Leading Complex Projects
Data Driven Approach to The Human Side of Project Management

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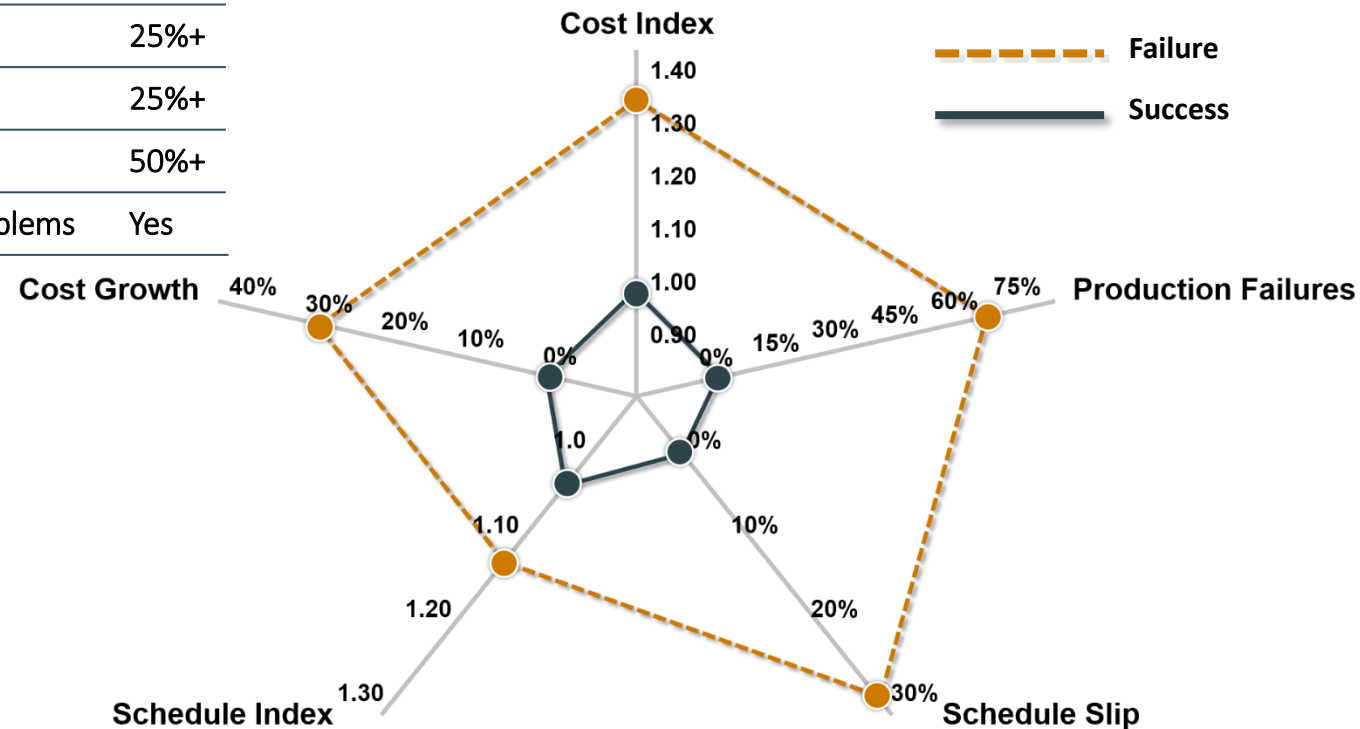
Track Record of Complex Projects

65% of Complex Projects Fail

Failure if one or more of the following occurred:

Costs Overrun	25%+
Cost Competitiveness	25%+
Schedule Slip	25%+
Schedule Competitiveness	50%+
Severe & Continuing Production Problems	Yes

- - - Failure
— Success

1 in 3 Complex Projects Are a Stunning Success!

The Thesis

As projects become more complex, the top project manager role shifts from that of a manager to that of a leader

Unfortunately, the manager and leader skillsets and personality requirements are not the same

Yet complex project leaders are *mostly* selected based on their success with middle-size projects

Many of the *true* leadership attributes are often not considered

This mismatch of skillset contributes very substantially to the poor track record that has amassed in complex projects
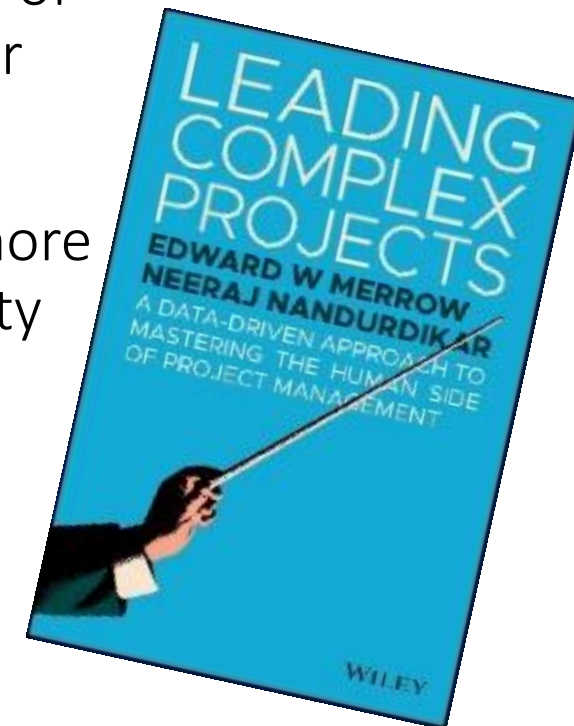
IPA

Foundation for This Work

Three years of research exploring the links between personality, experience, and successful *complex* project leadership

Based on researching 100+ of the most complex projects and their leaders, from all industrial sectors, globally

Augmented by, on the record, detailed biographies of some of the most successful complex leaders in our sectors

Published in a book; the book brings us closer to more new leaders through our complex leader personality profile test

LEADING COMPLEX PROJECTS

EDWARD W MERROW
NEERAJ NANDURDIKAR

A DATA-DRIVEN APPROACH TO MASTERING THE HUMAN SIDE OF PROJECT MANAGEMENT

WILEY

What Generates Complexity?

Complexity occurs in at least three dimensions…

Scope and Scale Complexity

When a project has three or more distinct sub-projects, or scale up needs the scope is too complex for the project director to supervise all

Organizational Complexity

When a project's organization requires a central hub that supports work but does not directly manage all the work
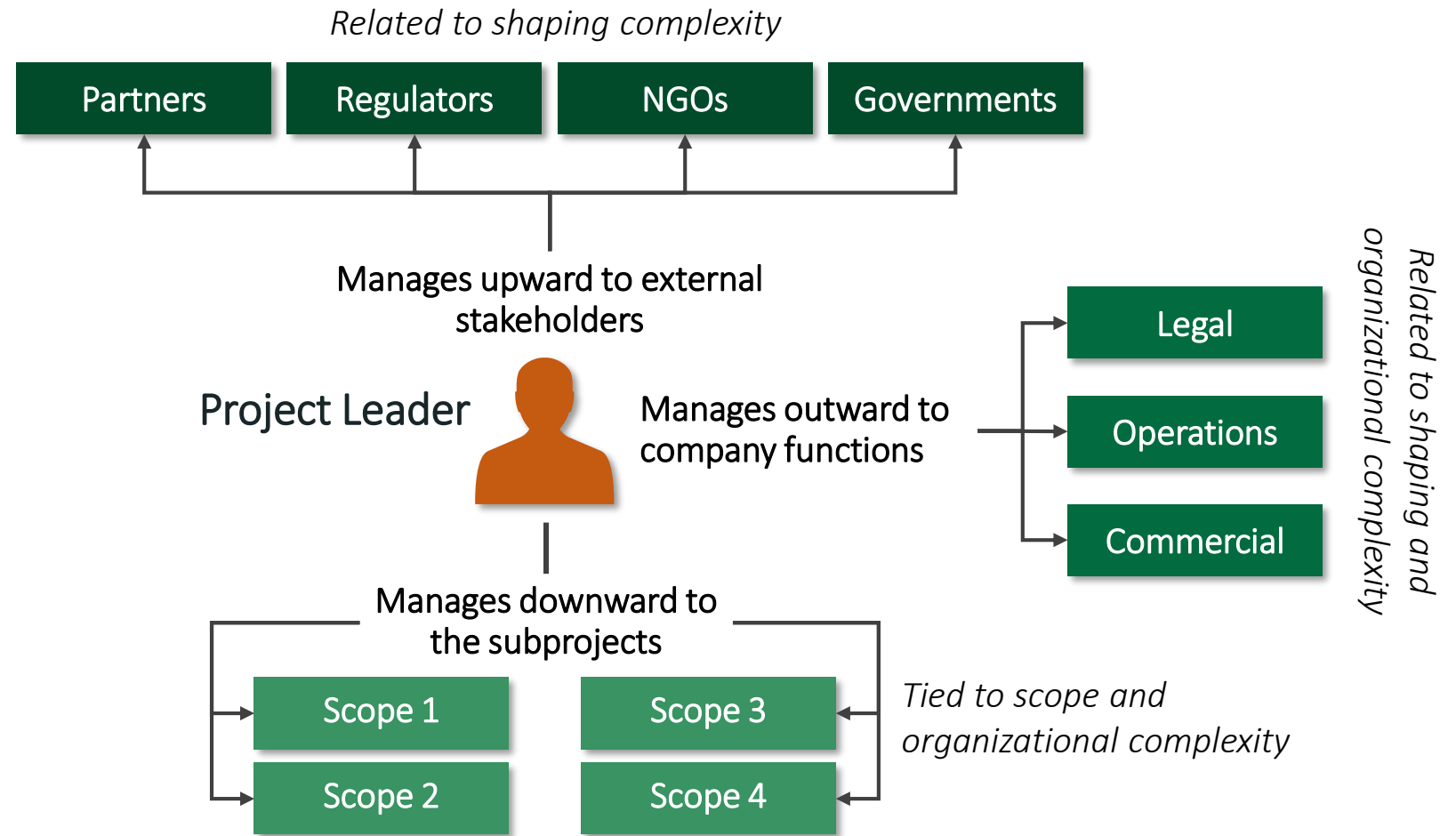
Shaping Complexity

When a project has a 4 or more external and/or internal stakeholder organizations, e.g., partners, government agencies, NGOs, local communities

Complex ventures have all three dimensions

Leadership Is Difficult in a Complex Project

Managing Up, Over, and Down

Related to shaping complexity

| Partners | Regulators | NGOs | Governments |

Manages upward to external stakeholders

Project Leader

Manages outward to company functions

Legal

Operations

Commercial

Related to shaping and organizational complexity

Manages downward to the subprojects

Scope 1   Scope 3

Scope 2   Scope 4

Tied to scope and organizational complexity

The skillset needed to generate voluntary cooperation is not the same as management

The Need for Leadership is Generated by Complexity

Project Management	Vs.	Project Leadership
– Good and clear planning of deliverables		– Articulating a clear vision for the project
– Proper allocation of work to the right people and contractors		– Getting all stakeholders to agree and cooperate
– Sequencing all work correctly to ensure smooth flow		– Generating strong followership from the team
– Holding everyone accountable through good controls		– Being a leader of leaders

To find and develop successful project leaders, we need to know what is The Right Stuff!

The Generalist Preference
Fox and Hedgehog Measure

Generalist Orientation

Varied Experience

Personality

Emotional Intelligence

Leadership Style and Preference

"A Fox knows many things, but a Hedgehog knows one important thing"   *-Archilochus c.680-645BC*

- This distinction, popularized by Isaiah Berlin, is useful for understanding characteristic ways of thinking

- We used a series of questions to understand the preferences our project leaders displayed in this regard:

Foxes

Generalists, eyes-to-the-horizon types that do not like to spend too much time on a single issue

Hedgehogs

Focus on a particular subject and know it extremely well

They specialize and are truly experts

As a group, engineers *tend* toward being Hedgehogs

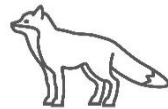# Complex Project Leaders are Mostly Foxes

Generalist Orientation

Varied Experience

Personality

Emotional Intelligence
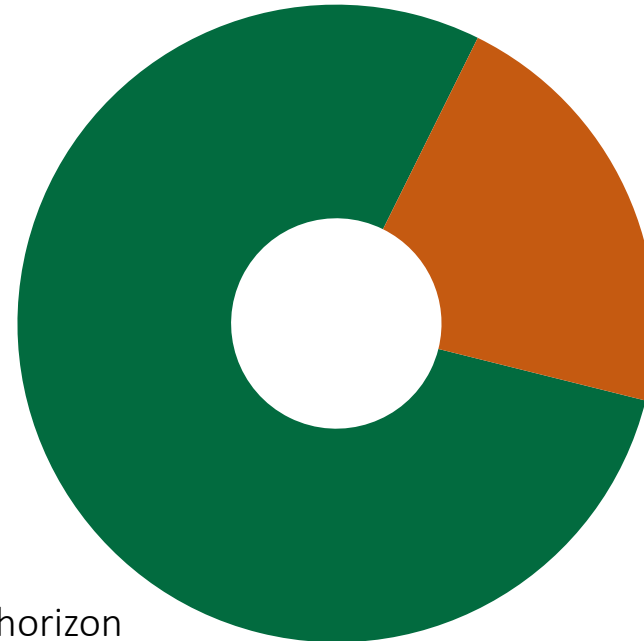
Leadership Style and Preference

Almost all of our respondents are engineers and engineers tend to be hedgehogs…

Hedgehogs
22%

Focus on a particular subject and know it extremely well; they specialize and are truly experts

Foxes
78%

Are generalists, eyes-to-the-horizon types that do not like to spend too much time on a single issue

…But our respondents are overwhelmingly foxes
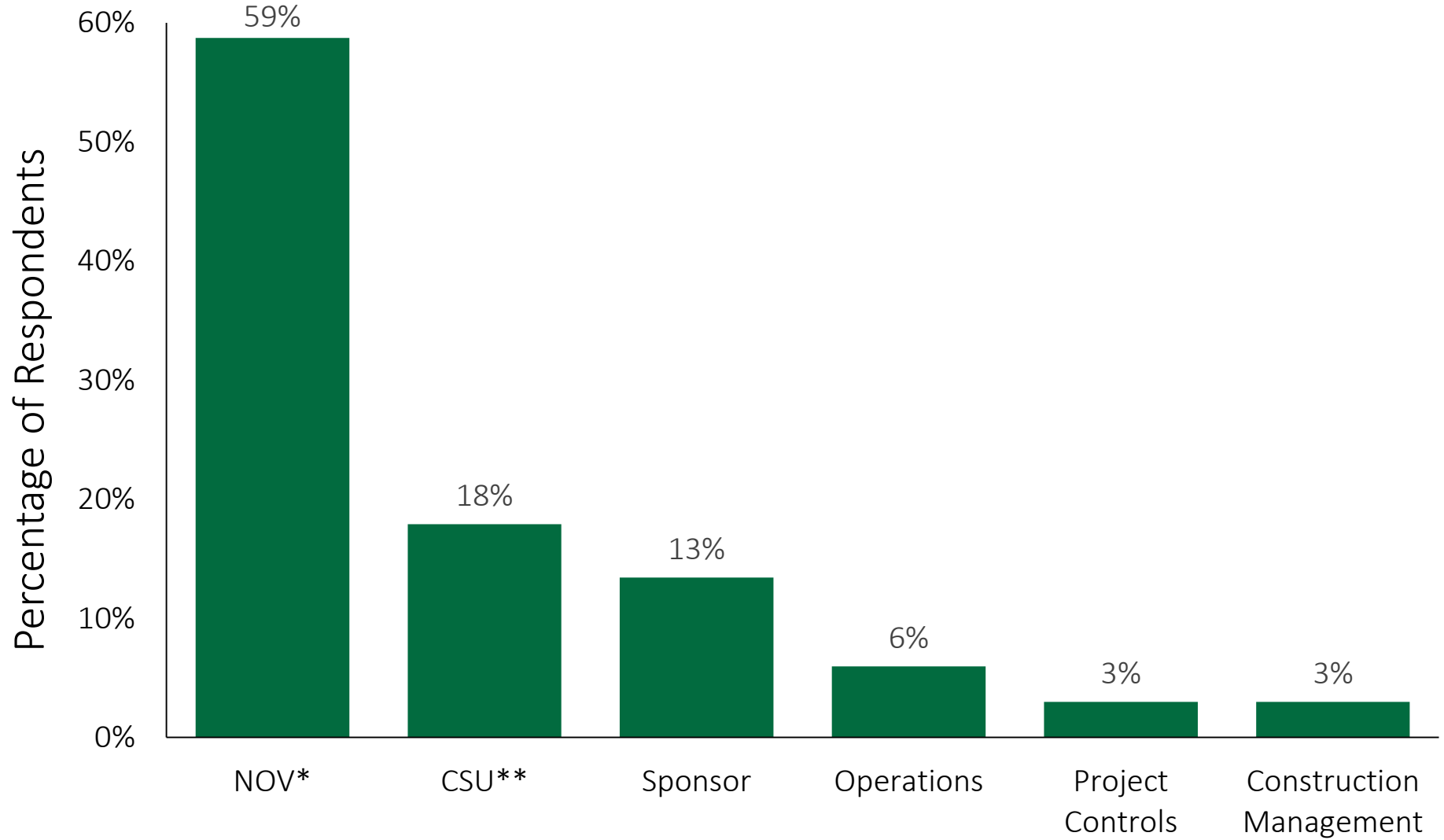
Better Leaders Often Spent Time on NOVs*

Generalist Orientation

Varied Experience

Personality

Emotional Intelligence

Leadership Style and Preference

59% of respondents worked as NOV reps but they make up nearly 80% of successful leaders

We believe that time on NOVs is a period of intense learning for (prospective) project leaders

Time to watch others make mistakes and to reflect on what works and what doesn't

Pr < 0.01

*Non-Operated Venture

IPA
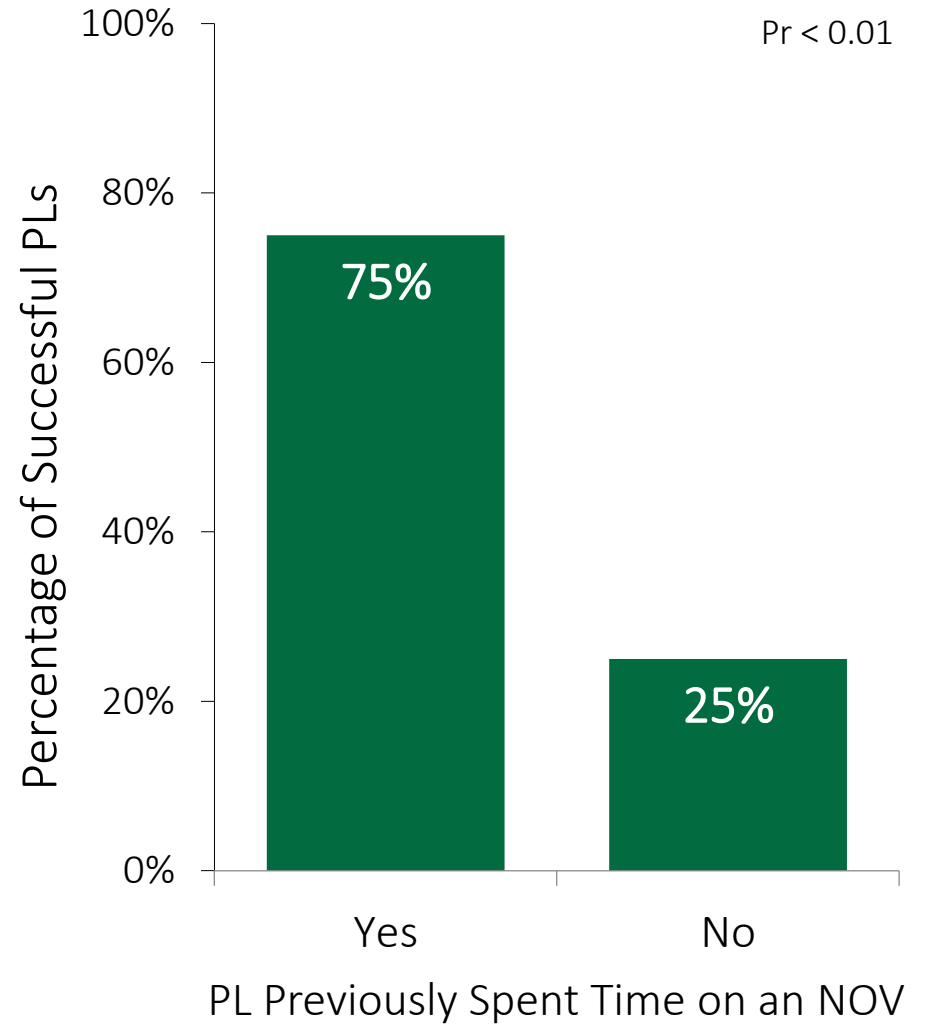
Six Core Practices for Project Success

Objectives

Team fully understands objectives

Tradeoffs

Team fully understands priorities and tradeoffs

Alignment

All stakeholders are aligned

Integrated

Owner project team is integrated with all key functions

Front-End Definition

Font-End Definition is complete before authorization

Project Controls

Effective Project Controls are installed

1

2

3

4

5

6

The Shaping Process: Turning an Opportunity into a Profitable Venture

Basic Data Development

Basic Data Process
Science-Driven

Project Context › **Potential Value** › **Comparative Advantage** › **Stakeholder Alignment** › **Partner Issues**

Shaping Process
Business-Driven

Project Process
Project-Driven

FEL 0 › **Assess Opportunity** *FEL 1* › **Select Scope** *FEL 2A* › **Complete Scope** *FEL 2B* › **Define Project** *FEL 3* › **Execute** › **Start Up & Operate**

Business Case Developed   *Scope Closure*   Authorization

Leaders v. Managers

- Those with more open personalities and high emotional intelligence tended to focus on:
  - Communication
  - People management
  - Contracting

- Those lower on these scales tended to focus on:
  - Project management tasks
  - Controls and engineering
  - Work process

- The first group understood their job to be leadership; the second felt their job was project management

Generalist Orientation

Varied Experience

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Emotional Intelligence

Leadership Style and Preference

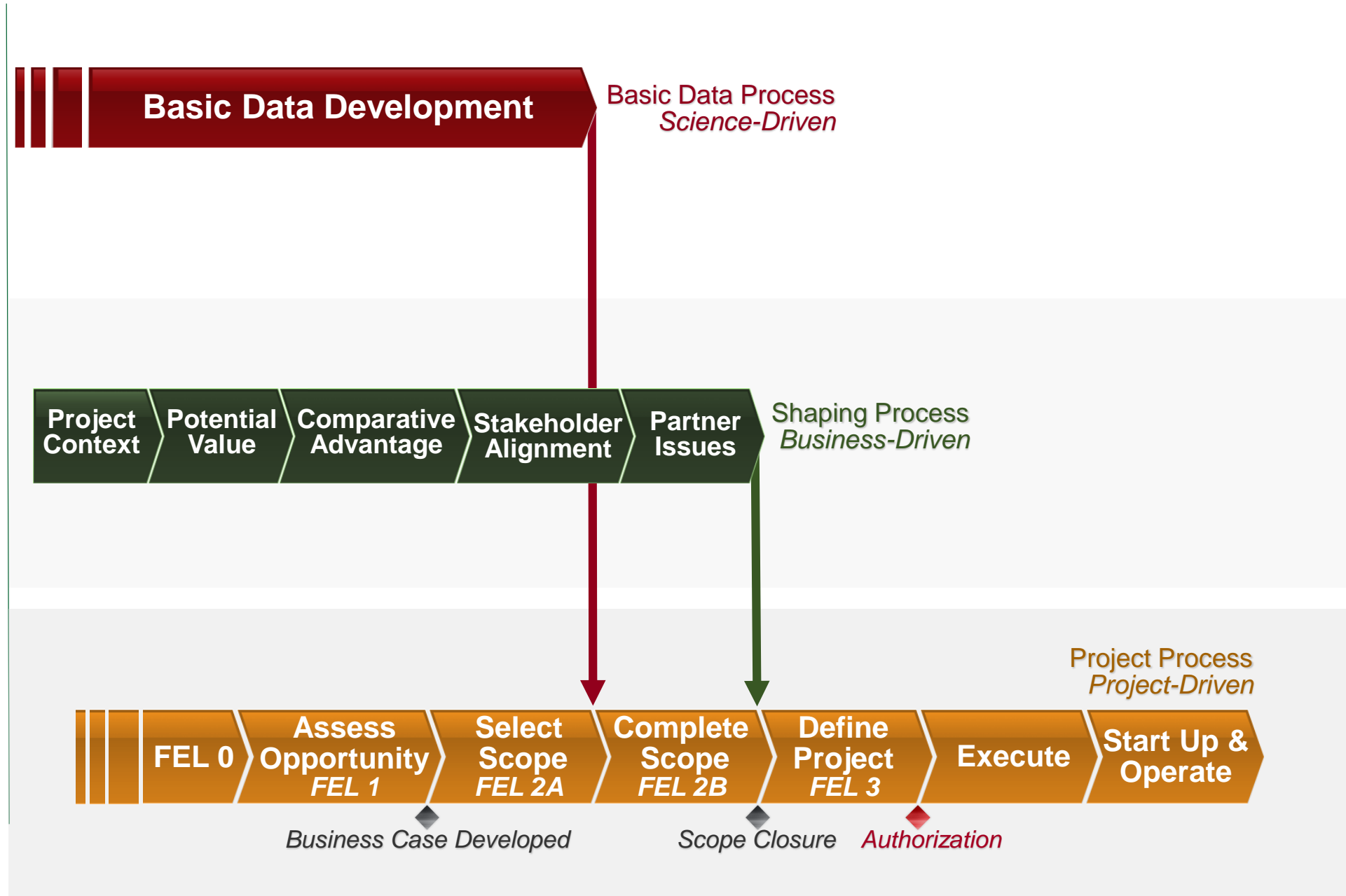# Leaders Value Communication and People & Stakeholder Management And That Drives Front-End Loading

FEL Index at Authorization

Best		
Good		
Fair		
Poor		
Inadequate		

Inadequate
- Schedule-Driven

Inadequate
- Not Schedule-Driven

Poor
- Not Schedule-Driven
- Integrated Team

Fair
- Not Schedule-Driven
- Integrated Team
- Stakeholder Management Is Top PL Task

Good
- Not Schedule-Driven
- Integrated Team
- People Management Is Top PL Task

Best
- Not Schedule-Driven
- Integrated Team
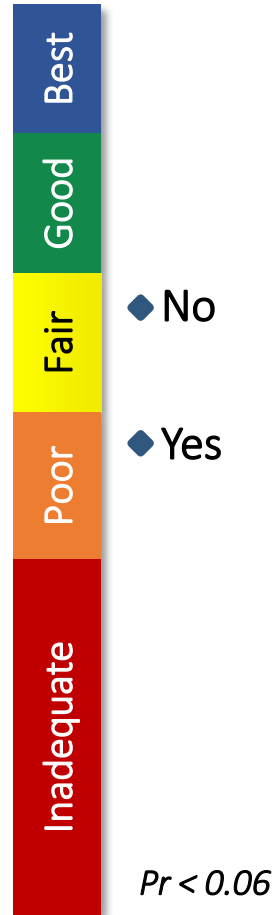- People and Stakeholder Management Are Top PL Tasks
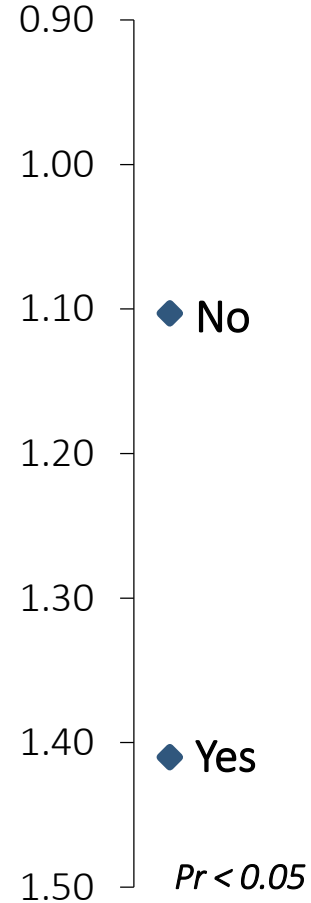
Leaders Should Not Do Others' Work

Generalist Orientation

Varied Experience

Personality

Emotional Intelligence

Leadership Style and Preference

Engineering/Technical Tasks Important for PL

Best	
Good	
Fair	◆ No
Poor	◆ Yes
Inadequate	

Pr < 0.06

FEL Index

Engineering/Technical Tasks Important for PL

0.90

1.00

1.10 ◆ No

1.20

1.30

1.40 ◆ Yes

1.50

Pr < 0.05

Cost Competitiveness

Project Controls Is a Common PL Task

0.90 ◆ No

1.00

1.10 ◆ Yes

1.20

1.30

1.40

1.50

Pr < 0.02
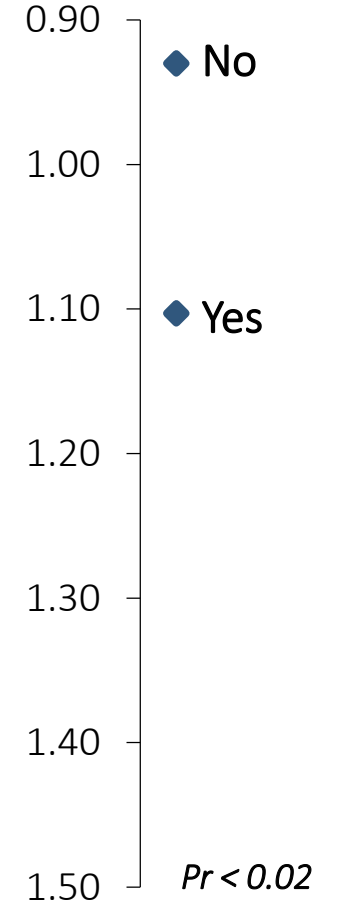
Execution Schedule Index

Leaders Value Stakeholder Management and it Shows

Generalist Orientation

Varied Experience

Personality

Emotional Intelligence

Leadership Style and Preference

Cost Overruns

- +1 Std. Dev.
- Mean
- -1 Std. Dev.

Pr < 0.04

-40%
-30%
-20%
-10%
0%
10%
20%

Yes   No

Stakeholder Management Perceived as Value-Adding PL Task

Schedule Competitiveness

Better

Worse

- +1 Std. Dev.
- Mean
- -1 Std. Dev.

Pr < 0.06

0.70
0.80
0.90
1.00
1.10
1.20
1.30

Yes   No

Stakeholder Management Perceived as Value-Adding PL Task
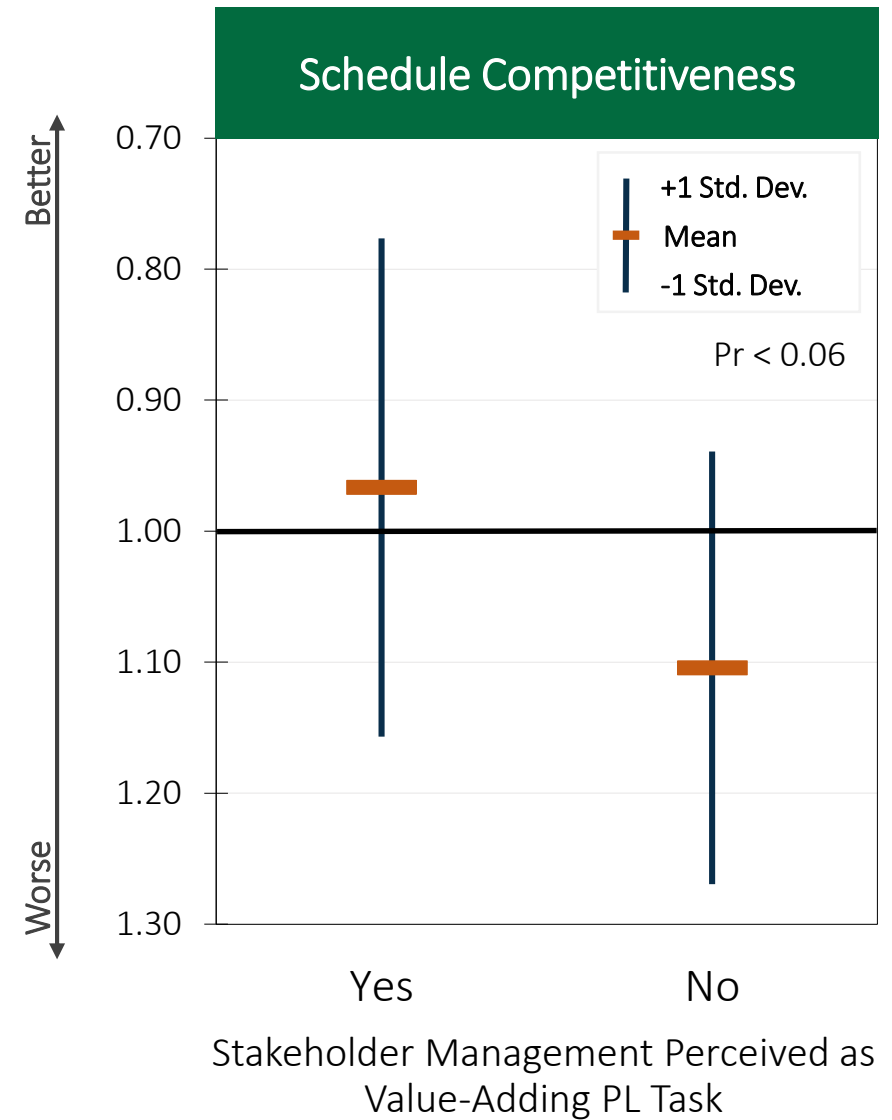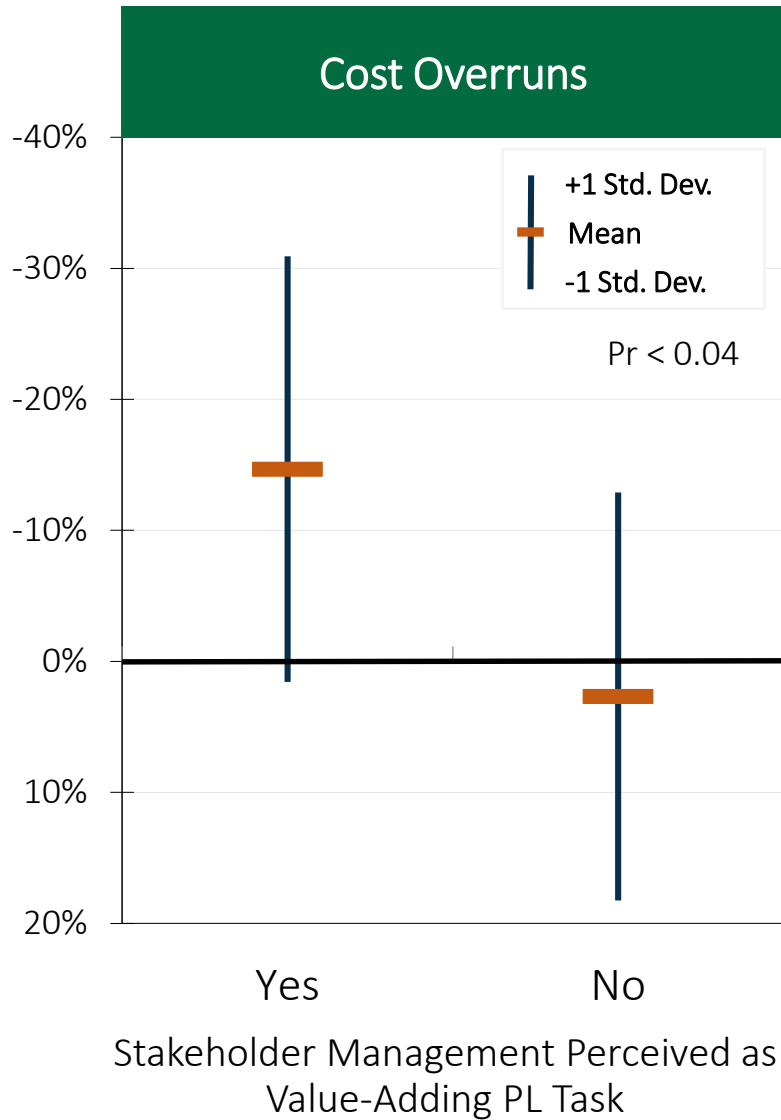
Effective Leaders Listen and Don't Do Others' Work

Probability of Having an Integrated Team

- Leader Listens to All *and* Does Not Perform Non-Leader Tasks: **100%**
- Leader Does Not Listen to All *and* Does Not Perform Non-Leader Tasks: **71%**
- Performs 1 Non-Leader Task: **33%**
- Performs 2 Non-Leader Tasks: **0%**
- Performs 3 Non-Leader Tasks: **0%**

Leader Does Not Listen to All
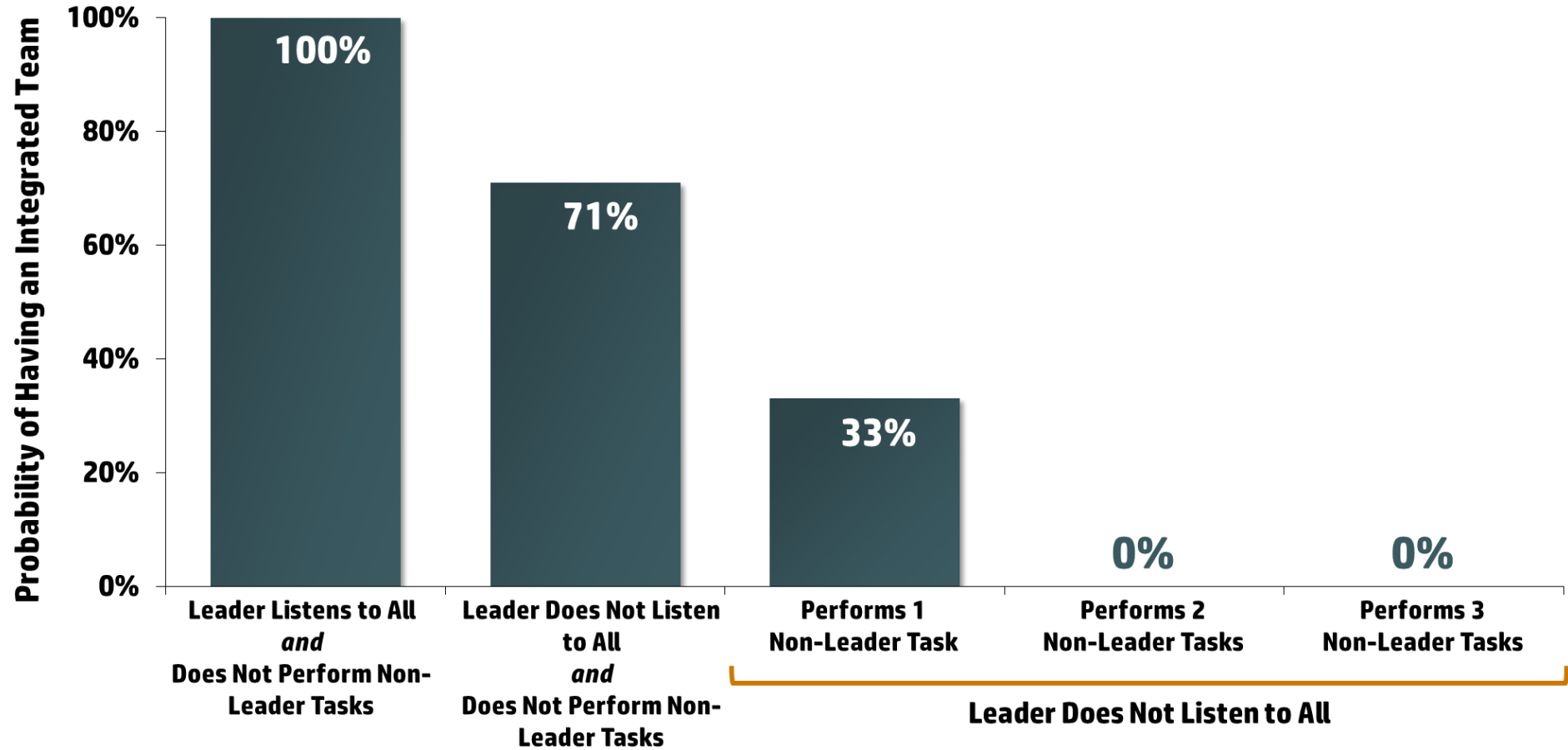
Encouragement + Alignment = A Passionate Team

Ethos of a Successful Complex Project Leader

- Leaders are facilitative.

- Leaders are encouragers.

- Leaders say "thank you" a lot and mean it.

- Leaders take corrective actions.

- Leaders insist on alignment.

- Leaders are inspirational.

The Leadership Necessary to Scale Up Successfully

Complexity Requires Leadership *Not* Management

Did we select correctly?

Yes

Project Leader
- Generalist
- Open Personality
- High Emotional Intelligence
- Varied Experience

Performs → **People & Cooperation Tasks** → *Supports* → **Best Practices** → **Success**

No

Project Manager
- Specialist
- Less Open Personality
- Poorer People Skills
- Narrower Experience

Performs → **Technical & Controls Tasks** → *Leads To* → **Poor Practices** → **Failure**

Concluding Thought

> # *"The hard stuff is easy.*
> # *It's the soft stuff that is really hard."*
>
> *—Leader of the most complex successful*
> *gigaproject ever done*

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