Chris Berardi SDM’11
Comfort Zone:
• 80% of our existence
• Reside by choice
• Incremental growth

Boundary of Character:
• 20% of our existence
• Enter unwillingly
• Exponential growth

Individual Leadership:
• No two identical models
• Cannot be taught
• Must be researched

Transformational leadership growth occurs as a direct result of intrapersonal conflict in character. To grow as a leader one must continually enter into challenges where fear of failure is high.
“Everyone is tested by life, but only a few extract strength and wisdom from their most trying experiences. They're the ones we call leaders.”

Warren G. Bennis and Robert J. Thomas, Crucibles of Leadership

- Crucible experience is a trial and a test, a point of deep self-reflection that forces one to question who they are and what matters to them
  - Reversal
  - Suspension
  - New Territory

- A crucible is **transformative experience** through which an individual comes to a new or an altered sense of identity

- Hardiness and ability to grasp context allows a person to learn from a crucible, and to emerge stronger, more engaged, and more committed
Each crucible helps a leader understand his/her weaknesses and build confidence in the face of potential adversity; ergo, forging a more concrete personal leadership style.
Epoch 1: Failure

Epoch 2: Growth

“No leader is perfect. The best ones don’t try to be – they concentrate on honing their strengths and find others who can make up for their limitations.”

Ancona et al., In Praise of the Incomplete Leader

- The complete leader must:
  - Have the intellectual capacity to make sense of unfathomably complex issues
  - The imaginative powers to craft a vision of the future that generates enthusiasm
  - The operational know-how to translate strategy into concrete plans
  - The interpersonal skills to foster commitment to undertakings that could cost people’s jobs should they fail

- Notion that a complete leader exists is a myth
  - Only when leaders come to see themselves as incomplete will they be able to make up for missing skills by relying on others.
A leadership style should be fortified with a lifelong pursuit of three factors: talented team, pedagogical foundation, and experience.
Epoch 1: Failure

Epoch 2: Growth

Epoch 3: Failure

Problem
1. Over the next 3 years DoD planned to spend ~$350M on development and fielding
2. Delivered a schedule with 14 parallel tasks (i.e. unmeasurable uncertainty)
3. Early ambiguity equates to costly overruns ($50M) in long-term
**Pedagogical Foundation:**

**ESD.36 System Program Management**

- “Advanced methods and tools of project management in a realistic context such that they can be taken back to workplace to improve management of development projects”
- Qian et al., "A Novel Approach to DSM-Based Activity Sequencing Problem."
- Smith and Eppinger, “Identifying Controlling Features of Engineering Design Iteration,”

**Talented Team:**

1. Ph.D in Physics
2. Saudi Oil Program Manager
3. Army Special Forces Officer
4. Head of IT for Russian Battery Manufacturer

**Analysis Outcomes:**

1. Identification of work intensive tasks in order to prioritize resources
2. Decoupled tasks dependent tasks and avoided rework
3. Schedule ultimately delivered early at a cost savings

**Experience**
Epoch 1: Failure

Epoch 2: Growth

Epoch 3: Failure

Epoch 4: Growth

Problem
1. Responsible for ongoing improvements, which are is the largest upgrades to the system in history ($70M+)
2. Must simultaneously draft, negotiate, and award new $98M contract
3. Emphasis within the DoD on controlling costs and paying only what a system “Should Cost”
Pedagogical Foundation:
ESD.71 Engineering Systems Analysis for Design
“Covers theory and methods to identify, value, simulation of performance for scenarios, screening models to identify desirable flexibility, decision and lattice analysis, and multidimensional economic evaluation.”

15.665 Power and Negotiation
“Designed to provide a competitive advantage in negotiation. You will learn and practice technical skills and analytic frameworks that are necessary to face the challenges of negotiating materially rewarding deals.”

ESD.933 – Information Visualization for Complex Systems
“This class is oriented for students with active or upcoming projects involving large, multidimensional data sets that are intended to support decisions in such complex systems settings.”

ESD.34 – System Architecture
“Covers principles for technical System Architecture. It presents a synthetic view including: resolution of ambiguity to identify system goals and boundaries; creative process of mapping form to function; and analysis of complexity and methods of decomposition and re-integration”

Talented Team:
• Prof Richard de Neufville
• Program management team w/ 20 years system experience
• Two young deputy program managers
Analysis Outcomes:

Negotiation Sensitivity Model

Negotiation Model Results

“Should Cost” Influenced Negotiation Strategy

- USD AT&L 14 Sep 2010 Memo for Acquisitions Professionals:
  “During contract negotiation and program execution our managers... should be scrutinizing every element of program cost, assessing whether each element can be reduced relative to the year before, challenging learning curves, dissecting overhead, and indirect costs. In short, executing to what the program should cost.”

- Type II Should Cost Initiative #1
  - Renegotiate rates/establish more rates for lower cost jobs
  - Current contract only has two labor rates
  - Soft Savings Target: 10% of total labor costs
  - Correlation to contract cost: \( p=0.904 \) (Spearman)

- Type II Should Cost Initiative #2
  - Renegotiate markup rates (current rates 45%-56%)
  - Soft Savings Target: 5%-10% off total markup rates
  - Correlation to contract cost: \( p=0.257, 0.244 \) (Spearman)

- Type II Should Cost Initiative #3
  - Reduction in travel costs (i.e. airline, per diem, and G&A)
  - Soft Savings Target: 30% of travel, ~3% overall
  - Correlation to contract cost: \( p=0.045 \) (Spearman)

- Type II Should Cost Initiative #4
Personal Outcomes:

Professional Outcomes: *Estimated $11M cost savings*

*Result of all Should Cost Initiatives is an average savings of $11,369,948 over the life of the contract, representing an overall savings of 10.8%*
Failure is unavoidable:
• Embrace and learn
• Make resulting model stronger

Questions?