SEI – Symposium 2012

Presenters
• John Bourhill - Certified TSP Coach, Nedbank
• Barry Dwalotzky - Director & CEO, Joburg Centre for Software Engineering

Today we learn, not only earn, a living!
“The illiterate of the twenty first century will not be those who cannot read and write but those who cannot learn, unlearn and relearn.”

Alvin Toffler
Climbing the ladder of success

Start

Introduction

Background

PSP/TSP baby steps

Stepping out

Need for coaching

Reaching out

Conclusion

You cannot achieve a goal without a start point, desired target and direction!
The End

Any Questions???

Email: JohnBo@Nedbank.co.za

Also on Facebook and LinkedIn.

With special thanks to Patricia Maqetuka our Nedbank executive TSP sponsor.
Waka Wake – (This time for Africa)
Who am I?

John Bourhill – Certified TSP Coach

Experienced: Manager, Leader, Analyst, Help desk, Developer/Programmer, Designer, DBA, Systems programmer/analyst, Operator and Technical Specialist.

Mentor, facilitator, trainer … 40 years expertise in IT.

A Dinosaur – and a merchant of possibilities
Meet the TSP CoE
Role players & partners

S.E.I.

J.C.S.E.

- Pilot
- Training and phased roll-out
- Growth and development of coaches ...
Who is Nedbank?

Group Technology - Fred Swanepoel - CIO

PMDA - Ray Naicker - Divisional executive

Business Improvement – Tamasin Bossert

TSP Centre of Excellence

Specific purpose: Build & support high-performance software teams.
Background info

Past experiences + CMMI history

Evolution of Process Capability

<table>
<thead>
<tr>
<th>Level</th>
<th>Process Characteristics</th>
<th>Predicted Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimizing</td>
<td>Process improvement is institutionalized</td>
<td></td>
</tr>
<tr>
<td>Managed</td>
<td>Product and process are quantitatively controlled</td>
<td></td>
</tr>
<tr>
<td>Defined</td>
<td>Software engineering and management processes defined and integrated</td>
<td></td>
</tr>
<tr>
<td>Repeatable</td>
<td>Project management system in place; performance is repeatable</td>
<td></td>
</tr>
<tr>
<td>Initial</td>
<td>Process is informal and ad hoc; performance is unpredictable</td>
<td></td>
</tr>
</tbody>
</table>
Business Improvement

Maximize productivity & performance.

Step change in business value and customer experience delivered by IT

1. Create a low cost IT operating platform
   - Decrease IT spend with R500m by 2015

2. IT-enabled Business Process Reengineering
   - Identify and capture end-to-end business enablement opportunities

3. Improve time to market
   - Double the innovation output for the same costs
   - Reduce time to market by 50%

4. Leverage new technologies
   - Technology trend scanning and experimentation in collaboration with business

Robust, flexible IT architecture enabled by S

- Strengthened business IT collaboration
- Improved delivery capabilities
- Standardised delivery processes
Baby Steps: PSP

My own PSP journey & learning

Don't stop, you have a moving target

“What do you mean we can't finish on time? Do you want history to say that Rome wasn't built in a day?”
Why be a coach?

Our belief’s are ‘the truth’.
The truth is ‘obvious’.
Beliefs are based upon ‘reality’ → accurately depict ‘real’ information
Thoughts are based upon this ‘reality’.

What you believe, you become!
Beliefs make or destroy possibilities!

Conclusions I make
Assumptions I draw
Meanings I make
Information that I choose
Observations that I make
Actions I take or make
Beliefs I hold to be true

Our unique outlook – Our ‘Precious’ but also distorted view

underpin
influence
Influence
affects
determine
color
determine
TSP Pioneering steps

Pilot & getting going

I only had enough room to go up to 2012. Ha! That’ll freak somebody out someday.

Quotes Gallery

Yes, I did it!
I will do it
I can do it
I’ll try to do it
How do I do it?
I want to do it
I can’t do it
I won’t do it
Which step have you reached today?

Stability

the Future is Now

TSP

SEI Symposium 2012
Stepping out: Integration

Build, Test, Fix Phase

- Start Build
  - Perform Development Cycle
  - Perform TSP Build Test Fix Checkpoint
  - Develop User Support and Training
  - Prepare for Testing

- Integrate Technical Solution
  - Test Integrated Technical Solution
  - Conduct TSP Build Test Fix Checkpoint
  - Conduct Test Readiness Review
  - Conduct TSP Cycle Post mortem

- More Builds?
  - Yes
    - Prepare for Deployment
  - No

Deployment
TSP & IBM Lifecycle

Single Lifecycle View - Integrating TSP practices into SIP Methodology

TSP: A process-focused strategy for organizations to improve the software design and development

Integrated Product Teams

PSP
Skill-building

Personal measures
Process discipline
Estimating & planning
Quality management

Team Members

TSP
Team-building

Project goals
Team roles
Team process
Project plan
Balanced plan

Team Disciplines

TSP
Team-working

Risk analysis
Team communication
Team coordination
Status tracking
Project reporting

Team Management

SEI Symposium 2012
TSP measures & targets

<table>
<thead>
<tr>
<th>Name</th>
<th>Measurement</th>
<th>Description</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>GT Target</td>
<td>Actual at Time Estimating Error</td>
<td>Actual time less planned time as a percentage of planned time</td>
<td>Negative value = over estimation. Positive values = under estimation in Time.</td>
</tr>
<tr>
<td></td>
<td>Productivity (LOC/Hr)</td>
<td>Actual productivity (LOC/HR) compared to planned productivity.</td>
<td>Value &gt;= 0. Increases with improved sizing.</td>
</tr>
<tr>
<td></td>
<td>Size Estimating Error</td>
<td>Planned size less actual size as a percentage of planned size</td>
<td>Negative values indicate overestimation in the size.</td>
</tr>
<tr>
<td></td>
<td>Process Yield</td>
<td>% of total defects removed before Unit Test Phase</td>
<td>90% 75%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Defects removed vs planned as a percentage - before Unit Test Phase.</td>
<td>95% 83.25%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of total defects removed before UAT Phase</td>
<td>90% 88.10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Defects removed vs planned as a percentage – before PROD.</td>
<td>90% 88.10%</td>
</tr>
<tr>
<td></td>
<td>Cost Of Quality (COQ)</td>
<td>% of total development time on defect removal tasks</td>
<td>42% 32.10%</td>
</tr>
</tbody>
</table>

Graph:
- Earned Value (%)
- Baseline, Plan, Actual, Forecast, Optimized
- Dec-2011 to Apr-2012
Success story

Now GT has authentic data that shows:

- Current progress status of projects not analysed before
- Early detection & correction of problems
- Data establishing foundational baselines for improvements over the next iterations of TSP implementation
- Defect removals before code delivery at testing stages, significantly improving quality of code delivered to Prod
- Productivity improvements.
Supporting TSP Statistics: Phased Roll-Out

- Implemented TSP in 48 projects to date
- Expect another 50 projects to undergo TSP implementation next year
Need for Coaching

War on talent is no longer just a buzzword!

- baby boomers retiring
- dismal school stats
- less than 10% are readers
- brain drain (crime?)
- dwindling students
- transformation needs
- AIDS etc.

Have to do more with less!
Products of coaching

- **Long-Term Excellent Performance**
  Meet the high objective standards of the coaching agreement discipline

- **Self-Correction**
  Make any necessary adjustments and not become dependant on others

- **Self Generation**
  Observe others and self in action, practice and strengthen new ways to improve.

Source – “Coaching: Evoking Excellence in Others” James Flaherty
Why change is tough!

To HAVE something different

→ DO something different

→ BECOME something different!

Habits are hard to break!

Human beings are:
> Reaction machines
> Reality Building machines.

Our brains always look for patterns and connections!

Source – “Quiet Leadership” David Rock
Reaching out

Zimbabwe
Joburg Centre for Software Engineering (JCSE) at Wits University

Nedbank’s key strategic partner in our successful TSP Journey
JCSE: Who are we?

- The Joburg Centre for Software Engineering (JCSE) is a three way partnership between government, academia and industry.

- Based at Wits University, the JCSE runs various programmes and facilities positioning it as a focal point for the software development sector in South Africa and Africa.
JCSE Goals

- Improving processes: Promoting international best practice in Software Engineering within an African context

- Promoting investment: Establishing a business friendly environment that attracts investment in the local Information and Communication Technology (ICT) industry

- Encouraging innovation: Applied research, technology incubation and IP development

- Building capacity and skills: Educating experts to lead Africa’s software development sector
How do we achieve our mission?

- Offering various courses to industry
- Housing start-up companies in our pre-incubator facility
- Hosting industry forum meetings including the Gauteng SPIN Architecture Forum and Agile Forum meetings
- Conducting applied research
- Promoting the adoption of the Capability Maturity Model Integration (CMMI®), Team Software Process (TSP), Personal Software Process (PSP) and People Capability Maturity Model (P-CMM) in Africa
Our TSP milestones

- Successful launch of TSP pilot as a national pilot initiative in 2009

- Successful completion of TSP Trainings:
  - ~220 people trained in PSP Fundamentals
  - 75 people trained in Leading Development Teams
  - 50 people attended TSP Executive Sessions
  - 20 people trained in TSP for Team Members

- TSP coach capability development:
  - 6 certified TSP coaches

- TSP training capability development:
  - 4 certified PSP Instructors
Our TSP journey and way forward: 2012-2014

- TSP adoption across various organisations in addition to the existing ones
- Continued focus on TSP implementation, training and coaching across various organisations already on TSP journey
- Enhancement of TSP coach and trainer capabilities
- TSP user group sessions and road shows across South Africa
TSP user feedbacks: Key highlights based on our surveys

- Teams are able to see the bigger picture within a project
- TSP has enabled common understanding and shared vision
- Team members consider TSP a significant value adding process as it enables early visibility of the gaps as well as mechanisms to improve individual tasks, planning, estimation and review etc,
- Team members feel empowered by having ownership of the team plan
- Most of the team members participating in the TSP program have found the experience to be enriching with regards to their individual growth and capability development
- TSP has enabled formation of gelled teams
The JCSE is working with the South African Government on developing an ambitious employment creation scheme, called “the Thousand Jobs Strategy”. This strategy is based, in part, on TSP adoption. Work started in 2012 to implement this strategy in Johannesburg, Cape Town and Durban.
Looking towards the future!

How can we prepare for a better potential future?

- Work–life–balance with Agile Delivery
- Collaborate in enhancing affective processes
- Process information to make informed decisions
- Prioritize, plan & goal set
- Strong inner disciplines and moral values
- Manage stress (Avoid, Alter, Adopt or Accept)
Value proposition: An environment where people can thrive.

Change is inevitable so make it a competitive edge.
Manage: risks - costs - agility - customer value.
Embrace past failures and learn from mistakes.
The right people with right skills in the right jobs!
The ‘F’ word

Be **Flexible** → adaptable, prepared, able to cope…
Use tools & current skills

More effectively!
Where are we going?

Practice makes perfect?

Perfect Disciplined practice makes perfect!
The gap between what we know and do
only changes when our behavior does!

“Behavior is driven by beliefs. Therefore show results that are inconsistent with beliefs”

Gene Miluk
Save the Rhino
Spare