TSP in non-implementation phases

An experience in how disciplined measurement of non-development processes has helped in overcoming obstacles in deploying TSP in Mexican organizations

Blanca Gil
TSP Symposium - November 2014
Who we are...

• The SIE Center promotes the development and competitiveness of the IT industry through **research, training, consulting and implementation** of best practices with its consultants and with the network of international partnerships
How this begun...

- The TSP / PSP initiative was launched by the ITESM and the SEI in 2008
- The initiative promotes the understanding and use of TSP in the Mexican IT industry
- As part of this initiative, also the ITESM and the SEI have designed a new evaluation and certification method based on TSP

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What do we want...

- Substantially increase the efficiency and quality of Mexican IT companies
- To position Mexico as a destination for outsourcing with a highly competitive and recognized quality

Our projects have applied the PACE with successful results

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In particular these organizations...

- Are small, medium and very small
- Located across the country
- External enterprises or internal IT departments
- Some of them do not have the Coding discipline in house, they are using outsourcing
- None of them have structured and disciplined development methods for Requirements, High Level Design and Solution Architecture
- Is the first time to formally adopt a software quality oriented development Methodology
Actual Needs...

• “We want to define and follow our Development Life Cycle complete”
• “Our main problem is in specifying Requirements”
• “We do not code our Requirements, we use outsourcing to do it”
• “The Product Line manager, prioritizes the high quality of the main documents sending to our Client”
Actual Needs...

- “We have a fellows program and one of their duty is to code our Requirements based on the HLD and the Solution Architecture”
- “We know if we build Requirements, HLD and Architecture of high quality, we increase the possibility to deliver a high quality Software product”
- “If you modify the code, please, adjust the Analysis and the HLD”
Actual Needs…

We believe that Requirements Analysis, High Level Design and Solution Architecture processes are key in achieving successful projects and high quality products for our organization.
So...

We need Requirements, HLD and Architectures of high Quality!!!
The Challenge

“If you can show me that TSP can solve this, I will continue sponsoring TSP in our company”
Things to solve before to achieve...

• The Process
  – What do we produce?
  – Everything is a Requirement? What is a Requirement?
  – How big could be an Architecture, and the HLD?
  – Who will do it and how?
  – Do we know how to do it?
  – Just a team member, not a PSP team member?
  – The Team Member Course is enough?

• The Measures
  – What do I measure now that I do not have LOCs?
  – How good is good?
  – And my PQI (I really love the PQI)?
Things to solve before to achieve...

- **The Forms**
  - We need the initial infrastructure
  - Text and graphics, both mean something

- **The Standards**
  - Defects, defects, defects
  - Standards for something that we had not done

- **The Historical Data**
  - Of course, we don’t have…

- **New quality indicators**
  - We need new benchmarks
  - We can not wait for our PQI of new processes

- **And finally… what about the PACE?**
  - Before us, it was made mainly for CODING
The Challenge grows

“We opened new problems that we need to solve”
First, we had to define what we do...
Then, we defined the Infrastructure

- Size Measures, Checklists, Defect Types, Forms and Tools
- Business Process
- Requirements
- Use Cases Design
- Data Base Design
- Solution Architecture
- High Level Design

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And we had results...

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<th>Plan</th>
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<td>Horas productivas (sin tareas misceláneas) acumuladas</td>
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<td>182</td>
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<td>Valor Ganado acumulado</td>
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<td>Horas totales (con tareas misceláneas) acumuladas</td>
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<td>1404</td>
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"a TEC de Monterrey spin-off company"
And we had results...

Summary

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Defects Injected

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Defects Removed

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Defects/Page

Requirements Review 25.7 7.31
Requirements Inspection 10.3 12.2

Phase Yields

Requirements 0% 9.36%
System Test Plan 0% 0%
Requirements Review 60% 37.5%
Requirements Inspection 60% 100%

Inspection / Review Rates

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Development Time Ratios

Requirements Pages (Appraisal/Development) 0.46 0.72

Size

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High-Level Design

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% COQ de Evaluación 27.3% 33.2%
% COQ de Falla 0% 0%

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Results reflected in the PACE...

• “It was found ample evidence that the teams used data regularly to manage their work, and report status to management
• The data has been determined to be accurate and reliable for evaluation and reporting of project status
• These results provide an excellent baseline against which to measure future progress”

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But also...

• The projects and self-directed teams, for the first time
  – Were based on self-directed teams
  – Have implemented their firsts TSP cycles
  – Have customized their planning and quality metrics
  – Have adjusted their traditional tools and repositories
  – Virtually all productive roles in the organization (analysts, architects, developers and testers) participated in this effort
  – This type of projects encouraged a successful cross-training
  – The team consciously followed this cross-training
  – This cross-training substantially has reduced the change resistance
  – The team had the commitment to follow disciplined activities to measure and gather data

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And finally…

• The organization learnt
  – The TSP team can learn, define, use and improve key organizational processes in short periods of time
  – The TSP team can build, use, measure and improve all the necessary infrastructure that those processes need
  – The TSP team can build products of better quality and start to define their particular benchmarks
  – The TSP team can work in a self-directed approach and achieve challenges that never before had been enunciated
  – The TSP team is motivated thanks to the achievements as a team and as a professional
Conclusion

The TSP team have inspired other members of the organization to follow TSP, in order to achieve similar or better results, independently that they do not do Coding activities.

So, all these results have motivated senior executives to continue the TSP implementation in their organizations.
Questions?

Thanks! ¡Gracias!

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