How do you Improve an Organization?

one person at a time...
The Systems Integration Division’s Journey

- Used TSP to accelerate our Software CMM ML3 achievement in Sept 2002
- Trained ALL division personnel
- Coached one project at a time
- Applied TSP to IT & engineering service requests
- Used TSP to help management align improvement goals to business goals
- Asked to export best practices to the larger organization
- Funded to conduct a CMMI Gap Analysis
Highlights

- Tuesday Management Status Reviews
- Watts Humphrey visit May 2001
- “Working on the business” workshops
  - Capacity management tools
  - “Accept/Deny Work” Process
  - Collect stakeholder feedback
    - Progress>Process>Chaos
- TSP Symposium in New Orleans 2009
- Expanding the division’s coaching capability
- New data mining & analysis technique
- Updated tool features for task planning & custom processes
Branch alignment
Common language
Project management autopilot allows time to focus on the real issues
Leveraging lessons learned for better implementation strategies
Less reactive, more disciplined
Continuous improvement culture

Vision → Skills → Incentives → Resources → Action Plan → Change
NAVOCEANO’s Journey

- Trained executives ("Go" or "No Go" Decision)
- Developed a POA&M for TSP expansion
- Solicited pilot projects & candidate coaches
- Conducted TSP training
- Launched TSP pilot projects
- Used TSP to launch the corporate Process Working Group
- Evaluated pilot results
- ...and continuing
What does TSP success look like?

- **Process Implementation**
  - The teams are able to implement and follow the TSP Scripts
  - There is a high degree of process fidelity (adherence to the team’s defined process)

- **Predictability**
  - The teams are able to make realistic and detailed plans
  - Short-term estimates are within 15%-25% variance for a 90-day planning horizon

- **Data Collection and Usage**
  - The teams are able to collect the appropriate data
  - The teams are able to use the data to track progress, report status, and adjust future work
  - Management sees an improved ability to know the status of a project both from a schedule and quality standpoint

- **Adoption**
  - Project teams, based on initial use, recommend the use of TSP to additional project teams
To-Date Evaluation

- 14 work phases
  - 9 completed
  - 1 on hold
  - 4 executing

- 8 different teams – 7 were improvement projects
  - 3 teams used TSP for multiple cycles
  - 5 of the 8 teams were cross-departmental

- All teams were composed of part-time members
  - Team size varied from 5 to 11
  - Actual average team hours per week ranged from 9 to 38

- Recommended 90-day planning horizon
  - No. of planned weeks varied from 15 to 24
  - No. of total actual weeks ranged from 15 to 30

- 7 trained internal coaches under active mentoring
Performance Results

<table>
<thead>
<tr>
<th>Indus-try</th>
<th>#1</th>
<th>#2</th>
<th>#3</th>
<th>#4</th>
<th>#5</th>
<th>#6</th>
<th>#7</th>
<th>#8</th>
<th>#9</th>
</tr>
</thead>
<tbody>
<tr>
<td>%Schedule Error</td>
<td>45</td>
<td>0</td>
<td>20</td>
<td>-5</td>
<td>0</td>
<td>0</td>
<td>56</td>
<td>0</td>
<td>9.5</td>
</tr>
<tr>
<td>%Cost Error</td>
<td>63</td>
<td>-1</td>
<td>-35</td>
<td>-19</td>
<td>12</td>
<td>-43</td>
<td>-11</td>
<td>1</td>
<td>-9</td>
</tr>
<tr>
<td>% Milestone</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>97.4</td>
<td>90</td>
<td>100</td>
<td>80</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Late (wks)/More cost (hrs)

Early (wks)/Less cost (hrs)
Successes

- All projects accomplished at least 80% of the work requested by management during meeting 1
- All satisfactorily met team goals and achieved the milestones committed to during meeting 9
- All had good schedule performance with one exception
  - One project was interrupted by survey travel
- All had good cost performance, with the majority of projects taking fewer labor hours than planned
- All collected time and schedule data useful for future planning and estimating
Management sponsors were very satisfied and would strongly support another TSP project
TSP was helpful in all cases to establish well-functioning, cohesive teams
All had very good adherence to the team’s defined processes
Improvement Opportunities

- All had over-planned how many task hours could be applied in a week
  - New teams lack historical data to make realistic estimates
  - Individuals are getting pulled off for other work
  - Some individuals may be assigned too many projects and are over-committed
  - The particular job is not a priority

- Projects could benefit from formal status reviews as they provide management and resource owners with visibility into progress and problems so corrective actions can be taken early

- Individuals are requesting more tool support during TSP training.
It can be a challenge to identify the right core team membership: resources less than 25% could be considered as consultants.

It takes a couple of cycles to mature role management in support of self-directed teams; more coaching could help.

Using updated planning data during launches from postmortem data helps to reinforce the value of collecting accurate time data.

The amount of effort to collect rework data or improvement proposals as they arise is minimal and could be a valuable source of high-return improvements.
Still true today...
Watts’ Advice

- When teams don’t get planned task hours, it leads to Earned Value being less than planned. Try to minimize:
  - Unrealistic planned hours
  - Individuals assigned to too many projects
  - Considering a particular job not a priority
- Branch Heads need to work with their staff to ensure planned task hours are realistic and commitments are met
- Focus on adding defect data as data collection is minimal
- If teams can’t plan accurately they should plan often

Source: May 2001 Visit Notes
Watts’ Advice

- The process group should summarize data across projects
- As the organization matures you will find less turmoil
- If individuals are split over 3 projects, then you cannot get a lot of productive work done in 3 to 4 hours/week
- TSP transition takes awhile, so don’t try to do too much at once
- Beta testing adds unnecessary time to your development schedule that isn’t needed when quality practices are used
New Insights

- Always strive to build on a solid foundation
  - Be realistic with the support that can be provided with current resources

- Management sponsorship is critical to success!
  - Support training
  - Reinforce disciplines
  - Show interest

- Good coaches and strong team leaders are important

- Planning & process improvement are investments!
  - Over time, process discipline will become routine
New Challenges

- New hires from contractor in-sourcing
- Tightening budgets
- Agile integration
- Tool issues and learning curve
- Return On Investment Analysis
Next Steps

- Apply TSP to “day jobs” & model NAVAIR training
- Target groups that want to improve
- Establish a TSP Coach Community of Practice
- Update Team Member training with non-software examples
- Update project R5 for the organization
- Mature AIM Process Group Roles
- Work to add value – PSP0
- Provide support for personal launches
- Integrate with agile practices
Contact Information

Lana Cagle
Lana.cagle@navy.mil
Naval Oceanographic Office
Code N64Q
1002 Balch Boulevard
Stennis Space Center, MS 39522