Leadership in Systems Engineering: Building High Performance Teams

Kevin Buie
5 May 2008

SELPA 695 Integrative Project Advisor: Dr. Arnold Galloway

- Project Objectives
- Project Approach
- A Team is a System
- Process To Build a Team
- Team Enablers
- Ethics and Team Decisions
- Conclusions

Submitted in partial fulfillment of the degree requirements for Master of Science in Systems Engineering
Childhood Dreams

- Live on a submarine
- Travel the World
- Build the first house underwater
**Personal Objectives**

- Further develop the capability to lead highly trained cross-functional teams
  - Includes engineers, scientists, software developers, technicians, subcontractors, and business/sales/marketing stakeholders
  - Multi-disciplined groups often fail because they cannot function as a team
- Dr. Galloway (my advisor) asked me: "What do you want as an output of this Integrated Project?"
  - I want something practical, that I can use throughout my career
  - Checklists, used to achieve the highest performance in building and leading a cross-functional team

**Statement of Project Objectives:**

- Create tailorable checklists used to build and maintain a High Performance Team (HPT).
- Determine the enablers required to support and sustain a high performance environment.
- Identify the leadership styles needed in a high performance organization.
- Develop a Code of Ethics for a leading Systems Engineer/Manager.
I examined the principles taught in the LMU SE Graduate Program and looked for aspects of high performance and leadership.

This project affords an opportunity to integrate the studied principals of management and systems engineering seen below:

<table>
<thead>
<tr>
<th>SE Class</th>
<th>Aspects of Leadership and High Performance</th>
<th>Professor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systems Engineering</td>
<td>Communication and accountability, requirements, interfaces, systems approach, verification, validation, organization, decomposition, traceability</td>
<td>Dr. K. Miller</td>
</tr>
<tr>
<td>Advanced Systems Engineering</td>
<td>Leadership of integrated teams, management for uncertainty, decision making, risk &amp; opportunity, metrics</td>
<td>Dr. A. Galloway</td>
</tr>
<tr>
<td>Program Management</td>
<td>Management techniques, leadership, common vision, coordination, metrics</td>
<td>Mr. B. Molnaa</td>
</tr>
<tr>
<td>Ethics</td>
<td>Values, purpose, vision, doing the right thing, trust</td>
<td>Dr. J. Stupar</td>
</tr>
<tr>
<td>Case Studies</td>
<td>Preparation for leadership positions, decision-making, success/failure lessons learned, teamwork, communication, technical leadership, executive support,</td>
<td>Dr. A. Galloway</td>
</tr>
<tr>
<td>Systems Seminar</td>
<td>Theories and applications for business development, marketing, capture, operations, and systems engineering</td>
<td>Dr. B. Oppenheim</td>
</tr>
<tr>
<td>Quality</td>
<td>Predictability, reliability, Demming’s 14 points, optimization of process</td>
<td>Dr. B. Oppenheim</td>
</tr>
<tr>
<td>Lean</td>
<td>Create/maintain/flow value, kaizen (continuous improvement), do it right first time, empowerment, know your customer (internal/external)</td>
<td>Dr. B. Oppenheim</td>
</tr>
<tr>
<td>Systems Architecture</td>
<td>Seeing the “big picture”, communication, interfaces, translation of needs to a solution</td>
<td>Dr. C. Tang</td>
</tr>
</tbody>
</table>

If a team is a system, then systems engineering processes can be adapted to build and sustain a high performance team.
A Team is a System...

- Project Objectives
- Project Approach
- A Team is a System
- Process To Build a Team
- Team Enablers
- Ethics and Team Decisions
- Conclusions
A system is an *integrated composite* of people, products and processes that *provide a capability to satisfy a stated need or objective*. (source: EIA/IS-632)

A decomposition of this definition provides the following:

- **satisfy**
  - NEEDS
  - INTERFACES

- **provides**
  - SYSTEM
  - CAPABILITIES

- **composite implies**
  - components (people, processes, products)
  - enablers (support & sustain)

If each member is considered to be a system in itself, then the **team** is also a **system-of-systems** with operational and managerial independence, geographic distribution, emergent behavior, and evolutionary development.  
(adapted from: Andrew Sage “System of Systems”)

A High Performance Team is a **System**:
High-performing teams and organizations are built of people, plans, and practices \textit{aligned} around a \textit{shared purpose}.

(George Bradt "The New Leader's 100-Day Action Plan")

\textbf{Checklist:} High Performance Teams are \textit{capable} of:

- Reaching consensus on the one burning imperative – overcoming barriers, stovepipes, and departments that don’t cooperate
- Producing significant results by focusing on key performance milestones
- Delighting customers, suppliers, team members (and other stakeholders)
- Building team confidence by investing in early successes
- Remaining highly adaptive, sharing leadership and accountability
- Communicating effectively
- Learning from mistakes and engaging in continuous improvement
- Developing trust
Capabilities of a High Performance Team (cont.)

**Checklist:** What are the *characteristics* of a High Performance Team?

**Purpose and Vision**
- □ Commitment is made to a common purpose.
- □ Value to success-critical stakeholders is stressed.
- □ Specific goals are explicit and measurable.
- □ Members recognize their individual role, and their relationship in "The Big Picture".

**Communication**
- □ Active listening for understanding not judgment.
- □ Ideas are encouraged from all members.
- □ Respectful feedback allows awareness of strengths and weaknesses.
- □ Access to needed data is not blocked.
- □ Direction and priorities are clear.

**Accountability**
- □ Responsibility is shared, accountability is mutual.
- □ Boundaries of authority are well understood.
- □ Regular assessments ensure progress.
- □ Poor performers feel pressure to improve.

**Leadership**
- □ Styles are flexible and situational.
- □ Roles can be shifted as needed.
- □ Alignment toward goals is maintained.

**Trust**
- □ Transparency is promoted (no hidden agendas).
- □ Members admit weaknesses and mistakes.
- □ Apologies are offered and accepted without hesitation.
- □ Credibility and competence are highly valued.
- □ Support from upper management is vital.

**Morale**
- □ Managed conflict is OK. Mutual respect allows exchange of ideas without fear.
- □ Strong sense of pride and satisfaction.
- □ Commitment to continuous improvement.
- □ Caring relationships among members.
- □ Members work hard and play hard.
- □ Successes are celebrated.
Who are the "Stakeholders" of the Team?

- Federal, State, Local
- International

- Acquirer
- Operator
- Maintainer
- Supporter
- Tester
- Trainer

- Designers
- Developers
- Maintainers
- Technicians
- Managers
- IPTs

"What are their expectations?"
## Satisfying Stakeholder Expectations

### Checklist: How does each of the stakeholders define value?

<table>
<thead>
<tr>
<th>Customer</th>
<th>Worker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality product</td>
<td>Compensation</td>
</tr>
<tr>
<td>Cost</td>
<td>Fulfillment (contribution, learning, balance)</td>
</tr>
<tr>
<td>Schedule</td>
<td>Job security and health benefits</td>
</tr>
<tr>
<td>Good service</td>
<td>Manager/leader integrity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company, Partners, Suppliers</th>
<th>Community</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>Prestige</td>
</tr>
<tr>
<td>Growth</td>
<td>Donations or support to local programs</td>
</tr>
<tr>
<td>Profits</td>
<td>Tax revenue</td>
</tr>
<tr>
<td>Return customers</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Return on investment (ROI)</td>
</tr>
</tbody>
</table>

- **Focus on developing and maintaining good stakeholder relationships**
- **Develop requirements that meet their needs**
Interfases are *relationships* between elements of a system (internal) or between two systems (external).

Interfases can be physical (attachments, connections, keep-out volumes, etc.) or functional (includes electrical, software, radio-frequency, etc.)

(source: Space & Missile Systems Center, "Systems Engineering Primer & Handbook")

Interfases of High Performance Teams are *communication*:

- Internal communication within the team (responsibility, accountability, authority)
- External communication outside of the team (contacts, methods, frequency)
- Requirements management (flow-down, change control, etc.)

Formally establish and control team interfaces
Recalling the elements of a system:

- **NEEDS**
  - integrated implies **INTERFACES**
  - provide **CAPABILITIES**

- **ARCHITECTURE**
  - composite implies
    - components (people, processes, products)
    - enablers (support & sustain)

An architecture provides a standardized way to describe complexity in a structured and decomposed manner.

- It describes the structure of the overall "system", composed of **people**, **processes**, **products**, and **enablers**.

- The primary **purpose** of an architecture is to inform, guide, and constrain the decisions for the team and its leaders.
Value Drivers
- Customer
  - Quality product
  - Cost
  - Schedule
  - Good service
- Company, Partners, Suppliers
  - Revenue
  - Growth
  - Profits
  - Return customers
- Worker
  - Compensation
  - Fulfillment (contribution, learning, balance)
  - Job security and health benefits
  - Manager/leader integrity
- Community
  - Prestige
  - Support/donations to local programs
  - Tax revenue
- Stockholder – ROI

Checklists
Used for
- Alignment
- Focus
- Engagement
- Diagnosis

Execution

Ethics (Decisions)

High Performance Teams

PRODUCTS

PROCESSES

Communication Accountability Leadership Trust

ENABLERS
Execution: The Process to Build a Team...

- Project Objectives
- Project Approach
- A Team is a System
- Process To Build a Team
- Team Enablers
- Ethics and Team Decisions
- Conclusions
Systems Engineering Process (SEP)

Needs

What is the problem?

Requirements Analysis

Functional Allocation

Break the problem into pieces.

What are the steps to solve the problem?

Design Synthesis

Did the solution solve the problem?

Specs, Products, Services

Systems Analysis & Control (Balance)

- Decisions (trades, cost-benefits, etc.)
- Management (Risk, Reqt, Interface, CM, etc.)
- Performance Measurement
  - Systems Eng. Management Plan (SEMP)
  - Integrated Master Schedule (IMS)
  - Technical Reviews

Adapted from EIA/IS-632 in “Systems Engineering Primer”
Space & Missiles Systems Center

SELP695 (Spring 2008) Integrated Project (prepared by K. Buie)
SELP Adapted to High Performance Teams

Stakeholder Analysis

What is the mission?

Balance & Control

- Team Charter & Directives
- Products & Enablers (Checklists, Communication, Accountability, Leadership, Trust)
- Decisions (trades, cost-benefits, etc.)
- Management (Risk, Req, Interface, CM, etc.)
- Performance Measurement
  - Systems Eng. Management Plan (SEMP)
  - Integrated Master Schedule (IMS)
  - Technical Reviews

What is missing from the team?

What is the phase of team development?

ADAPTABILITY

What is the best leadership style?

EMPOWERMENT STRATEGIES

What steps can increase performance?

Is the Team performing as desired?

Ethics (Decision-making)

High Performance Team
Execution of Process

1. **Create shared vision**
   - of simple well-defined goals. Include desired characteristics of high performance.

2. **Identify gaps**
   - in the "as-is" state of the Team versus the desired characteristics of an HPT.

3. **Determine phase**
   - of Team development.

4. **Adjust leadership style**
   - to phase of Team development.

5. **Empower Team**
   - Members with strategies for high performance

Stakeholder Analysis

Adapted from: Ken Blanchard, "One-Minute Manager Builds High Performing Teams"

Integrated Project (prepared by K. Buie)

16
A HPT shares a strong sense of purpose and a common set of values. They have a compelling vision that includes a purpose (who you are), a picture of the future (where you are going), and shared values (what drives you there).

(Ken Blanchard, "Leading at a Higher Level")

**Checklist: Create Shared Vision**
- Clarity: brings understanding to the vision
- Connectedness: brings the past, present and future together
- Purpose: brings direction to the vision
- Goals: bring target to the vision
- Honesty: brings integrity and credibility to the vision
- Stories: brings relationships to the vision
- Challenge: brings stretching to the vision
- Passion: brings fuel to the vision
- Modeling: brings accountability to the vision
- Strategy: brings process to the vision

(John C. Maxwell, "17 Indisputable Laws of Teamwork")
The traits of the existing team are captured.

These traits are initially compared with the desired characteristics of high performing teams (see Checklist of Characteristics).

The gaps in performance are analyzed and resolved.

The *phase* of team development is determined
- based on existing traits, including productivity and morale, then
- leadership style is adjusted to match the phase of team
Ken Blanchard, in his book *Leading at a Higher Level*, outlines four phases:

1. **Orientation**
   - **Forming**
     - Getting to know each other.
     - Dependent on authority for direction & support.
   - **Characteristics**
     - Acceptance
     - Trust
   - **Individual**
     - Enthusiastic beginner
   - **Directing**
     - Low support
     - High direction
   - **Leader Styles**
     - Visionary
     - Commanding

2. **Dissatisfaction**
   - **Storming**
     - Conflict emergence and resolution.
     - Confusion and frustration in roles & goals.
   - **Issues**
     - Power & control
     - Conflict
   - **Individual**
     - Disillusioned learner
   - **Coaching**
     - High support
     - High direction
   - **Leader Styles**
     - Coaching
     - Pacesetting

3. **Integration**
   - **Norming**
     - Working together to accomplish the mission.
     - Growing trust.
   - **Issues**
     - Sharing control
     - Avoiding conflict
   - **Individual**
     - Capable but cautious performer
   - **Supporting**
     - High support
     - Low direction
   - **Leader Styles**
     - Affiliative

4. **Production**
   - **Performing**
     - Focused on task resolution & implementation.
     - Empowerment.
     - High morale.
   - **Issues**
     - New challenges
     - Improvement
   - **Individual**
     - Self-reliant achiever
   - **Delegating**
     - Low support
     - Low direction
   - **Leader Styles**
     - Democratic
What do effective leaders do?
- Set strategy and create mission
- Lead through vision, and by example
- Project enthusiasm and passion
- Build relationships
- Resolve conflict

But what should leaders do?
- Focus on performance
- Not on activities, chemistry, togetherness

What about leaders in HPTs?
- The formal role remains, but
- The leader is more evident for what he does not do, than what he does

"As for the best leaders, the people do not notice their existence...when the best leader's work is done, the people say 'We did it ourselves.'"  
Lao Tzu  
Chinese philosopher  
500 B.C.

Leadership is allowed to shift as needed, and is often shared based on the situation. Various styles are employed.
Daniel Goleman, in his book *Primal Leadership*, outlines six styles:

<table>
<thead>
<tr>
<th>Major Trait</th>
<th>Commanding</th>
<th>Visionary</th>
<th>Pacesetting</th>
<th>Coaching</th>
<th>Affiliative</th>
<th>Democratic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demands immediate compliance</td>
<td>Mobilizes people toward a vision</td>
<td>Sets high standards for performance</td>
<td>Develops people for the future</td>
<td>Creates harmony and builds emotional bonds</td>
<td>Forges consensus through participation</td>
<td></td>
</tr>
<tr>
<td>Phrase</td>
<td>&quot;Do what I tell you&quot;</td>
<td>&quot;Come with me&quot;</td>
<td>&quot;Do as I do, now&quot;</td>
<td>&quot;Try this&quot;</td>
<td>&quot;People come first&quot;</td>
<td>&quot;What do you think?&quot;</td>
</tr>
<tr>
<td>Competencies</td>
<td>Drive to achieve, initiative, self-control</td>
<td>Self-confidence, empathy, change catalyst</td>
<td>Conscientiousness, drive to achieve, initiative</td>
<td>Developing others, empathy, self-awareness</td>
<td>Empathy, building relationships, communication</td>
<td>Collaboration, team leadership, communication</td>
</tr>
<tr>
<td>Works Best</td>
<td>In a crisis, to kick start a turnaround, or with problem employees</td>
<td>When changes require a new vision, or when a clear direction is needed</td>
<td>To get quick results from a highly motivated and competent team</td>
<td>To help an employee improve performance or develop long-term strengths</td>
<td>To heal rifts in a team or to motivate people during stressful circumstances</td>
<td>To build buy-in or consensus, or to get input from valuable employees</td>
</tr>
<tr>
<td>Overall Impact</td>
<td>Negative</td>
<td>Most strongly positive</td>
<td>Negative</td>
<td>Positive</td>
<td>Positive</td>
<td>Positive</td>
</tr>
</tbody>
</table>

The most effective leaders master at least four styles, and switch fluidly between them, as needed.
Empowerment involves gradually turning over responsibility for direction and support to the team.

(Ken Blanchard, "One Minute Manager")

**Checklist:** Strategies for Higher Performance
- Base team decisions, priority, and operation on the vision.
- Determine and focus on those things that add *value* to critical-success stakeholders.
- Create a *value stream* map of the "as-is" and "to-be" states. Plan activities and eliminate waste.
- Help all members to see the "Big Picture", understanding the needs of internal as well as external customers.
- Maintain alignment and remove obstacles blocking the *flow* of value. Instead of pushing the products of value, *pull* them with a steady rhythm.
- Regularly measure and review progress against goals.
- Emphasize communication and mutual accountability.
- Retain flexibility to adjust for uncertainties.
- Promote *perfection* through continuous improvement.
- Give members ownership of process. Ask them for suggested improvements.
- Produce early successes, then celebrate them.
Team Enablers...

- Project Objectives
- Project Approach
- A Team is a System
- Process To Build a Team
- Team Enablers
- Ethics and Team Decisions
- Conclusions
If you have ever been on a team where teammates never let one another know what’s going on, then you know how frustrating poor communication can be.

(John C. Maxwell, "17 Indisputable Laws of Teamwork")

**Checklist: Communication**

- Repeatedly broadcast the common purpose.
- Set performance goals for all to see. Channels include the SEMP, IMS, TEMP and Program Directives (Team Charter, etc).
- Use plans to promote the alignment of members.
- Share the “Big Picture”, and ensure it is flowed down.
- Engage in active listening. Validate what you are hearing through feedback.
- Create an open and safe environment.
- Understand and resolve cultural barriers.
- Provide all members with access to a common database.
- Embed systems engineers in cross-functional teams (software, etc.) – put them in the trenches.
Successful teams share leadership responsibilities and hold all team members accountable for team performance

- Encourages team members to (1) share issues and concerns with the group and (2) maintain open communication.
- Team members support changes in work assignments, resources, and priorities when they realize it will aid in the team's performance.

(John Kotter, "Leading Change")

Checklist: Accountability

- Define roles, responsibility, authority. Channels include the SEMP, IMS, TEMP and Program Directives (Team Charter, etc).
- Demand requirement ownership. Assign and hold accountable individuals.
- Measure and verify successes through key metrics.
- Conduct regular progress reviews.
- Share responsibility and be mutually accountable.
Leadership

**Checklist:** Adjust leadership style to situation (Team phase or individual development)
- □ Commanding
- □ Visionary
- □ Affiliative
- □ Democratic
- □ Pacesetting
- □ Coaching

**Checklist:** Leadership actions
- □ Set strategy and create vision
- □ Lead through vision, and by example
- □ Project enthusiasm and passion
- □ Build relationships
- □ Resolve conflict
- □ Focus on performance, produce results

**Checklist:** Emotional Quotient
- □ Self-awareness
- □ Self-management
- □ Social awareness
- □ Relationship management (up, across, down, and external)

="Self-confidence, and self-control; commitment and integrity; the ability to communicate and influence, to initiate and accept change--these competencies are at a premium in today's job market."

Daniel Goleman
"Working with Emotional Intelligence"
The first job of a leader is to inspire trust
- The ability to establish, grow, extend, and restore trust with all stakeholders (customers, business partners, investors, and coworkers) is the key leadership competency of the new global economy.

(Stephen M.R. Covey, “Speed of Trust”)

Low trust has a negative impact on decisions, communications, and relationships.

On the other hand, the key to building trust is “results”.
- Results build loyalty. “What one factor wins more systems jobs than any other?” The answer: comfort. (Dr. Fred Brown, LMU)
- Results satisfy customers and other stakeholders, causing these customers to become your best promoters.

Checklist: Essential Elements of Trust
- Credibility (Character) - integrity, motive, and intent
- Competence - capabilities, skills, results, and track record
- Empathy - best tool of a SE; understand and convey the position of another
- Transparency - more eyes ensure mistakes are caught early
- Empowerment (support of upper management) - environment of trust
Ethics and Team Decisions...

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Ethics is simply decision-making; it is "doing the right thing".  
(Professor John Stupar, LMU)

Resolve ethical conflict by considering:
- Fundamental Principles (being honest and impartial)
- Fundamental Duties to Society and Public Infrastructure (guard the public)
- Rules of Practice (useful guidelines – respect others, etc.)

A Code of Ethics provides a leader with a framework for making moral decisions and resolving ethical dilemmas.

**Checklist:** Essential Elements of Ethics
- “Do the right thing”
- Employ ethical theories for solutions (view through lenses of Rights, Justice, Utility and Virtue)
- Resolve ethical conflict by considering fundamental principles, duties, and practices
- Code of Ethics for Systems Engineering Leader
What constitutes a Code of Ethics for a leading Systems Engineer/Manager?

Checklist: Kevin Buie Code of Ethics

As a Systems Engineer, Leader, and Manager fulfilling my professional duties:

☐ I shall hold paramount the safety, health, and welfare of the public, striving to protect the environment and utilize principles of sustainable development.

☐ I shall perform services only in the areas of my competence, to the best of my ability, and accept responsibility for the outcome of these services.

☐ I shall act legally, honorably, honestly, justly, and responsibly, as well as respect the trust and privileges granted me.

☐ I shall provide products with a well-found belief that they are safe, meet specification, pass appropriate tests, do not diminish privacy, quality of life, or harm the environment. The ultimate effect of the product should be to the public good.

☐ I shall implement good project management, including effective procedures for accuracy of estimates, promotion of quality and reduction of risk.

☐ I shall promote teamwork, treating fairly and respectfully all peers, supervisors, employees, and clients, recognizing their unique capabilities and contributions.

☐ I shall continue my professional development, and promote the understanding, implementation and acceptance of good Systems Engineering & Management practices.
Conclusions...

Dry Tortugas, Florida Keys

- Project Objectives
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Project Objectives Met:

☑ Create tailorable checklists used to build and maintain a High Performance Team.

☑ Determine the enablers required to support and sustain a high performance environment.

☑ Identify the leadership styles needed in a high performance organization.

☑ Develop a Code of Ethics for a leading Systems Engineer/Manager.

Employ the following High Performance Framework as an architecture to inform, guide, and constrain the decisions of Team and its leaders.
High Performance Framework

**Value Drivers**
- Customer
  - Quality product
  - Cost
  - Schedule
  - Good service
- Company, Partners, Suppliers
  - Revenue
  - Growth
  - Profits
  - Return customers
- Worker
  - Compensation
  - Fulfillment (contribution, learning, balance)
  - Job security and health benefits
  - Manager/leader integrity
- Community
  - Prestige
  - Support/donations to local programs
  - Tax revenue
- Stockholder – ROI

**Checklists**
- Used for
  - Alignment
  - Focus
  - Engagement
  - Diagnosis

**Execution**
- Create a shared vision of simple, well-defined goals based on needs. Include desired characteristics of high performance.
- Identify gaps in the “as-is” state of the Team versus characteristics of high performance.
- Determine phase of team development.
- Adjust leadership style to phase of team development.
- Empower team members with strategies for higher performance.

**Ethics (Decisions)**
- “Do the right thing”
- Use ethical theories for solutions
- Resolve ethical conflicts
- Systems Engineering Leader Code of Ethics

**Communication**
- Common purpose
- Performance goals (SEMP, IMS, TEMP)
- Alignment (planning)
- Interface & requirement management
- Validation (active listening)
- “The Big Picture” flowdown
- Common database
- Embed Systems Engineers

**Accountability**
- Roles & responsibilities (SEMP, IMS, TEMP)
- Requirement ownership
- Verification (measuring success - metrics)
- Regular progress reviews
- Mutual accountability, shared responsibility
- Authority is well-defined

**Leadership**
- Leadership Styles
  - Commanding
  - Visionary
  - Affiliative
  - Democratic
  - Pacesetting
  - Coaching
- Share leadership (share responsibility)
- Lead through vision and by example
- Project enthusiasm and passion
- Focus on performance

**Trust**
- Credibility (Character)
- Competence
- Empathy
- Transparency
- Empowerment (support of upper management)

**High Performance Teams**

**PROCESSES**

**ENABLERS**

**SELP695 (Spring 2008)** Integrated Project (prepared by K. Buie)
Enhance activities that lead to high performance:

- **Value, Vision and Execution**
  - stress a “Big Picture” view, understanding value for all stakeholders
  - plan and measure performance based on simple well-defined goals

- **Communication and Accountability**
  - set roles, responsibility, and authority
  - embrace mutual accountability

- **Strong Leadership and Trust**
  - be flexible, and share leadership when needed
  - exercise empathy, patience and active listening

- **Empower Continuous Improvement**

  Add value to others, set an example, pass these skills to others, and “do the right thing”.

  "Always do right. This will gratify some and astonish the rest." — Mark Twain
Any Questions...?

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Professor Barry Molnaa, *Program Management*, course lecture slides & notes (LMU 2006)

Professor Bo Oppenheim, *Quality*, course lecture slides & notes (LMU 2006)

Professor Charles Tang, *Systems Architecture*, course lecture slides & notes (LMU 2007)

Professor Bo Oppenheim, *Systems Seminar*, course lecture slides & notes (LMU 2007)

Professor John Stupar, *Ethics in Engineering*, course lecture slides & notes (LMU 2007)

Professor Arnold Galloway, *Case Studies*, course lecture slides & notes (LMU 2007)


References (continued)

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