Day 8

ERP Project Management and ERP Governance Revisited

Based on:

The Project

- **In the beginning** was *The Project*, .... and then arose the Assumptions.
  - And *The Project* was without **Form** and the **Assumptions** were void.

- And darkness was upon the face of the **Implementers**. And they spake unto their manager, saying:
  - “It is a crock of manure, and it stinketh”.

- And the **Manager** went to the 2nd level manager, and he spake unto him saying,
  - “It is a crock of excrement and none may abide the odor thereof.”

- And the **2nd Level Manager** went to the 3rd Level Manager and he spake unto him saying,
  - “It is a vessel of fertilizer, and it is so strong that none may abide before it.”

- And the **3rd Level Manager** went to the Headquarters Director, and he spake unto him saying,
  - “It is a vessel of fertilizer, and none may abide its strength.”

- And the **Director** went to the Divisional Vice-President, and he spake unto him saying,
  - “It contains that which aids plant growth, and it is very strong.”

- And the **Vice-President** went to the Division President, and he spake unto him saying,
  - “**The powerful new project will promote the growth of the company.**”

- And then the **Executive Board** looked upon *The Project* and saw
  - ...that it was GOOD...
What is the project being managed?

An ERP Implementation project

Opportunity:
• Integrate disparate systems
• Provide real time information
• Adopt proven systems
• Enforce standards
• Reengineer business processes
• Restructure organization

Working solution:
Use of enterprise systems for managing information flows
Projects & Project Management

Project

“A series of related jobs usually directed toward some UNIQUE major output and requiring a significant period of time to perform.”

“a temporary endeavor undertaken to accomplish a unique product or service” (PMBOK® Guide 2000, p. 4)

Project Management

“The act of planning, directing, and controlling resources (people, equipment, material) to meet the technical, cost, and time constraints of the project.”
Triad of Project Management

- **Scope** - What is to be done?
- **Schedule** - How long will it take?
- **Budget** - How much will it cost?

Changing any one of the three items will force changes in at least one of the others.
The Triple Constraint

- Every project is constrained in different ways by its
  - Scope goals: What is the project trying to accomplish?
  - Time goals: How long should it take to complete?
  - Cost goals: What should it cost?

- It is the project manager’s duty to balance these three often competing goals
The Triple Constraint of Project Management

In your experience which takes precedence?
ERP II -- Best Practices in Upgrades
(Beatty & Williams, CACM 2006)

1. Build the business case on new functionality
2. Treat the upgrade project like a new project.
3. Keep the original team together.
4. This is a business project, not an IT project.
5. Watch out for hidden infrastructure cost.
6. Un-customize customization.
7. Test like your organization’s future depends on it.
Customer-Centered ERP (C-CEI) Implementation Method (Vilpola, JITTA, 9:4, 2009)

- Action Research Case Study Test of C-CEI
  - An example of Scandinavian style research to User Centered Design method.
  - Quasi test of a pre-defined ERP implementation method
Action Research Approach

Key characteristics of action research:

- Cyclic: the result of a previous action serves as a base for planning the next action.

- Participative: both the researcher and the object of the research function collaboratively in solving the problem.

- Qualitative: an action and its evaluation are more verbal than numeric.

- Reflective: the evaluation of the previous result affects the planning of the next action.

- Responsive: as a result of iterating and reflection, the research is constantly being adapted.

Figure 1. An action research cycle (Susman 1983).
C-CEI Method

- C-CEI is a holistic method, in which more traditional system-based analysis supplemented by user-centered design (UCD) (ISO 13407) process and activities.

- C-CEI utilizes the main elements of the Contextual Design method (Beyer and Holzblatt 1998), which relies heavily on contextual observations of users in their work.

- The C-CEI method applies the principles of UCD:
  - multidisciplinary design team;
  - the involvement of users in the design process
  - iteration of the design solutions and
  - purposeful allocation of tasks of the users and the functions of technology.

- C-CEI method attempts to bridge the potential gap between the requirements and expectations of various stakeholders.
Managing ERP Failure: Project Management Perspective

- ERP ‘failure’ rate reported at 40%
  - Defined as cancelled, abandoned or significantly re-scoped, late or over budget.
    - As high as 74% fail to deliver as promised.

- Coca Cola’s ‘project infinity’ or ERP the ‘life long journey’
  - An ongoing process of change management and requirements determination, upgrades and user support
Failure reasons

- Poor Project/Program Management Practices
  - Initiation
  - Planning
  - Poor goals, too optimistic, simplistic unrealistic budgets and deadlines
  - Poor communications, bad staffing, poor management, burnout, poor consultant /firm coordination, scope creep...
  - Execution
  - Controlling
  - Closing
  - Poor integration with legacy systems, poor training, poor rewards structures, turn over....
The “Three Golden Constituents” of PM

Poor control of any one spells project problems (“doom”)

- Schedule
- Quality
- Budget
Nine areas of competence (within the constituents of schedule, quality and budget):

1. Scope management
2. Human Resources (HR) management
3. Risk Management
4. Communications Management
5. Procurement management
6. Integration Management
ERP Projects are Problematic because...

- They are large
- They span boundaries
- They have heterogeneous stakeholders
- Much is outsourced, in-house skills are limited
- Risk is high

STRATEGIES:

1. Decouple and break into bite-sized pieces
2. Manage outsourced resources as if they were your own.
The Stage Model
(ERP Process Model)

- **Initiation (Chartering)**
  - Champions get sponsors and $$, start with hope
  - (Business case and implementation decision is made)

- **Contagion (Project)**
  - Anxieties, problems crises slow progress
  - (the system is developed, configured & deployed; problems surface)

- **Control (Shakedown—time between deployment and ‘normal’ operations)**
  - Management steps into institute controls and to plan
  - (system stabilized, controls established, staff levels optimized)

- **Integration (on-ward and upward)**
  - Controls and standards are in place; changes can be assimilated
  - (normal operations begin, orgs begin to enjoy benefits of the ERP system)
PMO Knowledge set vs. the Stage Model

Suggest procedures/skills needed at each stage of implementation

<table>
<thead>
<tr>
<th></th>
<th>Initiation (Chartering)</th>
<th>Contagion (Project)</th>
<th>Control (Shakedown)</th>
<th>Integration (Onward &amp; upward)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RISK</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comm.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procurement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Chen et al (2009)  
The Case, the Learning phase I to Phase II

<table>
<thead>
<tr>
<th><strong>FIRST PHASE OF ERP IMPLEMENTATION</strong></th>
<th><strong>SECOND PHASE OF ERP IMPLEMENTATION</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scope Management</strong></td>
<td><strong>Scope Management</strong></td>
</tr>
<tr>
<td>● Ill-defined scope planning and definition on the “vanilla” ERP</td>
<td>● Strictly-defined scope management: keep 85% of business processes in common</td>
</tr>
<tr>
<td>● Inappropriate allocation of technical and organizational resources</td>
<td>● Form prioritization committee to channel limited technical and organizational resources</td>
</tr>
<tr>
<td>● Did not consider local taxation requirements in Taiwan</td>
<td>● Focus on the deployment of accounting and manufacturing modules</td>
</tr>
<tr>
<td></td>
<td>● Drop adding previous bolt-on modules (back-to-back ordering and PM systems)</td>
</tr>
<tr>
<td></td>
<td>● Control scope change to meet local taxation requirements in Taiwan</td>
</tr>
<tr>
<td></td>
<td>● Systematize and clearly define procedures and criteria for request prioritization</td>
</tr>
<tr>
<td><strong>HR Management</strong></td>
<td><strong>HR Management</strong></td>
</tr>
<tr>
<td>● Outsource IT human resources to global ERP vendors</td>
<td>● Outsource IT human resources to global ERP vendors</td>
</tr>
<tr>
<td>● Insufficient internal IT human resource allocation</td>
<td>● Outsource IT human resources to local ERP vendors for customization</td>
</tr>
<tr>
<td><strong>Risk Management</strong></td>
<td><strong>Risk Management</strong></td>
</tr>
<tr>
<td>● Lack of knowledge of the adopted enterprise system</td>
<td>● Work side-by-side with vendors to improve knowledge transfer</td>
</tr>
<tr>
<td><strong>Communications Management</strong></td>
<td><strong>Communications Management</strong></td>
</tr>
<tr>
<td>● Estimate to please</td>
<td>● Involve users and middle managers in the prioritization committee to manage user requests</td>
</tr>
<tr>
<td>● No user involvement across functions and SBUs</td>
<td></td>
</tr>
<tr>
<td><strong>Procurement Management</strong></td>
<td><strong>Procurement Management</strong></td>
</tr>
<tr>
<td>● First time outsourcing to an ERP vendor</td>
<td>● Require vendors to generate monthly and quarterly performance analysis reports for review by users of all functional areas</td>
</tr>
<tr>
<td>● No experience in partnership relationship management</td>
<td>● MIS department takes proactive roles in discovering, analyzing, and managing issues resulting from ERP implementation</td>
</tr>
<tr>
<td><strong>Integration Management</strong></td>
<td><strong>Integration Management</strong></td>
</tr>
<tr>
<td>● No alignment between business strategy and ERP-enabled IT strategy</td>
<td>● Alignment between business strategy and ERP-enabled IT strategy</td>
</tr>
<tr>
<td></td>
<td>● Redesign of business process to “best practices” embedded in the ERP system</td>
</tr>
<tr>
<td></td>
<td>● Minimization of customization</td>
</tr>
</tbody>
</table>
Organizational Learning and Absorptive Capacity in ERP Implementation Projects
(Mirabelli & Newell, ICIS 2009)

- **Precis:** ERP implementation is NOT a one-time activity
  - But a series of iterative implementation and practical-use learning cycles

- Requires:
  - The development of specific organizational capabilities allowing users to accept and assimilate the external knowledge embodied in the ERP
  - That these organizational (learning) capabilities are developed over time
  - The capacity to ‘explore’ and ‘exploit’ knowledge at the same time
The Case Study—
“Organizational Learning and Absorptive Capacity in ERP Implementation Projects”
Marabelli & Newell, ICIS, 2009

1. Case Study of Large-scale IS implementation using the **lens of absorptive capacity**. (Cohen and Levinthal, 1989)
   1. Absorptive capacity is the ability to recognize new external knowledge
      - Learning is cumulative
      - Learning is best when the object of learning is related to that which one already knows

2. Relating the concept to an organization
   - Concentrates on the double loop learning process occurring over the implementation phase of ERP
     - --depicted as a series of learning cycles.
   - Requires building on individual org’s member’s absorptive capacity
     - Prior investment in their capacity
     - Is cumulative and path dependent
     - Depends on org’l skill to communicate and share effectively internally

3. Results highlight that the learning process requires the accumulation of knowledge, a long-term perspective, and phases of explorative and exploitative learning that overlap.
The Case: Findings from “Alpha” the large CRM maker

- Customization vs. Configuration
- Business oriented vs. User-Oriented Implementation
- Short-term vs. long-term Performance Management Focus
- Organizational Insularity vs. Openness
Contributions and Advice to Managers

- Provides examples of how organizations learn

Three key issues

1. Prior knowledge
   - “Absorptive capacity results from a prolonged process of investment and knowledge accumulation and it is path dependent.” (pg. 13)
   - It is both tacit and explicit learning

2. Organizational learning as a long-term process
   - Need to learn to recognize new external knowledge
   - The skill and knowledge development processes are cumulative

3. Learning ambidexterity: Explorative vs. exploitive learning
Post-Implementation (Stage model: Integration Markus: Onward and upward)

- The space all the problems of the previous implementation phases become real
  - Cost overruns, shutdowns, adverse impacts can threaten a firm’s existence (c.f., Hershey, JoAnn’s Fabrics etc.)

Research Goal: to find commonalities and advise manager’s how to minimize the negative impacts and failure from this implementation phase.
Post-Implementation Success is...

- Post implementation success definition:
  - “normal operations achieved within reasonable time frame and expense with impacts that are sufficient to meet business needs.” (Markus and Tanis, 2000)

- Measures to gauge this success:
  - (1) Few short-term changes occurring after the system ‘go live’ in key business performance indicators such as operating labor costs.
  - (2) Short length of time before key performance indicators achieve ‘normal’ or expected levels.
  - (3) Few short-term business impacts on the organization’s adopters, suppliers and customers such as average time on hold when placing a telephone order.
IT Governance

- “Good IT governance links IT decisions with company objectives and monitors performance and accountability” (Weill and Ross 2004).

- Basic expectations of an ERP Implementation are that
  1. IT will deliver a solution of the right quality, on time, and on budget.
  2. The solution will return business value and that the solution will increase business efficiency and productivity.
IT Governance examined

- In many organizations IT Governance is not formalized “It just happens”
- Control and Accountability dimensions as analytical lenses
  - Ownership
  - Accountability
  - Decision making

Source: Control Objectives for information and related technologies (COBIT)

Figure 1 - IT Governance Maturity Model
Four Case Analysis

<table>
<thead>
<tr>
<th></th>
<th>Company A</th>
<th>Company B</th>
<th>Company C</th>
<th>Company D</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Phase Success</strong></td>
<td>Somewhat</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>IT Governance Level</strong></td>
<td>Initial</td>
<td>Repeatable</td>
<td>Repeatable</td>
<td>Managed</td>
</tr>
<tr>
<td><strong>IT Accountability</strong></td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td><strong>Business Accountability</strong></td>
<td>Low</td>
<td>Medium</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td><strong>IT Ownership</strong></td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td><strong>Business Ownership</strong></td>
<td>Low</td>
<td>Medium</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td><strong>IT Decision Making</strong></td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td><strong>Business Decision Making</strong></td>
<td>Low</td>
<td>Medium</td>
<td>Low</td>
<td>High</td>
</tr>
</tbody>
</table>

**Post-Implementation Outcomes**

<table>
<thead>
<tr>
<th></th>
<th>Company A</th>
<th>Company B</th>
<th>Company C</th>
<th>Company D</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stabilization Period</strong></td>
<td>5 months</td>
<td>3-6 months</td>
<td>6 months</td>
<td>3 months</td>
</tr>
<tr>
<td><strong>Business Metrics Impacted</strong></td>
<td>Inventory Accuracy</td>
<td>Quoting</td>
<td>Billing Accuracy</td>
<td>Ordering/Shipping Accuracy</td>
</tr>
<tr>
<td><strong>Impacts to customers, suppliers, and internal staff</strong></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Table 1 – Cross Case Analysis
Case Findings

- “IT Governance is probably the most critical factor that influences both the ERP project phase and the post-implementation phase.” (pg 8)
  - Provides full transparency of process
  - Enforces clear and open communication
  - Helps get employees to raise issues to be addressed

- The more formal the IT governance process and structures in an organization, the more effectively the organization is able to engage the business in ownership, accountability, and decision making during the ERP implementation.
Propositions

- **Proposition 1**
  - Planning for the post-implementation phase must begin during the project phase to achieve positive outcomes in the post-implementation phase.

- **Proposition 2**
  - Effective governance results in more positive post-implementation outcomes.

- **Proposition 3**
  - The governance structure and the project phase team must remain intact during the post-implementation phase to achieve positive outcomes during the post-implementation phase.

- **Proposition 4**
  - ERP projects that are viewed as IT projects result in more negative outcomes during the post-implementation phase.
“Exploring the Importance of Participation in the Post-Implementation Period of an ES Project: A Neglected Area”
(Wagner & Newell, JAIS, v.8 #1, pp 508-534, 2007)

- Precis: “Through the theoretical lens of 'situated learning', we argue that pre-implementation user participation can be problematic so that post-implementation involvement will be more effective in garnering user interest and assistance.”
Analysis:

- Limits to user participation in initial phases of ERP Implementation
  - Legacy thinking
  - Motivation

- Opportunities for user participation in post-implementation
  - Motivation, learning in action
    - C.f., Marabelli & Newell, 2009
    - C.f., Chen et al 2009
    - C.f., Usher and Olfman, 2009