



# Softtek®

## **Selling the TSP: From Organizational Pain to Productivity Gains**

Agustín De La Maza  
TSP Symposium 2010  
Pittsburgh, PA. Sep/2010

# Agenda

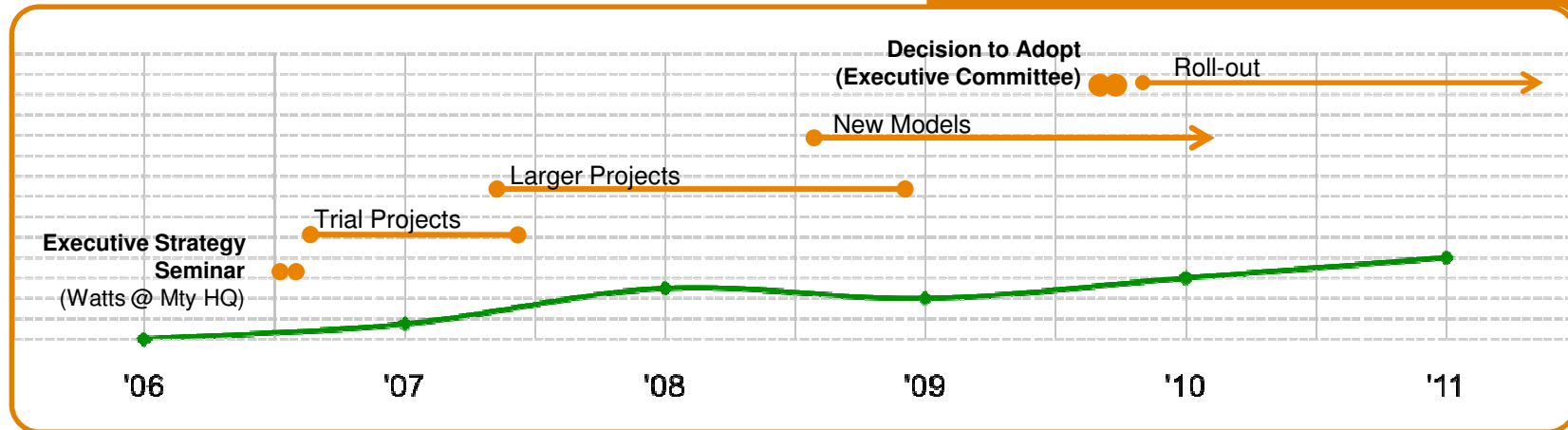
- Softtek's TSP Implementation Context & Challenges
- Sales Cycle & Innovation Adoption Cycle
- Selling & Adopting the TSP
  - Performance Gaps
  - Relative Advantage / Improved Capabilities
  - Value Justification
  - Perceptions Management
  - Implementation Concerns & Objections
  - Results Analysis
- Conclusions



# Softtek's TSP Implementation Context & Challenges



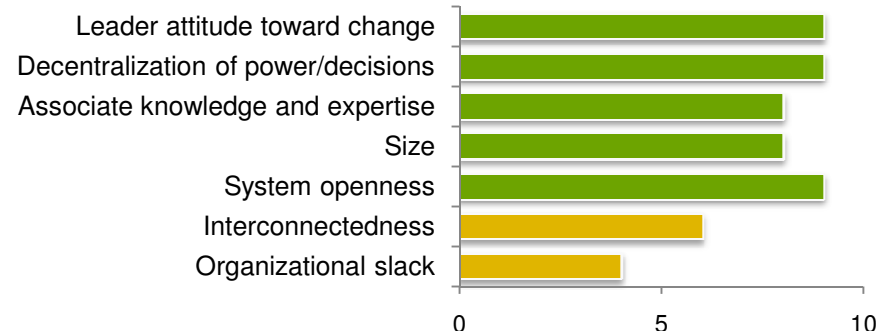
## TSP Implementation Timeline



## Context

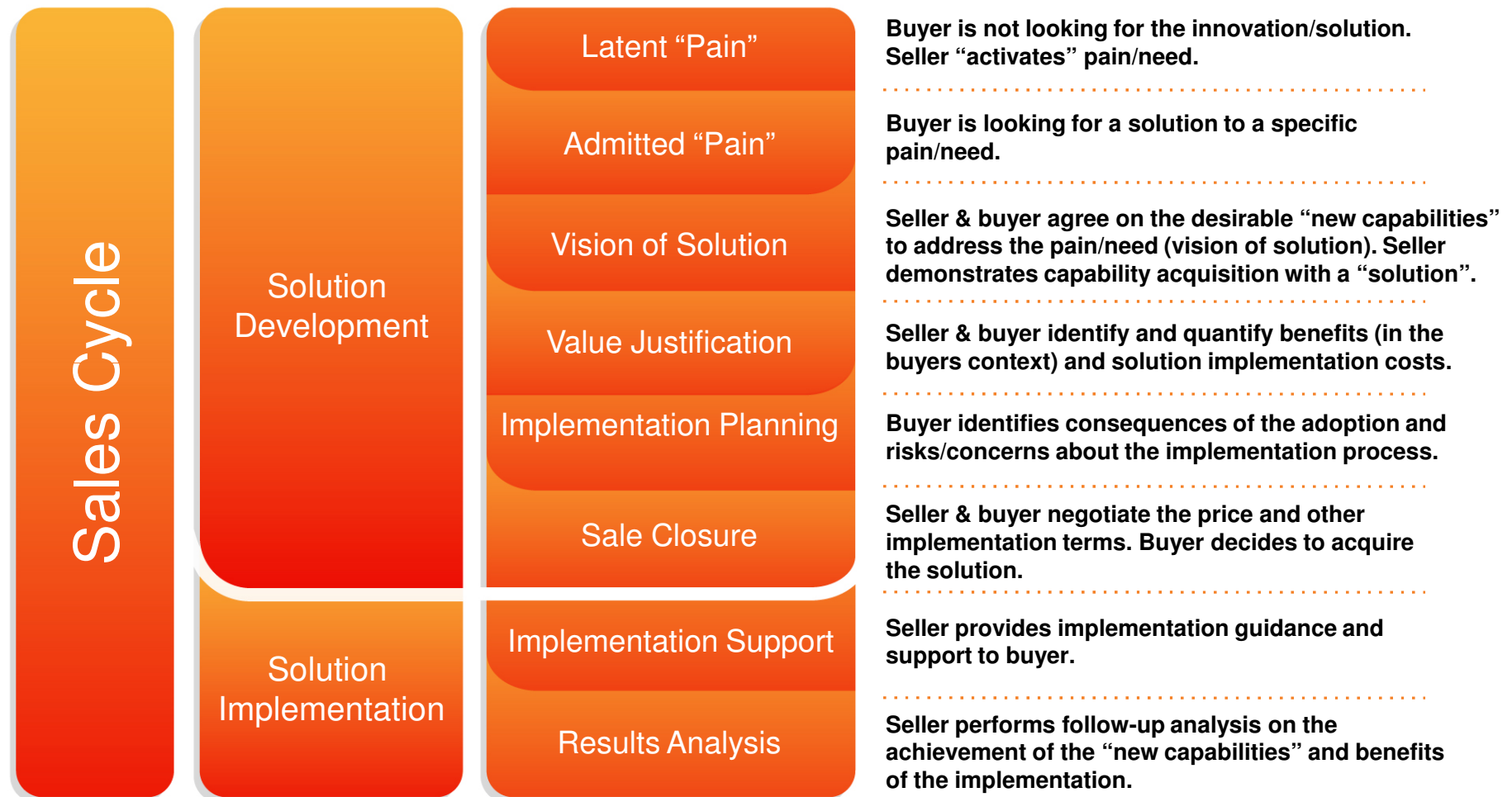
- Development Outsourcing Service Provider (Global Outsourcing #40)
- Global (diverse locations, languages, cultures, time-zones, etc.)
- Multiple & Diverse Clients (processes, management styles, culture, ranging from manufacturing to R&D)
- Multiple Engagement/Contract Models
- **Decentralized TSP Implementation Decisions** (account or large contract level)

## Innovativeness

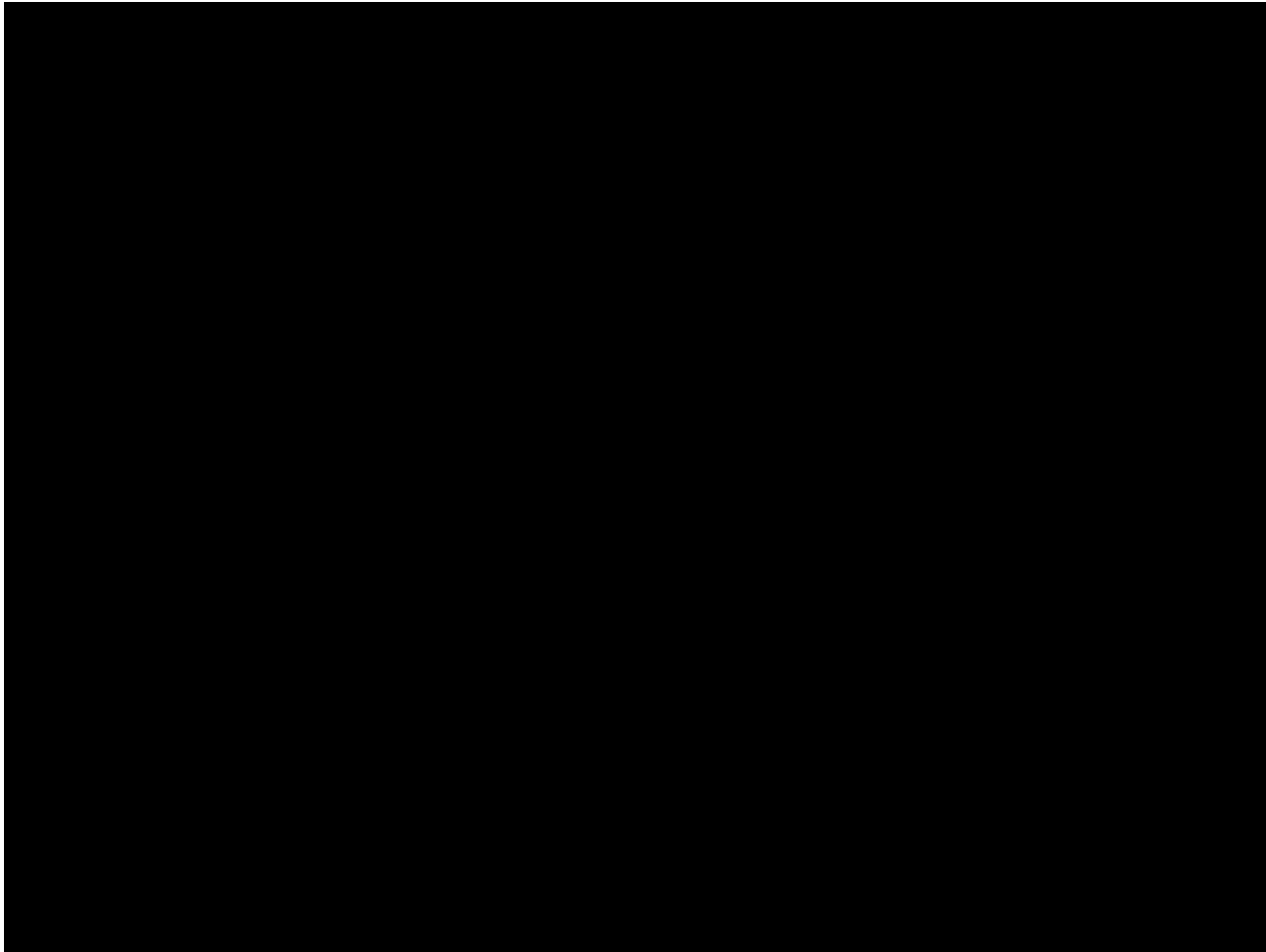


**Softtek's context favors innovation but makes harder the implementation**

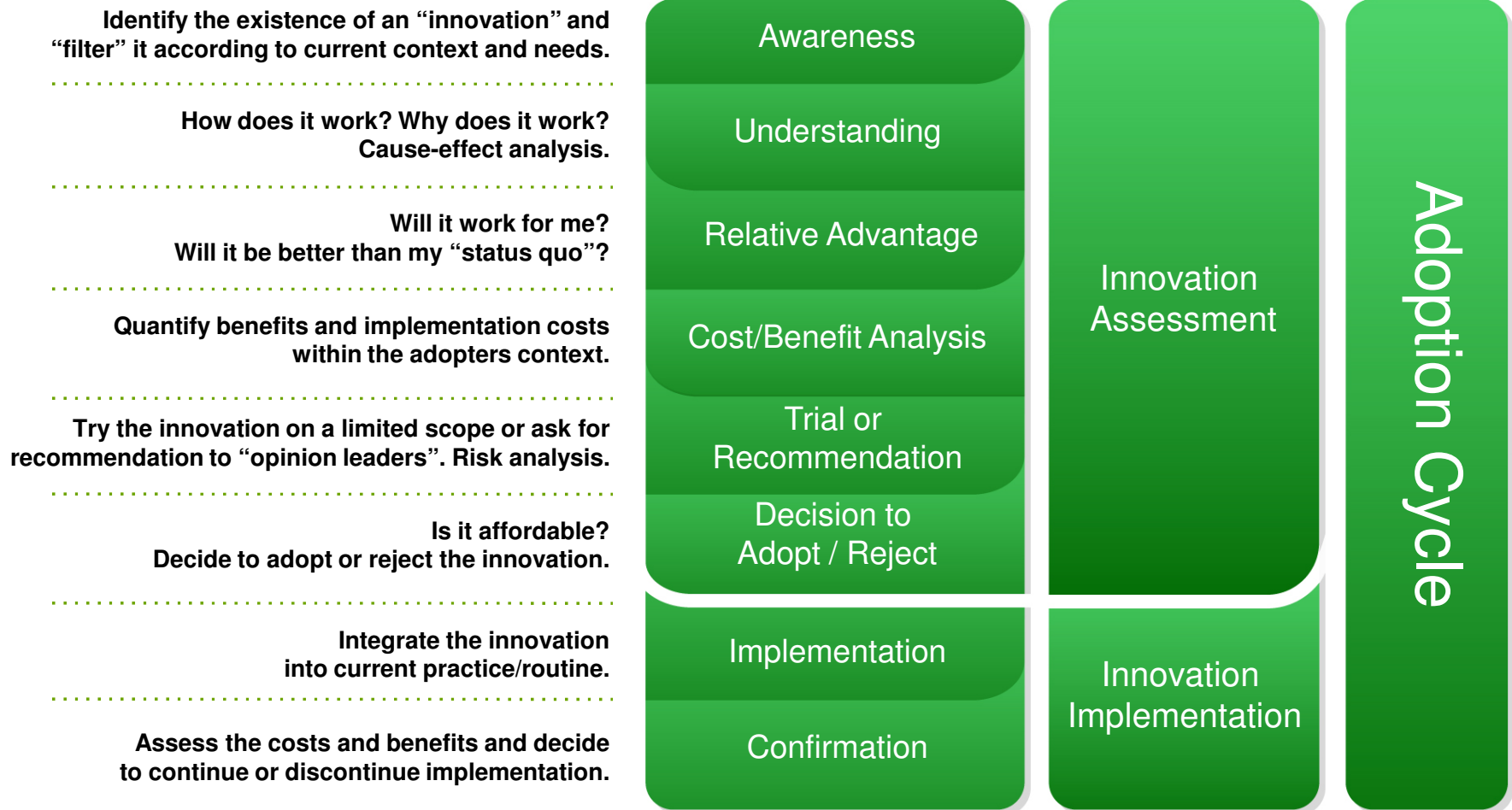
# Solution Sales Cycle



# Situational Fluency



# Innovation Adoption Cycle



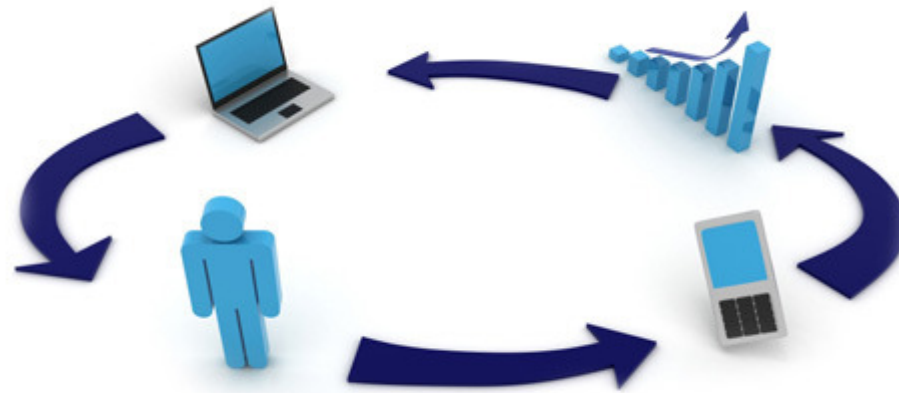
# Synchronization of Sales & Adoption Cycles



**This cycle repeats for each unit of implementation (trials & roll-out)**



## Selling & Adopting the TSP





# Performance Gaps & Innovation Awareness



		Roles							
		Executive (CxO)	Sr. Manager (GDC Mgr)	Mid-Manager (BRM / OL)	Project Mgr. / Team Leader	Team Member	Client		
Role Objectives								Pains (Performance Gaps)	
Competitiveness		*	*	*	*	*	*	Loss of market share, sales opportunities, budget or jobs.	
Predictability		*	*	*	*		*	Unreliable EV/Revenue reports, missed deadlines without warning, defective delivered product.	
Profitability		*	*	*	*			Project cost over-runs, missed deadlines.	
Capabilities Generation		*	*	*				Lack of skilled resources for staffing projects.	
Personal Development & Pride			*	*	*	*		Lack of personal commitment (indifference), lack of empowerment, employee turn-over.	
Customer Satisfaction				*	*	*	*	Project or contract cancellation, contractual penalties.	
Quality of Life					*	*	*	Lack of personal time (damaged relations, sickness, tiredness)	

## TSP's Relative Advantage (Improved Capabilities)



### **Cost of Poor Quality Reduction**

**Defect density drops to 1/3 of the original density**

**Cost of fixing defects detected on FT, ST, UAT and Production drops by 50% at least**



### **Cycle-time Reduction**

**Development time remains unchanged**

**Number of test-cycles is cut by 30%**

**Elapsed time on ST and UAT drops by 50% at least**



### **Estimation Accuracy**

**On-time delivery for most of the cycles with formal launch/relaunch**

**CPI ranging between 0.8 and 1.05**

**Significant reduction of after-hours work**



### **Reliable Visibility**

**Reliable plans (complete, fine-grained)**

**Less surprises: EV doesn't "stall" or drop during late stages of the project**

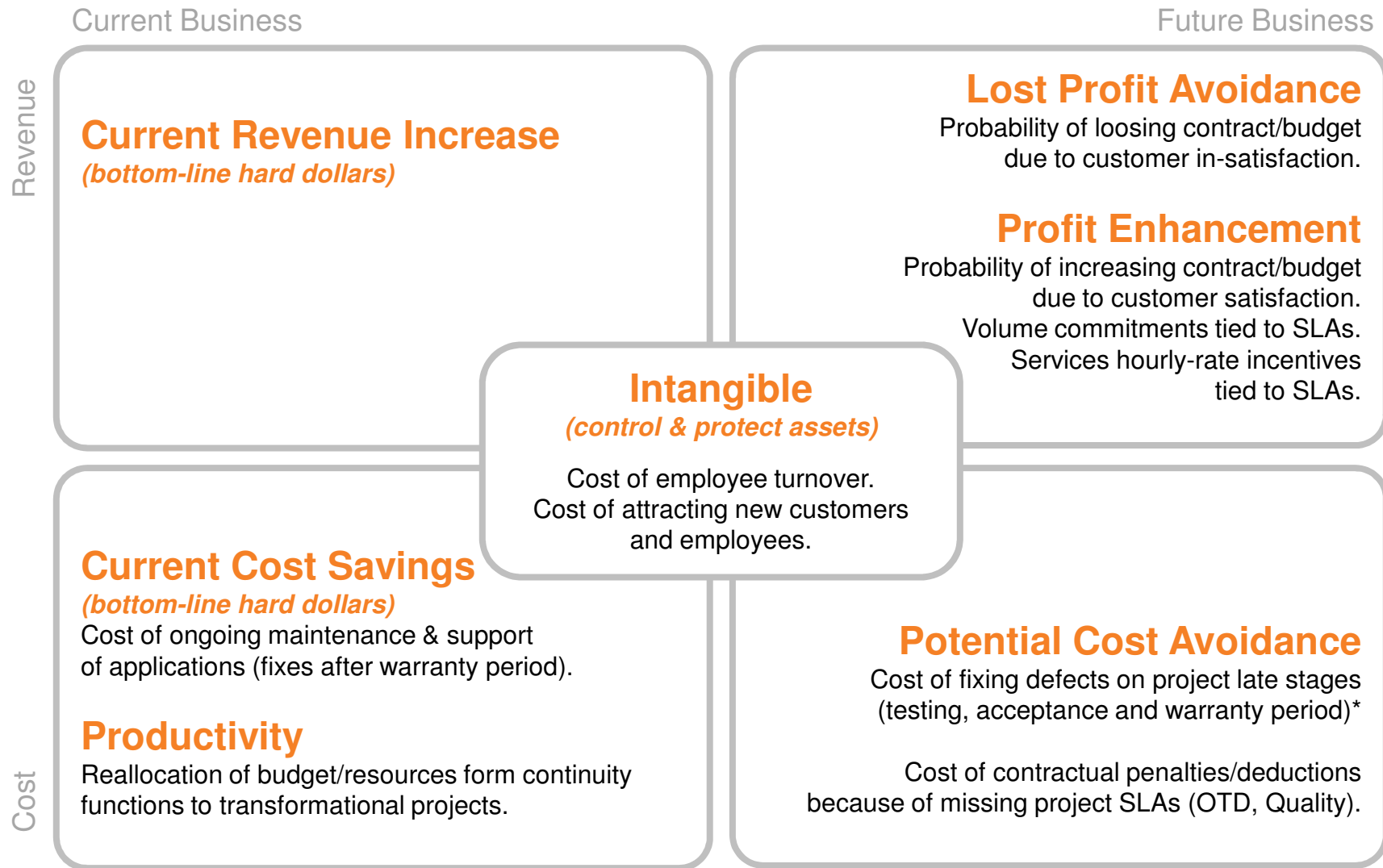


### **Teamwork**

**Increased team member's commitment and ownership**

**Positive side-effects on employee satisfaction and turnover rates**

# Value Justification Framework



# TSP Value Justification - Example <sup>(1/2)</sup>



Type of benefit	Cost avoidance
Beneficiary	Softtek (project direct cost avoidance)
Avoided Cost	Cost of repairing defects escaped from the Implementation Phase to the Independent Testing Phase (detected through FT, ST and UAT) and to the initial production support stage.
Proposed Innovation	Use the TSP for the Implementation Phase of the SDLC, on top of Softtek's Software Development Process SSDP®.
General Assumptions	<ul style="list-style-type: none"> <li>• Developer productivity (rate of code production) remains unchanged</li> <li>• Overall project management cost (spent effort on PM tasks) remains unchanged</li> </ul>
Performance Metrics (unchanged)	<ul style="list-style-type: none"> <li>• Developer productivity: 26 LOC / task-hr</li> <li>• Developer utilization: 16 task-hr / man-week, 50 weeks / year</li> <li>• Average cost of repairing escaped defects: 8.5 man-hours / defect (FT:88%,4mh/def; ST:7%,32mh/def; UAT:5%,48mh/def; Prd:1%,56mh/def)</li> </ul>
Performance Metrics (improved)	<p>Code defect density at the end of the Implementation Phase:</p> <ul style="list-style-type: none"> <li>• Using TSP: 2.6 defects / KLOC (average performance w/ TSP)</li> <li>• Not using TSP: 15←10→6* defects / KLOC (*best performance w/o TSP)</li> </ul> <p>(Defect density → Escaped defects/developer-year: 2.6→54; 6→125; 10→208; 15→312)</p>
Avoided Cost Scenarios	<p>Effect of defect density improvement into cost avoidance:</p> <ul style="list-style-type: none"> <li>• Conservative: 6 → 2.6 def/KLOC → 601 man-hrs saved / developer-year</li> <li>• Realistic: 10 → 2.6 def/KLOC → 1,308 man-hrs saved / developer-year</li> <li>• Optimistic: 15 → 2.6 def/KLOC → 2,192 man-hrs saved / developer-year</li> </ul>

**Disclaimer:** These assumptions and metrics do not represent any implicit or explicit performance proposal or commitment from Softtek. They reflect past performance on a sample of projects under controlled conditions.

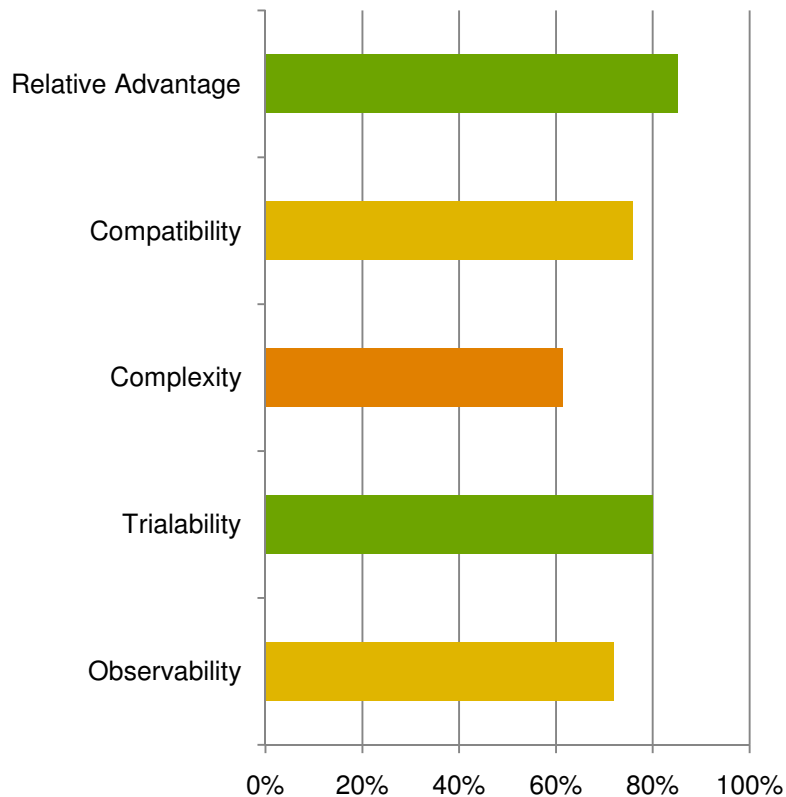
# TSP Value Justification - Example <sup>(2/2)</sup>



<b>Implementation Cost (one time)</b>	<p>Cost in man-hours, per developer, prorated to one year period:</p> <ul style="list-style-type: none"> <li>• Training attendance (PSP Fundamentals): 56 man-hours</li> <li>• Internal Trainer (PSP Fundamentals) (56 hrs, 1.5x cost, 10 attendants/group): 8 man-hours</li> </ul>
<b>Implementation Cost (on-going)</b>	<p>Cost in man-hours, per developer, summarized to one year period:</p> <ul style="list-style-type: none"> <li>• Launches &amp; re-launches attendance (14 days/yr): 112 man-hours</li> <li>• Coach for launches &amp; re-launches (14 days/yr, 7 developers/launch, 2x cost): 32 man-hours</li> <li>• Coach for on-going support (1 hr/developer-week, 2x cost): 100 man-hours</li> </ul>
<b>Implementation Cost (total)</b>	<p>Total cost of implementation: 308 man-hours / developer-year</p> <p>Note: some additional indirect costs related to the TSP initiative should be taken into account (coaching structure, support tools, SEI Partnership fees, etc.)</p>
<b>Net Benefit</b>	<p>Effect of defect density improvement into cost avoidance:</p> <ul style="list-style-type: none"> <li>• Conservative: 6 → 2.6 def/KLOC → 293 man-hrs saved / developer-year</li> <li>• Realistic: 10 → 2.6 def/KLOC → 1,000 man-hrs saved / developer-year</li> <li>• Optimistic: 15 → 2.6 def/KLOC → 1,884 man-hrs saved / developer-year</li> </ul> <p>Note: To convert these results into hard-dollars, an hourly rate must be applied to the developer man-hour.</p> <p>Note: These benefits can be added to post-production support cost savings and others.</p>
<b>Key Questions</b>	<p>What's your current defect density after the developers deliver their code to the first independent testing group?</p> <p>What's your average cost of fixing defects once they are detected by an independent testing group on late stages of the project?</p>

**Disclaimer:** These assumptions and metrics do not represent any implicit or explicit performance proposal or commitment from Softtek. They reflect past performance on a sample of projects under controlled conditions.

# Perception of “early adopters”



Early adopters' perception after project conclusion  
(post-mortem surveys assessing 5 key attributes that  
influence the rate of adoption of innovations)

## **Relative Advantage:**

Almost consensus about advantages in software quality and overall project cost & cycle-time improvement.

## **Compatibility:**

Compatible with Softtek's process-oriented culture. Not compatible with previous individual's experiences and beliefs.

**Complexity:** Need for specific tools, coaching and management support. Needs 2–3 weeks for training and launching the project with the entire team, usually unavailable.

## **Trialability:**

Feedback is available short-term after trial projects' start-up.

## **Observability:**

Project overall success or failure was not clearly attributed only to the TSP usage, but also to other combined factors (such as requirements quality and team member seniority).

## **Cost of implementation:**

Is perceived as “high” when managers have not attended the seminars and haven't done their Cost-Benefit Analysis by themselves.

Perception is usually stronger than “objective evidence”

# Implementation Concerns & Objections



## Reinvention

Reinvent your  
"Market Offering" to  
Customers

Examples:  
External commitment management,  
current engagement models,  
current "rules" don't allow implementation.

## Transformation

Change the  
"Organizational Culture & Policies"  
with Executives

Examples:  
Project management style,  
compatibility with previous experiences,  
consequences to individuals  
(discipline, performance visibility &  
recognition).

## Management

Manage goals, resources and  
priorities with Senior Managers

Examples:  
Team availability, project  
schedule/budget availability,  
implementation support &  
overhead.



# Results Analysis

- Benchmark between TSP and non-TSP projects
  - The easiest one is “defect density measured by the first independent-test team”
  - Use your own performance metrics to fine-tune your value justification models
- “Observability” of results
  - Recognize successful projects
  - Apply “perception surveys” about the TSP usage and its benefits
- Leverage “diffusion of innovation networks” within the organization
  - Identify opinion leaders and engage them into the roll-out program
  - Make public the opinion of “innovators” and “early adopters”
  - Pay attention to “informal” communication about the TSP adoption program



**Close the Loop**

## Conclusions

- No pain, no change; each role may have different pains
- Use a sales strategy and situational fluency support
- Justify benefits in “hard-dollars” to gain executive sponsorship
- Perception is stronger than “objective data” for the majority of the community; identify opinion leaders and work on their perception
- Deal with implementation concerns & objections at the proper organizational level
- TSP roll-outs are –as any other “diffusion of innovations” initiative– sociologic transformation endeavors and not technical training programs



# Questions



**Agustín De La Maza**

Application Development  
Global Practice Manager  
[agustin.delamaza@softtek.com](mailto:agustin.delamaza@softtek.com)

