



Opening your Arms to Collaborative Delivery

Dick Bayer

One of the many ReAlignment Groups

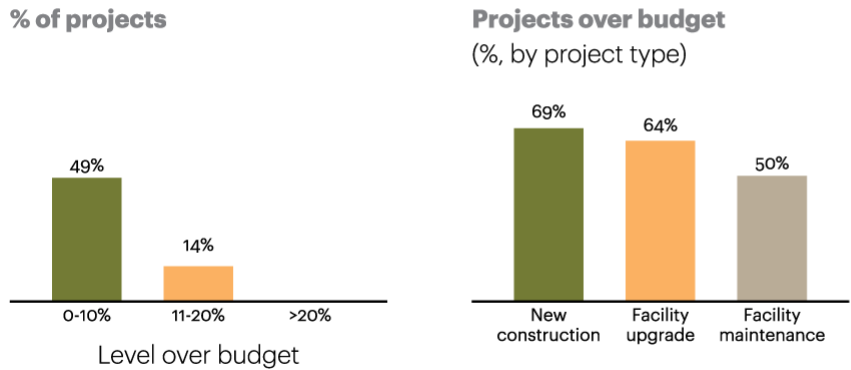
Owner Engagement: The Value Proposition

- On time
- On Budget
- Great Quality
- Impeccable Safety



Project Delivery
Where we are today

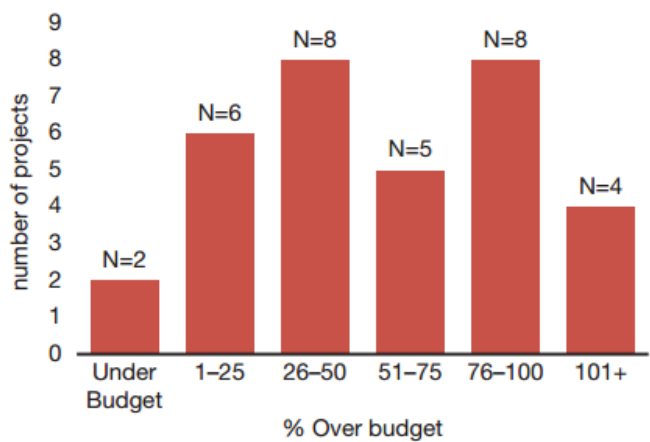
Figure 2
Capital projects' budget performance



Source: A.T. Kearney Excellence in Capital Projects II study, 2012

Figure 1: Projects under budget are the exception, not the rule

Number of projects within cost overrun categories



Source: PwC analysis, based on industry research

<https://www.pwc.com/sg/en/capital-projects-infrastructure/assets/cpi-correcting-the-course-of-capital-projects.pdf>

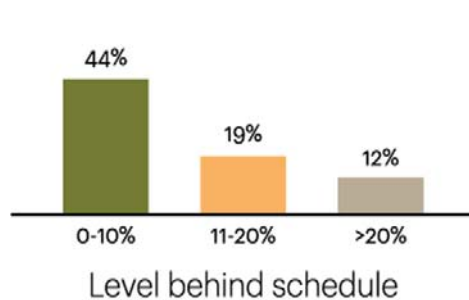


October, 2013

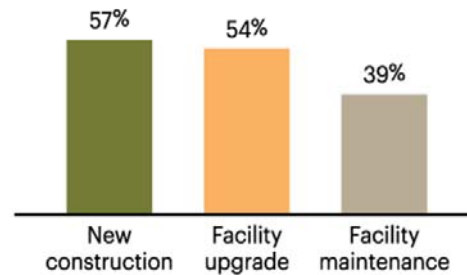
Figure 3

Capital projects' schedule performance

% of projects

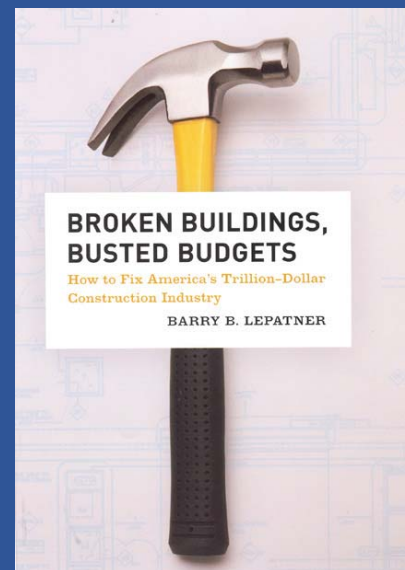


Projects behind schedule
(%, by project type)



Source: A.T. Kearney Excellence in Capital Projects II study, 2012

"32 percent of the total time spent at the typical U.S. construction site involves actual direct work."

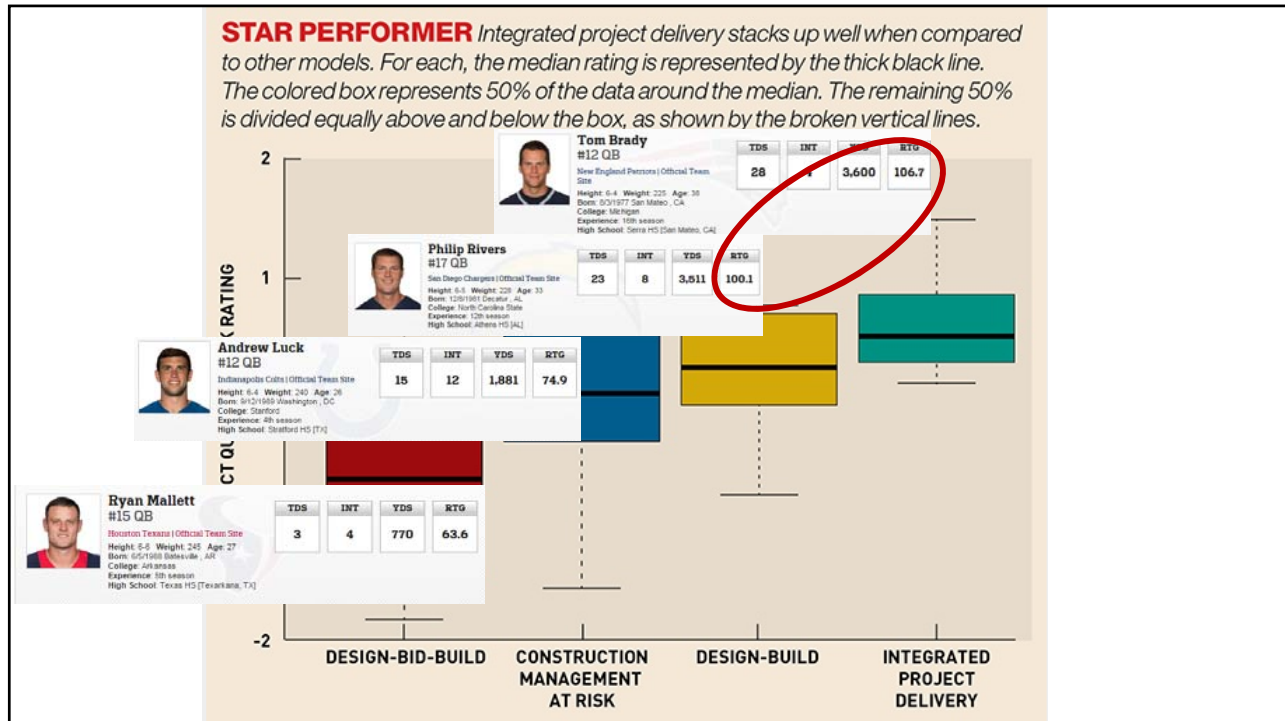


[LePatner, Barry, *Broken Buildings, Busted Budgets* (University of Chicago Press) pg. 36]

37% of everything that
comes onto a project
site is wasted

<https://www.youtube.com/watch?v=Ml9-sHFMhYo&feature=youtu.be>


Project Delivery
Progress



Tom Brady		TDS	INT	YDS	RTG
	#12 QB New England Patriots Official Team Site Height: 6-4 Weight: 225 Age: 38 Born: 8/3/1977 San Mateo, CA College: Michigan Experience: 16th season High School: Serra HS [San Mateo, CA]	28	4	3,600	106.7

Philip Rivers		TDS	INT	YDS	RTG
	#17 QB San Diego Chargers Official Team Site Height: 6-5 Weight: 228 Age: 33 Born: 12/8/1981 Decatur, AL College: North Carolina State Experience: 12th season High School: Athens HS [AL]	23	8	3,511	100.1

American Football Conference - 2015	
AFC East Team W L T	
New England Patriots	10 1 0
New York Jets	6 5 0
Buffalo Bills	5 6 0
Miami Dolphins	4 7 0
AFC North Team W L T	
Cincinnati Bengals	9 2 0
Pittsburgh Steelers	6 5 0
Baltimore Ravens	4 7 0
Cleveland Browns	2 9 0
AFC South Team W L T	
Indianapolis Colts	6 5 0
Houston Texans	6 5 0
Jacksonville Jaguars	4 7 0
Tennessee Titans	2 9 0
AFC West Team W L T	
Denver Broncos	9 2 0
Kansas City Chiefs	6 5 0
Oakland Raiders	5 6 0
San Diego Chargers	3 8 0



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28	4	3,600	106.7

American Football Conference - 2015

AFC East Team W L T

New England Patriots	10	1	0
New York Jets	6	5	0
Buffalo Bills	5	6	0
Miami Dolphins	4	7	0

AFC North Team W L T


Cincinnati Bengals	9	2	0
Pittsburgh Steelers	6	5	0
Baltimore Ravens	4	7	0
Cleveland Browns	2	9	0


AFC South Team W L T

Indianapolis Colts	6	5	0
Houston Texans	6	5	0
Jacksonville Jaguars	4	7	0
Tennessee Titans	2	9	0

AFC West Team W L T

Denver Broncos	9	2	0
Kansas City Chiefs	6	5	0
Oakland Raiders	5	6	0
San Diego Chargers	3	8	0





Philip Rivers
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San Diego Chargers | Official Team Site
Height: 6-5 Weight: 228 Age: 33
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Project Delivery

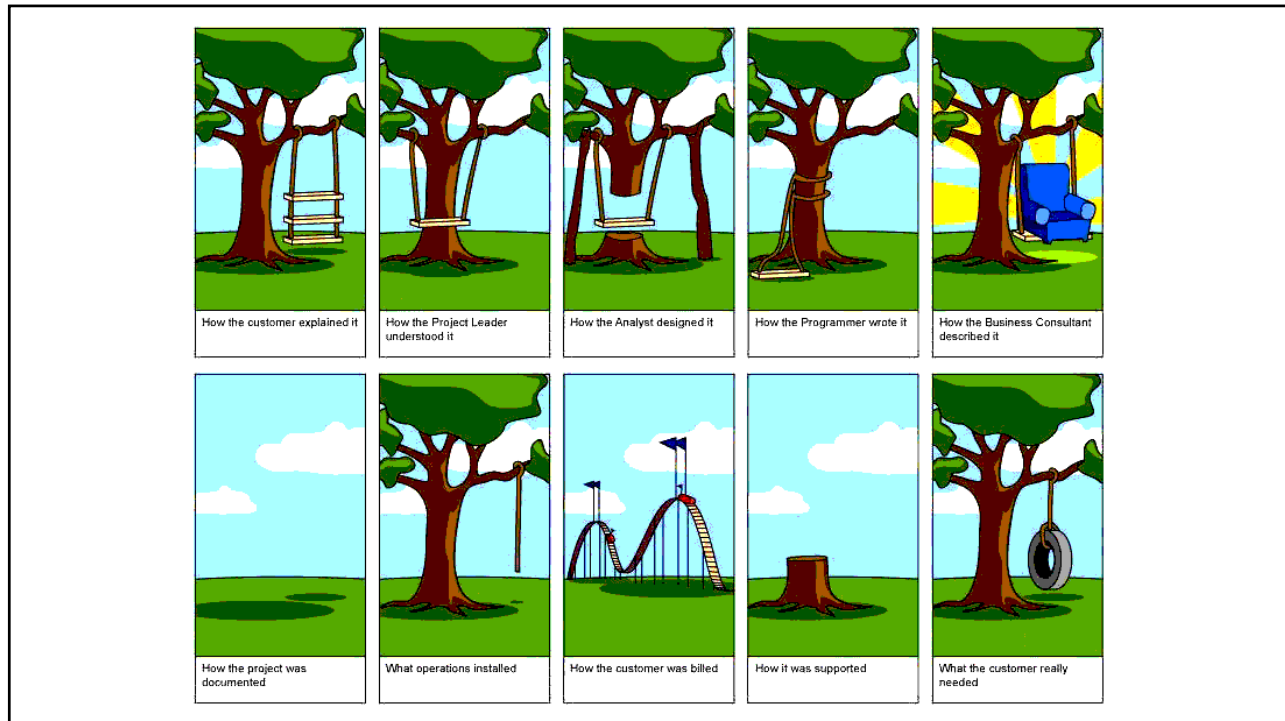
Refine/Refocus

Owner Engagement: The Value Proposition

- Visibility/ Transparency
- Collaboration
- Trust
- Commitment
- Achievement
- Knowledge

Project Delivery

Visibility and Transparency



Visibility and Transparency

- Our values must be clear and understood
- Should guide project development

Project: GPC Philadelphia Naval Yard Date: February 03, 2012 All No 2012-1

Prepared: Dick Bayer Collaborators: Entire Team

Values Matrix

BACKGROUND: All projects need context and background for determining all the context why the project is being undertaken. What problems does it solve? What does it mean to represent? Who are the stakeholders and what are their objectives? Development of a values matrix, a representation of the shared values the parties mean for the project to represent, anchors the project in a certain context that allows the parties to work across the creative tensions of varying values and arrive at the best built environment solution.

CURRENT CONDITIONS: The GPC is a consortium of Penn State University and a variety of state and federal government entities including E-4C and the Department of Energy. The goals of the GPC E2B Hub are to: 1) transform building retrofit industry from serial fragmentation to integrated systems methods, 2) improve design tools, building systems, public policies, market incentives, and workforce skills needed to achieve a 50% reduction of energy use in buildings, and 3) stimulate private investment and quality job creation in Greater Philadelphia and beyond. www.gpcphub.org The specific project includes the renovation of an existing greenhouse and the construction of a new building. **Kieran Timberlake** is the project architect and **Balfour Beatty** is the Contractor.

DEVELOPMENT PROCESS: In order to assure a representative set of agreed values, the stakeholders convened in Philadelphia for a facilitated values development session. Nine categories of values were developed by the group:

- Influence
- Learning
- Risk Management
- Innovation
- Maximization of Value
- Collaboration
- Regional Optimization
- Systems Integration
- Whole Learning

FAACORRECTIONS: The parties agreed to allow Steve Obitzko, Deann Mace and Dave Ritz to collaborate on a proposed first statement of the Values Matrix.

The team reduced the categories to 7 and developed the following proposed values statements:

Influence: As a regional collaboration creating national energy efficient innovations that foster job growth, economic development we will influence the industry to design, implement and operate integrated energy efficient innovations. We will influence public entities to seek integrated project delivery processes.

Repeatable Demonstration: We will demonstrate incorporation of repeatable energy efficient technology, processes and procedures that are affordable, scalable and efficient. We will demonstrate that public projects can deliver projects on an integrated basis that overcome the procurement challenges this project faces.

Learning: We will use processes and technologies that allow us to learn and share our learning about the efficacy, affordability, operation and constructability of efficient and effective energy retrofits through iterative integration of dependable components and subsystems.

Collaborative Environment: We will create a collaborative, multi-dimensional and highly functional environment to serve both short and long term goals and provide a nexus for project demonstration, learning and influence in accordance with GPC requirements and Penn State educational goals.

Systems Integration: We will create efficient and effective energy retrofits through strategic integration of dependable components and subsystems.

Cost Certainty: We will be good financial stewards and will spend all available initial funds to maximize scope, minimize long term facility costs and with constant consideration of premium/affordability.

Time Reliability: We will be a highly reliable team who makes decisions at the most reasonable moment and creates a safe and quality work environment.

IMPLEMENTATION PLAN: The GPC team will review the values at the next meeting of the Project Team on February 22. The values will be reviewed, revised if necessary and adopted by the team.

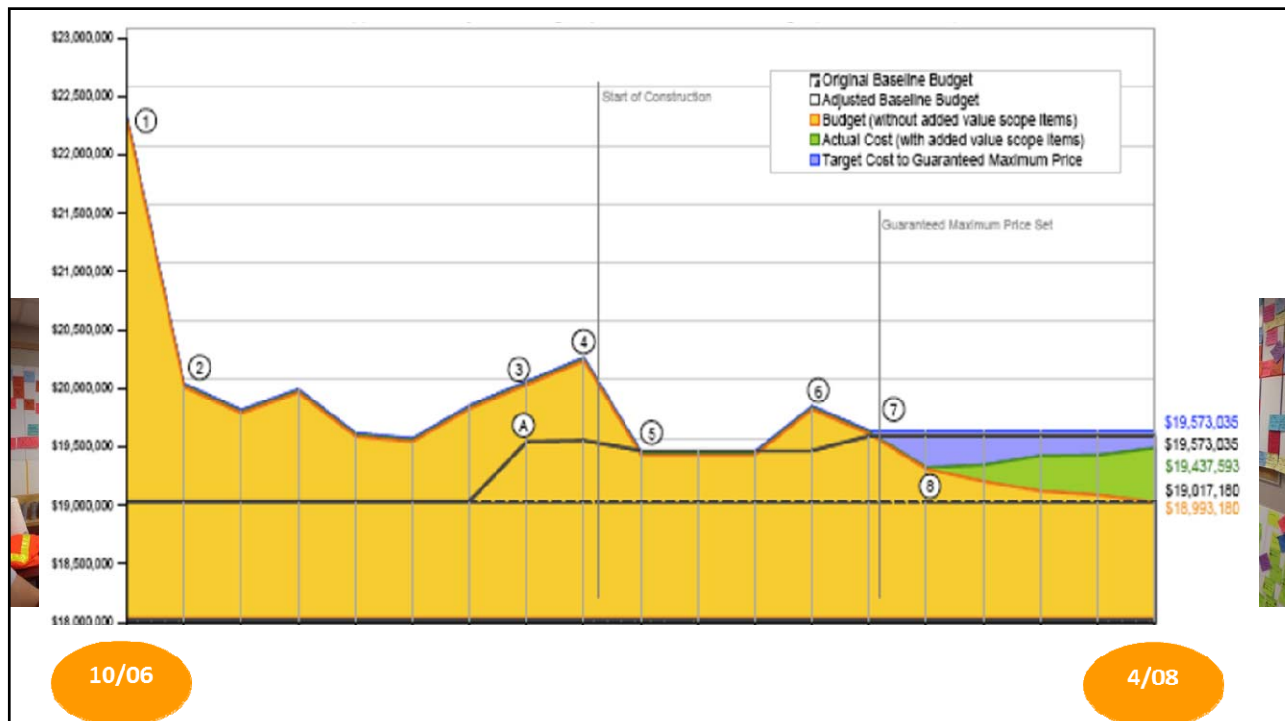
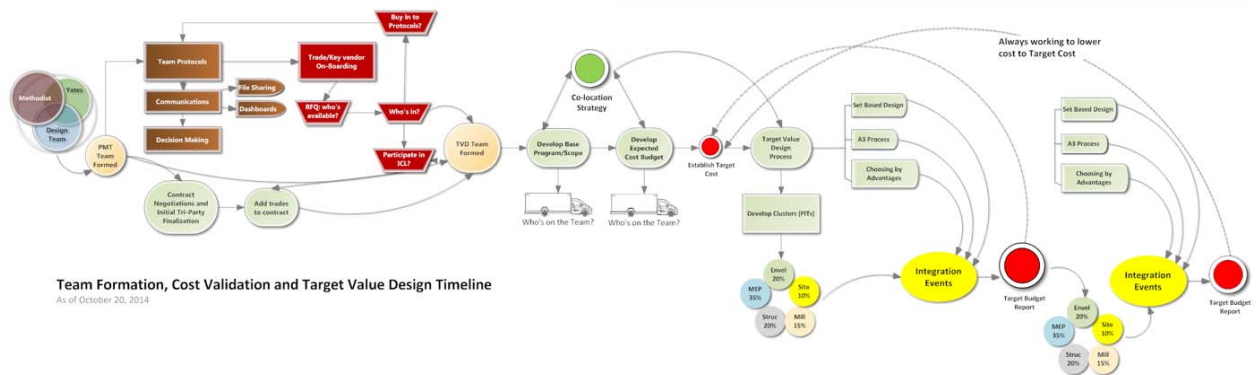
FOLLOW UP: The team will use the values in assessing the inclusion or exclusion of various elements in the project, in developing systems for inclusion, in making design and construction decisions and in implementing and operating the buildings after completion. The values may be revisited from time to time to ensure that they continue to represent the core values of the project. All A-Is developed for the project will have a legend (as the one on the right) that will reflect how that A-Is and its suggestions would advance or have no effect upon the values developed.

Project Values Measurement

Value	Advances	Reinforces	Neutral	Reduces
Influence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Repeatable Demonstration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Learning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Collaborative Environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Systems Integration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cost Certainty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Time Reliability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Visibility and Transparency

- Our processes should be clear and workable



Visibility and Transparency

From the Owner:

- Realistic budgets
- Realistic timelines
- Information sharing
- Decision making

From the Design Team

- Open processes
- Set Based Design
- Design to budget
- Design from the inside out
- Open about design fees and costs

Visibility and Transparency

From the GC/CM

- Transparent costs
- Transparent profit
- Management to value rather than org chart
- Design assist

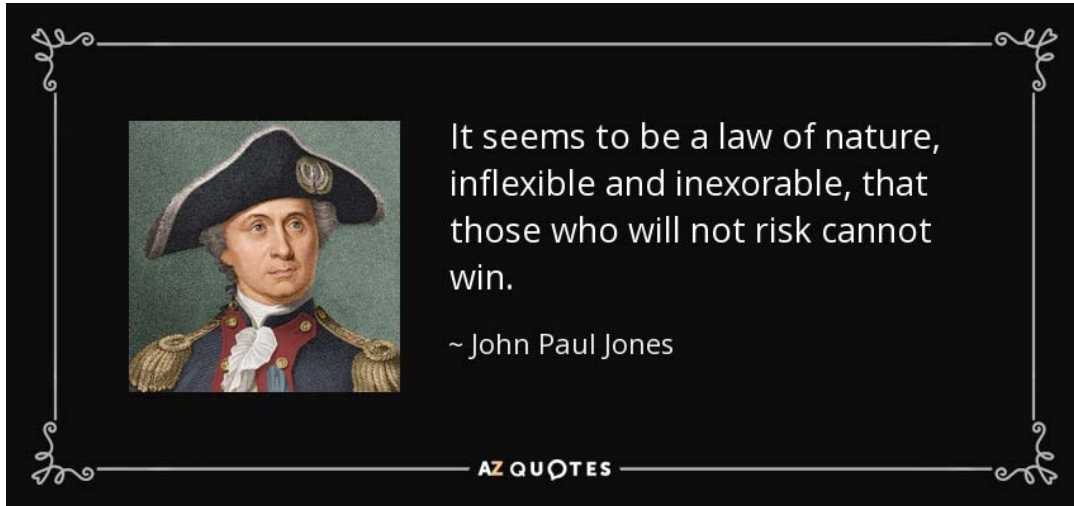
From the Trades

- Transparent costs
- ROM pricing for sets of options
- Design assist in both costs and offsite possibilities

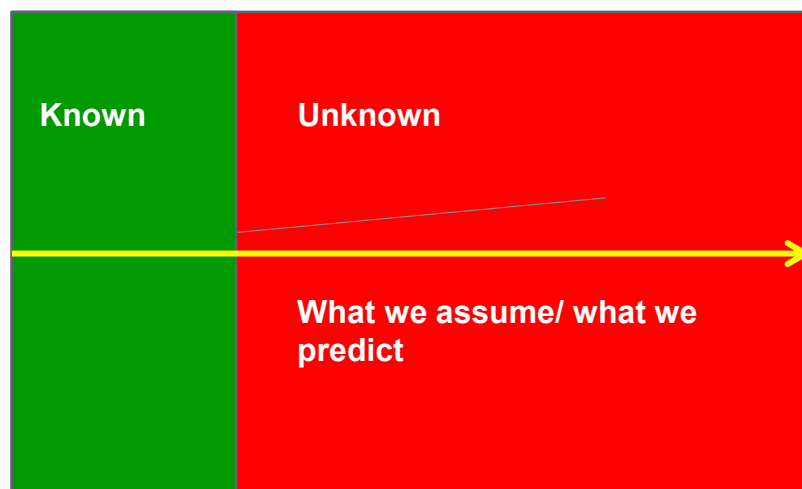
Project Delivery Collaboration



Collaboration

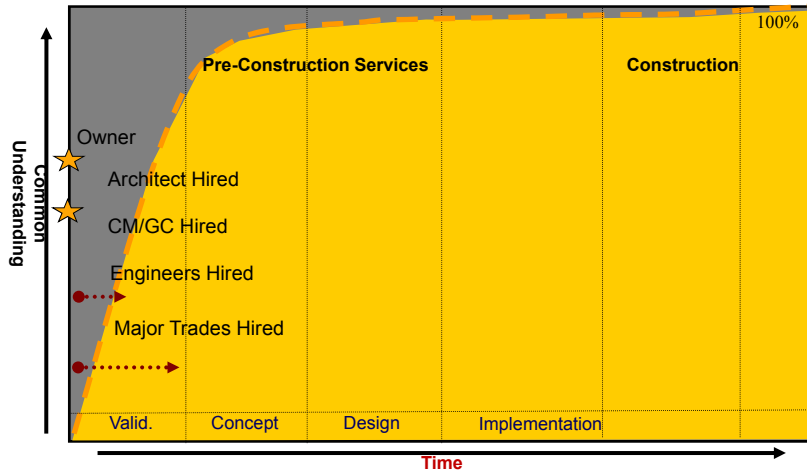


Manage Risk Collaboratively

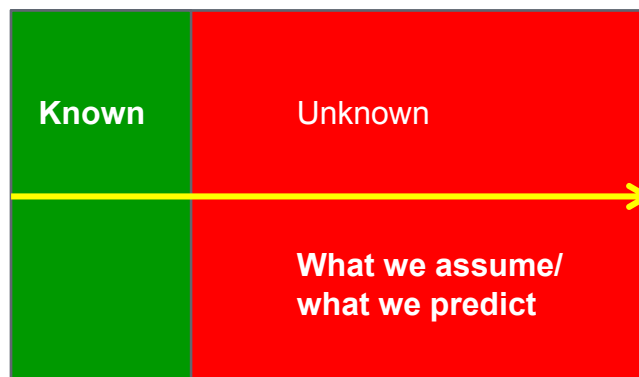


Manage Risk Collaboratively

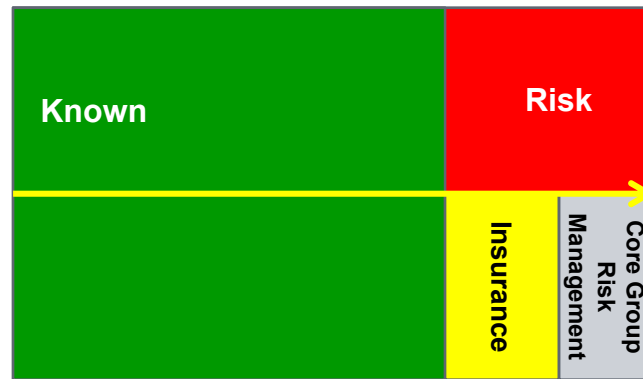
Understanding the Work: Early Team Formation



Manage Risk Collaboratively



Manage Risk Collaboratively



Collaboration

From the Owner:

- Realistic budgets
- Realistic timelines
- Information sharing
- Decision making

From the Design Team

- Open processes
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Collaboration

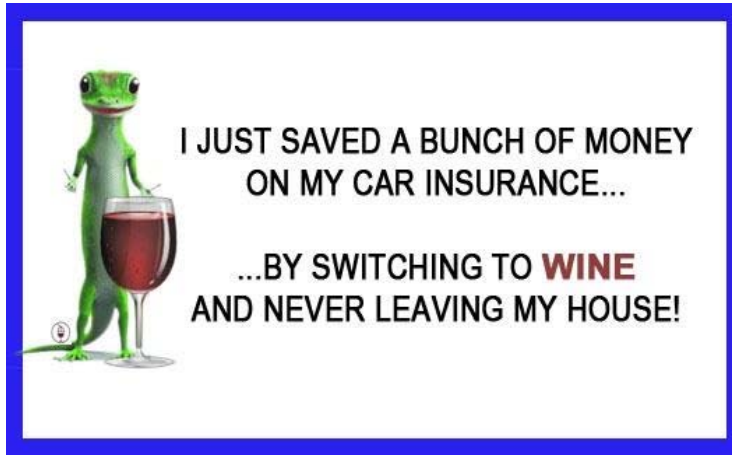
From the GC/CM

- Transparent schedule
- Servant leadership
- Team strategy
- One project, one team

From the Trades

- Collaboration
 - in planning
 - In handing off work
 - In rejecting bad predecessor work
 - In accountability to those behind you

Project Delivery
Trust



Trust

Pistanthrophobia
fear of trusting people due to past
experiences with relationships gone bad

Trust: The Cost of Not Trusting

- Lawyers
- Law suits
- Reporting
- Duplicate reporting
- OAC meetings
- Monthly reports
- RFIs
- Submittals
- Meetings
- Estimates
- Checking estimates
- Checking the checkers who checked the estimates
- Auditing
- Auditing the auditors
- Bonds
- Insurance policies
- SDs
- DDs
- CDs
- Bidding
- Defaults
- Processes that add no value

Trust

From the Owner:

- Relationships
- Proven reliability
- Best value contracting after prequalification
- Open to new players
- Celebrate victories

From the Design Team

- Open relationships with stakeholders
- Developing great competence in the building vertical
- Developed relationships with builders
- Active participation from beginning to end

Trust

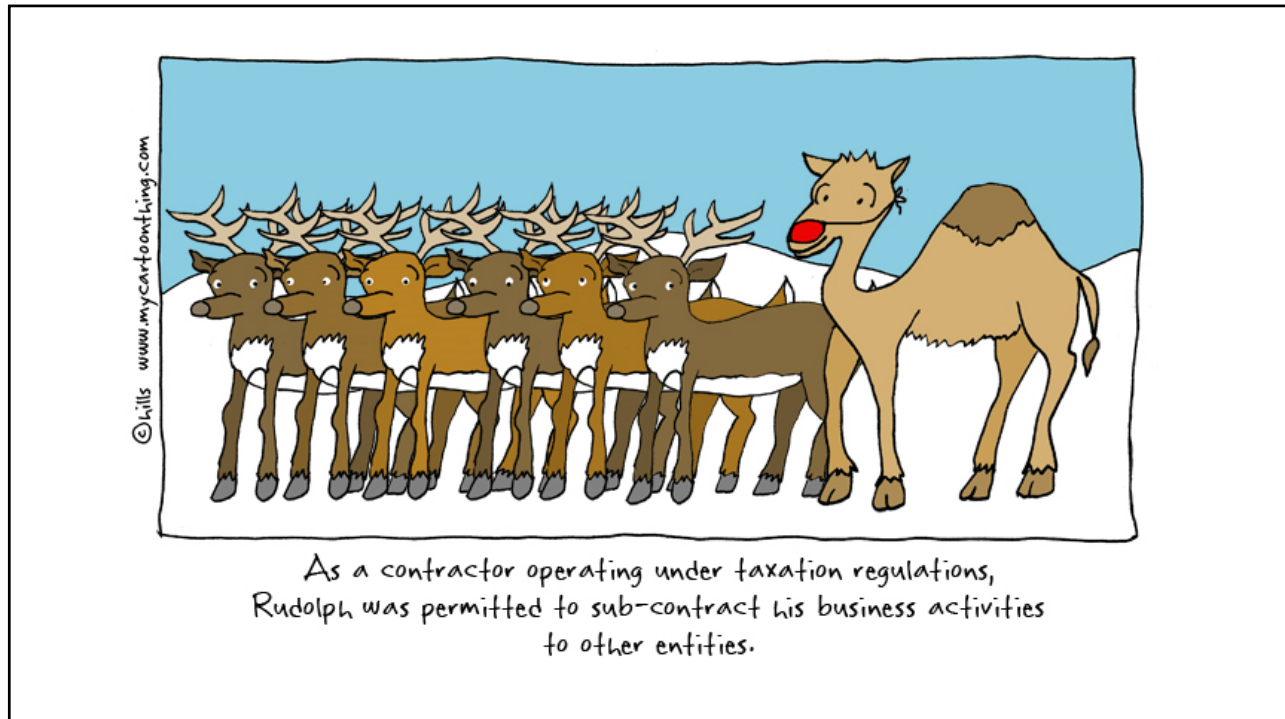
From the GC/CM

- Transparent everything
- Trusted ally, trusted mentor
- Open office, learning center

From the Trades

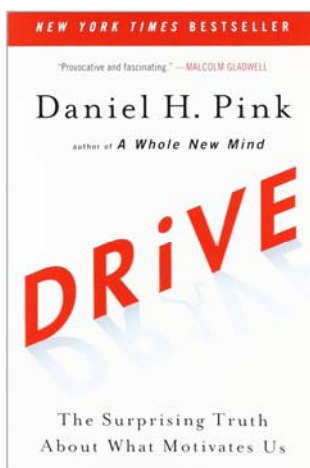
- Knowledge sharing
- Hand-offs of work
- Sharing better practices
- Discovering/disclosing anomalies
- Best implementation: first time

Project Delivery
Commitment



Commitments

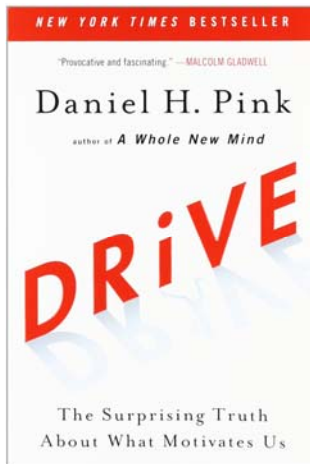
Goals and incentives



The problem with making an extrinsic reward the only destination that matters is that some people will choose the quickest route there, **even if it means taking the low road.**

Commitments

Goals and incentives



In fact, the business school professors suggest they should come with their own warning label: **“Goals may cause systematic problems for organizations due to narrowed focus, unethical behavior, increased risk taking, decreased cooperation, and decreased intrinsic motivation. Use care when applying goals in your organization.”**

Commitments

Projects are networks of commitments



Commitment

From the Owner:

- Available resources
- Decision making process that's clear and understandable

From the Design Team

- Create sets of options
- Design from the inside out
- Draw only what releases work or what is valuable to the customer
- Commit needed resources throughout the project

Commitment

From the GC/CM

- Transparent everything
- Create shared communication
- Deliver on promises
- Make work ready

From the Trades

- Communicate directly
- Commit to work—crews, time, area, cost
- Be accountable for making up where necessary
- Be present at hand-offs
- Pull the cord on defective or incomplete work

Project Delivery

Achievement

**OBSTACLES
ARE THE RAW
MATERIALS OF
GREAT
ACCOMPLISHMENT**

TOMMY NEWBERRY

**HAPPINESS LIES
IN THE JOY OF
ACHIEVEMENT
AND THE THRILL
OF CREATIVE
EFFORT.**

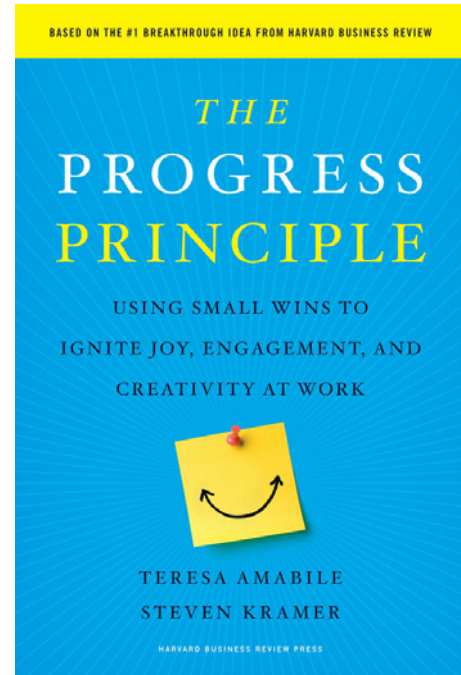
- FRANKLIN D ROOSEVELT

Achievement

- Focus on Value:
- Make work **better**
 - Do work that **releases** work
 - Never have **work waiting for workers or workers waiting for work**
 - **Make work safer:** Go home in the condition you arrived

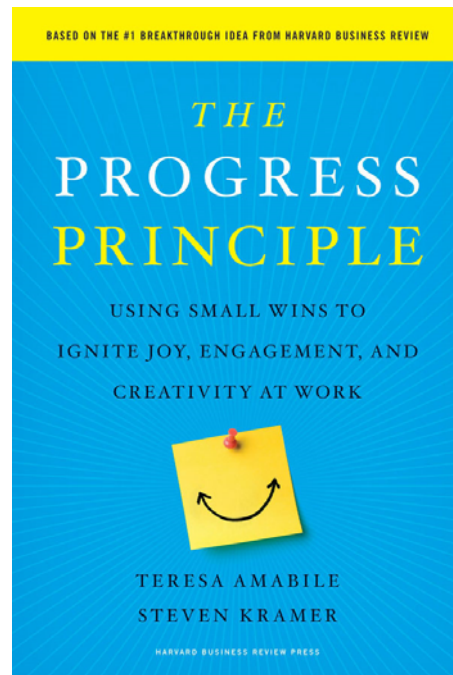
Achievement

In light of our results, managers who say—or secretly believe—that employees work better under pressure, uncertainty, unhappiness, or fear are just plain wrong. **Negative inner work life has a negative effect on the four dimensions of performance:** people are less creative, less productive, less deeply committed to their work, and less collegial to each other when their inner work lives darken.”



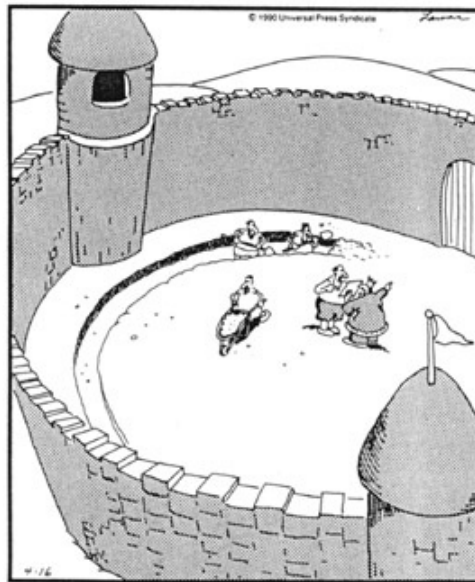
Achievement

The “key to leveraging the progress principle: giving people meaningful work.”



Project Delivery Knowledge

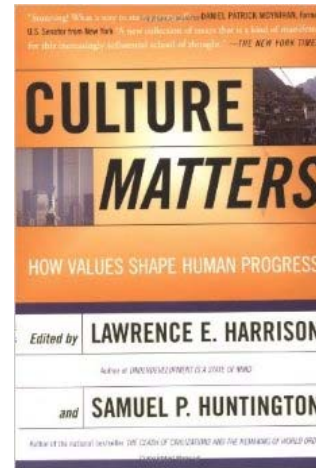
THE FAR SIDE By GARY LARSON



Suddenly, a heated exchange took place between the king and the moat contractor.

Knowledge

- Culture refers to the cumulative deposit of knowledge, experience, beliefs, values, attitudes, meanings, hierarchies, religion, notions of time, roles, spatial relations, concepts of the universe, and material objects and possessions acquired by a group of people in the course of generations through individual and group striving.
- Culture is the systems of knowledge shared by a relatively large group of people.



Align your actions with your values

How do you promote people?

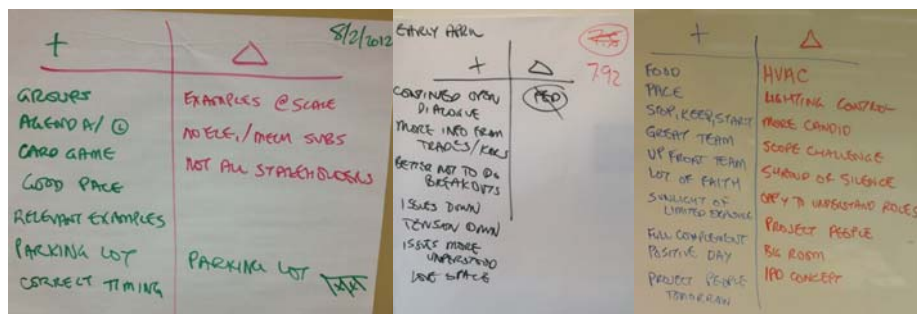
- | | |
|--|-----------------------------------|
| • Savors | • Collaborators |
| • Heroes | • Planners |
| • Workaholics | • Safe workers |
| • Social relationships
with superiors | • Creativity |
| • Cost cutting | • Curiosity |
| • Back biters | • People empowered to ask
Why? |

Align your actions with your values

When things go wrong what do you do?

- Start demanding reports
- Demanding action
- Imposing your iron will
- Scheduling meetings
- Trust your people to fix the problem
- Empower them to fix the problem
- Provide them with the resources they need to fix the problems

How do you gather/share information?



How do you gather/share information?

Cathedral Hill Hospital - A3 Report
Provide Displacement Ventilation in Med/Surg, ICU, and LDR Rooms, Administration Floor

1 Baseline

The validation design was based on a traditional overhead, mixed air distribution approach. During the design phase, displacement ventilation was investigated as an alternative method for air distribution.

2 Analysis

Displacement Ventilation (DV) was reviewed for the implementation throughout the hospital and determined viable in select areas.

3 Advantages

Alternative 1 - Overhead Air Distribution with 3300 TR chiller plant

- Familiar technology/method of air supply.

Alternative 2 - Displacement Ventilation with 2700 TR chiller plant

- Better air quality in occupied spaces
- Better Patient Comfort
- Lower energy/water usage
- Fewer cooling towers, less maintenance

4 Proposal

Proceed with displacement ventilation in the patient tower Levels 6 through 14 in conjunction with the reduction of the chiller plant capacity. Scope of work noted adds \$0 and \$200,000 Annual Operational Savings.

5 Action Plan

Brief: The path forward consists of:

- CHAMPION: Jessica Keley
- Continuous incorporation of DV into Design

Author: Kelley | Participants: S. Rabinovich, S. Kitzanoff, D. Layden, C. Raughter, MEP Cluster | Reviewed: L. Kasper, L. P. V. | Date: 10/22/15 | File: CRH-A3-2000-0203-Displacement Ventilation-Kelley-091103

