IDEAL^{SM} -CAUTION Approach for CMMI$^®$ Based Process Improvement

SEPG Europe 2009 Presentation

June, 2009

Experience certainty.   IT Services
Business Solutions
Outsourcing

Agenda

- **Executive Summary**

- Challenges in Process Improvement Initiatives

- Process Improvement and Correlations with Change Management

- IDEAL^{SM} -CAUTION Approach

- Benefits and Results

- Conclusions

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Executive Summary

- This presentation demonstrates how we integrated and applied IDEAL^{SM} -CAUTION approach to implement a CMMI® based process improvement initiative

- IDEAL^{SM} : The IDEAL^{SM} (Initiating, Diagnosing, Establishing, Acting and Learning) model is an organisational improvement model that serves as a roadmap for initiating, planning, and implementing improvement actions

- The Patterson-Conner change management concept (Contact Awareness Understanding Trial use adoptIon and InstitutionalisatiON) is the set of practices and factors related to organizations selecting, deploying, and sustaining the use of a new ideas and technologies

- IDEAL^{SM} -CAUTION is a blended approach, combining standard IDEAL^{SM} methodology with Patterson-Conner organisational change management concepts to align the process improvement initiatives with business objectives and manage organisational changes effectively

- Benefits of high process compliance and CoQ reduction through this blended approach

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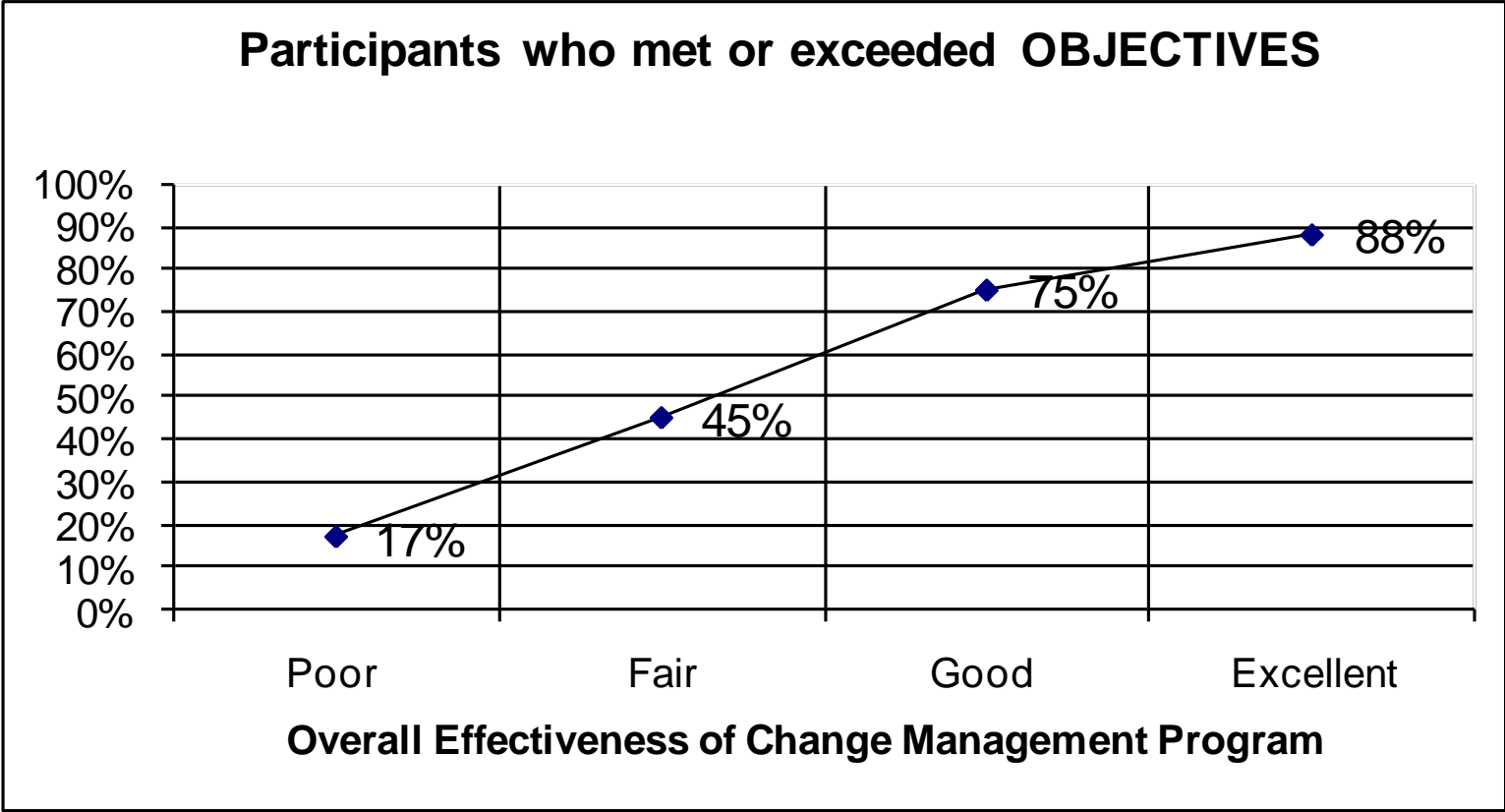# Challenges in process improvement initiatives

- Most of the process improvement approaches are not addressing the **change management** factors explicitly

- Process **adoption levels** of different divisions/teams are ignored

- **Motivation** of employees towards process adoption and implementation is overlooked

- **Unclear goals and non alignment of Business Objectives**: Initiatives are often undertaken without setting realistic or measurable objectives. Without clear, shared goals it is difficult to plan and track

- **Negative climate**: No initiative can succeed in a hostile or overly negative climate

- **Unbalanced power**: Company-wide improvements can prosper only if there is equal input and representation from all parts of the organization in the design, planning, implementation and assessment of an improvement initiative

Need for an ideal and cautious approach to meet the business objectives through effective change management

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Process Improvement and Correlations with Change Management

Participants who met or exceeded OBJECTIVES

17%

45%

75%

88%

Poor　　　　　　Fair　　　　　　Good　　　　Excellent

Overall Effectiveness of Change Management Program

Source: Prosci's 2007 benchmarking study for Change Management

Research shows how significant change management is in process improvement initiatives

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IDEAL^SM -CAUTION Approach Overview

IDEAL^SM

- **Initiation**
- **Diagnosing**
- **Establishing**
- **Acting**
- **Learning**

IDEAL^SM
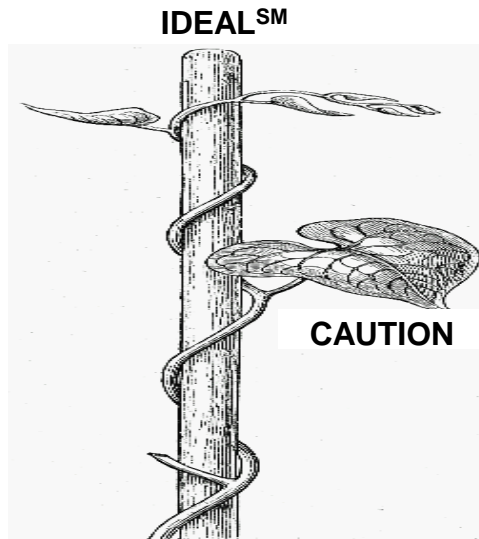
CAUTION

Patterson-Conner (CAUTION)

- **Contact**
- **Awareness**
- **Understanding**
- **Trial use & adoptIon**
- **InstitutionalisatiON**

IDEAL^SM – CAUTION

Initiating – Contact

Diagnosing- Awareness

Establishing- Understanding

Acting- Trial use adoptIon

Learning- InstitutionalisatiON

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Initiating –Contact Phase

Top Mgt Commitment

- Business case to get top management commitment
- Develop Strategy
  - Process definition
  - Deployment
  - Organisational transformations/changes
- Formulated the Roles and responsibilities (R&R)

Communication

- Publicising process improvement objectives, announcing the approach with timeline and initiative team details
- Contribution by Senior Management
  - Article by Senior Management in internal Magazine/Website
  - Road show to propagate the process improvement initiatives
- Process improvement initiative Website contains
  - Process improvement initiative team org structure
  - Region wise contact personal details available for additional details

Typical Challenges

- Involvement of regions / division heads-Middle level managements in the road show and communication channel
  - Road show videos shared by Middle level management
  - Reiterating through region level gatherings and meetings

A Good Start Is A Half Done

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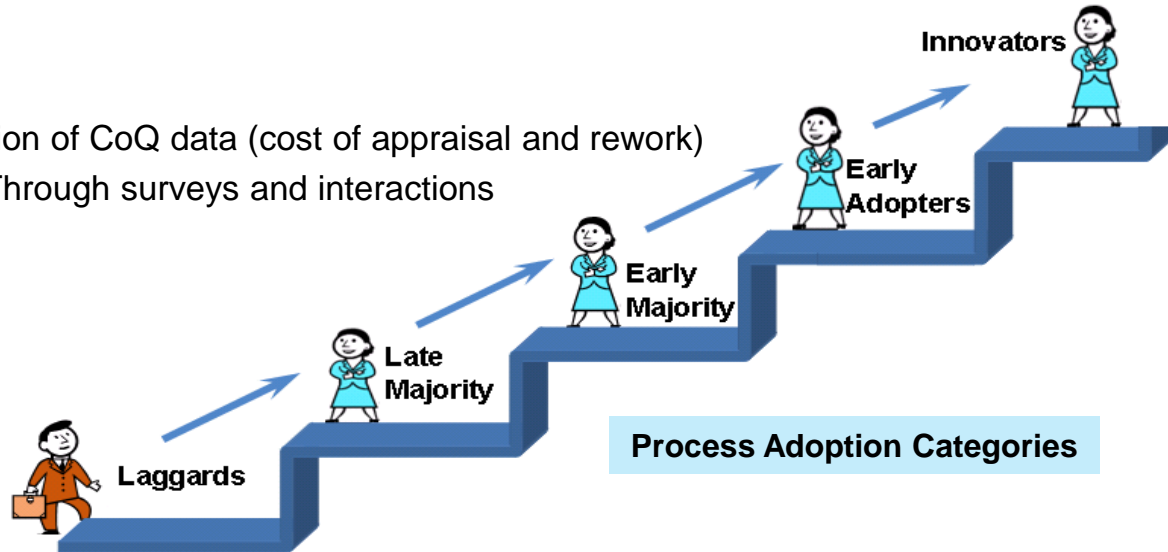# Diagnosing –Awareness Phase

Performance Baselining

- Existing CoQ (Cost of Quality) values baselined considering the process knowledge of people in different regions
- Established the KPIs(Key Process Indicators) and frequency of collection

Change Mgt Assessment

- Analysis of Current Process Knowledge of people
  - Region/Division wise study on ability to adopt new ideas and changes
  - Classification of region/division based on process adoption categories
- Discussion forum to tap the collective wisdom of organization
  - To optimise the project development cost
- Communicating Baselined CoQ through intranet

Typical Challenges

- Collection of CoQ data (cost of appraisal and rework)
  - Through surveys and interactions

Innovators

Early Adopters

Early Majority

Late Majority

Laggards

Process Adoption Categories

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Establishing- Understanding Phase

Process Definition

- Forming Process Definition team
- Release of multiple versions of QMS (Quality Management System) by prioritising and grouping the process areas
- Deployment strategy for each region/team based on their change management adoption category
- Prioritising regions for pilot in line with business strategic plan and deployment gap analysis

Recognition Mechanism

- Recognising Early adopters through Internet website, Articles and Town hall meetings
- Designing attractive posters on initiatives
  - Customised and localised if required
- Transition Roadmap and publishing through Intranet
- Role based training materials to align the re-organized structure

Typical Challenges

- Availability of Subject Matter Experts (SMEs) for process definition workshops and reviews
  - Cost budget apportioned to SMEs to work on process improvement initiatives
- Consensus on process architecture framework
  - Multiple workshops conducted
- Longer timeframe for process fine-tuning and incremental releases

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Acting -Trial use adoptIon Phase

Process Deployment

- Parallel Deployment of multiple QMS versions
- Different training approach based on process adoption category
  - Role Based Training
  - Train the trainers approach
  - Various training modes (Computer Based training or Class room training)

Stakeholder Communication

- Publishing Project metrics and CoQ trends on periodic basis through intranet
- Demonstrating mappings of existing organisational policies with defined processes
- SQAG Dashboard to highlight process deployment status
  - Region and division wise report published in intranet

Typical Challenges

- Managing multiple dashboards for multiple versions of QMS deployment
  - Amended dashboard for each version of QMS
- Managing common process deployment across regions and divisions
  - Region wise tailoring for common processes like audit, reviews etc.,

Typical dashboard by phase

Project Details				Overall Project Status	Software Project Initiation										Software Requirement Analysis							
Project Name	Project Type	Classification	Current Phase		Phase Start Date	Phase End Date	Work Order	Project Estimate	Stakehold Matrix	Project Order	Risk Register	Project Mgmt Plan	Project Schedule	SCM Document	Phase Start Date	Phase End Date	Req Doc	Req Spec	Feasibility Doc	Traceability Matrix	Impact Analysis	Test Strategy (Initial)
Project 1	Development	Early Adaptor	SW Deployment	93	1-Jan-08	30-Apr-08									30-Apr-08	30-Jun-08						
Project 2	Development	Early Adaptor	SW Design	75	23-Apr-08	31-May-08									31-May-08	10-Aug-08						
Project 3	Development	Early Adaptor	SW Req Analysis	91	10-Mar-08	30-Jun-08									30-Jun-08	25-Aug-08						

Tracking Cost measures and Process compliance Quantitatively

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Learning -InstitutionalisatiON Phase

Continuous Improvement

- Continuous refinement of processes
  - Feedback from early adopters and innovators
  - Process improvement proposals
- Releasing the refined/improved process
- Organising training regularly on the revised/improved process

Motivation Mechanism

- Motivating best-practice through Senior Project Management review
- Publishing success stories through internal magazine
- Tracking process implementation status (Process Deployment Index) and initiating appropriate action in change management front
  - Examples :
    - Motivation through middle management to improve process compliance
    - Publishing Interview excerpts of senior management in internal magazine

Typical Challenges

- Sharing of lessons learned and best practices across the projects and regions
  - Propagated through SQA forums
  - SQAs disseminate through facilitation, project plan reviews

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Document Name
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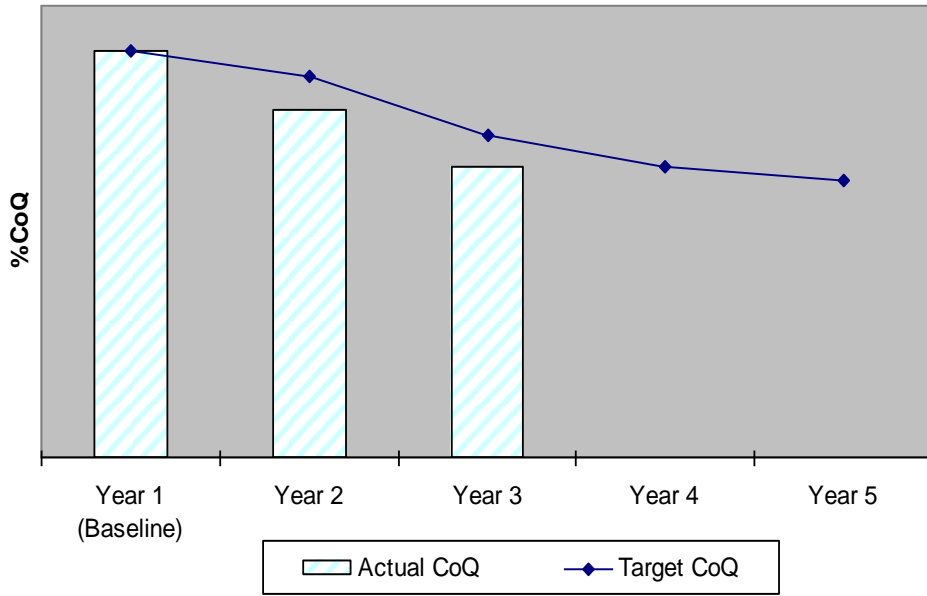**TATA** CONSULTANCY SERVICES

Benefits of IDEAL^{SM} -CAUTION Approach

- Quick buy–in for the QMS processes through innovators and early adaptors

- Region-wise deployment strategy based on the process adoption category

- Establishing competitive environment across regions through effective communication
  - Intranet site
  - Road show
  - Articles through internal magazine

- Recognition of early adopters to motivate laggards to improve process compliance

- Proactive escalation of issues through Dashboard to seek top management commitment

- Recognising Innovations and Best Practices through incentive management/motivation mechanism

- SQAG can facilitate a larger number of projects

- Ensuring policy deployment through alignment of key processes with organisational policy

- Conducive environment and cultural realignment by establishing process orientation culture
  - Enthusiastic participation in process improvement
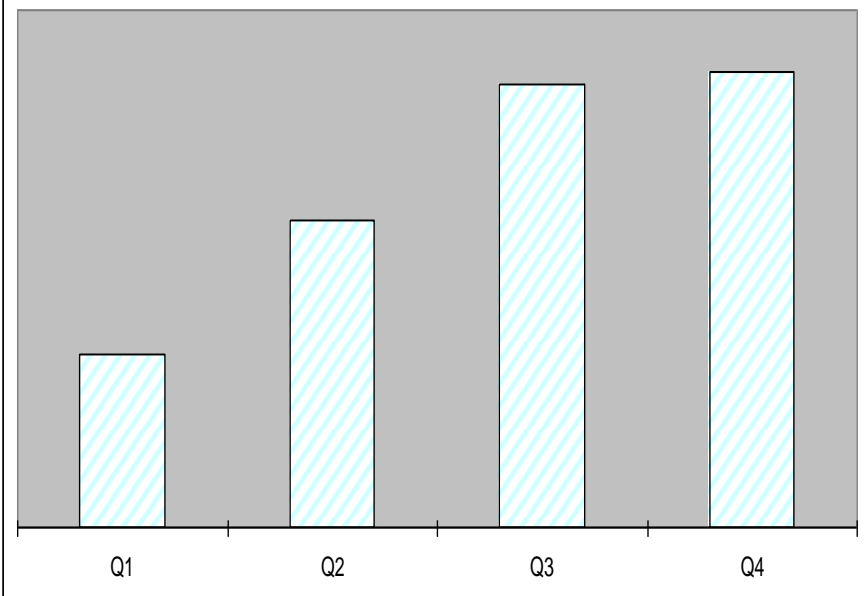 - Encouraging sharing culture by publishing articles with contributor's photos in Homepage

Synergy of blended approach : IDEAL^{SM} - CAUTION

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Typical Results

Cost of Quality

%CoQ

Year 1 (Baseline) · Year 2 · Year 3 · Year 4 · Year 5

Actual CoQ — Target CoQ

Overall % Process Deployment Index (PDI)

Q1 · Q2 · Q3 · Q4

Significant reduction in rework and appraisal cost and improvement in process compliance

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Conclusions

- Our work has shown that IDEAL^{SM} -CAUTION approach could overcome the challenges and reap the intended benefits of process improvement initiatives

- Realised benefits
  - Improve the overall health of IT projects
  - Satisfy the customers
  - Improves the morale of employees

- IDEAL^{SM} -CAUTION approach in a Nutshell:

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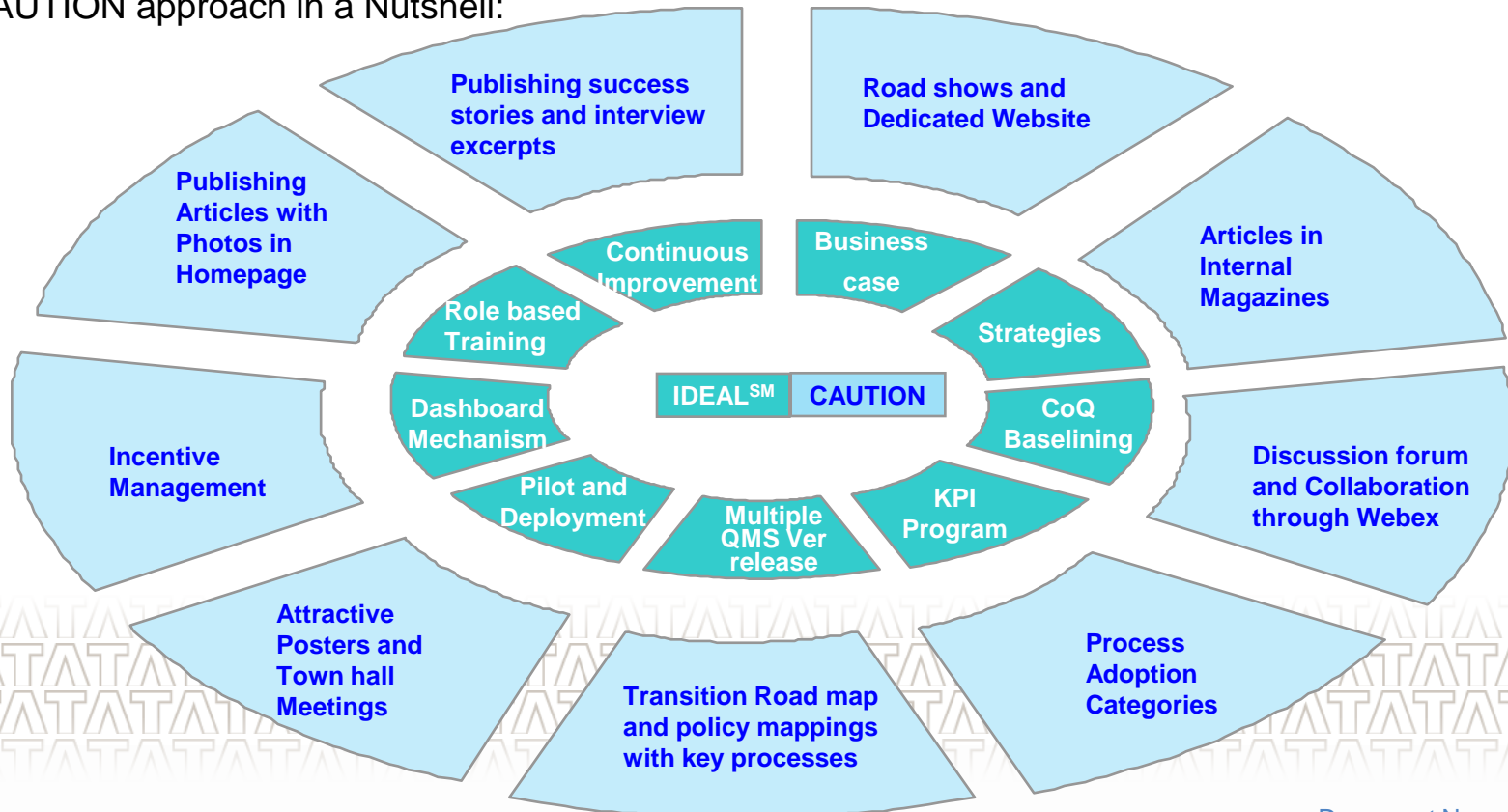
About the Authors

P Samsutheen Riyas :

P Samsutheen Riyas is a Senior Process Consultant of Tata Consultancy Services Ltd (TCS). He has led and executed assignments in the realm of Application Development and Maintenance and driven a number of Quality initiatives in and outside TCS. He has actively participated in TCS Corporate wide initiatives and certifications. On the Process Consulting front, he has performed CMMI® Gap Analyses and has provided consultancy to customers.

Riyas has over eight and half years of experience in IT Project/Programme management and Business/Process Consulting across a range of industries including Telecom, Banking & Financial Services, Retail, Healthcare, and Insurance. He holds a Bachelors degree in Mechanical Engineering from Madurai Kamaraj University, India and Post Graduate Diploma in Quality Management from Anna University, India. He is also an ITIL foundation certified professional.

Kumudhavalli G :

Kumudhavalli G is a Lead Process and Quality Consultant at Tata Consultancy Services. She has more than 20 years experience in academics and in the fields of software quality, ISO, CMM and CMMI®. She has led and executed engagements for clients in domains like Insurance, Banking and Financial services. Consultancy includes gap analysis, process definition within TCS and external customers. She has led the Quality group of large delivery center in TCS and successfully guided them through assessments/audit against CMM®, CMMI®, PCMM®, ISO9001 etc.,

Kumudha was instrumental in getting enterprise wide certifications for ISO 9001, BS7799 and BS 15000. She is a certified internal assessor of TBEM a business excellence model in the lines of MBNQA. She is a PMP and CSQA and a Post graduate in Engineering from Anna University, Chennai, India.

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About the Authors (Contd..)

K.R.Kannan :

Kannan has ,more than a decade of experience in Quality and Process Improvement. He is part of the Process Consulting group within TCS and is leading the delivery support for Process consulting in UK and EMEA. He has successfully managed end to end Process Improvement programs for key customers globally which involved Business case development, Gap analysis, action planning, process definition, process deployment, demonstration of business case realisation etc. He has led the Quality group of large delivery center in TCS and successfully guided them through assessments/audit against CMM®, CMMI®, PCMM®, ISO9001, TL9000 etc. He has led several process assessments and audits internally and as well for customers. He is a certified internal assessor of TBEM a business excellence model in the lines of MBNQA, Certified Software Quality Analyst and trained in Statistical Process Control by Indian Statistical Institute.

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Thank You

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