IBM Finance Forum 2012
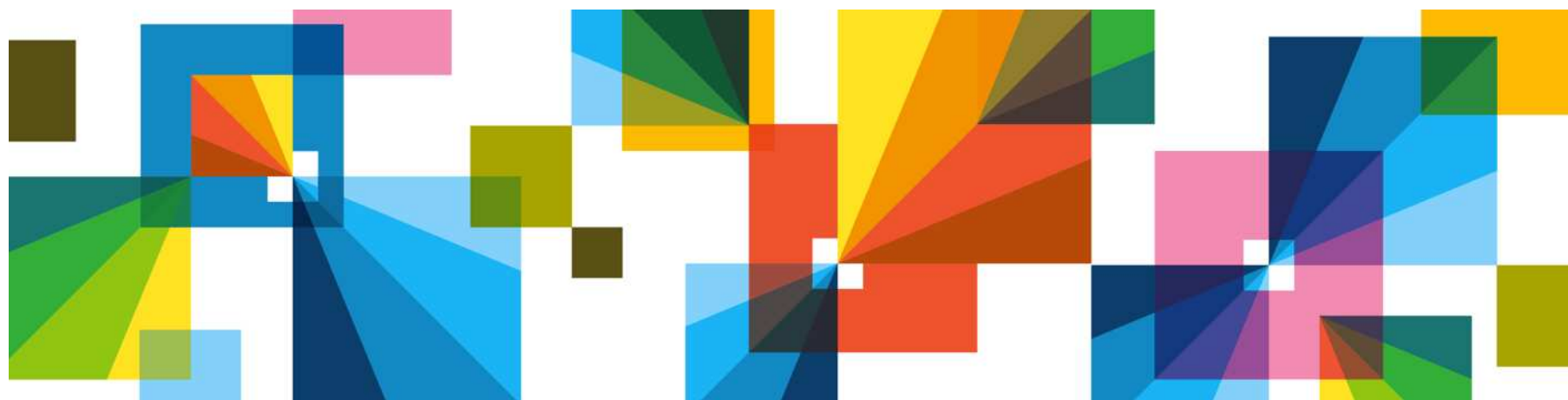Smarter Analytics. Smarter Outcomes.

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# Smarter *Finance!* Analytics – the New Imperative

Delivering Stronger Business Insight Through a CFO Dashboard

Douglas Irwin, Business Analytics & Optimization Solution Leader for ASEAN, IBM Global Business Services

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Four years ago, we started working with organizations to build a smarter planet

Through thousands of client engagements, we learned that analytics is fundamental to success.

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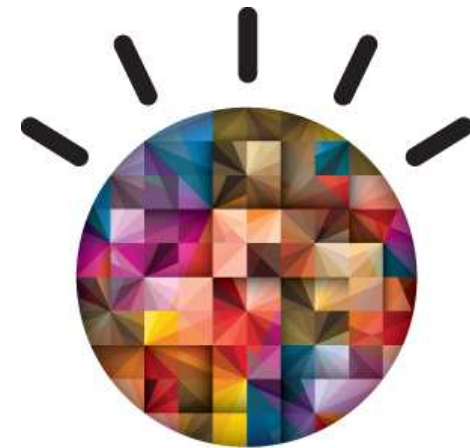
Since then, analytics
has continued to evolve:

- From enterprise data to big data

- From business initiative to business imperative

- From advancing single organizations to transforming entire industries

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IBM Smarter Analytics Signature Solution
CFO Performance Insight

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Why CFO Performance Insight

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Solution Overview

3
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Getting Started

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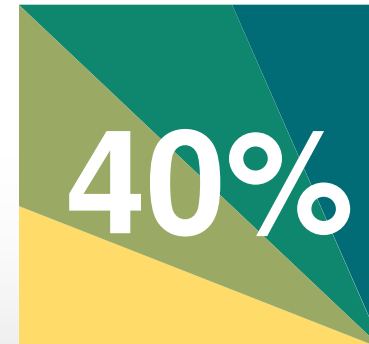# CFOs are taking a more prominent role in enterprise decision making. Yet, many struggle with structural complexity

70%
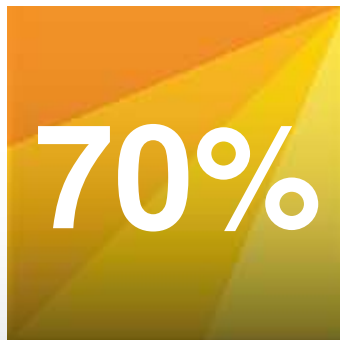
CFOs have an advisory or decision making role on the enterprise agenda

50%

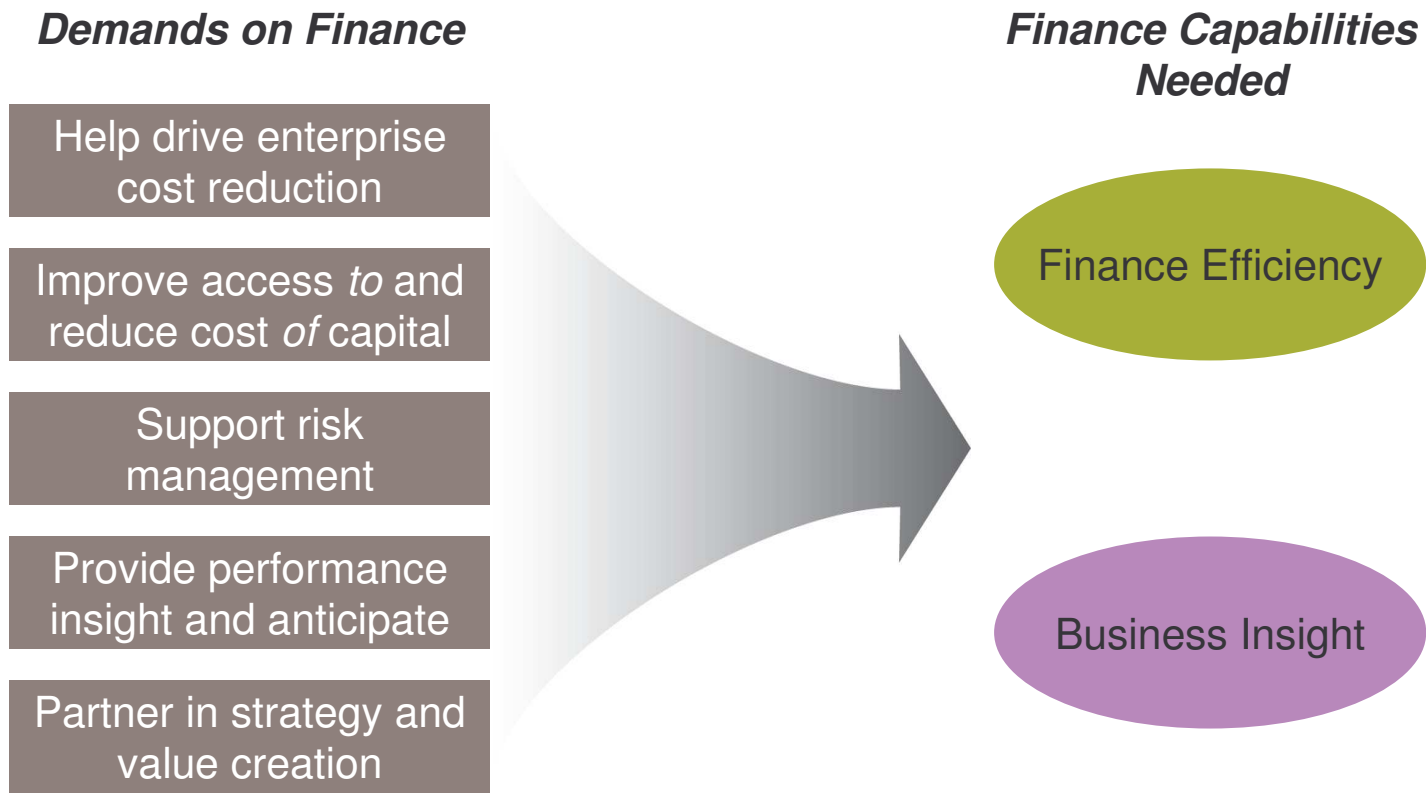**Time used by finance is spent on tactical, transactional activities**

40%

Enterprises produce financial metrics manually

Source: IBM Institute for Business Value, The Global CFO Study 2010

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A broad enterprise-focused role requires core Finance efficiency be in place to reliably support business insight and decision making

Addressing the Broader Enterprise-Focused Role of Finance

Demands on Finance

Finance Capabilities Needed

- Help drive enterprise cost reduction
- Improve access *to* and reduce cost *of* capital
- Support risk management
- Provide performance insight and anticipate
- Partner in strategy and value creation

Finance Efficiency

Business Insight

Source: IBM Institute for Business Value, The Global CFO Study 2010

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The majority of ASEAN enterprises are not able to effectively deliver business insights

Business Insight Challenges

Nearly 50% (49%) lack a common planning platform

76% (55%)not satisfied with their operational planning and forecasting analytical capability

72% (53%) manually producing operational metrics

52% (44%) are poor to average at anticipating external forces

Source: 2010 IBM Global CFO study

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Objective financial data validates that decision making supported by business insight contributes to outperformance in enterprises in ASEAN
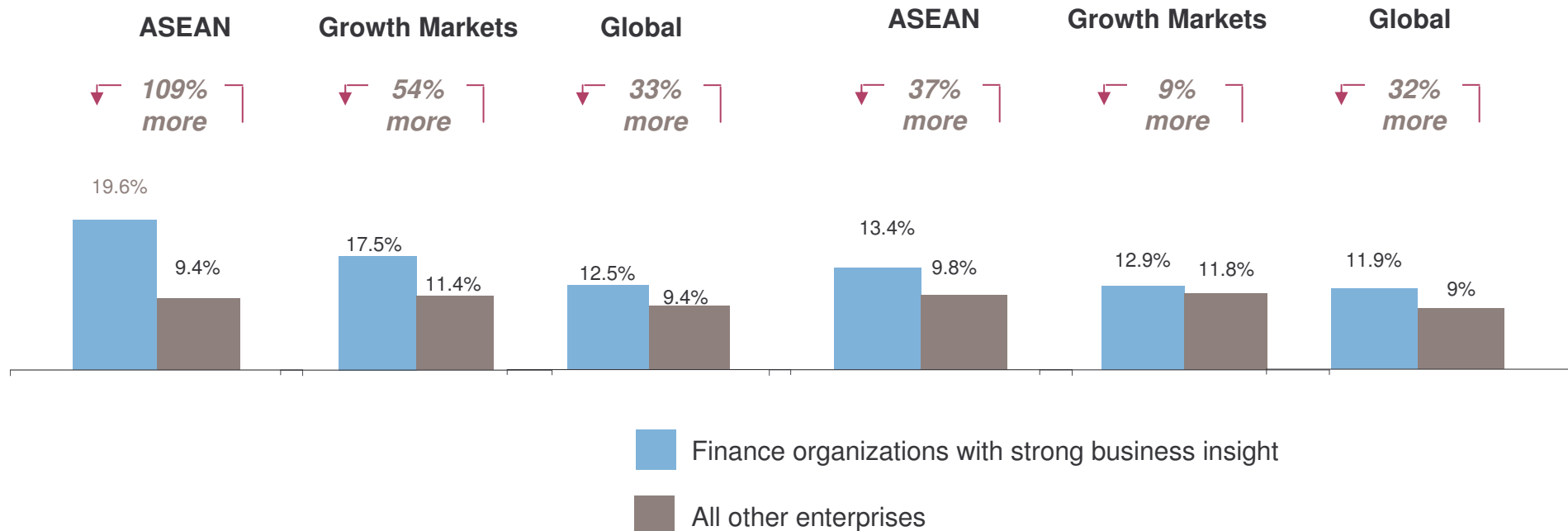
Business Insight Contributes to Financial Outperformance

Revenue Growth
5 Year CAGR (2004-2008)

Return on Invested Capital
5 Year Average (2004-2008)

ASEAN	Growth Markets	Global	ASEAN	Growth Markets	Global
109% more	**54% more**	**33% more**	**37% more**	**9% more**	**32% more**

	ASEAN	Growth Markets	Global	ASEAN	Growth Markets	Global
Finance organizations with strong business insight	19.6%	17.5%	12.5%	13.4%	12.9%	11.9%
All other enterprises	9.4%	11.4%	9.4%	9.8%	11.8%	9%

■ Finance organizations with strong business insight
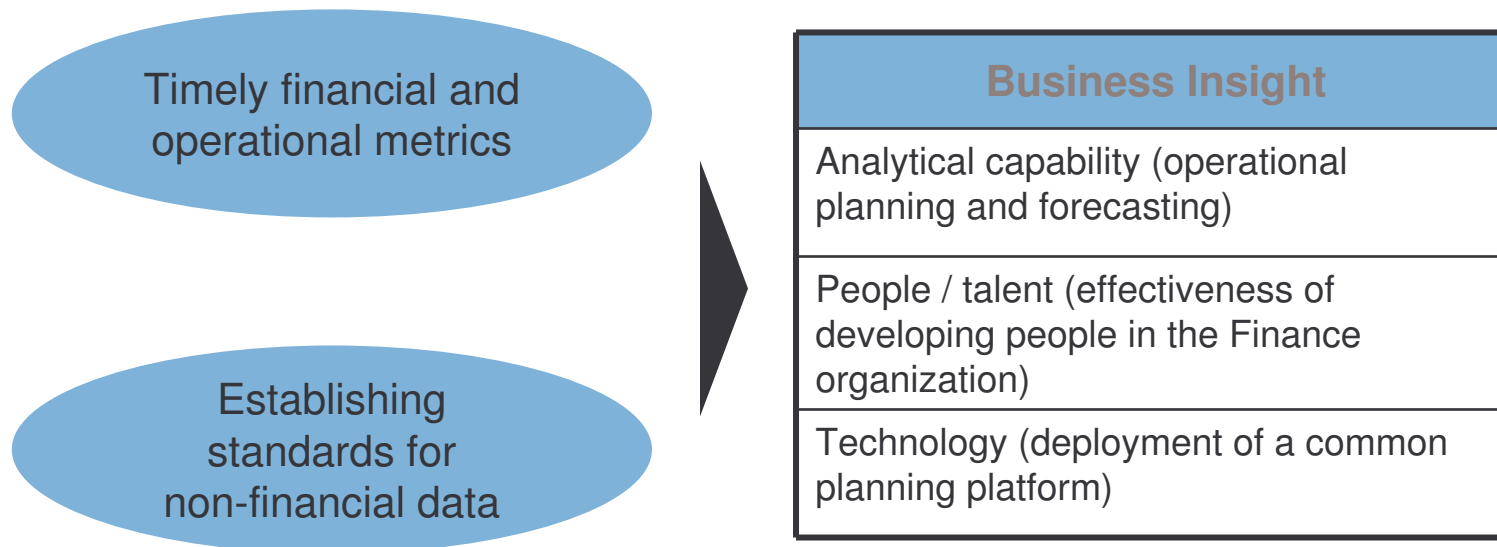
■ All other enterprises

ASEAN: Revenue Growth: N = 13; ROIC: N = 13
GB Growth Markets: Revenue Growth: N = 37; ROIC: N = 41
Global: Revenue Growth: N = 580; ROIC: N = 606
Source: IBM Institute for Business Value, The Global CFO Study 2010

The journey to business insight can be accelerated

Business Insight Accelerators

Timely financial and operational metrics

Establishing standards for non-financial data

Business Insight
Analytical capability (operational planning and forecasting)
People / talent (effectiveness of developing people in the Finance organization)
Technology (deployment of a common planning platform)

Source: IBM Institute for Business Value, The Global CFO Study 2010

IBM Business Analytics and Optimization – CFO performance dashboard

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IBM Smarter Analytics Signature Solution
CFO Performance Insight

1	**2**	**3**
Why CFO Performance Insight	Solution Overview	Getting Started

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Overview

IBM Smarter Analytics Signature Solutions

A portfolio of outcome-based analytics solutions that address the most pressing industry and functional challenges by bringing together the breadth and depth of IBM's intellectual capital, software, infrastructure, research, and consulting services to deliver break-away results.

Tackle
High-value initiatives

Address industry imperatives and critical processes

Deliver
Proven outcomes
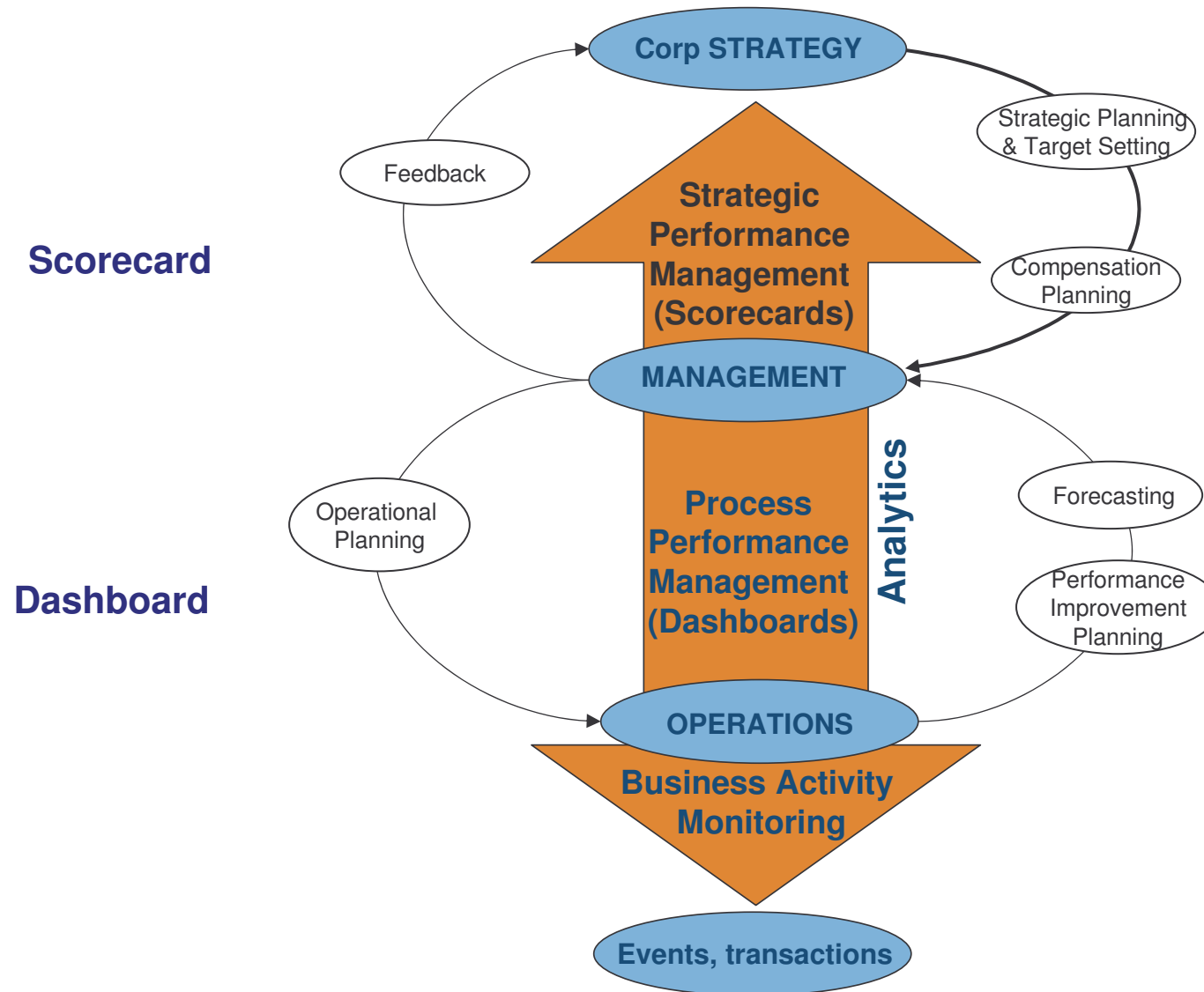
Built on a rich portfolio of analytics capabilities and IBM innovations implemented at clients world-wide

Accelerate
Time-to-value

Faster return-on-investment with short-term projects that support the long-term roadmap

Dashboard vs Scorecard

Scorecard

Dashboard

Corp STRATEGY

Strategic Planning & Target Setting

Feedback

Strategic Performance Management (Scorecards)

Compensation Planning

MANAGEMENT

Analytics

Operational Planning

Process Performance Management (Dashboards)

Forecasting

Performance Improvement Planning

OPERATIONS

Business Activity Monitoring

Events, transactions

F1 Driver's Dashboard

Dashboards are used by business managers to take immediate actions to improve the day to day business performance. They have a short time horizon and are updated weekly/ daily. Dashboards typically use leading indicators and provide high drilldown capabilities.

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F1 Sponsor's Scorecard

Scorecards are used by executives to do cross functional monitoring of progress towards achieving business strategy. They have a long term horizon and are updated monthly/ quarterly. Scorecards typically use more lagging indicators and provide limited drilldown capabilities.

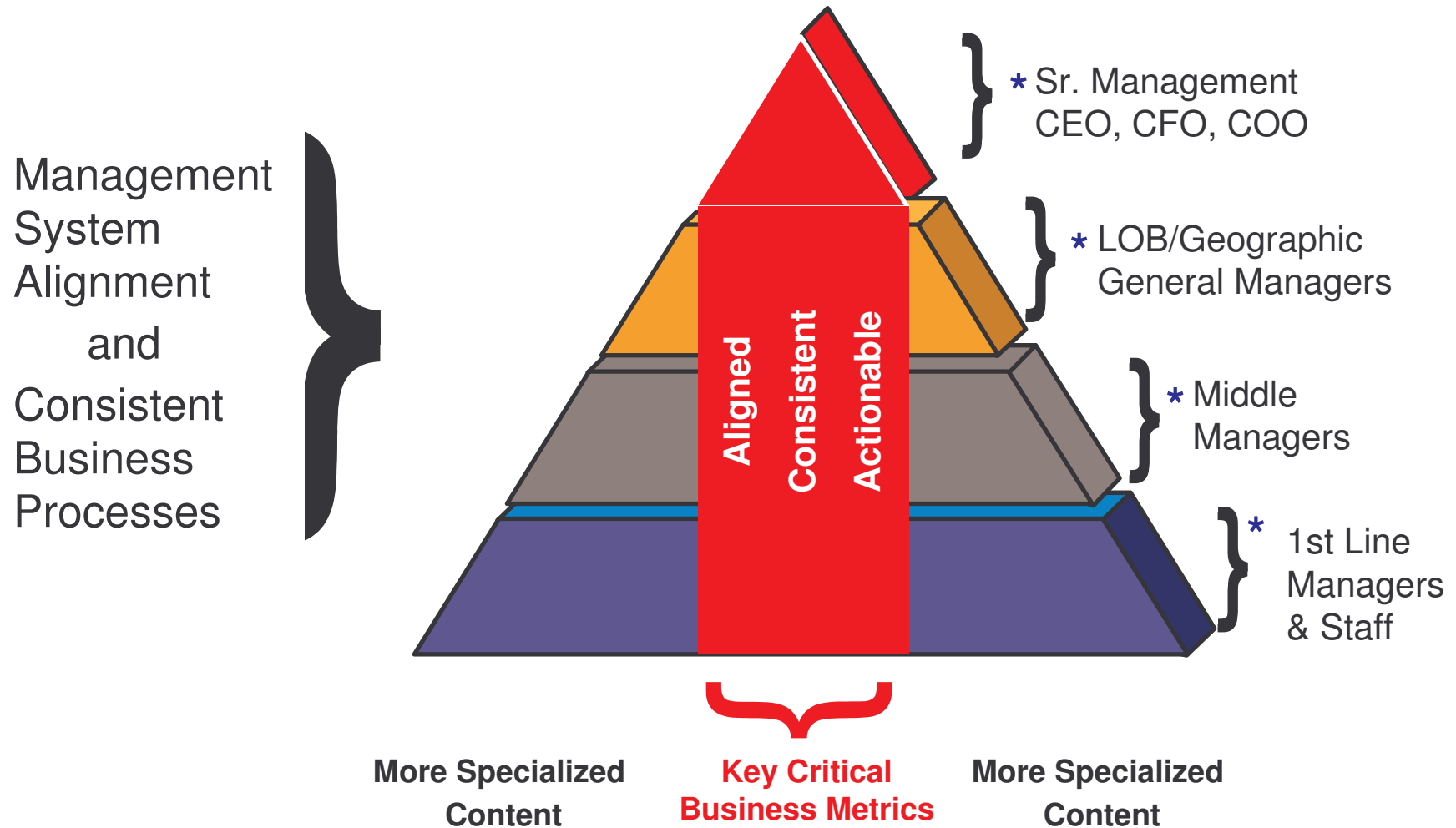| By Season	By Race
Season standings	Pole position
Investment - Maintenance - Capital Equipment - Staff	Avg. lap speed

Overview of Best Practices
Dashboards

➢ Align each unit's critical information and metrics to their business processes and management system.

➢ "Aggregate-Up" critical information from lowest possible level

➢ Provide drill-down capability to identify issues and problems early in the business cycle and facilitate fast analysis and decision making.

➢ Implement an information management program to validate and maintain data accuracy, consistency, completeness and standards.

➢ Embedded workflow to help answer 'what do I do/who to call now?'

➢ Alerts and embedded analytics to allow management by exception, including "Traffic lighting" to highlight exceptions to targets or period-to-period performance issues

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Overview of Best Practices
Alignment of Information

Management
System
Alignment
and
Consistent
Business
Processes

Aligned Consistent Actionable

* Sr. Management
CEO, CFO, COO

* LOB/Geographic
General Managers

* Middle
Managers

* 1st Line
Managers
& Staff

More Specialized
Content

**Key Critical
Business Metrics**

More Specialized
Content

Synchronized Dashboards/Scorecards can now be created at each level.

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Excellence in Visualizing Dashboard KPI's

➢ "Good design brings absolute attention to data. Chartjunk indicates statistical stupidity, just as weak writing often reflects weak thought."

➢ "Lack of visual clarity in arranging evidence is a sign of a lack of intellectual clarity in reasoning about evidence."

➢ "Vacant, low density displays, the dreaded posterization of data spread over pages and pages, requires viewers to rely on visual memory -- a weak skill -- to make a contrast, a comparison, a choice. The more relevant information within eye span the better."

Edward Tufte, Visual Explanations

EDWARD R. TUFTE

VISUAL EXPLANATIONS

IMAGES AND QUANTITIES, EVIDENCE AND NARRATIVE

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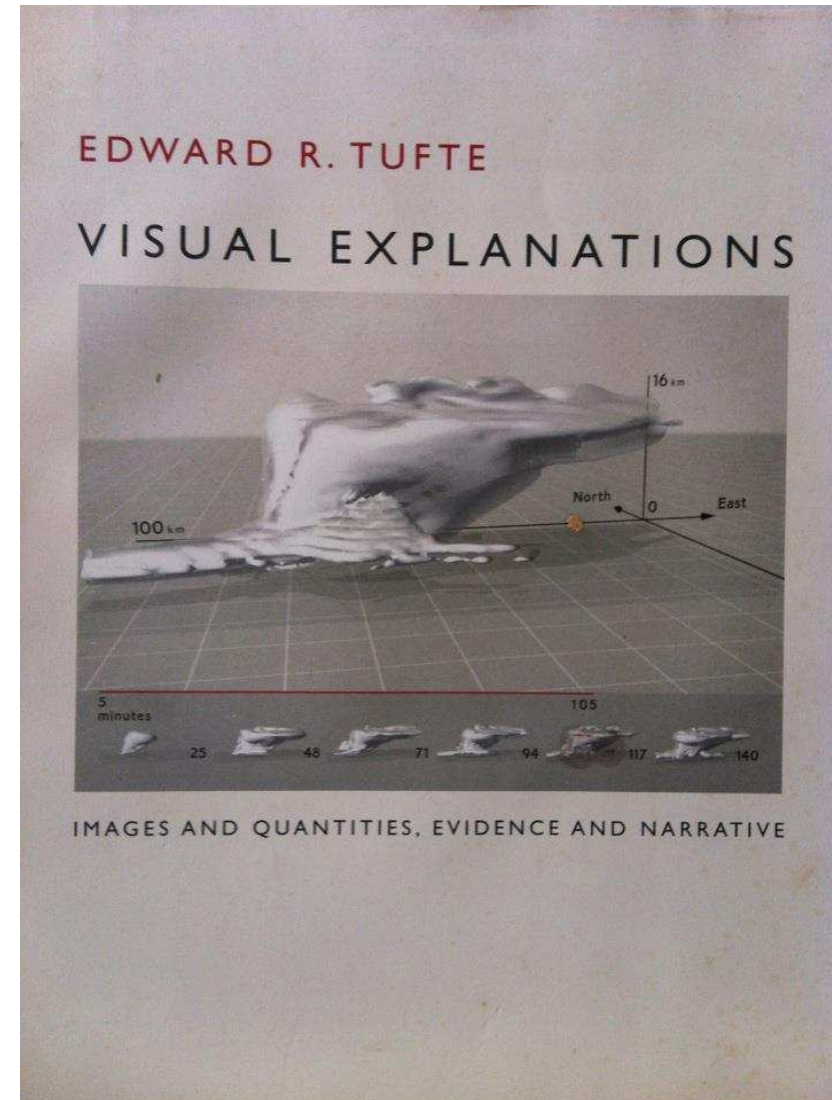
As the CFO role evolves, organizations need to adopt new ways of working to improve efficiency and performance

Rear View	Current View	Forward-looking View
• What happened?	• Where exactly is the problem?	• What will happen next?
• How many, how often?	• Why is this happening?	• What if these trends continue?
	• What actions are needed?	• What are the potential performance gaps?

• Balance sheet, profit and loss, and cash flow statements	• Customer, product and market profitability	• Cash forecasting
• Revenue and cost variance analysis	• Spend optimization	• Scenario-based planning and forecasting
	• Working capital analysis	• Strategic investment decision support
	• Market, customer, & channel pricing	• Volatility and risk-based predictive and behavioral modeling
	• Sales and supply chain effectiveness	

IBM Smarter Analytics Signature Solution
CFO performance insight

Increase visibility, insight, and control over financial performance through predictive analytics

Solution overview

Measure, monitor, and anticipate business performance with pre-configured solution that:

• Uncovers temporal-causal relationships between performance metrics using predictive analytics

• Enables guided root-cause analysis and what-if analytics through executive style dashboard

Solution benefits

• Generate timely, reliable answers to financial questions

• Enhance visualization of performance trends and gaps

• Improve operational efficiency and deliver trusted financial information

Business outcomes

• University reduces financial modeling process by 25 percent

• Finance company improves reporting efficiency by 70 percent

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CFO Performance Insight drives finance transformation by helping executives to anticipate and answer critical questions

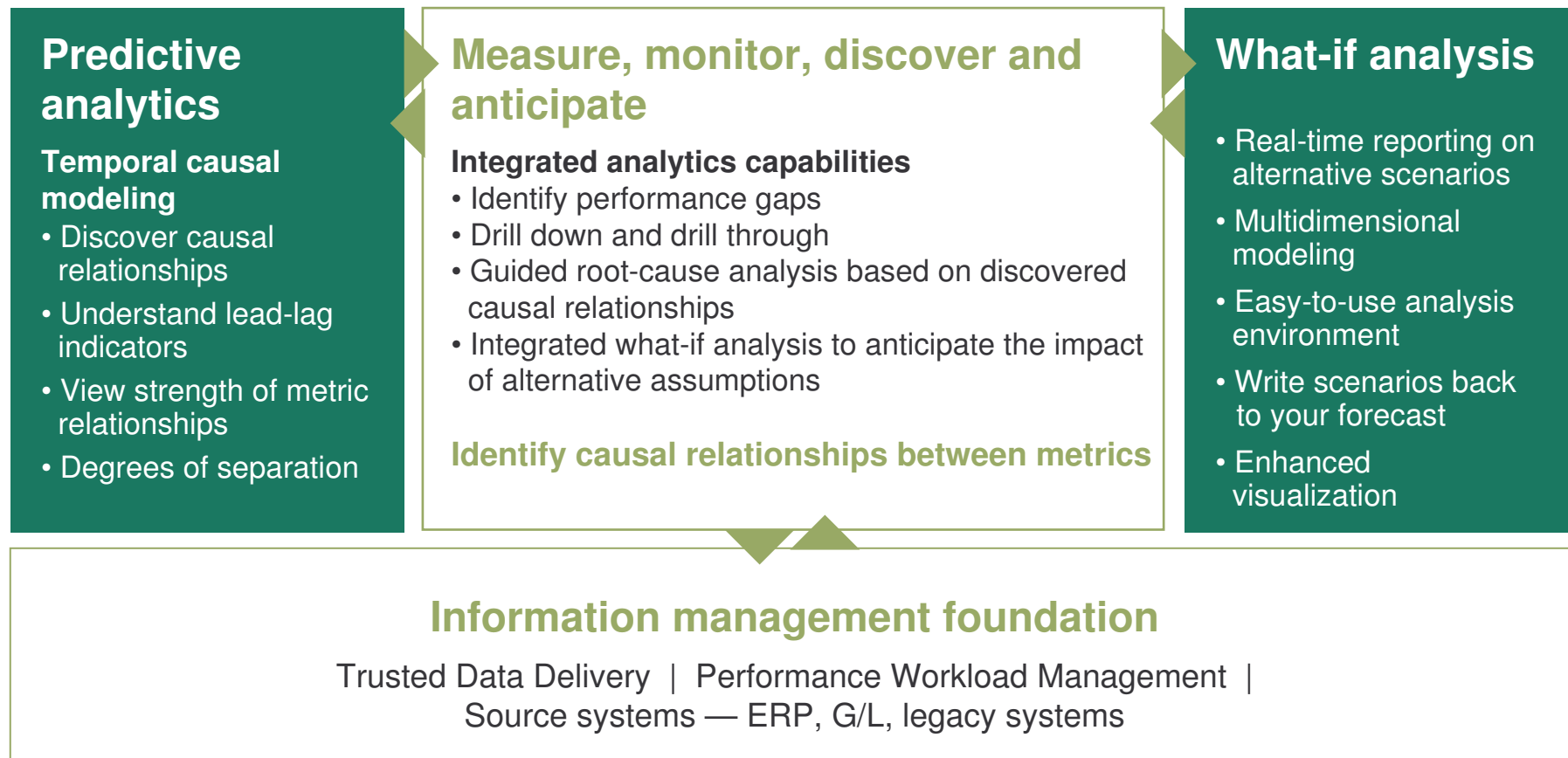| How are we performing as an organization?	What is driving our results?	How do we know we are spending our budget wisely?	What is the impact of changes in our key metrics?	How can we trace a performance issue to its root cause?

CFO Performance Insight

- Measure and monitor financial and operational performance

- Anticipate performance gaps, understand root cause and assess alternatives

- Drive profit and revenue growth through the strategic application of analytics

- Deliver better business insight on a stronger foundation of trusted information

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IBM Smarter Analytics Signature Solution
CFO performance insight

How it works

Predictive analytics

Temporal causal modeling

- Discover causal relationships

- Understand lead-lag indicators

- View strength of metric relationships

- Degrees of separation

Measure, monitor, discover and anticipate

Integrated analytics capabilities
- Identify performance gaps
- Drill down and drill through
- Guided root-cause analysis based on discovered causal relationships
- Integrated what-if analysis to anticipate the impact of alternative assumptions

Identify causal relationships between metrics

What-if analysis

- Real-time reporting on alternative scenarios

- Multidimensional modeling

- Easy-to-use analysis environment

- Write scenarios back to your forecast

- Enhanced visualization

Information management foundation

Trusted Data Delivery | Performance Workload Management | Source systems — ERP, G/L, legacy systems

Discover relationships between performance indicators,
achieve new insights, and drive more effective decision making

Provide insight into interactions among business metrics using advanced analytics algorithms

Temporal causal modeling leverages predictive analytics to answer key questions:

- What metrics have the most impact on my performance?

- How do these metrics interact with each other?

- How will my performance change when I control certain factors?

- How can I achieve my future target performance?

- How can I visualize and interpret the relationships between metrics?

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Analytics is expanding from enterprise data to big data

Volume

12
terabytes

of Tweets created daily

Analyze product sentiment

350 billion

meter readings per annum

Predict power consumption

Velocity

5
million

trade events per second

Identify potential fraud

500 million

call detail records per day

Prevent customer churn

Variety

100's
video feeds

from surveillance cameras

Monitor events of interest
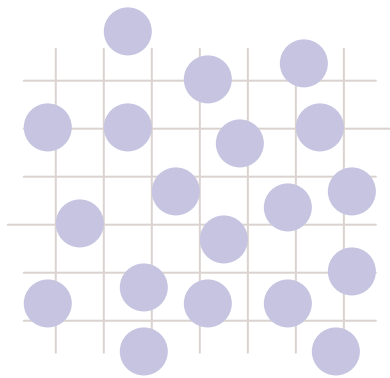
80%
data growth

are images, video, documents…
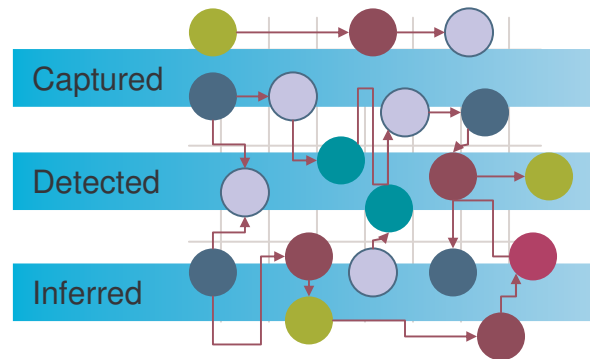
Improve customer satisfaction

Business Analytics & Optimization (BAO) increases the organization's level of analytical sophistication and enables breakaway capability
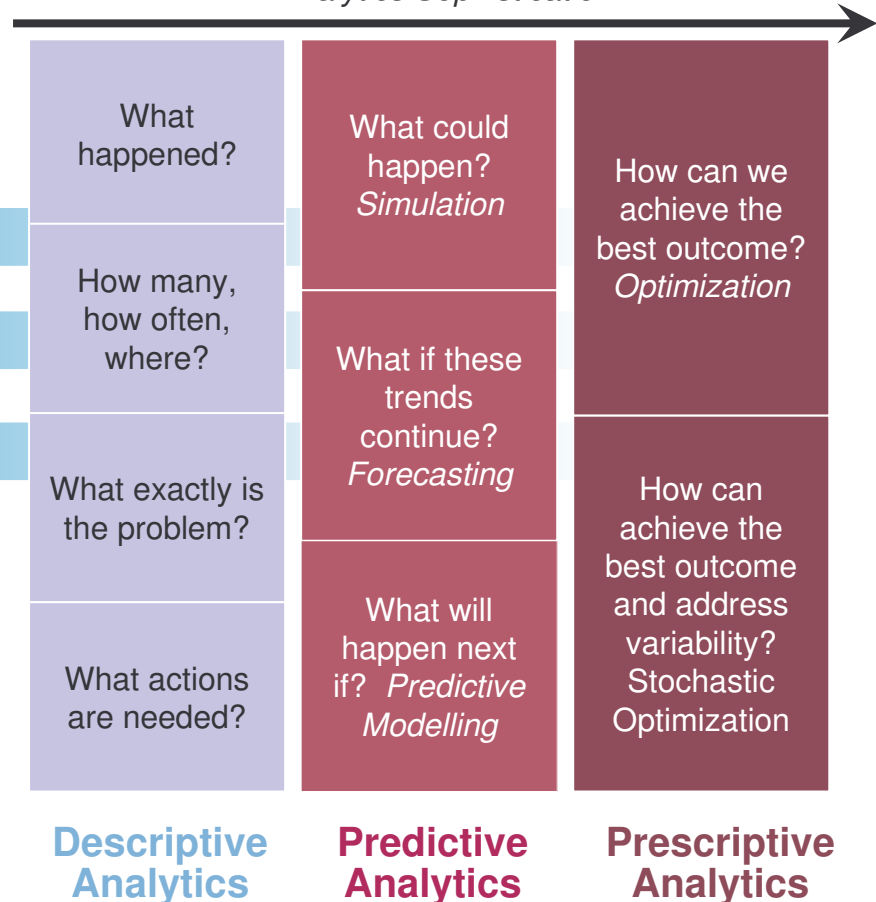
Analytics Sophistication →

Use **structured** and **unstructured** data

- Numeric
- Text
- Image
- Audio
- Video

Captured
Detected
Inferred

Made consumable and accessible to **everyone, optimized** for their specific purpose, at the point of impact, to deliver **better decisions and actions** through:

Descriptive Analytics	Predictive Analytics	Prescriptive Analytics
What happened?	What could happen? *Simulation*	How can we achieve the best outcome? *Optimization*
How many, how often, where?	What if these trends continue? *Forecasting*	
What exactly is the problem?		How can achieve the best outcome and address variability? Stochastic Optimization
What actions are needed?	What will happen next if? *Predictive Modelling*	

A strong framework of actuals, targets and forecasts helps anticipate performance gaps

Annotations:
- Company Logo
- Link to ERP Web Interface
- Report List
- Financial reports
- "What if" analysis
- Executive Dashboard
- Actual vs Budget vs Forecast
- Traffic light indicators
- Metric trending

Financial Management

	2011 - YTD		2011 - Full Year			Trending
	Actual	Target	Budget	Forecast	Variance	
EBITDA ⚠	$1,885,076	$1,767,815	$10,789,549	$9,775,752	-9%	More
Net Income	$1,507,032	$1,458,293	$8,907,214	$7,574,591	-15%	More
ROIC	36%	40%	55%	63%	8%	More
Operating Profit (% of sales) ⚠	52%	51%	51%	49%	-2%	More

Operational Revenue Management

	2011 - YTD		2011 - Full Year			Trending
	Actual	Target	Budget	Forecast	Variance	
Gross Sales	$3,535,224	$3,337,824	$20,253,145	$19,238,694	-5%	More
Avg. Sales Value/Unit	$5,292	$4,274	$4,302	$5,007	16%	More
Market/Selling Price Realization	86%	74%	75%	76%	1%	More

Operational Expense Management

	2011 - YTD		2011 - Full Year			Trending
	Actual	Target	Budget	Forecast	Variance	
SG&A%	11%	10%	10%	14%	3%	More
Gross Margin%	71%	71%	71%	72%	1%	More
Material Cost%	15%	15%	15%	13%	-2%	More
Distribution Cost%	3%	4%	4%	3%	-1%	More

Capital Management

	2011 - YTD		2011 - Full Year			Trending
	Actual	Target	Budget	Forecast	Variance	
Capital Efficiency	$42	$35	$32	$32	3%	More
Cashflow	$2,173,232	$1,428,736	$10,194,165	$9,260,314	-9%	More
Days Sales Outstanding	52.2	41.4	37.8	43.4	15%	More
Days Payable	10.0	5.4	9.8	11.5	18%	More
Days in Inventory	12.1	12.3	12.0	10.4	-13%	More

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IBM BAO - CFO performance dashboard solution architecture

Web

Email

Office

Mobile

Deep Analytics
Predictive Model
Data Mining

CFO Dashboard

Report Modules (For Executives)
Dashboards
Reports
Diagrams
What-If Analysis

Ad-Hoc Report (For Power Users)

TM1 Cube

Power Cube

Metadata Layer

Enterprise Data Warehouse

Staging Area
System Of Record
Summary
Analysis
Classified Sources
Feedback

Data Mart

CFO Dashboard Data Mart

Authentication & Authorization Services

Extract, Transform, Load (ETL) Information Integration

ERP

G/L System

Identity Repository

Other Systems

External Systems

Legend

Existing data sources

Existing servers or other planned servers in a solution

Potential existing reporting components available at the client

IBM BAO - CFO performance dashboard

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A pre-configured solution

Built on IBM Cognos BI v10.1 (v8.4), IBM Cognos TM1 and IBM Cognos Metric Server that leverages all ledger, transaction applications and data sources to report on financial KPIs, access financial reports and perform what-if analysis in an executive dashboard format.

Transforms data into business insight through an executive dashboard with visually rich information, reports, and analytical tools

Generates **timely, reliable answers** to crucial financial questions through a centralized, web-based, executive portal-styled dashboard

Improves decision-making and enhances strategic planning capabilities

Offers "drill down" and "drill through" capabilities to create deeper insight

Enables users to perform "what if' analysis and easily see the impact on business forecasts, detailed reports, and the dashboard itself

Provides capability to use **value driver analysis** to quickly uncover root causes of performance gaps

Offers **self-service capability**, to reduce dependence on IT

Result	**Increased visibility, insight and control over the levers of performance**

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CFO Performance Insight unlocks new business value

Benefits

Features

User-friendly, self-service reporting interface; allows financial analysts to focus on strategic analysis instead of manual data manipulation

Drill-downs and drill -through with graphic displays and Ad-hoc querying capability to create deeper insight

Enables end-user run-time analysis in addition to pre-built reports in both relational and multi-dimensional environment

Enables users to perform "what if" analysis and post and analysis back to main portal page and detailed reports also utilizing slicing, dicing and dynamic querying

Ability to utilize executive dashboard reporting

Executive Dashboard style reporting for Chief Financial Officers, Controllers and other Accounting Personnel

Improves decision-making and increases strategic planning capabilities

Users can use the value drivers to quickly uncover key organizational pain points utilizing slicing, dicing, dynamic querying and integrated what-if analysis

Scalable to a single, complete platform for Performance Management

IBM Business Analytics software provides complete capabilities for reporting, analysis, planning and consolidation on an integrated platform

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Why IBM Smarter Analytics is unparalleled in the industry

Broad and integrated portfolio of information and analytics capabilities

| Enterprise-class Big Data Platform | Comprehensive analytic capabilities | Decision Management solutions |

Proven experience accelerating time-to-value and delivering breakaway results

| 20,000+ analytics-driven client engagements | 9,000+ consultants | Analytic Solutions Centers |

Advanced technology and expertise applying innovation to real world problems

| IBM Watson | World's largest math department in private industry | 600+ analytics patents per year |

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IBM Smarter Analytics Signature Solutions
Industry expertise and state of the art analytics applied to real world problems

How can I increase customer loyalty with every interaction?

How can I anticipate the impact of financial decisions?

How can I minimize losses stemming from fraud?

Customer
Next Best Action

Finance
CFO Performance Insight

Fraud
Anti-Fraud, Waste and Abuse

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IBM Smarter Analytics Signature Solution
CFO Performance Insight

IBM services

- Performance Management Diagnostic

- CFO Dashboard asset implementation

- CFO Performance Insight solution design & implementation

IBM software

- IBM Cognos BI

- IBM Cognos TM1

- IBM SPSS Modeler

- IBM InfoSphere Information Server

IBM research

- Predictive analytics algorithms and techniques

- First of a Kind combined client/Research projects

- Advanced industry-specific optimization enhancements

Client value

- Accelerate time-to-value through repeatable solutions

- Measure and monitor financial and operational business performance

- Anticipate performance gaps, understand root cause and assess alternatives

- Outcome-based approach that drives business value at each step in the journey

IBM Systems and Technology

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IBM Smarter Analytics Signature Solution
CFO Performance Insight

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Why CFO Performance Insight

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Getting Started
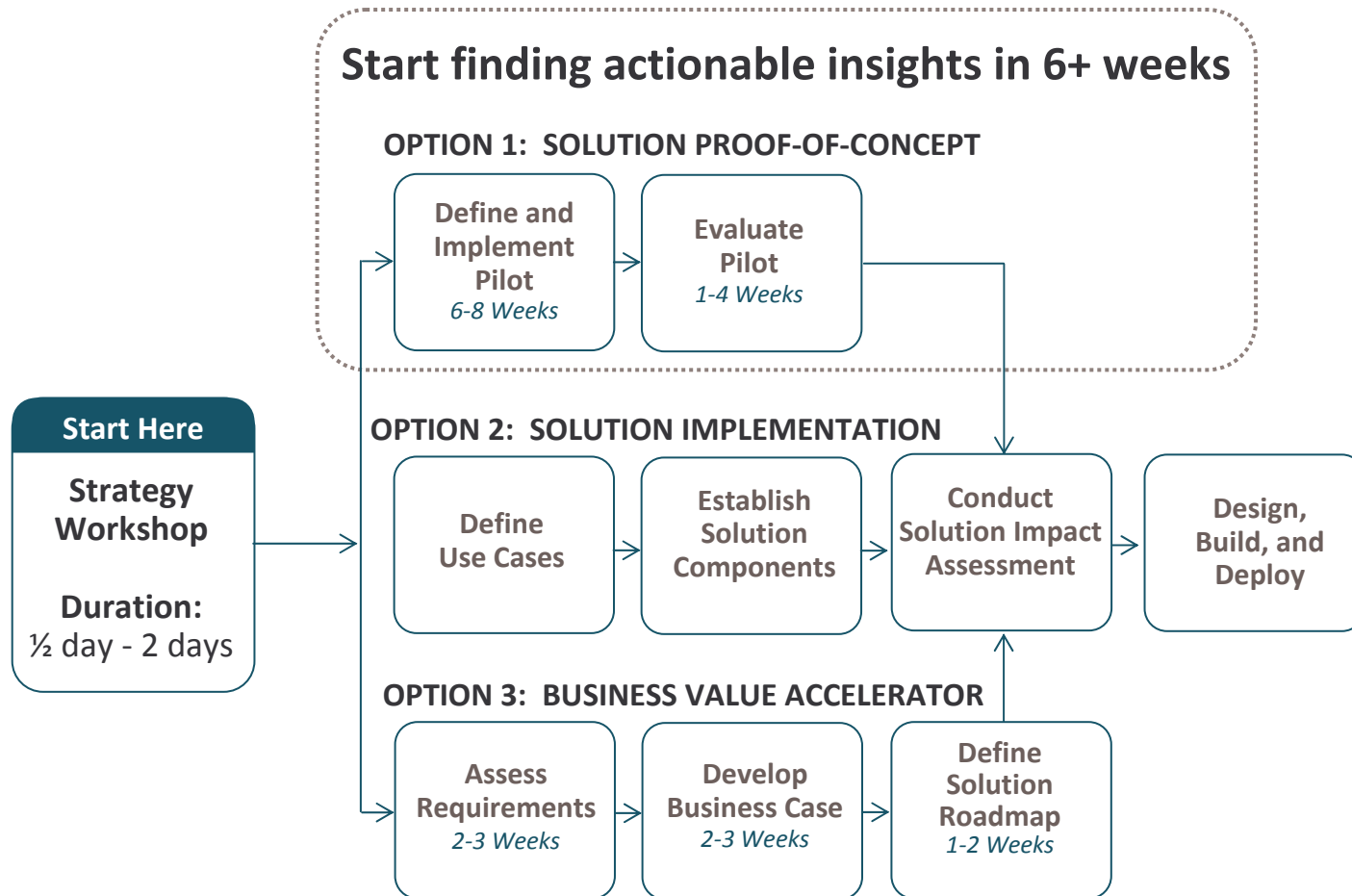
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Getting started with IBM Smarter Analytics Signature Solutions
There are three paths to value based on your needs

Start finding actionable insights in 6+ weeks

OPTION 1: SOLUTION PROOF-OF-CONCEPT

Define and Implement Pilot
6-8 Weeks

Evaluate Pilot
1-4 Weeks

Start Here

Strategy Workshop

Duration:
½ day - 2 days

OPTION 2: SOLUTION IMPLEMENTATION

Define Use Cases

Establish Solution Components

Conduct Solution Impact Assessment

Design, Build, and Deploy

OPTION 3: BUSINESS VALUE ACCELERATOR

Assess Requirements
2-3 Weeks

Develop Business Case
2-3 Weeks

Define Solution Roadmap
1-2 Weeks

34   **Note**: Strategy Workshop duration varies based on client scope and target solution areas

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IBM BAO - CFO performance dashboard solution summary

Analyze performance with clarity and precision

Find answers at the right level of detail

Create what-if scenarios

Meet the information needs of all users

Share a single, reliable version of the truth

Make the business more agile

Reduce dependencies on specific set of technologies

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A smarter planet is built on Smarter Analytics

Delivering Stronger Business Insight Through a CFO Dashboard

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Thank you