what-if simulation” in demand, supply, and financial plans allow effective visibility and trade offs between customer service, operational efficiency, and finance goals.

Capabilities

- Identify and make improvements in supply chain processes to drive down costs and improve service.
- Accelerate your supply chain metrics implementation by leveraging 550 pre-configured KPI's
- Metrics linked to SCOR functional areas: **Plan, Source, Make, Deliver, Return.**
- Monitor performance based on the five SCOR attributes: **reliability, responsiveness, agility, cost and assets.**
- Provides calculated multi-tier metrics, exception alerts, linkages to scorecards and reports to measure supplier, production and delivery performance based on industry standards.
- Extend beyond ERP systems by exploring and analyzing supply chain performance at any level of detail.

Business outcomes

- Reduce inventory
- Improve cash flow
- Improve Forecast accuracy
- Improve customer service
- Simulate various alternatives to balance customer service, operational, and financial performance

Supporting Solution: IBM S&OP and Demand Planning

Reporting, Dashboards,
Scorecards

Predictive
Analytics

Planning



Becker Underwood streamlines global operations and refines supply chain management

Business Objectives

- Reduce number of reporting systems, streamline infrastructure, and optimize data assets for global consistency and timeliness
- Improve supply chain operations for inventory optimization
- Synchronize global communication and collaboration both internally and externally with customers and suppliers

Results

- 50% increase in inventory turns
- 15% improvement in forecasting accuracy
- Improved visibility into supply chain operations provides marketing, sales, and operational users with better planning information.
- Forecasting conversations transformed to more timely and accurate business predictions based on the most current information.
- Improved ability to manage and control inventory and overall supply chain.

Becker Underwood is a global multinational company that develops and produces a wide range of agricultural and horticultural solutions for turf management, agriculture, seed treatment, vegetation management, forestry, pest control, and many other industries

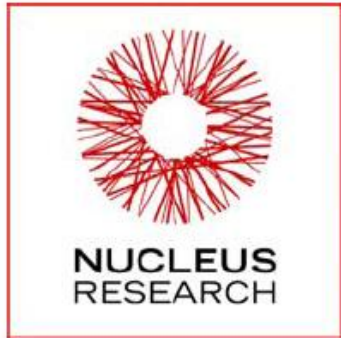


↑ INVENTORY PERFORMANCE

↑ FORECAST ACCURACY



Becker Underwood Return on Investment



Independent analysis by Nucleus Research:

- **ROI: 383%**
- **Payback: 4 months**



“Our investment in business intelligence and analytics has really paid dividends for our Company. The forecasting and planning processes between our operations and sales teams now run much more seamlessly, and the real time information that is available to us is invaluable. These are innovations that we have come to rely on, have adopted quickly, and have become an integral part of our company.”

*Peter Innes,
Chief Executive Officer,
Becker Underwood*



Better discounts from suppliers due to improved communication and raw material forecasts



Inventory reduction due to better forecasts



Timely ordering of supplies and better delivery to customers

Source: Avaya and Nucleus Research



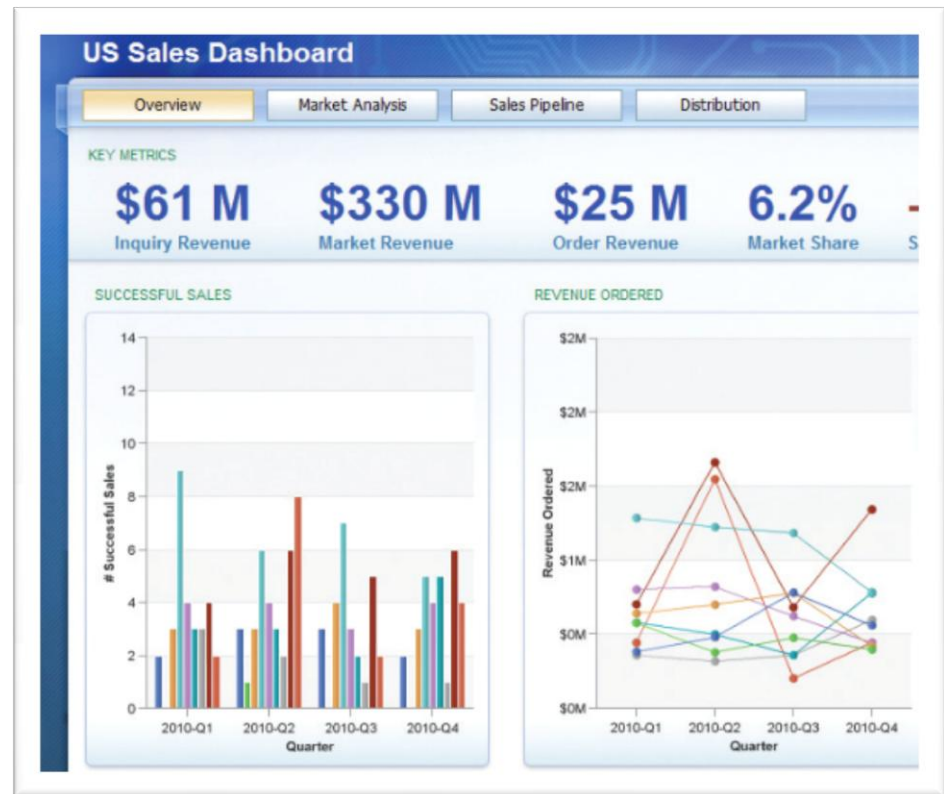
Analytics for Optimizing Global Operations



Improved decision making through deeper insight into Performance and Causality

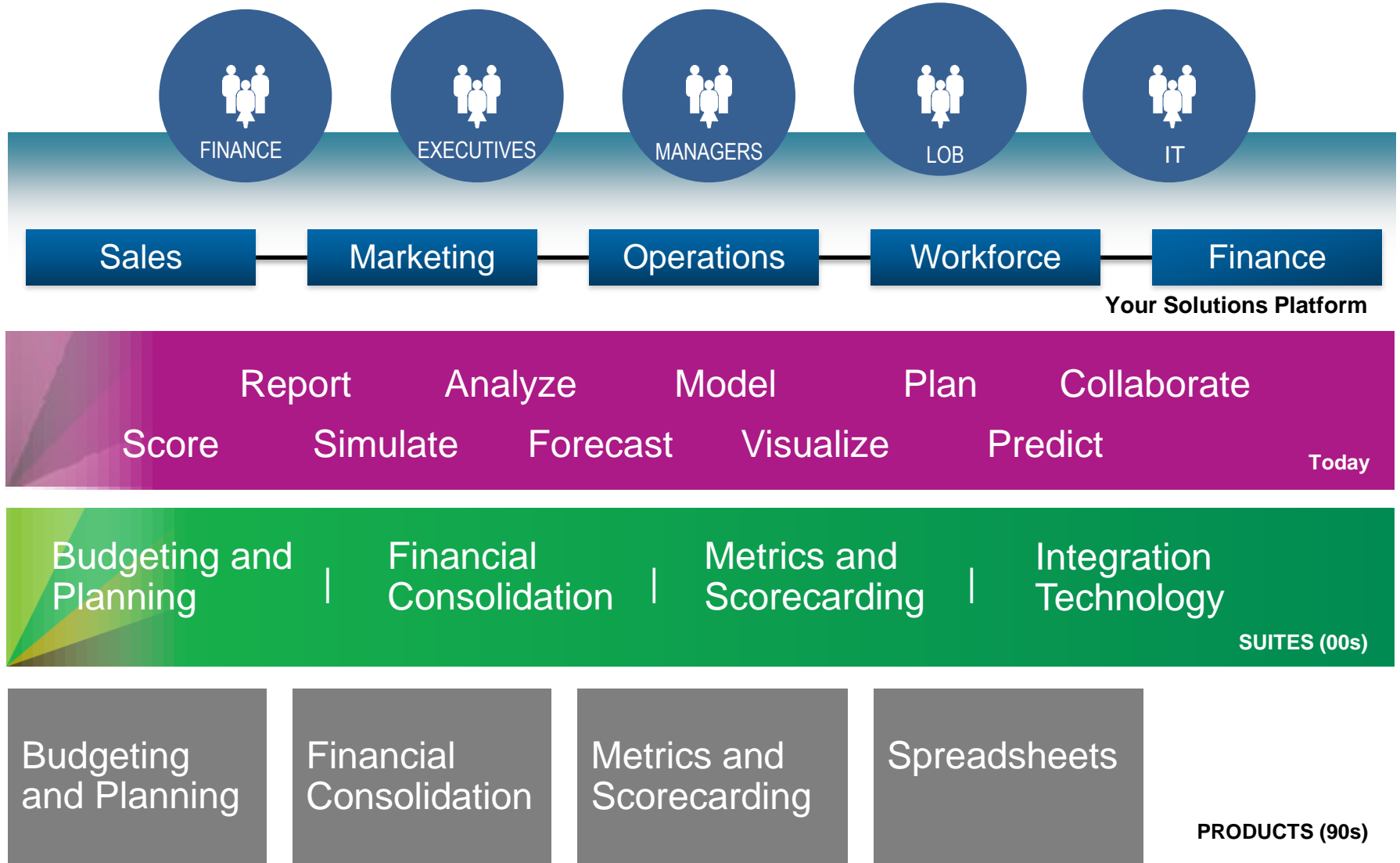
Analytics for Smarter Operations

- Track sales and finished goods inventory throughout the month
- Make marketing, production and forecast adjustments to meet sales and financial plans
- Analyze product, customer, channel and marketplace information





A Brief History of Performance Management





Performance Management today.....

Planning, Analysis, Forecasting, and Scorecarding in one platform to speed solution design, use, and agility

	Status	Trend	Actual	Target	Tolerance	Variance	Variance Percent
New Customers	■	▼	12	15	1.00%	-3	-0.20
Discount %	■	▼	22%	25%	10.00%	-3%	-0.12
Lost Accounts	●	▲	0	3	0.00%	-3	-1.00
Sales Calls	●	▲	30	21	0.00%	9	0.43
Revenue Per Product	●	▲	\$100.00	\$98.00	0.00%	\$2.00	0.02

- **Drive** alignment and monitor execution with scorecarding integrated in plans & forecasts
- **Model**, Design, Secure, and Roll-Out Solutions in one tool
- **Enable** all performance management experiences across web, desktop, spreadsheet, and Apple iPad



IBM CFO Performance Insight CFO Performance Dashboard

How it works

Pre-configured reports, dashboards and planning models built on IBM Cognos and IBM SPSS software



Predictive Analytics

Temporal Causal Modeling

- Discover causal relationships
- Assess lead-lag indicators
- Examine strength of metrics relationships and degrees of separation
- Anticipate the momentum of metrics drivers



Performance Measurement & Monitoring

Integrated Analytics

- Identify performance gaps for critical KPI's
- Analyze root causes guided by discovered causal relationships
- Assess the impact of alternatives scenarios
- Enable effective decision making



Advanced analytics increase visibility, insight and control over performance



What-if Analysis

Scenario Planning

- Model multi-dimensional business structures
- Evaluate the impact of alternative assumptions
- Immediately report on alternative scenarios



Information Management Foundation

Data Warehouse

Data Integration

Source Systems – ERP, G/L, Legacy Systems



Keep everyone in the loop, even when on the go

Extend capabilities for review, visualization, input, and approval **on the go**



Review and approval

- Track status
- Review, Annotate, Submit

Visualization and Contribution

- Interactive Visualization
- Input and Adjustment on the go



McCormick protects profit with detailed understanding of customer value and uncertain prices

CHALLENGE

- Significantly **reduce the profit at risk** due to volatile commodity input prices

SOLUTION

- **Collect and analyze** sales plan data by customer and across over 30,000 SKUs
- **Evaluate** the resulting profit contribution of product input in the “bill of material”

RESULTS

- **Diagnosed profit improvement moves** ahead of time; commodity price increases can be passed on to consumers or renegotiated with industrial customers
- **Conducted value engineering** with operations to reformulate flavors using commodities from different regions and suppliers
- TM1 and Cognos **helped McCormick record \$56 million in cost savings** from their Comprehensive and Continuous Improvement program



McCormick is a global leader in flavor. With more than \$4.0 billion in annual sales, the company manufactures, markets and distributes spices, seasoning mixes, condiments and other flavorful products to the entire food industry—retail outlets, food manufacturers and food service businesses in more than 110 countries.



Becker Underwood transformed its Planning and Performance Management

CHALLENGE

- Corporate expansion through acquisitions and organic growth resulted in **lack of visibility** and **consistency**

SOLUTION

- Implemented planning to achieve quick, high-impact **results focused on sales** and **order/refresh** process
- Incorporated customer and product-level plans into a 12-month rolling forecast for **greater visibility**

RESULTS

- **Resolved supply chain issues** resulting in 50 percent decrease over three years
- Incorporated **order data into the forecast process** and increased accuracy by up to 15 percent
- Better **access to information** across the organization has led to better customer service and shorter lead times



Becker Underwood produces specialty bio-agronomic and colorant products. Founded in 1982 and headquartered in Ames, Iowa, the company's annual revenues are more than \$240 million.



U.S. Lumber

BI tools provide immediate, intuitive insight into hourly and long-term business needs

The need:

U.S. Lumber had limited visibility into business metrics. Performing analyses was labor intensive and costly. Plus, static and inflexible reports were not supporting effective decision making.

The solution:

The company took advantage of web-based functionality that allows the finance team to publish standardized reports and tools to the web, effectively creating department-specific portals. Staff and line-of-business (LOB) manager can create ad-hoc and end-user reports without the assistance of IT or finance. Java software-based functionality allows users to drill into databases or reports that are continuously updated for new transactions.

What makes it smarter:

- Improved productivity by an average of 13 percent for the 120 users
- Reduced financing costs by accelerating turnover of both AR and inventory

"Previously, we would have an application created for us by an outside company. This became expensive, as an update to a third-party procurement application would have cost us \$100,000. With IBM Cognos 8 BI, we can create our own applications that are ten times more sophisticated and flexible than any of the applications created by third-party vendors."

Felipe Herrera, Senior Financial Analyst, US Lumber Group





Analytics for Optimizing Global Operations

Capturing and Consolidating those insights generated at multiple touch-points will deliver a more complete view than traditional analytics

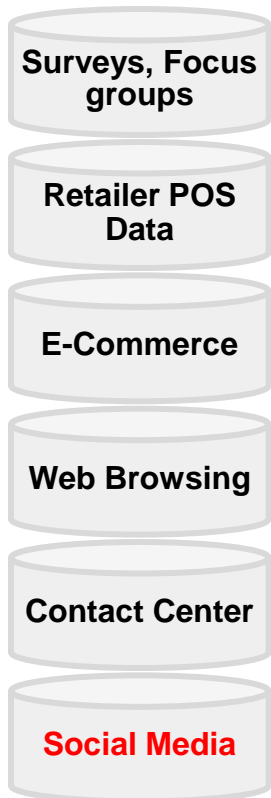
Capture and Analyze

**Structured &
Unstructured Data**

Extract trends

Expose patterns

Discover relationships



Take Action



- Marketing Campaigns
- PR Activities
- Product Development
- Packaging Design
- Category Management
- Sales





IBM Social Media Analytics:

Understand sentiment and digital influencers across all aspects of your organization

- **Assess** Social Media Impact
- **Segment** Social Media Audiences
- **Identify** Relevant Relationships
- **Discover** new ideas...and risks

IBM Social Media Analytics

- Deployment options: SaaS or On-Premise
- IBM Research assets for demographic, geographic and behavioral analytics
- Big Data capability built
- SPSS advanced analytics for best in class sentiment analysis and segmentation
- Six distinct sentiment languages: English, German, French, Chinese, Spanish & Dutch
- Influencer analysis
- Prebuilt dashboards
- User editable and configurable dashboards





Product Brand Check

...What Do Customers Think About My Product?

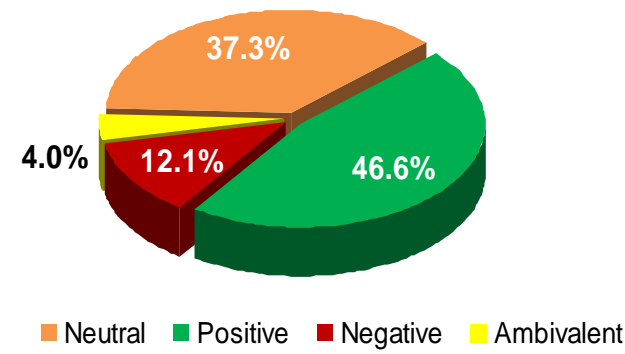


Growing product line wanted to capitalize on consumer themes to better engage target segment ...

... social insight of competitors led to internal assumptions regarding the product's price



Identified key social channels to gain feedback into the product line to more effectively serve them



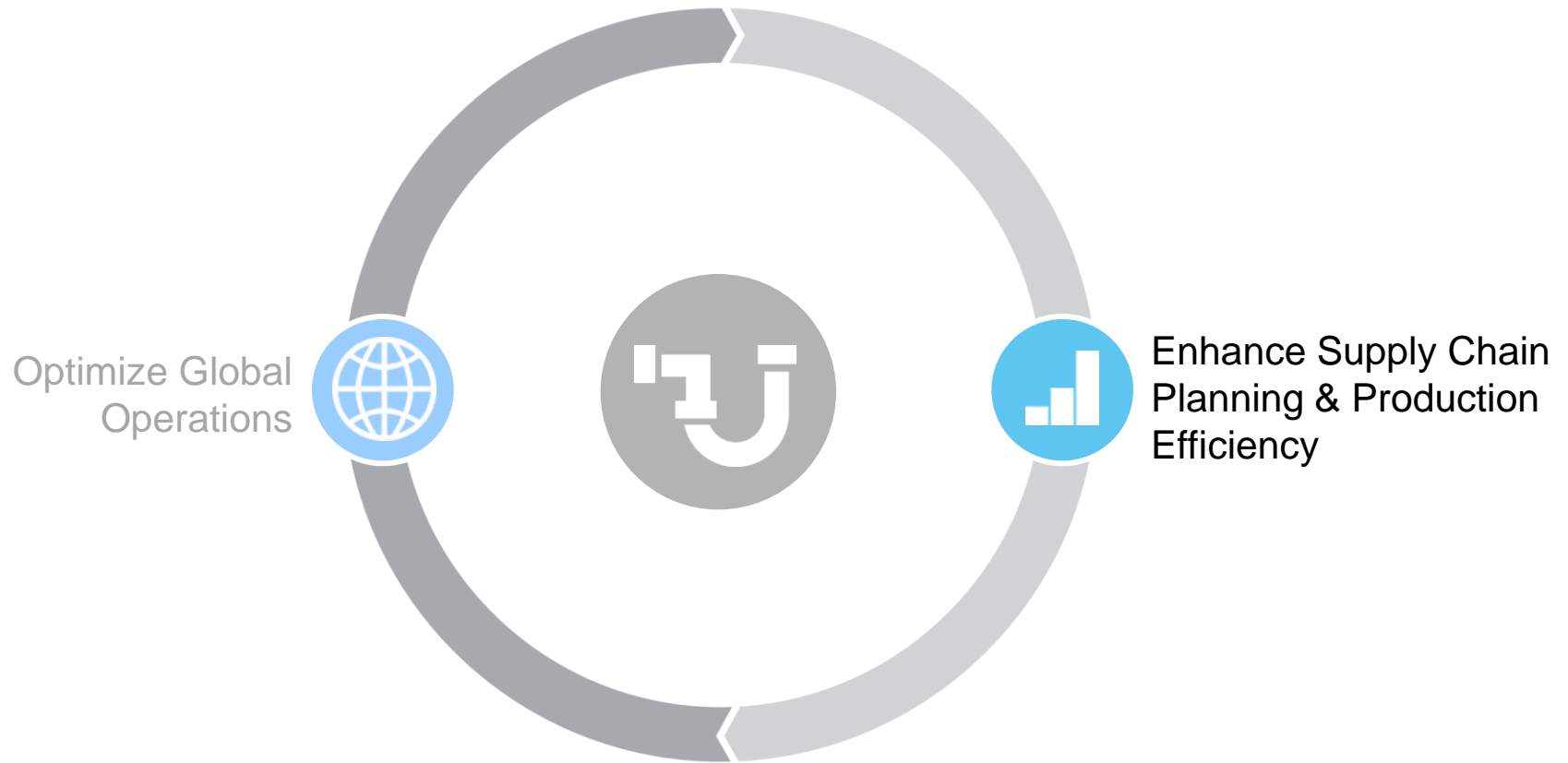
- Identified discussion volume across multiple social channels

- Drove market actions that prevented costly pricing discounts and package re-design

- Measured consumer reaction
- Compared results with traditional research data

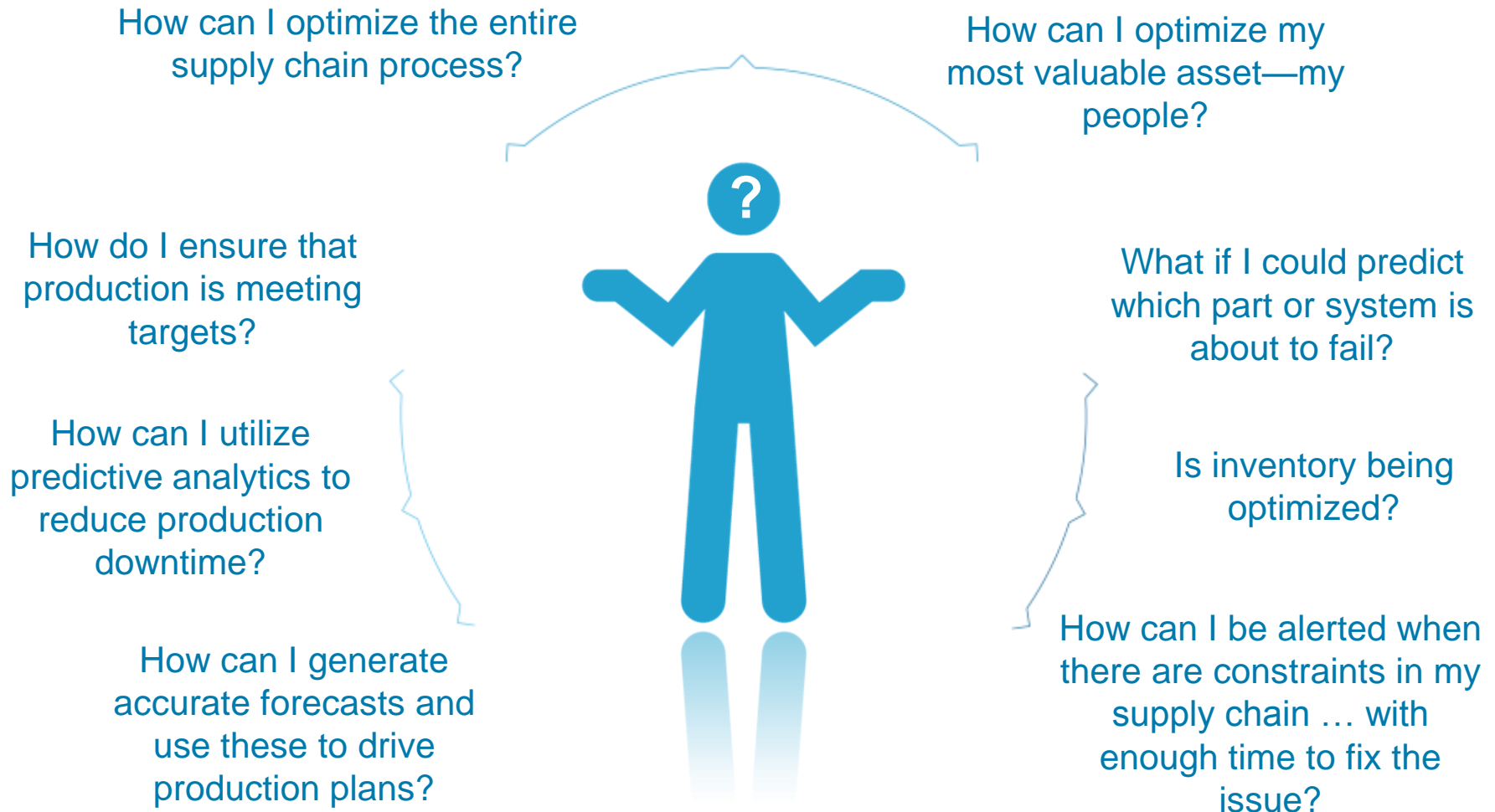


Transforming Business Process with Deeper Insights





Focus on Improving Production Efficiency





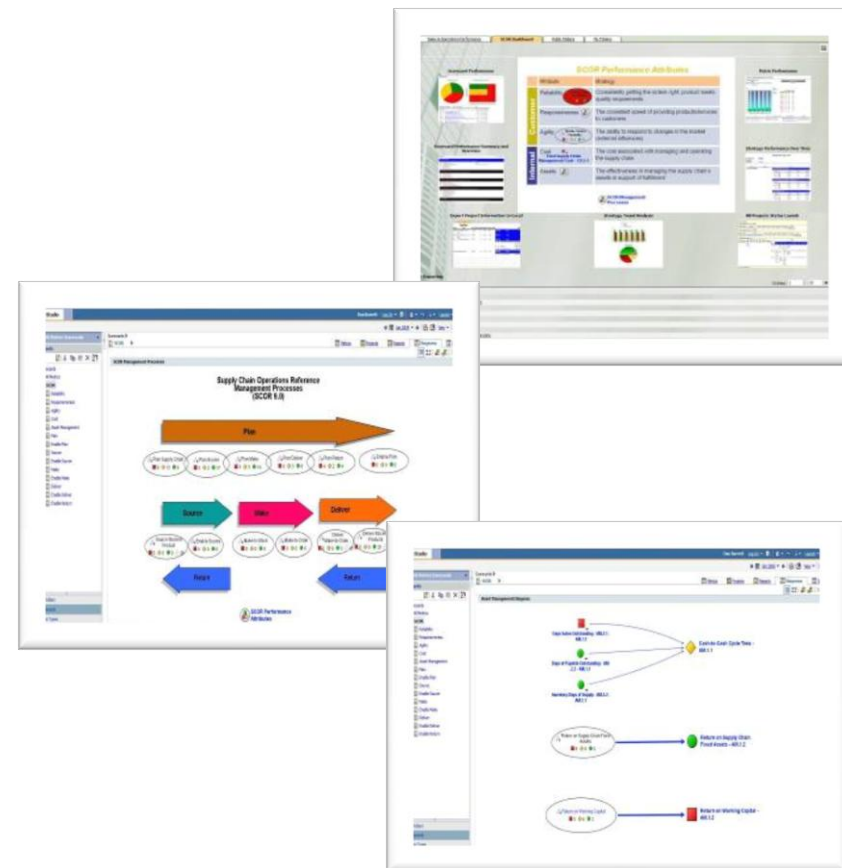
Analytics for Improving Production Efficiency

Improved decision making through end-to-end supply chain visibility



Supply Chain Operations Reference (SCOR) metrics

- Monitor end-to-end supply chain performance through predefined industry-standard Supply Chain Council SCOR metrics³
- Delivers functional view based upon execution criteria: Plan, Source, Make, Deliver, Return
- Monitor performance based on the five SCOR attributes—reliability, responsiveness, agility, cost and assets
- Consistently measure and compare multiple divisions, plants and departments
- Identify root causes of supply chain issues in order to take early corrective action



³ Supply Chain Council, "What is SCOR?", web page, 2011; <http://supply-chain.org/scor>



A customer Success Story: Avaya



INCREASE



↑ REVENUE
PERFORMANCE



- Extended visibility into global supply chain.
- End-to-end analysis of value chain operations in an SAP environment.
- Protected itself from supply chain disruption while simultaneously improving productivity.



Revenue protected from SC disruption

>US\$40-50M



Reduced staff and time spend on supply chain analysis

Becker Underwood



Better forecasting would enable it to increase inventory turns and reduce inventory levels

The need:

Implement a well-researched, end-to-end enterprise performance information system for business intelligence, planning, and financial consolidation. Improve supply chain operations for inventory optimization. Synchronize global communication and collaboration both internally and externally with customers and suppliers.

The solution:

The company chose to implement IBM Cognos software and after completing the consolidation portion, the team moved to address analytics for the supply chain. The application was first rolled out to marketing, product management and operations because the company wanted to gain some experience with the process before deploying it to sales.

What makes it smarter:

- the ability to manage and control its inventory and overall supply chain, resulting in direct cost savings
- Project ROI - 383% within 4 month
- Estimated \$1M in annual savings
- Inventory turns increased from 2.3 to 4
- Forecast accuracy improved 10 to 15%

“Our investment in business intelligence and analytics has really paid dividends for our Company. The forecasting and planning processes between our operations and sales teams now run much more seamlessly, and the real time information that is available to us is invaluable in running our business efficiently. These are innovations that we have come to rely on, have adopted quickly, and have become an integral part of our Company.”

— Peter Innes, Chief Executive Officer,
Becker Underwood





Analytics for Improving Production Efficiency



Improved decision making and deeper insight specifically for production operations

Predictive Analytics

Production line continuity

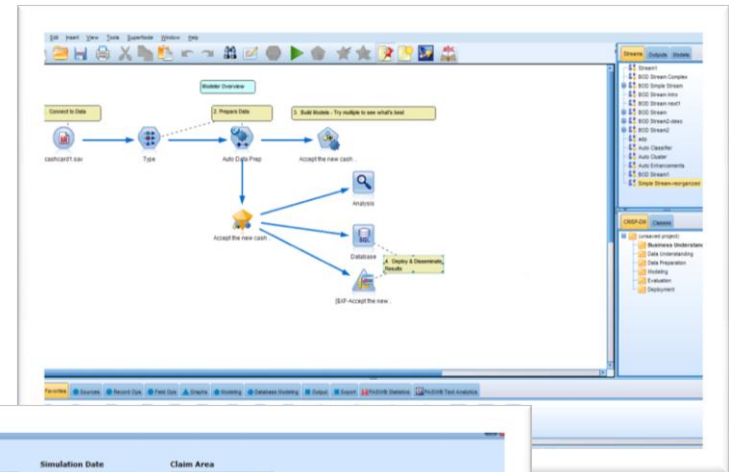
- Identify when production assets are likely to fail or need service so that preventive maintenance can be scheduled to help maximize production uptime and minimize disruptive, costly unscheduled downtime

Field-level customer service

- Identify when equipment in the field is likely to fail or need maintenance in order to help maximize uptime/in-service time for equipment sold to customers or used to deliver service

Warranty claim cost reduction

- Analyze warranty and service information to identify the root cause of failures
- Proactively address issues to help reduce warranty cost and improve customer satisfaction
- Take corrective action to improve production process and help prevent recurrence



Combine matrix		Model actions			Results		
	Refer	Standard	Fast Track	Action	Count	Percent	
Rules actions	Refer	Refer	Standard	Standard	Fast Track	674 86.41%	
	Standard	Standard	Standard	Standard	Refer	3 0.38%	
	Fast Track	Standard	Standard	Fast Track	Standard	103 13.21%	
					780	100%	

Action	Run 1	Run 2	Run 3	Distribution
Fast Track	705	674	674	
Refer	62	62	3	
Standard	13	44	103	
Total	780	780	780	



Predictive Maintenance and Quality

What if you could predict the failure of an asset to prevent costly unexpected downtime?

What if you could unearth patterns in maintenance operations over time that could lead to process improvements?

You could...

- Improve operational efficiency
- Optimize product quality
- Extend the life of an asset
- Reduce unscheduled maintenance
- Improve diagnosis and prognosis capabilities
- Determine best repair strategies
- Exceed customer expectation



What if, when an asset is scheduled for maintenance, you could predict what parts are likely to fail in the near future?

What if you could replace those parts that have not yet failed and avoid further unscheduled downtime?

What if you could quickly mine the thousands of logs that describe the maintenance performed on systems and determine what important observations are being logged by the maintenance team?





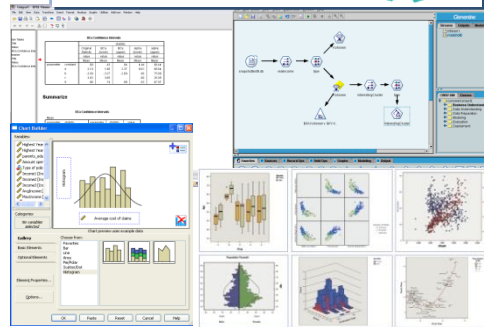
The Predictive Analytics Methodology



Analyze data to provide insight and predict the future

Predict

Recommend the most appropriate action to take



Capture

Predictive Analytics

Act

- Constituent
- Localization
- Sensor
- Event data
- ...



- Customer
- Supplier
- Technician feedbacks
- ...

Store new data on customers, events, etc. for continuous improvement

- Optimize maintenance
- Anticipate failure
- Minimize risk
- Upsell / cross-sell
- Improve customer retention
- ...

Optimize

Up-sell

Retain



Data Sources

Decision Optimization & Automation



At IBM, we applied advanced condition monitoring in a Quality Early Warning System (QEWS) to identify trends in Supply Chain before traditional SPC

Challenge

Quality and supply chain managers need advanced techniques to examine quality data from tens of thousands of parts (incoming, manufactured, deployed) and to provide better, more proactive quality management

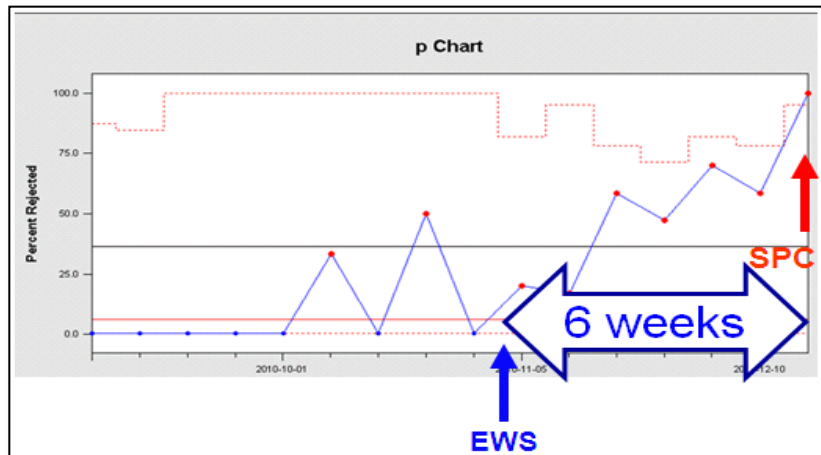
Solution

Software system which uses proprietary IBM technology to detect & prioritize quality problems earlier with fewer false alarms, coupled with push alert functionality for IBM & suppliers to proactively detect & manage quality issues at any stage of product lifecycle

Business Value at IBM

- **Cost savings** – \$39M in hard warranty savings, with additional soft savings and benefits in other areas
- **Proactive quality mgt** – identify and resolve issues before they become problems, up to 6 weeks earlier than traditional SPC
- **Improved quality processes** – improves quality process efficiency & effectiveness

Results from QEWS Proof of Concept at external client



Key Innovations

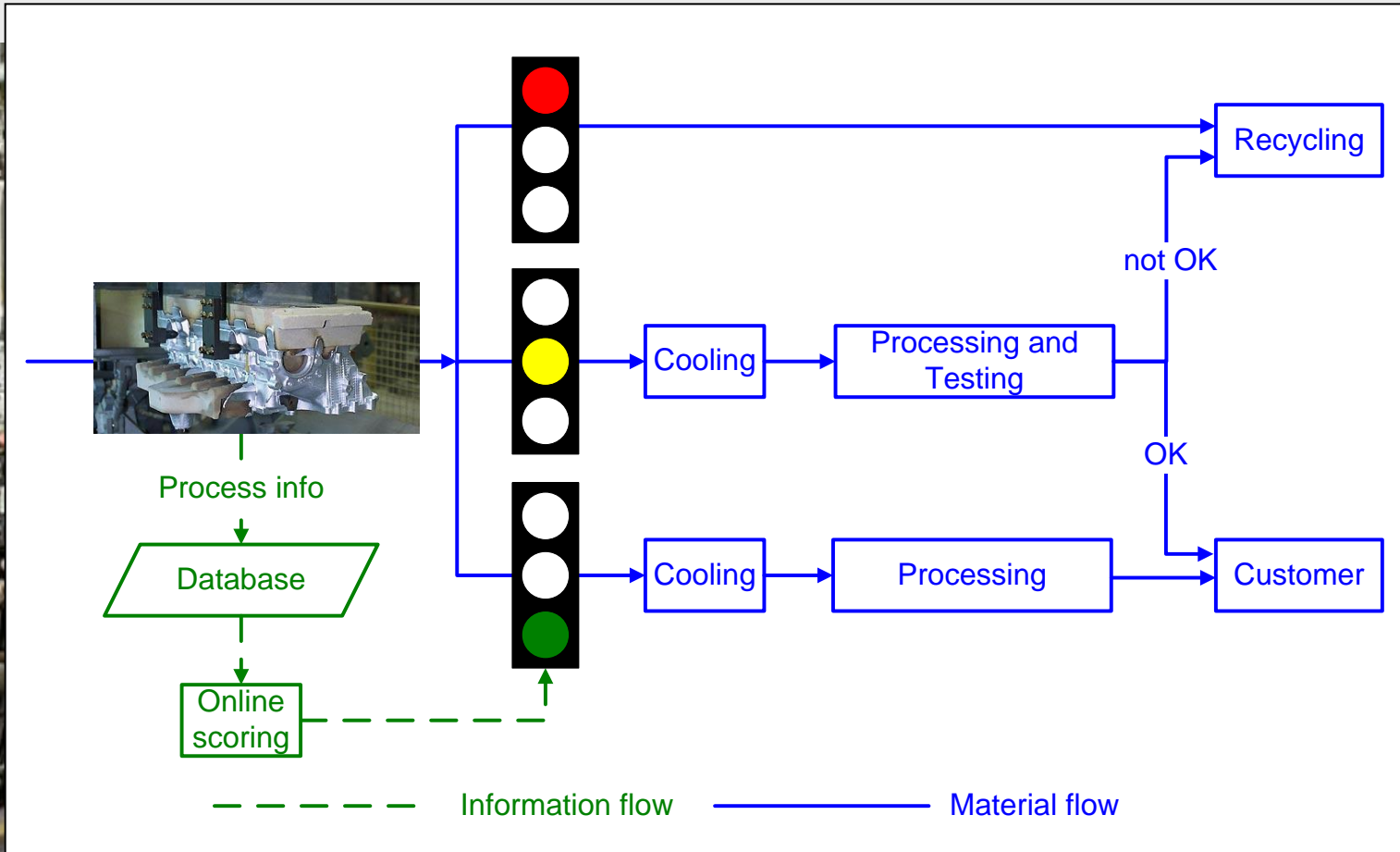
- Earlier identification of quality issues through proprietary analytic techniques
- Fewer false alarms
- Structured issue prioritization, management, follow-up

Distills an ocean of supply chain quality data into prioritized, actionable issues



Case Study: Predictive Casting Quality for BMW

By predicting casting quality, IBM was able to reduce scrap rate by 80% in 12 weeks at a BMW light-alloy foundry

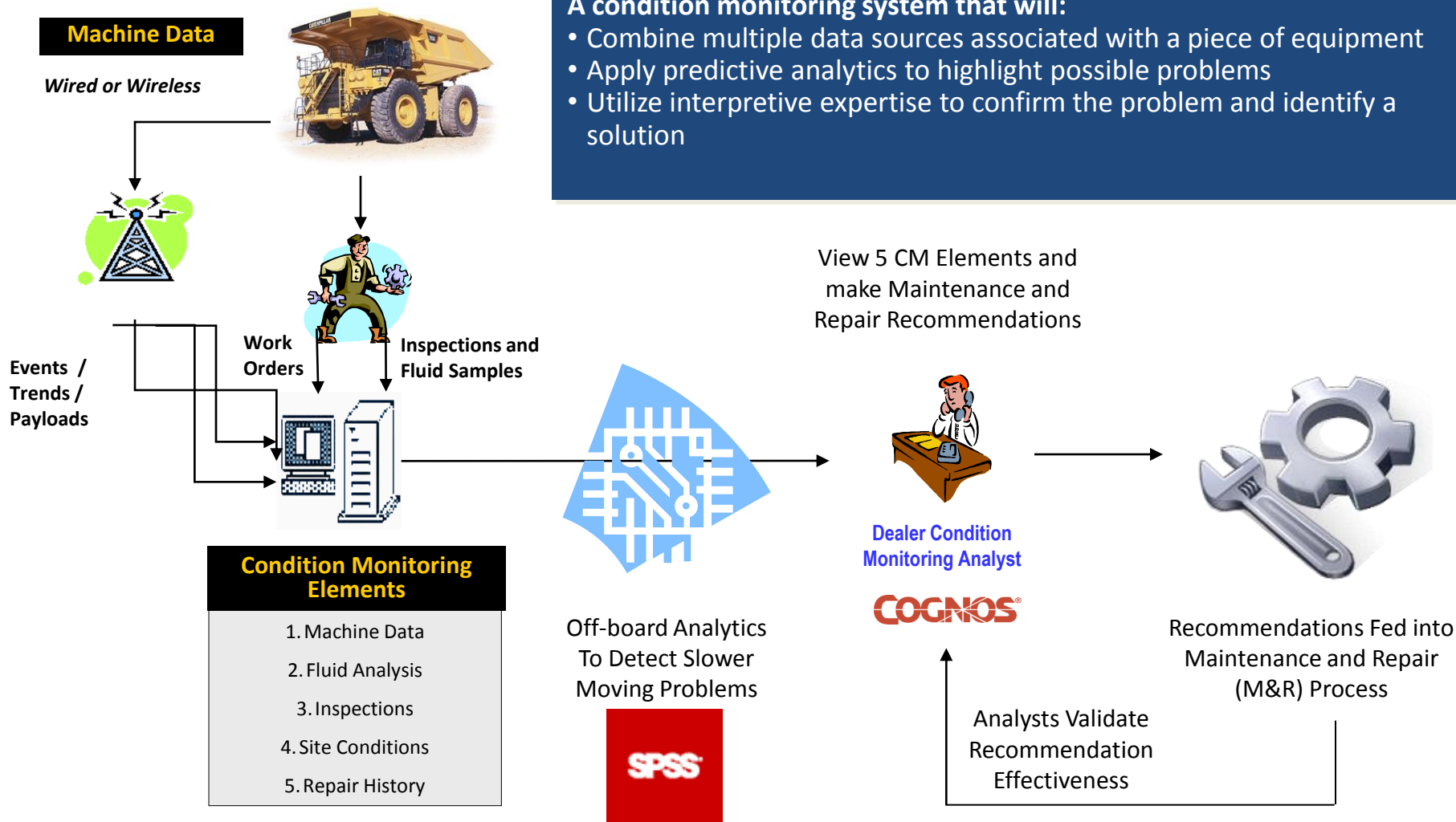




Case Study: Predictive Maintenance for Mining Equipment Manufacturer

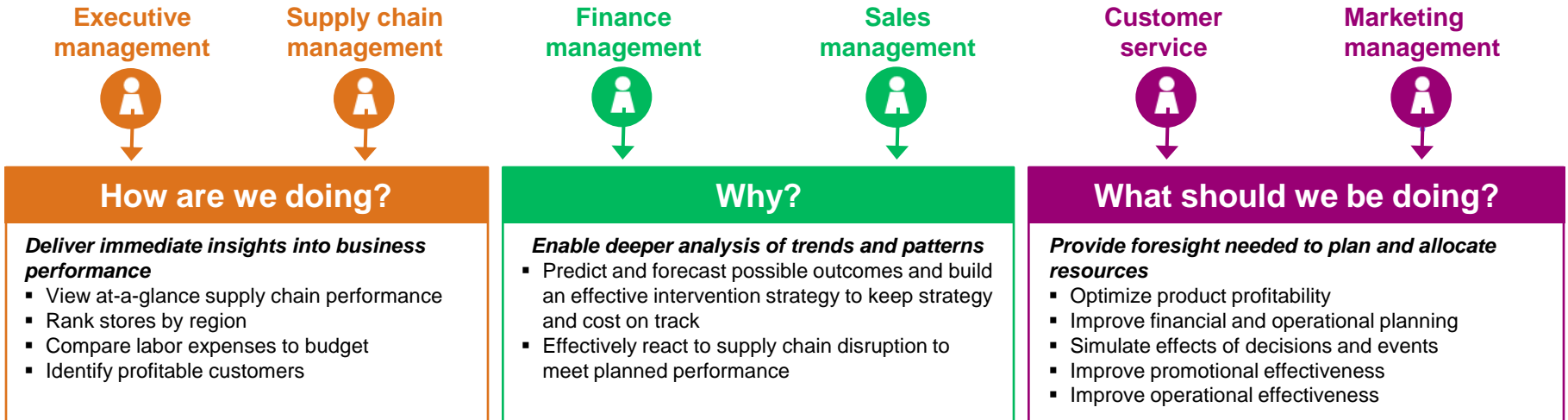
A condition monitoring system that will:

- Combine multiple data sources associated with a piece of equipment
- Apply predictive analytics to highlight possible problems
- Utilize interpretive expertise to confirm the problem and identify a solution





IBM Business Analytics and Performance Management Platform





Manufacturing Companies That Outperform Use IBM Business Analytics

2,742%

Return on investment (ROI)



3 minutes

Time to receive reports, rather than 3-4 days



3,623%, 11 days

ROI and payback





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