

FROM STRATEGY THROUGH IMPLEMENTATION

TCS. Beyond the obvious.™

'Project Management 'Atkins' Way' Tata Consultancy Services Ltd. - A Case Study

Nidhi Srivastava



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Agenda



➤ 'Lean' Project Management Architecture @TCS

➤ 'Low Carbs' Project Planning



➤ 'High Protein' Project Management and Oversight

➤ 'Diagnostic' Project Management Metrics

➤ Lessons Learned on 'Process Fat'



➤ 'Nutritional Advice'- Project Management Enablers



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“Ultimately, All Differences Between Companies in Cost and Price Derive From the Hundreds of Activities Required to Create, Produce, Sell, and Deliver their Products or Services

...Differentiation Arises from both, the Choice of Activities, and
How they are Performed.”

Michael Porter



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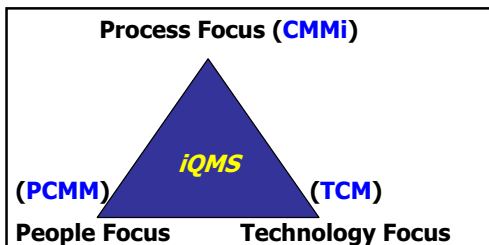
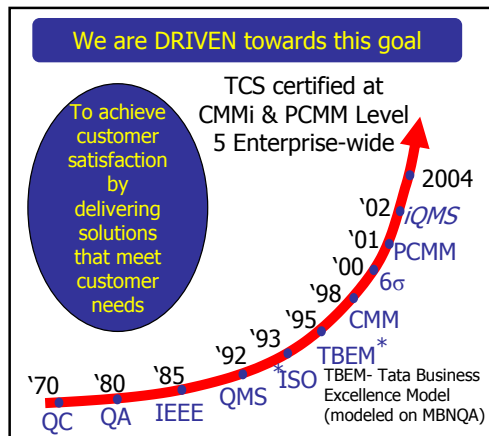


‘Lean’ Project Management Architecture @ TCS



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Tata Consultancy Services (TCS) – An Overview



- India's Largest Conglomerate
- India's best IT Employer
- Established in 1968
- Over 28,000 Consultants
- More than \$1.5 Billion in revenues
- ISO 9001-2000 certified
- SEI-CMMi and PCMM Level 5 Certified
- Winner of the 2004 TBEM Award
- Largest number of CSQA professionals
- Global presence
 - 91 offices across 55 countries
- Largest Software R&D Centre in India
- Largest Software Exporter from India



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Project's 'Health Guide Pyramid'



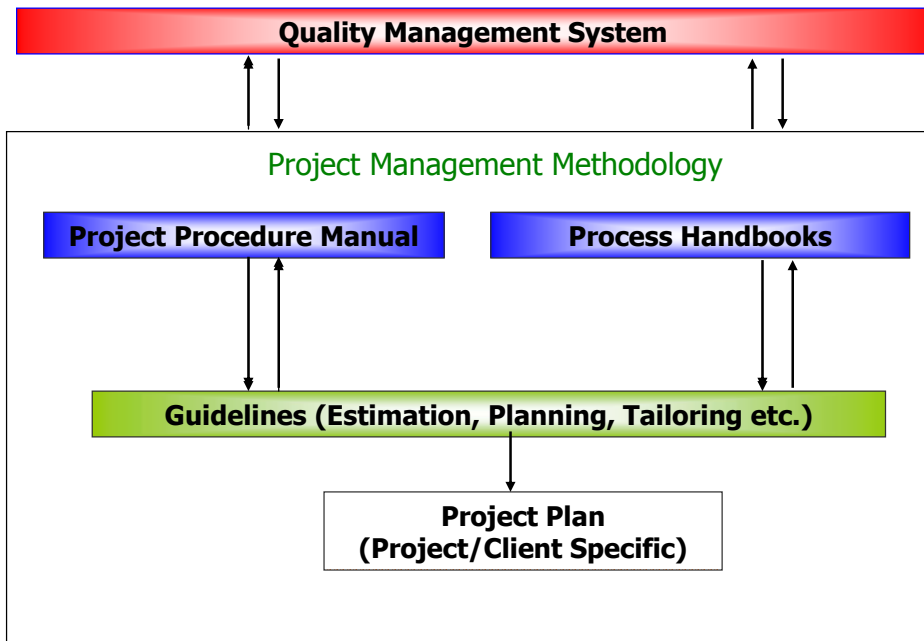
iQMS – Quality of Quality

- Quality Manual – the Policy document.
- Process Handbooks – cover details of the entire lifecycle for
 - Development Project
 - Maintenance Project
 - Conversion Project
 - Package Implementation Project
 - Engineering CAD Processes
- Procedure Manuals – cover all procedures in detail
 - Project Procedure Manual details procedures to be performed during project planning and tracking
- Standards and Guidelines
 - Project Planning Guidelines guide thru all project management activities.



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'Lean' Project Management Architecture



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'Low Carbs' Project Planning



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Project Management Activities

Project Management activities performed within a project :

- Review of Agreement
- Project Initiation
- Project Startup Meeting
- Preparing and Revising Estimates
- Project Planning and Execution
- Team Building
- Project Progress Monitoring, Tracking and Reporting
- Project Management Review
- Risk Management
- Quality Management
- Configuration Identification & Management
- Change Management
- Project Wind Up

'Health Plan Meeting' – Project Startup

Project Start-up meeting

- All the stakeholders invited
- Project Startup Kit contains :
 - Mandatory iQMS training
 - Review of contract and re-estimation of size and effort
 - Creation of project in project database
 - Preparation of project plan and other supporting documents
 - Identification of QA and QC processes and their measurement procedures
 - Check on infrastructural issues.
 - Identification of tools and re-usable components
 - Project specific training needs identified
 - Risk identification and mitigation plan
- Potential loop holes identified and acted upon.

Benefits: a) Identification of potential risks and planning of corrective action
b) Commitment from all stakeholders

Project 'Health' Planning

➤ Project Health Plan Attributes -

- General Overview
- Delivery Plan
- Assumptions
- Organization structure
- Client involvement
- Monitoring Mechanism
- Reporting Mechanism
- Risk Management
- Quality Management
- Metrics & Measurement
- Configuration Management
- Process Improvement
- Resource Management
- Traceability Strategy
- Technology and tools
- Induction & Training
- Operational Process

- Plan prepared by tailoring the project plan template
 - Tailoring depends on the type and requirement for the project.
- Project plan is reviewed by all stakeholders
- Timeline, roles and responsibilities are agreed upon by all the stakeholders.

Benefits: a) Better control over the product and the process
b) Predictability over quality, schedule, cost



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'High Protein' Project Management & Oversight



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Project 'Fitness' Monitoring

- Continuous 'Fitness' Monitoring – Progress Reporting
 - Project Status Report prepared by Project Manager
 - Status reporting by project team members
- Project 'Health Check' – Management Review
 - Quarterly Project Management Review
 - ✓ Details check on projects health and fitness
 - ✓ Review done by higher management



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Project 'Fitness' Status Reporting

Monthly Status Reporting by Project Owner to all stakeholders

- Delivery against Schedule
- Performance against Quality Goals
- Report on
 - Resource
 - Training
- Risk Monitoring and Mitigation
- Issue Tracking and Escalation
- Financial Information
- Plan for next month

Benefit: Potential issues are identified and mitigated



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Project 'Health Check' – Management Review

- Review done by senior management.
- All the stakeholders invited
- Project Owner presents general health – template available
- Fitness monitoring on
 - Scope, schedule, cost and quality
 - Financial aspect, risks and issues
- Outcome
 - Identification of Action Items
 - Preparation of Action Plan
 - Action Items tracked to closure

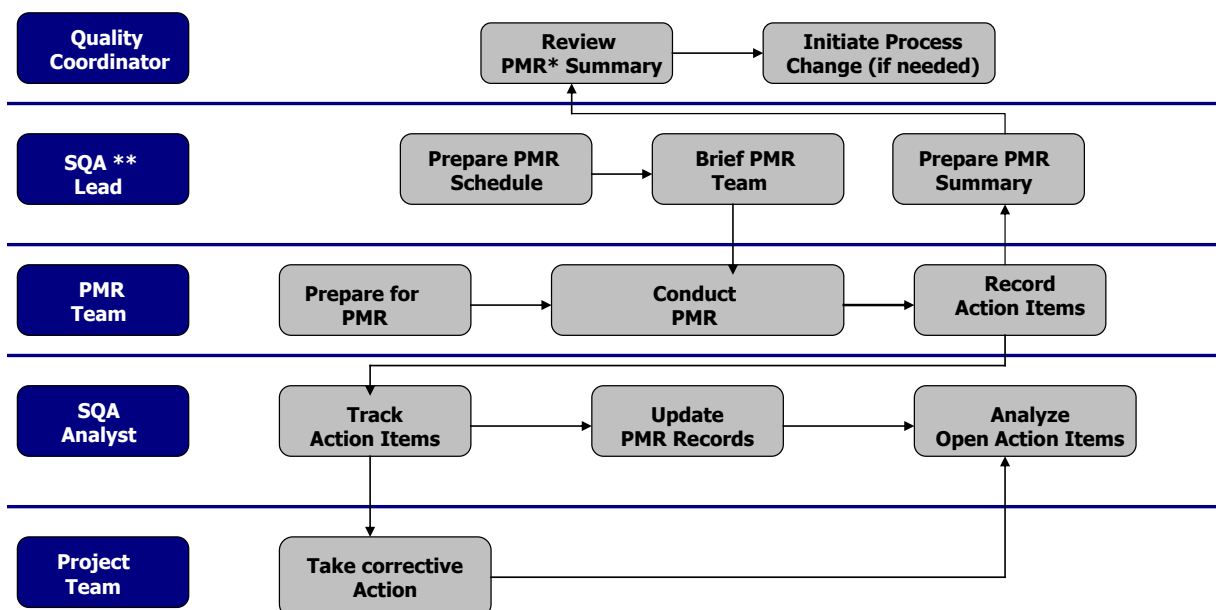
Benefit: Early warning Indicators are identified and tracked



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Project Management Review – Swim Lane



* PMR - Project Management Review

** SQA - Software Quality Assurance



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Project Windup

- Project Completion Meeting
 - Completion Report prepared by Project Owner
 - Report added to Process Asset Database
- Releases of all resources
- Consolidation of Lessons Learned & Best Practices
- Reusable components added to Asset Library

Benefit: Reusable components, Lessons Learned & Best Practices



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'Diagnostic' Project Management Metrics



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Fitness Measures - Metrics

Metrics defined to facilitate the measurement of project parameters

Effort Variation

Objective : To improve effort estimation accuracy. This is done by comparing the effort spent in project and the budgeted effort for the project

Schedule Variation

Objective : To measure the accuracy of the schedule estimation, adherence to the schedule and quality of the process

Start Timeliness

Objective : The goal of the Start Timeliness measure is to measure compliance with dates for project start up

End Timeliness

Objective : The goal of the End Timeliness measure is to measure compliance with dates for project windup/completion

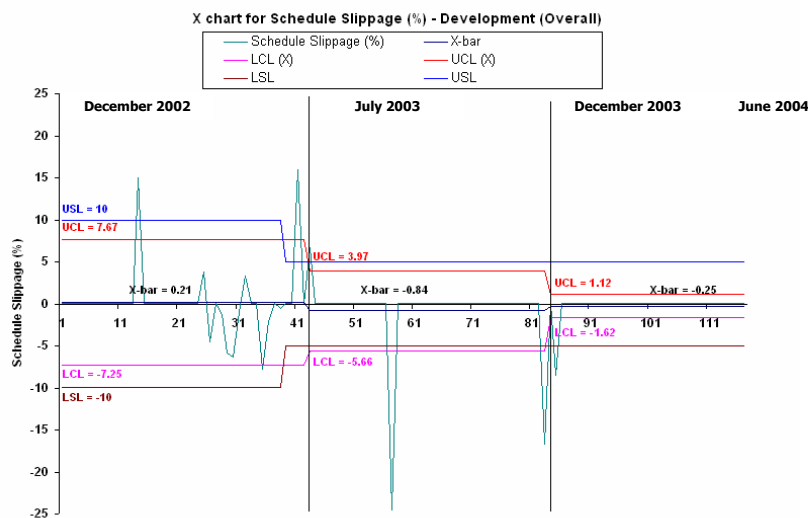
Guiding Principle - What is measured is driven by business issues and objectives and not by what can be measured



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Process Capability Improvement @TCS – A Sample



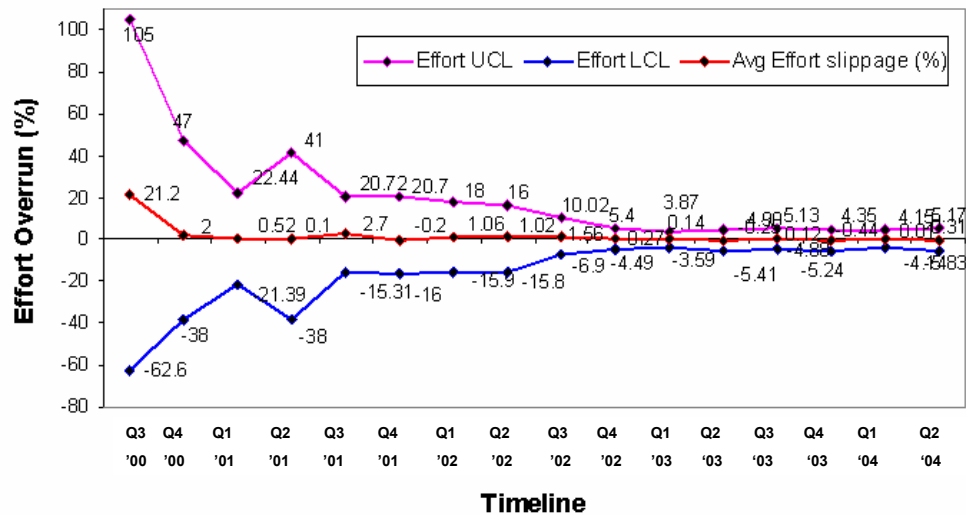
Good

- Improved Estimation
- Improved Project Management
- Client involvement at phase end, checkpoints



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Process Capability Improvement @TCS – A Sample



Good

- Improved Estimation accuracy
- Re-estimation after every phase



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Lessons Learned on 'Process Fat'



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Lessons Learned

➤ Challenges

- Resistance to change
- Reluctance to document and keep document updated for revisions
- Perceived increase in paper work
- Additional effort required for metrics collection , with no immediate benefits in sight
- Over engineered process- eg. detailed project plans ,complicated project status reports

➤ Fallout

- Inadequate project planning
- Lapses in uniform metrics collection
- Improper management oversight
- Fire fighting / reactive approach

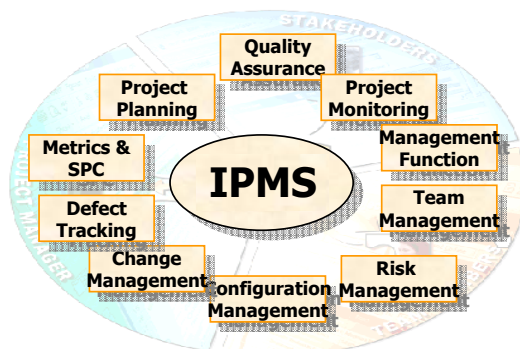
Project Management Process Automation

Consistency of Process Use

Enforcement of Process

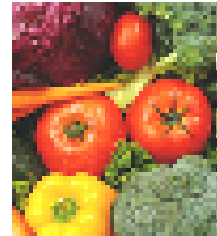
Objective Project Management

Easier collection, analysis and retrieval of data





'Nutritional Advice' - Project Management Enablers



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Project Management Enablers

Enablers

- Process Automation
- Training on project management
- Handholding by Quality Groups
- Sharing of best practices
- Feedback loop
- Tailoring of process
- Institutionalization of ISO based Audit mechanism, based on plan – “ Plan what you do , do what you plan”

In theory, there is no difference between theory and practice.
In practice there is.

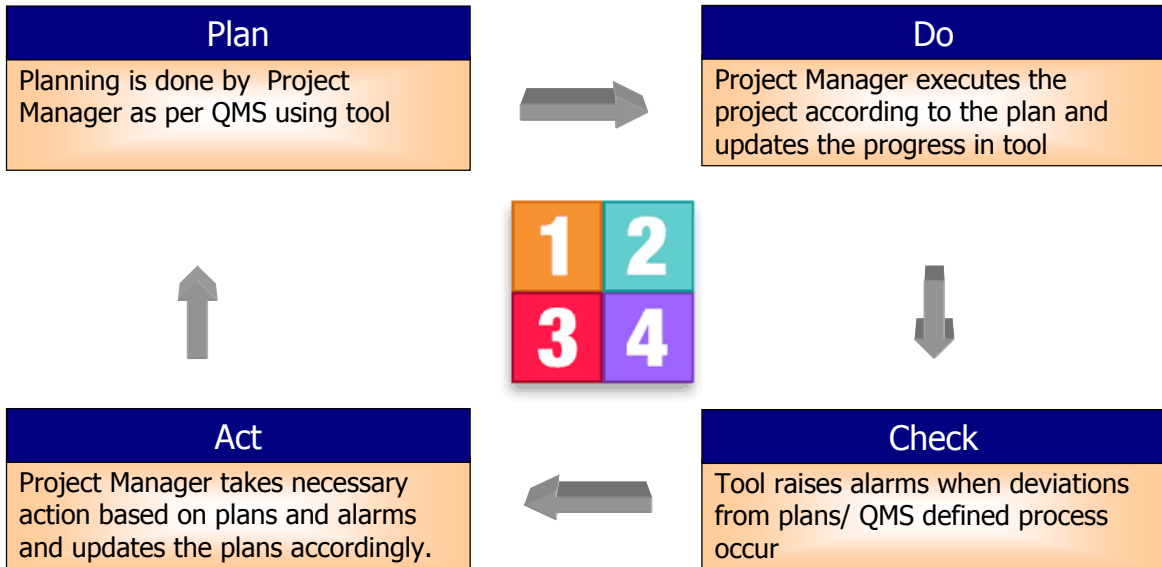
- Yogi Bera



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Technology as an Institutionalization driver

'Four Phase' Project Management - PDCA Cycle



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Project Management Caliper - IPMS

Integrated Project Management System – Project Management Tool

IPMS Functionality

- Prepare Project Plan
- Prepare Project Schedules
- Assign Tasks to team members
- Project Monitoring (Timesheet, Work Product progress)
- Risk Management
- Prepare Quality Assurance Plan
- Change Management



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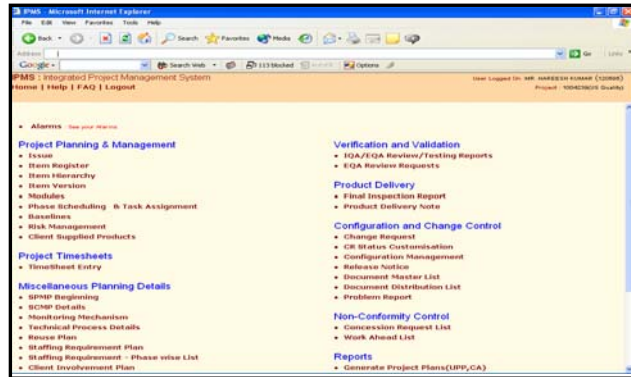
Project Management with IPMS

Initiating

Planning

Monitoring &
Control

- Access to new project creation information ,e.g.
 - Generation of Project Initiation Note
 - Project Name
 - Work Order
- Authorization of Project Manager (PM) to manage project



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Project Management with IPMS

Initiating

Planning

Monitoring &
Control

- Define Work Breakdown Structure
 - Deliverables, Item (Details and Size), Module
- Divide project into Phase -> Task -> Sub Task
- Define Entry Task Verification eXit (ETVX) of each phase
- Schedule the Project Phases
- Plan Quality Assurance
- Define Project Baselines
- Set up the appropriate Cost Drivers

Item List					
Search Criteria					
Item Id:	Item Code:	Item Name:			
Item Type: -select-	Item Classification: -select-	Configurable: ☐			
Search					
Item Id	Item Code	Item Name	Item Type	Configurable	Item Classification
1	MCRAFT_CODE	Executable Code	code/software	Y	CODE
2	SDD	Software Design Specification	document	Y	SDD
3	SRS	Software Requirement Specification	document	N	SRS
4	STP	System Test Plan	document	Y	SYSTEM TEST PLAN
5	UM	User Manual	document	Y	USER MANUAL
6	UTP	Unit Test Plan	document	Y	UNIT TEST PLAN
Previous Next					
New Open Delete Help Close					



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Project Management with IPMS

Initiating

Planning

Monitoring &
Control

- Assignment of tasks and sub-tasks
- Record effort spent on tasks and sub-tasks in timesheets
- Change Management
- Problem Management
- Configuration Management
- Handover Takeover between old/new Team Members
- Manage client supplied products

For Assigned Tasks: [Help](#)

WOK	Task Id	Task Name	Change type	Module	M	T	W	Th	F	S	Sa	Su	Total	Start Date	End Date	% Compl	Remarks	Approv
	20120137	QA of the component	NG	COM	0	0	0	0	0	0	0	0	0			00		
	20120140	QA of Page	NG	COM	0	0	0	0	0	0	0	0	0			00		

Save



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Project Management with IPMS

Initiating

Planning

Monitoring &
Control

- Verification and Validation
- Quality Assurance - Internal and External Review
- Review and Log Defects
- Perform Defect Casual Analysis, Resolution, Closure and Verification
- Final Inspection
- Generate metrics on quality reviews, defects, effort, cost and schedule

Task Details

General

Phase Name :

Task Id : Task Name :

Item Code : Item Version :

Module Code : V & V Type :

Task Category : Task Cost Driver :

Schedule

Planned Start Date : Planned End Date : Planned Effort (ph) :

Actual Start Date : Actual End Date : Actual Effort Spent (ph) :

Percentage Completion : Sum of Sub-Task's Planned Effort (ph) : Remaining Effort (ph) :

Review Related Information

Review Objective : Review Scope :

Status

☒ Open ☐ Close



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Benefits of using Technology as an 'Enabler'

Outcome

- Simplification of processes
- Reduction in project management effort
- Consistency of process implementation
- Enforcement of processes
- Easier collection and retrieval of project data
- Data consistency
- Easier Data analysis



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Acknowledgement

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Question and Answers

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