CEB
WHAT THE BEST COMPANIES DO

❯ **From Information to Insight**
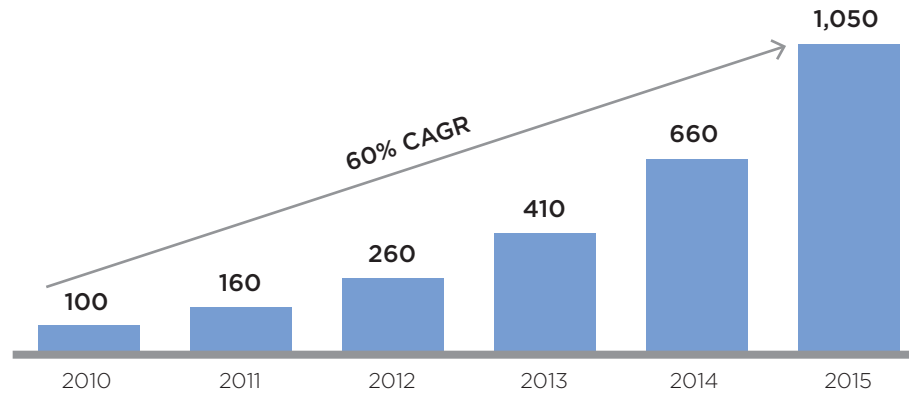
Building an Analytically Agile Organization

While "Big Data" is quickly becoming a reality as information volumes grow, most teams are not able to capitalize on it.

- Resource Management teams must overcome the "4 Vs of Big Data."

- Veracity Test:
  – Are we answering the right question?
  – Is the underlying data correct?
  – Are we making assumptions explicit?

DROWNING IN DATA

Estimated Rise in Global Data Volumes, 2010–2015
Indexed to 100

Our research shows that 71% of Resource Management teams are unable to consistently deliver meaningful insights to stakeholders.

Source: "All Too Much: Monstrous Amounts of Data," *The Economist*, http://www.economist.com/node/15557421.

The "4 Vs of Big Data"

|	
1. Volume	"There is so much information out there…
2. Velocity	…and it is being collected and disseminated faster and faster…
3. Variety	…from a myriad of sources…
4. Veracity	…and I am not even sure it is accurate."

Analytically mature Resource Management teams generate more meaningful insights and are less likely to produce faulty recommendations.

- Analytically mature Resource Management teams create more value for their business partners:

  – Analytic reports are four times more likely to contain meaningful insights.

  – Analytic reports are half as likely to contain regrettable or poor recommendations.

# FROM ORDER TAKER TO DECISION INFLUENCER

Higher Insight Generation Confidence
Average Percentage of Analytic Reports That Deliver True Insight to Business Partners

67%	
	15%
Analytically Mature Resource Management Teams	Lowest Performing Resource Management Teams
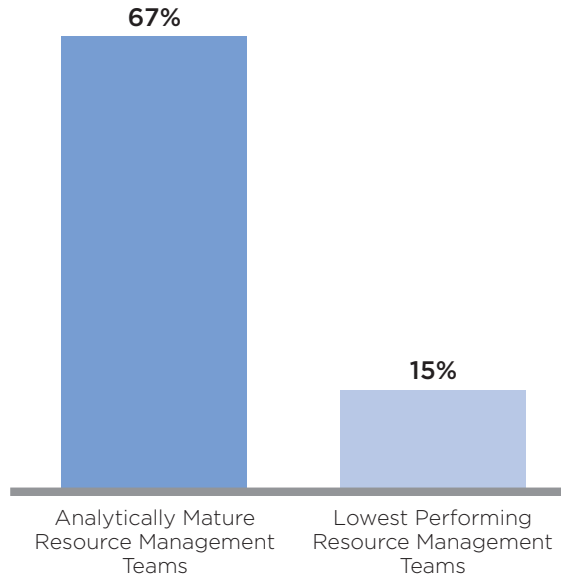
Lower Decision Regret[1]
Average Percentage of Recommendations That Resource Management Directors Would, in Hindsight, Reverse or Change

	15%
7%	
Analytically Mature Resource Management Teams	Lowest Performing Resource Management Teams
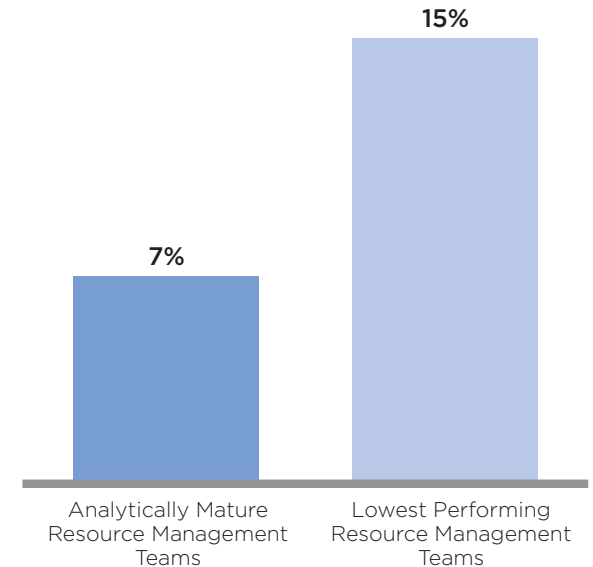
Definition of Analytic Maturity

Analytic maturity refers to Resource Management's ability to provide both advanced technical data analysis and judgment-driven analytic support to internal stakeholders.

In the 2012 benchmarking survey, we asked Resource Management directors to rate analytic capabilities of their teams on a 1–7 scale, where 1 = Poor Technical and Judgment-Based Capabilities and 7 = Advanced Technical and Judgment-Based Capabilities. Throughout this study, we will refer to Resource Management teams that scored in the top quartile as "Analytically Mature" and those that scored in the bottom quartile as "Lowest Performing."

n = 70 heads of Resource Management.

[1] We define decision regret as experiencing the negative effects of past decisions or anticipating future negative effects of current decisions.

Source: CEB FP&A Leadership Council, Business Analytics Benchmarking 2012.

WHY ANALYSIS OFTEN MISSES THE MARK

1 **Lack of Scoping Discipline:**
- Internal customer expectations on timing and quality are unrealistic and often unarticulated.
- Analysts lack insight into business purpose and context for request.

3 **The Quest for "Perfect Data":**
- Analysts waste time creating overly detailed analysis.
- Analysis does not incorporate qualitative or external inputs when data is unavailable or imperfect.

2 **Failure to Challenge Assumptions:**
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- Analysts look for trends by manipulating data without a predetermined plan.

4 **Landing with a "Dull Thud":**
- Final reports are unwieldy, cumbersome to consume, and fail to highlight the most critical information.
- Output is late, irrelevant, and requires rework.
- "Black box" financial models are met with skepticism; business partners remain averse to using analysis in decision making.

Output Relevance (vertical axis): High / Low

Project Phase (horizontal axis): Project Scoping · Problem Framing · Data Analysis · Output Delivery
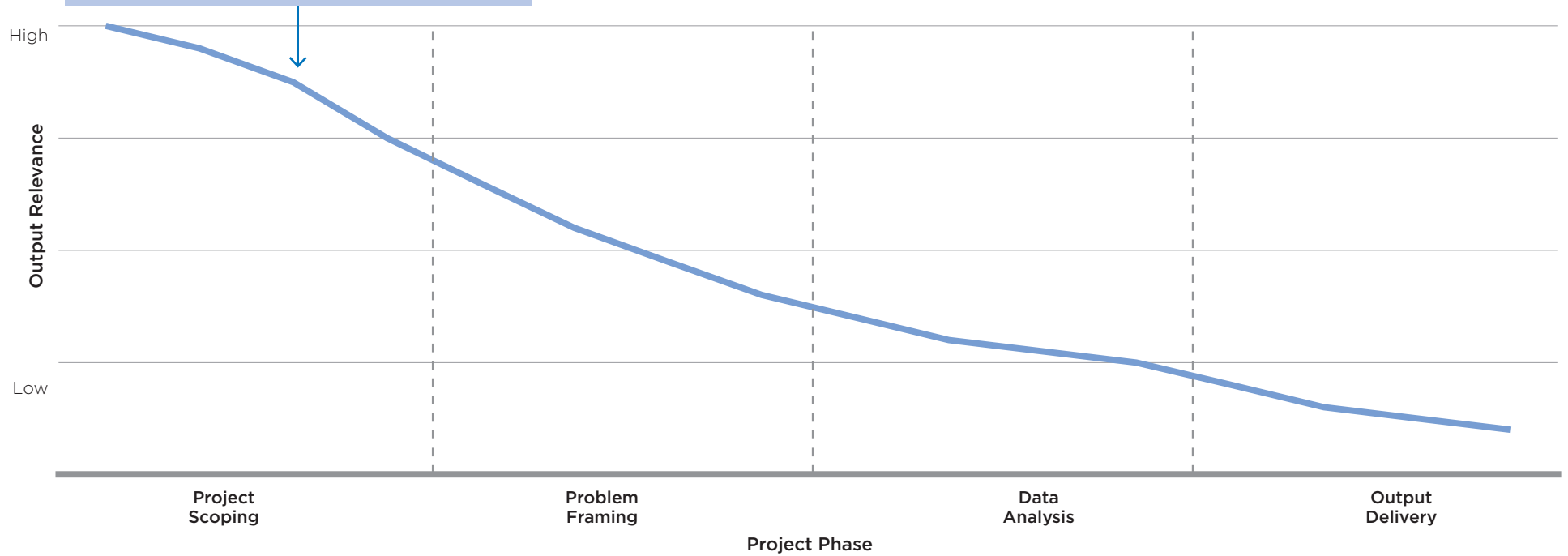
WHY ANALYSIS OFTEN MISSES THE MARK

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High

Low

Output Relevance

Project Scoping

Problem Framing

Data Analysis
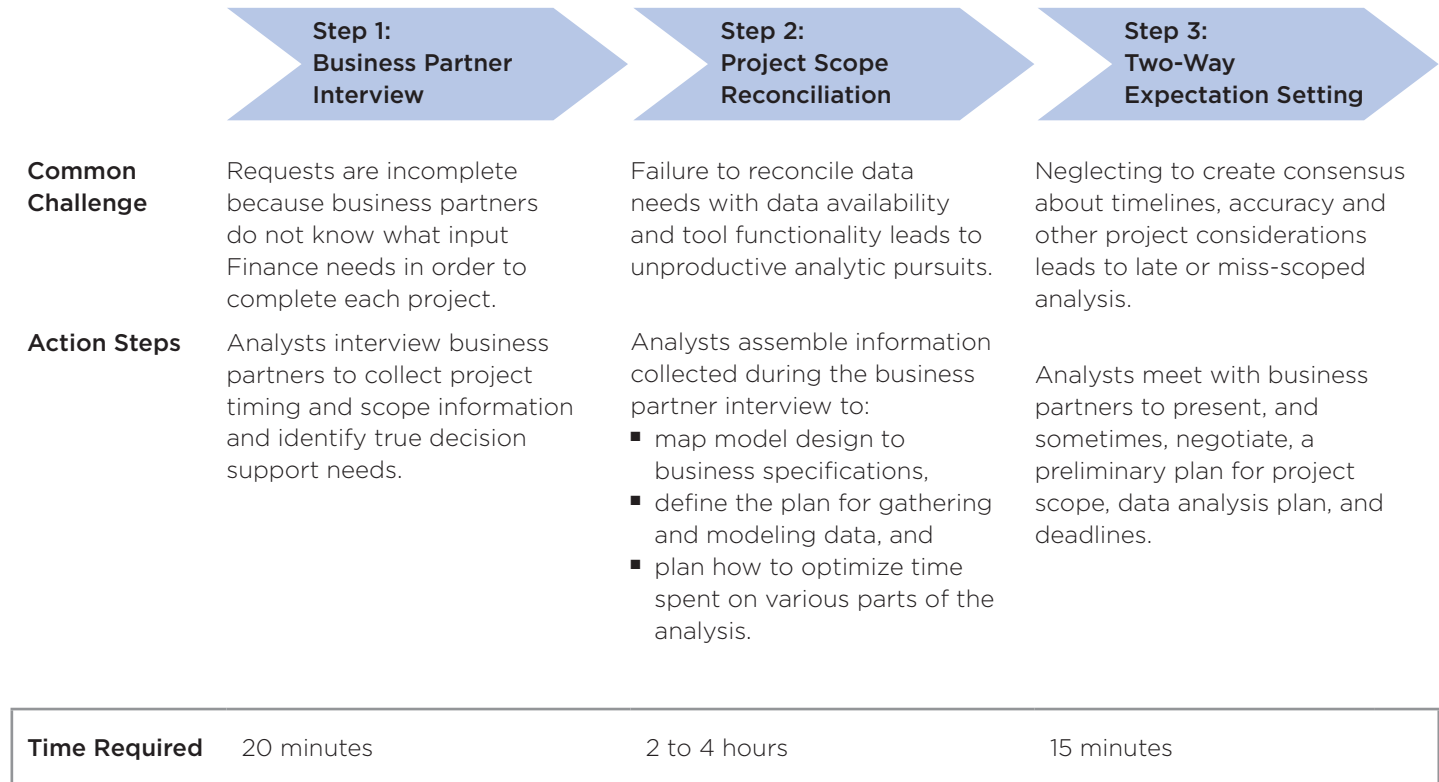
Output Delivery

Project Phase

Roche institutes a Finance-led project scoping process to help business partners articulate their true information needs, agree on project scope, and set realistic deadlines.

- Project scoping is the first critical step in ensuring relevance and value of Finance's resulting analysis. Effectiveness of scoping impacts the quality of the resulting product far beyond the initial planning stage, including the model design, execution, and presentation.

- Roche's three-step project scoping process ensures that each project is scoped to address the most urgent and meaningful business questions.

FOCUS ON SCOPING REQUESTS UPFRONT

Overview of Roche's Three-Step Project Scoping Process

	Step 1: Business Partner Interview	Step 2: Project Scope Reconciliation	Step 3: Two-Way Expectation Setting
Common Challenge	Requests are incomplete because business partners do not know what input Finance needs in order to complete each project.	Failure to reconcile data needs with data availability and tool functionality leads to unproductive analytic pursuits.	Neglecting to create consensus about timelines, accuracy and other project considerations leads to late or miss-scoped analysis.
Action Steps	Analysts interview business partners to collect project timing and scope information and identify true decision support needs.	Analysts assemble information collected during the business partner interview to: • map model design to business specifications, • define the plan for gathering and modeling data, and • plan how to optimize time spent on various parts of the analysis.	Analysts meet with business partners to present, and sometimes, negotiate, a preliminary plan for project scope, data analysis plan, and deadlines.
Time Required	20 minutes	2 to 4 hours	15 minutes

Source: CEB, CEB Financial Planning & Analysis Leadership Council, 2012.

SCOPE	FRAME	ANALYZE	DELIVER

LAY THE FOUNDATION FOR ANALYSIS

Provide your team with the tools to uncover critical details about the nature of each request.

- Roche's Finance analysts use the interview and project scope reconciliation steps to ensure that business partners' needs do not get lost in translation.

"We are not always involved in the initial business discussion. The more disconnected we are however, the more we need to go into interview mode and ask a lot of questions. It makes sense to be close to business partners in the initial stages, otherwise you run into surprises and you realize later this isn't what they wanted."

Dr. Oliver Eckelmann
Head of Group Planning and Special Projects
Roche Holdings Ltd.

Step 1: Business Partner Interview
Analysts discuss the request with business partners to uncover important information about the context of the request (15 minutes).

Step 2: Project Scope Reconciliation
Analysts translate business partner requirements into data and analysis needs and compare these against existing data availability, data quality, and analytic tool functionality (2–4 hours).

Business Partner Interview Guide

Business Objective:
- What is your goal or high-level business objective?
- What specific business issue/requirement will this request inform?

Timing and Criticality Implications:
- When do you plan to use this information?
- What are the economic implications of the solution?

Purpose for Analysis:
- How do you plan to use data in your decision making process?
- How critical is this analysis to the decision at hand?

New Data Requirements:
- What data and analysis do you need to inform this decision that you don't already possess?

Problem Scope:
- What other contextual information does Finance need to know (e.g., emerging risks, competitive action, areas of management uncertainty)?

Analysis Focus:
- What level of historical data versus forward looking trend analysis is needed to inform the decision?
- Would a scenario-based answer be more practical than a one point estimate?
- What level of data drill-down is required?

Analytics Project Top Sheet

Business Decision:
_____
_____

Interim and Final Analysis Deadlines:
_____ _____ _____

Relative Priority of This Request:
Economic value: _____
Competitive urgency: _____
Placement in the project queue: _____

Required Resources:
Finance FTEs _____ /_____ hrs
Business FTEs _____ /_____ hrs

Data-Based Questions:

Necessary Data:

Data Input	Detailed Description

Data Availability:

Model Input	In Research	In Company	Not Available

SCOPE	FRAME	ANALYZE	DELIVER

7

> **Teach your team to close the loop with business partners about the scope and timing of each request by documenting and reviewing expectations together.**
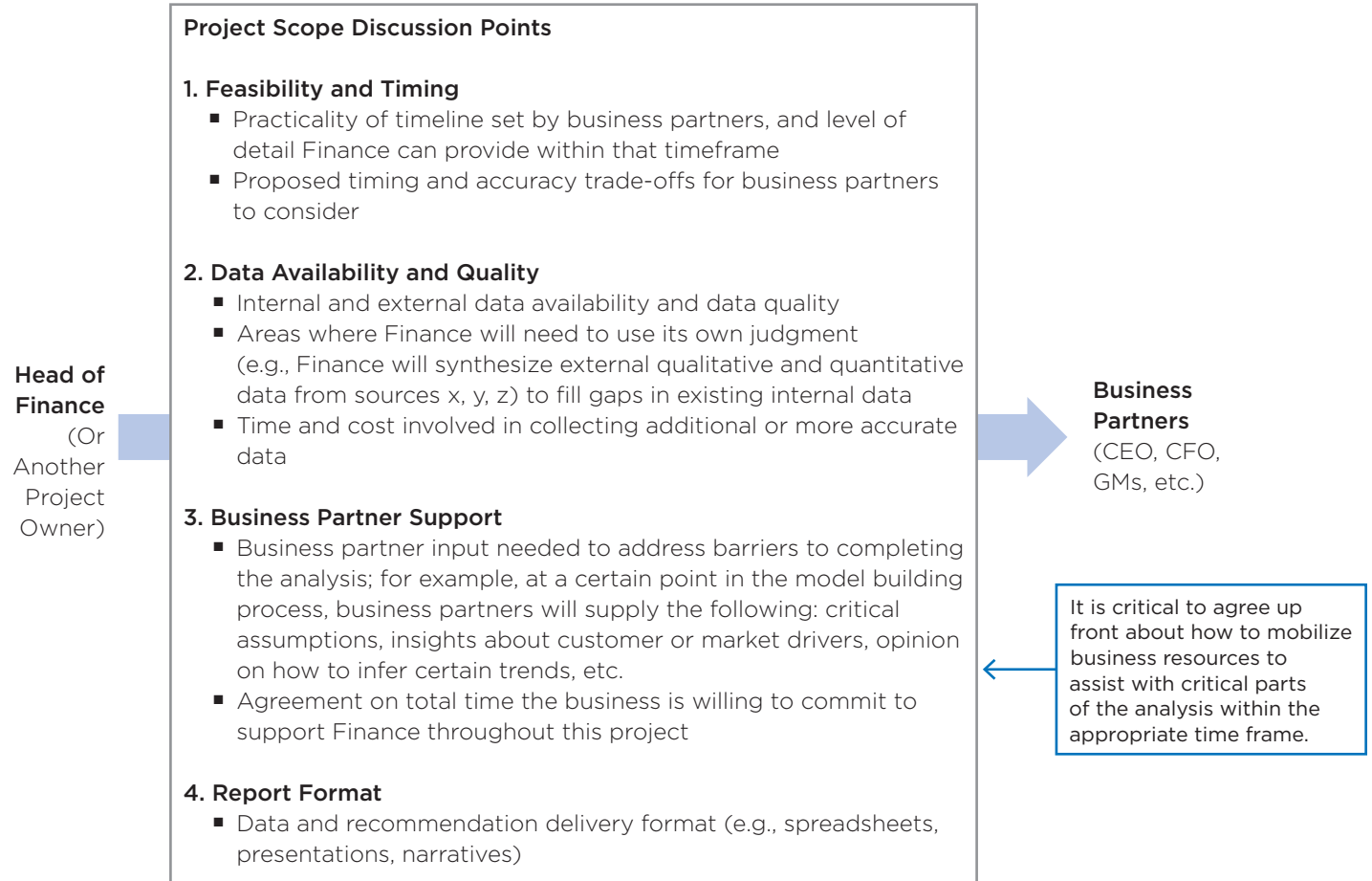
- Roche's Finance analysts create a project plan during project scope reconciliation (step 2), that is used to discuss any necessary trade-offs between what the business needs and what Finance can realistically deliver.

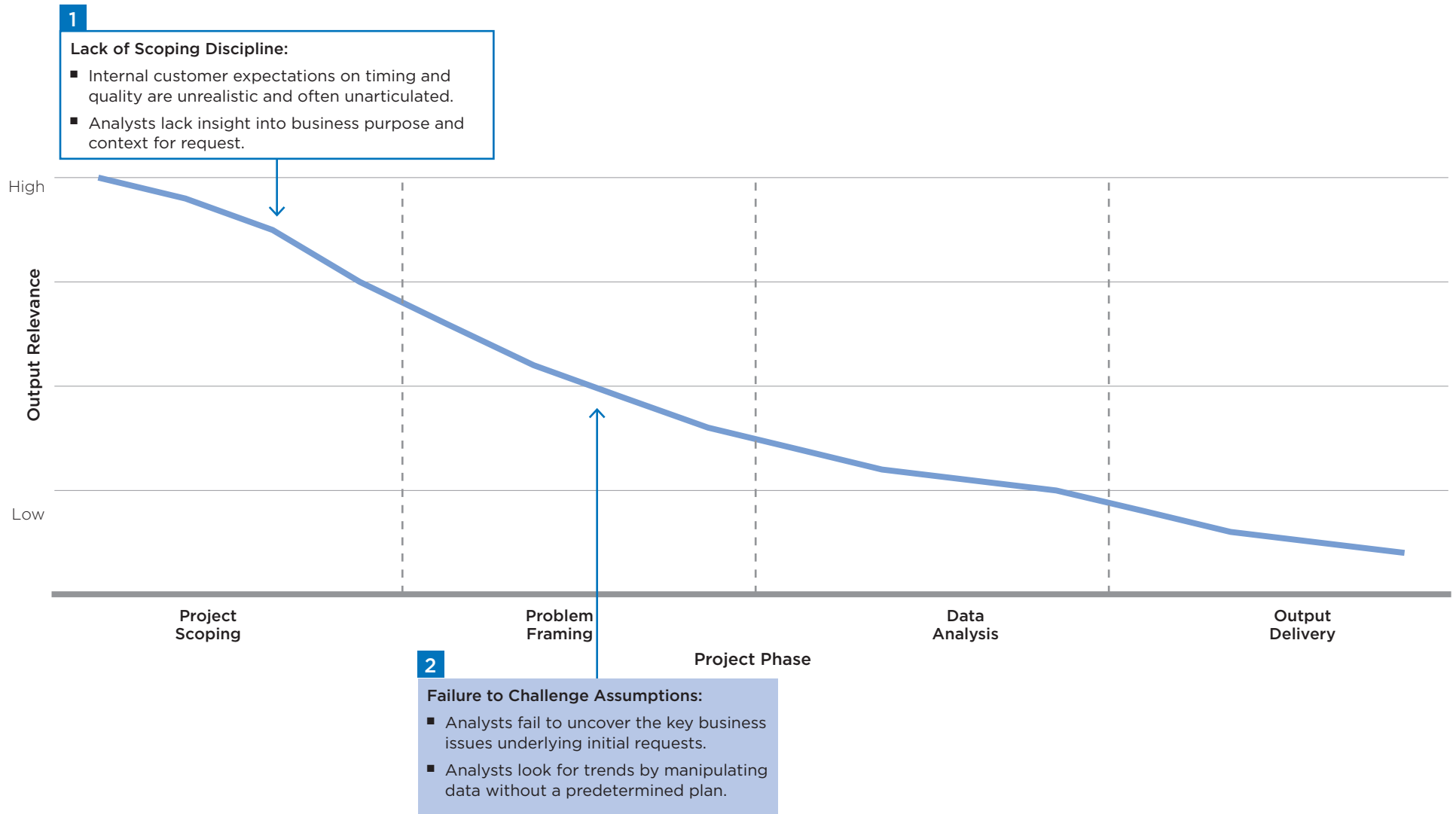# MANAGE EXPECTATIONS UP FRONT

Step 3: Two-Way Expectation Setting
Analysts reconnect with business partners to ensure they interpreted their needs correctly and discuss any timing/resourcing disconnects (20 minutes).
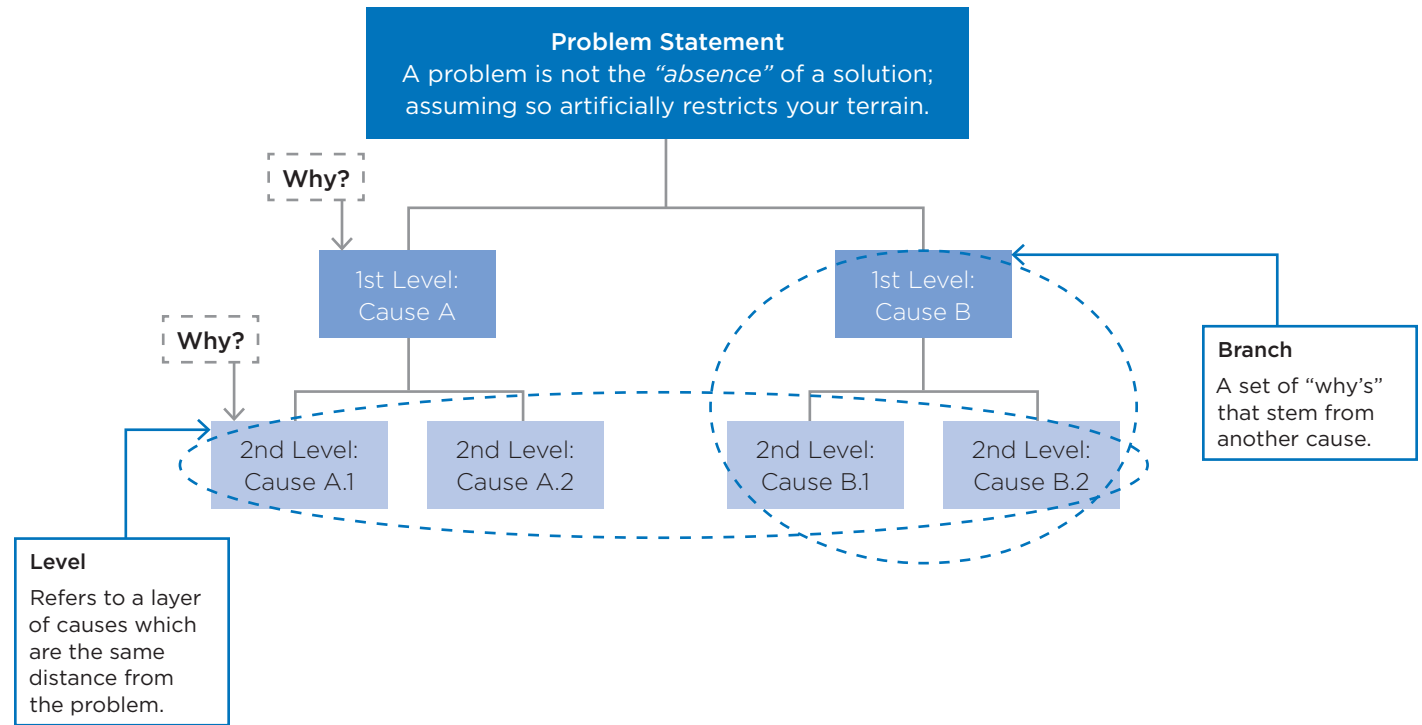
Head of Finance
(Or Another Project Owner)

Project Scope Discussion Points

1. Feasibility and Timing
- Practicality of timeline set by business partners, and level of detail Finance can provide within that timeframe
- Proposed timing and accuracy trade-offs for business partners to consider

2. Data Availability and Quality
- Internal and external data availability and data quality
- Areas where Finance will need to use its own judgment (e.g., Finance will synthesize external qualitative and quantitative data from sources x, y, z) to fill gaps in existing internal data
- Time and cost involved in collecting additional or more accurate data

3. Business Partner Support
- Business partner input needed to address barriers to completing the analysis; for example, at a certain point in the model building process, business partners will supply the following: critical assumptions, insights about customer or market drivers, opinion on how to infer certain trends, etc.
- Agreement on total time the business is willing to commit to support Finance throughout this project

4. Report Format
- Data and recommendation delivery format (e.g., spreadsheets, presentations, narratives)

Business Partners
(CEO, CFO, GMs, etc.)

It is critical to agree up front about how to mobilize business resources to assist with critical parts of the analysis within the appropriate time frame.

SCOPE	FRAME	ANALYZE	DELIVER

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Y-axis: Output Relevance (High / Low)

X-axis (Project Phase): Project Scoping — Problem Framing — Data Analysis — Output Delivery

Root cause analysis is a structured method for distinguishing between superficial symptoms and true underlying causes of a problem.

- The root cause analysis tree is a useful graphical tool that:
  - Helps avoid a "solutions bias,"
  - Is a means for structured exploration of a problem, and
  - Forces a consideration of under appreciated ways to solve a problem.

IDENTIFY TRUE ROOT CAUSES OF PROBLEMS

Root Cause Tree Schematic
Illustrative

Problem Statement
A problem is not the *"absence"* of a solution; assuming so artificially restricts your terrain.

Why?

1st Level: Cause A

1st Level: Cause B

Why?

Branch
A set of "why's" that stem from another cause.

2nd Level: Cause A.1

2nd Level: Cause A.2

2nd Level: Cause B.1

2nd Level: Cause B.2

Level
Refers to a layer of causes which are the same distance from the problem.

Methodology

1. **Clarify the Problem Statement:** Ensure that the question is not too broad or narrow, and that it does not contain either a possible solution or any assumptions.
2. **Ask "Why?":** Consider broad, top-level causes of the stated problem by asking "why" the problem exists.
3. **Again, Ask "Why?":** For each first-level cause, ask "why" it exists and state these causes at the next level.
4. **Repeat Process:** Continue this process of asking "why" until you reach a level judged to be sufficient for explaining the problem. This typically occurs around the fifth iteration of asking "why?".
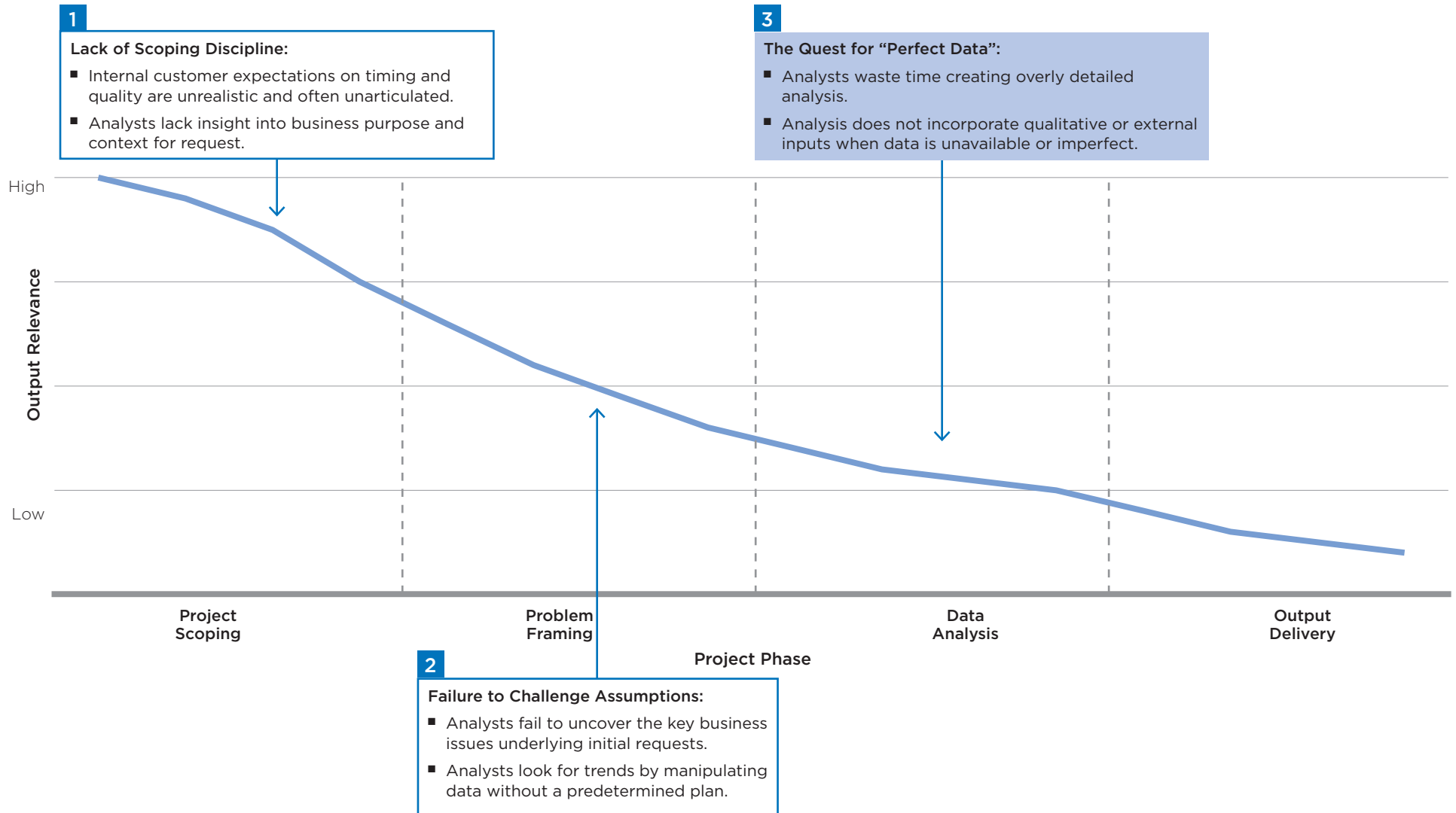
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Output Relevance (y-axis: High, Low)

Project Phase (x-axis: Project Scoping, Problem Framing, Data Analysis, Output Delivery)

> Focus on how to collect the "right" data and how to interpret it correctly in order to draw sound conclusions.

- Understanding the common data pitfalls is crucial to avoiding them.

AVOID ROOKIE DATA MISTAKES

What Common Errors Can Undermine Our Use of Data?
Data Pitfalls Group into Fours Broad Categories: The "4 Rs" of Using Data

Reliability of Source

- **Relying on vivid anecdotes—**Not understanding how/when to appropriately use subjective and anecdotal data.

- **Relying on hearsay—**Applying the subjective opinions of others.

- **Assuming sources are unbiased—**Not examining the source and its connections to the results.

Relevance

- **Assuming the sample size is sufficient—**Drawing conclusions about a population from a non-representative sample.

- **Bias toward the most recent data—**Using the most recent past experiences as the most important data.

- **Cherry-picking data points—**Using or gravitating to one data point, which is insufficient for the analysis.

Relationships

- **Comparing apples and oranges—**Comparing two unrelated data sets as if they were equals.

- **Assuming correlation equals causation—**Relating two factors, moving together, as if one causes the other.

Recommendations

- **Assuming that the mean is representative—**Using the mean when the data is skewed and thus not evaluating the amount of variability between individual data points and the average.

- **Not interpreting the data—**Using data points without any further assessment.

- **Being controlled by a presumptive conclusion—**Looking at data to prove a belief or own hypothesis (rather than trying to disprove it).

| SCOPE | FRAME | ANALYZE | DELIVER |

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Output Relevance

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Leading organizations teach their analysts to differentiate between deep insight and data observation.

- Understanding what an insight is not protects against analysts taking the path of least resistance and continuing with old habits.

TEACH THE DEFINITION OF "INSIGHT"

CEB's Definition of Insight

RELEVANT: Targeted to me, my job and resources I control.

AUTHORITATIVE: Grounded in unique data, analysis and insight.

ACTIONABLE: I know what to do and have the resources at my reach.

UNIQUE/NEWSWORTHY: Contrarian; won't hear it anywhere else.

MEMORABLE: Expressed in ways that engage and motivate me.

Eli Lilly's Definition of What an Insight is NOT

✗ A fact about a customer, competitor, or the market—even if it is relevant to our brand or business—that does not reveal and link customers' causal psychological factors to their brand-relevant behavior (or non-behavior).

Source: CEB, CEB Financial Planning & Analysis Leadership Council, 2012.

| SCOPE | FRAME | ANALYZE | DELIVER |

THE COMMUNICATION STYLES MODEL

RELATIONSHIP

AMIABLE

People-Focused

"Let me discuss this with my team."

EXPRESSIVE

Ideas-Focused

"Here are my ideas about this."

ASK — TELL

ANALYTIC

Process-Focused

"Let me think how it could work."

DRIVER

Results-Focused

"Let's take action on this."

TASK

| SCOPE | FRAME | ANALYZE | DELIVER |
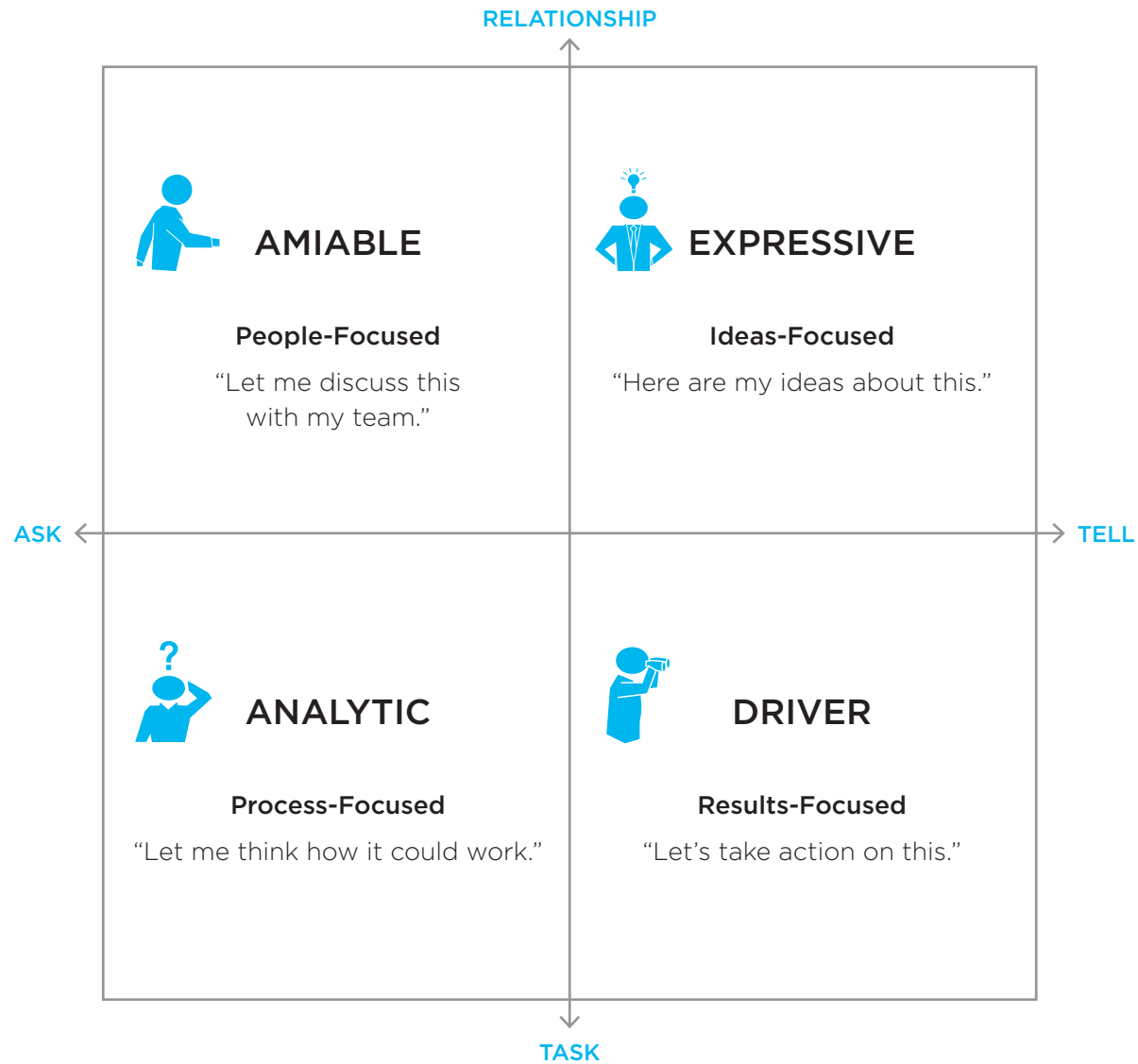
COMMUNICATION STYLES CHEAT SHEET

		Amiable	Expressive	Driver	Analytic
How to Diagnose	Interested in...	Human connection	Ideas and possibilities	Action and outcomes	Facts and data
	They Seek...	Consensus	Recognition	Results	Accuracy
	Decision Pattern...	Slow and thoughtful	Fast and spontaneous	Decisive and results-focused	Slow and systematic
	They Want to Save...	Relationships	Effort	Time	Face
	They Have Questions About...	Why	Who	What	How
How to Adapt	Lead With...	Proof of why people will benefit	Stories and anecdotes	Concrete results	Data and facts
	Power Words to Use...	Guarantee, reliable, tried, tested, insurance, proven, safety	Appreciate, convenient, cost-effective, trouble free	Unique, best, biggest, powerful, fast, first, results, ROI	Research, tested, tried, proven, evidence, facts
	Persuasion Techniques...	Avoid conflict, build circle of support	Stroke ego, validate ideas	Be bright, be brief, be gone	Be prepared, be accurate, be orderly
	Potential Landmines...	■ Being formal (showing no interest in personal live) ■ Fast pace or energy ■ Interruptions	■ Talking facts (versus ideas) ■ Loose agenda	■ Small talk ■ Slow pace or energy ■ Missing deadlines ■ Tentative (versus definitive) statements	■ Being casual ■ Talking opinions (versus facts) ■ Not putting things in writing

Source: Bolton, Robert, and Dorothy Grover Bolton, *Social Style/Management Style*, New York: American Management Association, 1984; Bolton, Robert, and Dorothy Grover Bolton, *People Styles at Work*, American Management Association, 1996; Williams, Gary A., and Robert B. Miller, *Change the Way You Persuade*, Harvard Business Review, (May 2002); *The Platinum Rule*, "How to Adapt to Different Behavioral Styles," http://www.theplatinumrule.com (24 September 2007); *Interaction Styles*, "Berens' Interaction Styles," http://www.interactionstyles.com (21 September 2007); CEB, CEB IT Business Leadership Academy.

SCOPE	FRAME	ANALYZE	DELIVER

REMEMBER THIS

1. Spend ample time scoping a business partner's request for analysis of data. Time spent on upfront issue diagnosis will prevent re-work and misaligned expectations.

2. Do not assume your business partner has considered all underlying root causes of a problem. Use problem framing as a technique to inform and guide analysis.

3. Address data challenges and limitations early on. Move forward with what you have, and make data assumptions and caveats explicit.

4. Tailor your communication approach for different stakeholders when delivering your analysis.