

Using TSP to Improve an Organization

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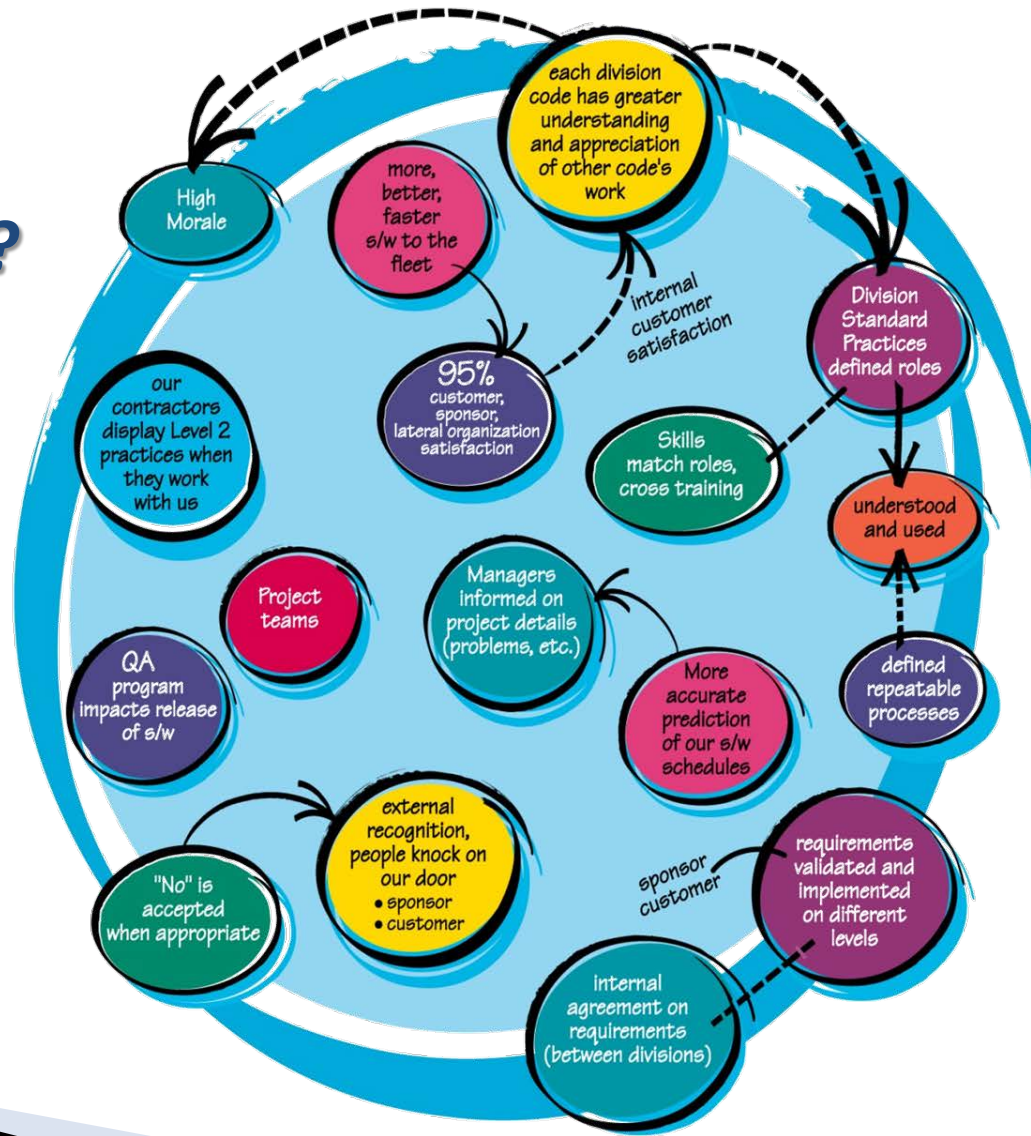
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Vision Elements

**How do you
Improve an
Organization?**

**one person at
a time...**



**one team
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

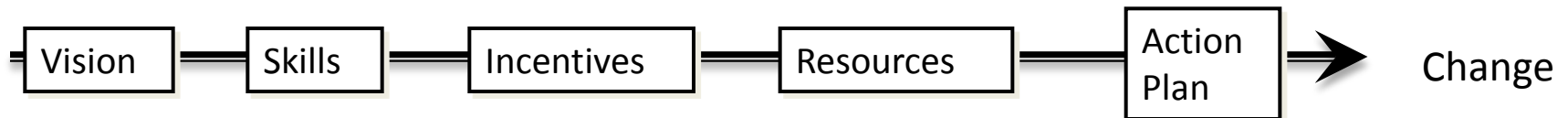


Highlights

- ▶ 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

How is it going today?

- ▶ 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



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**

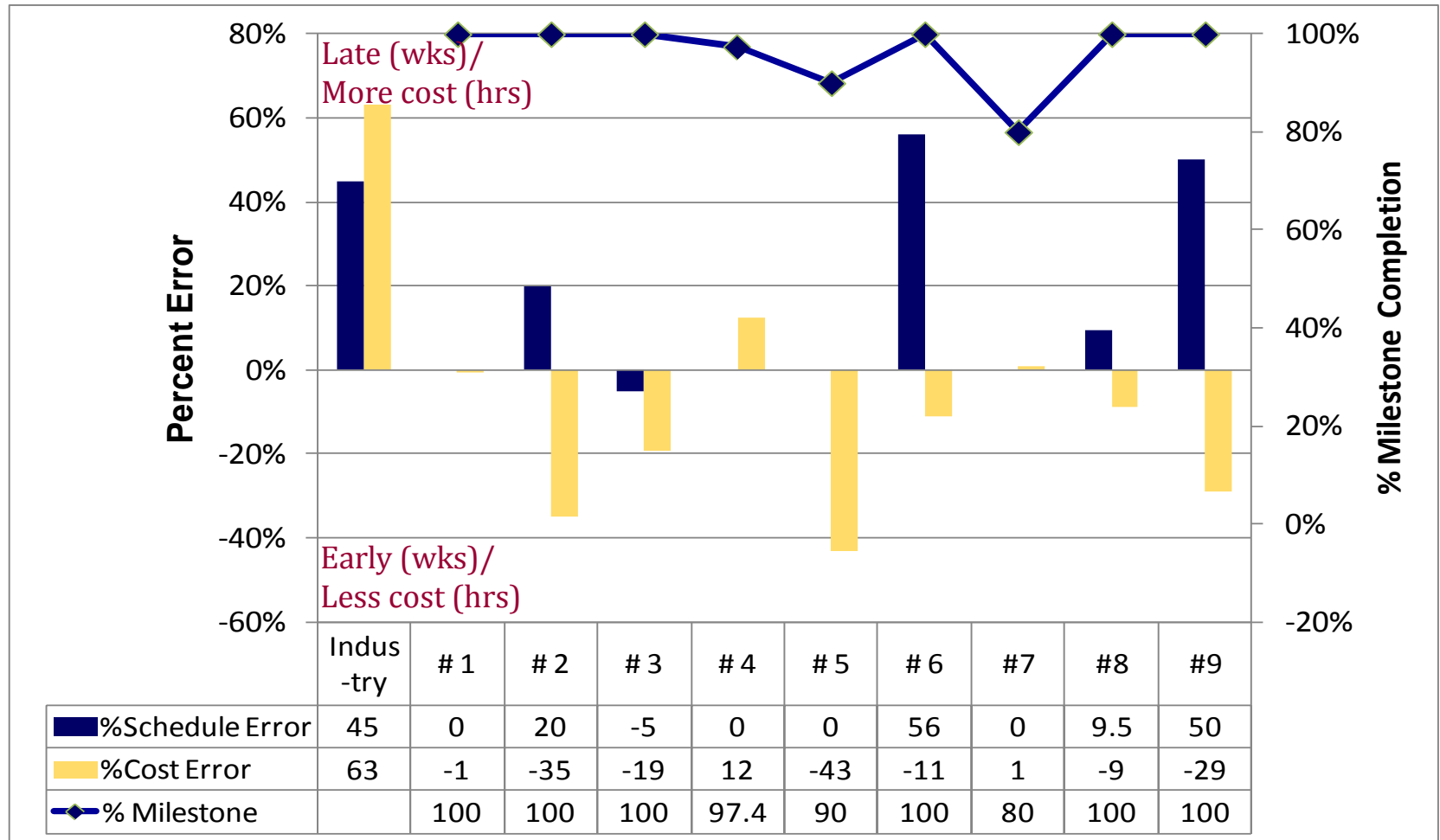
- Project teams, based on initial use, recommend the use of TSP to additional project teams

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



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

Successes-2

- ▶ 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.

Improvement Opportunities-2



- ▶ 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-2

- ▶ 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



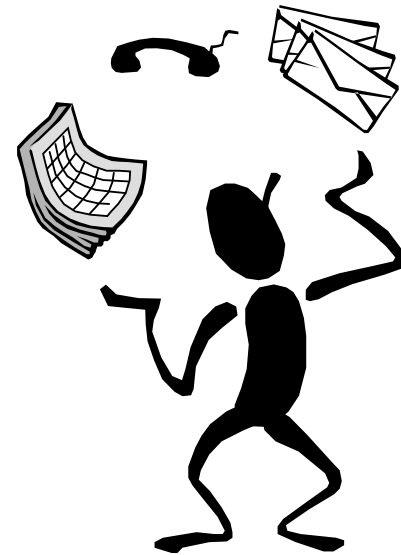
New Insights



- ▶ 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

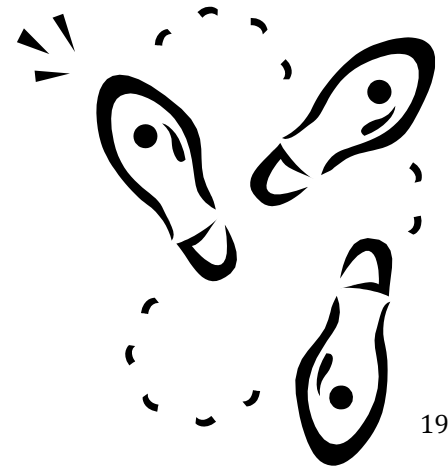
New Challenges

- ▶ 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



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