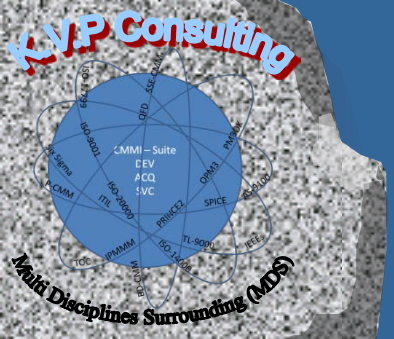
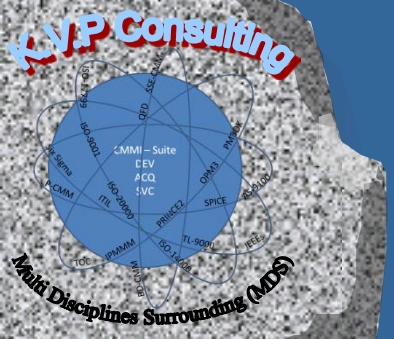
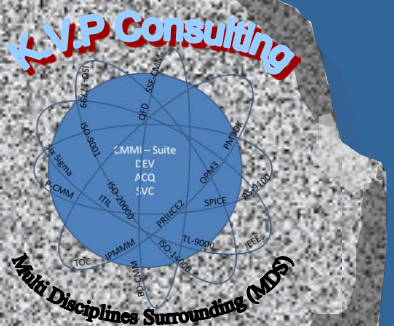


Interpretation and lesson learned from High Maturity Implementation of CMMI-SVC



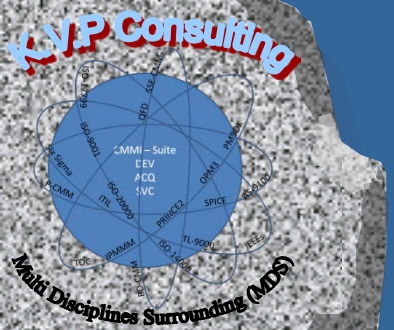
Agenda and Topics

- Opening
- Recap High Maturity Process Areas
- Main Questions for High Maturity Process Improvement
- Pilot Lessoned Learned



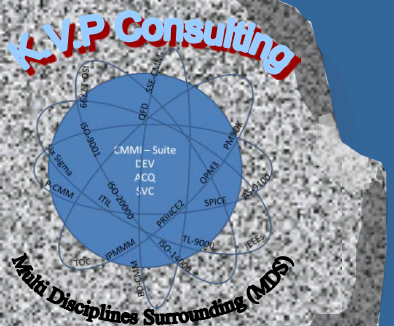
Opening

- Typically when one read the CMMI-SVC he may think on the classic service provider organization
- The model provides guidance for the application of CMMI best practices by the service provider organization.
- Best practices in the model focus on activities for providing quality services to the customer and end users.
- We will present through our lessons learned from large organization that dealing with parts of a system life cycle how to use CMMI-SVC as the leading guidance
- Since in this kind of complicated environment '**everything is a service**' and therefore the CMMI-SVC is the natural leader



CMMI ML 4 & 5 PAs Recap

- Organizational Process Performance
- Quantitative Project Management
- Causal Analysis and Resolution
- Organizational Innovation and Deployment

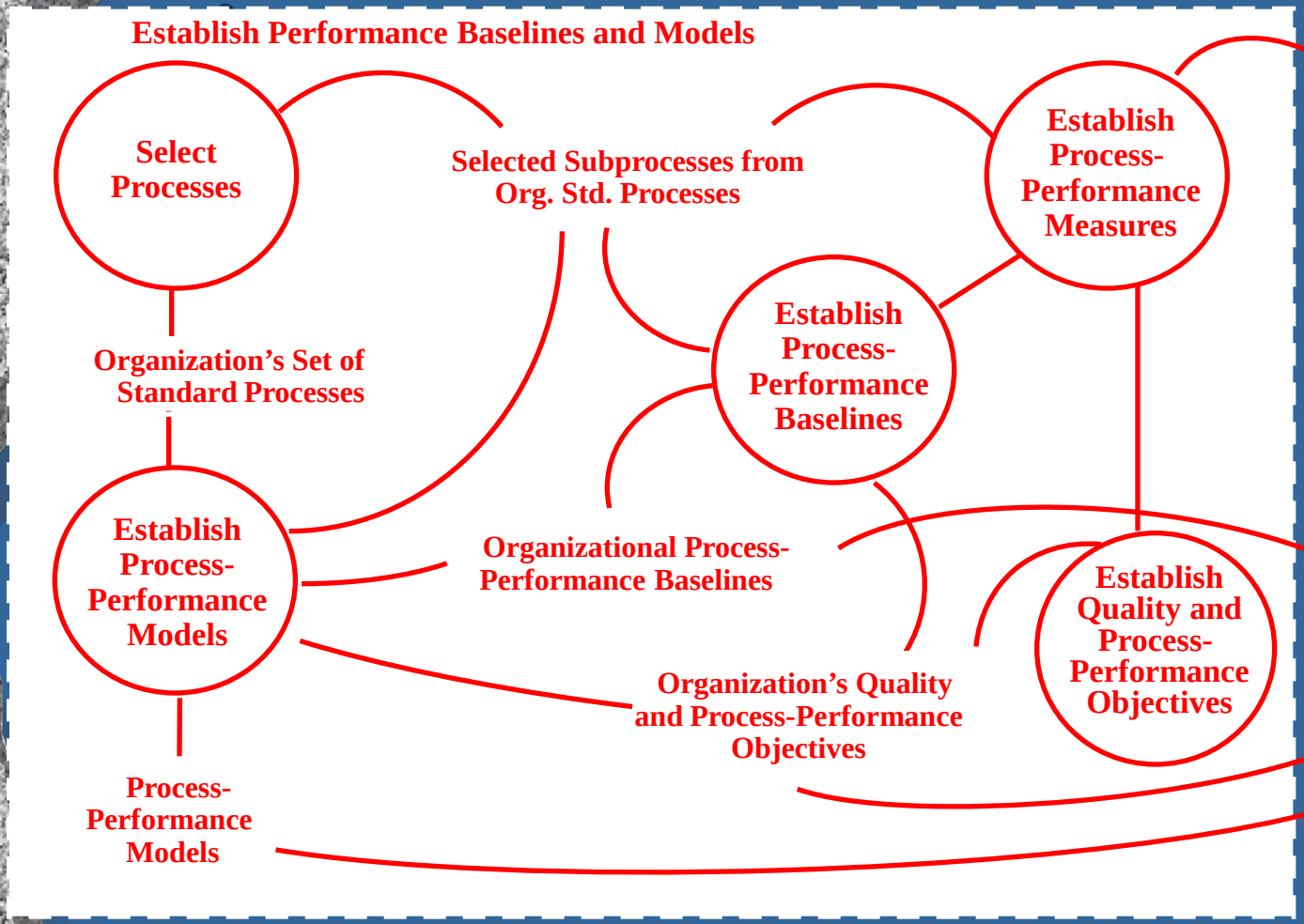


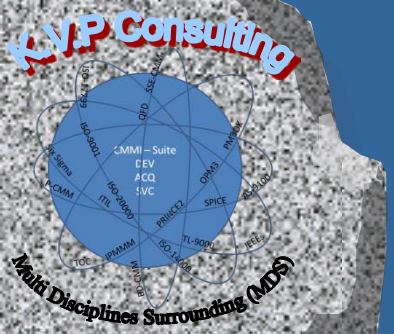
Specific Practices of OPP

SG 1 Establish Performance Baselines and Models

- SP 1.1 Select Processes
- SP 1.2 Establish Process-Performance Measures
- SP 1.3 Establish Quality and Process-Performance Objectives
- SP 1.4 Establish Process-Performance Baselines
- SP 1.5 Establish Process-Performance Models

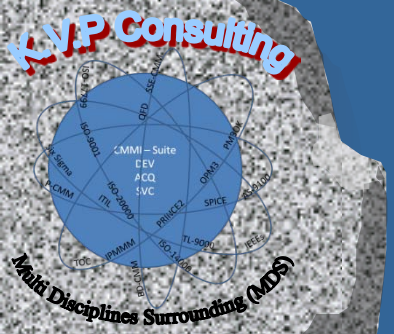
Organizational Process Performance Context





OPP Summary

- The first three SPs establish processes (subprocesses), measures, and objectives at the organization level that focus and align the quantitative management activities of projects (QPM) with the business objectives of the organization.
- The last two SPs take the actual results obtained from projects to create baselines and models that enable the next project to predict what performance to expect from selecting certain subprocesses for its use, and thereby assess its ability to meet its objectives.



Specific Practices of QPM

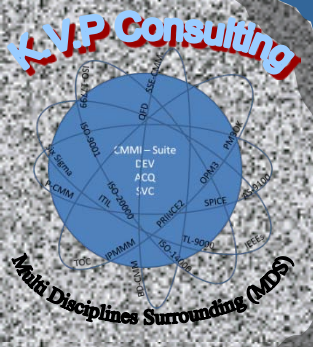
SG 1 Quantitatively Manage the Project

- SP 1.1 Establish the Project's Objectives
- SP 1.2 Compose the Defined Process
- SP 1.3 Select the Subprocesses That Will Be Statistically Managed
- SP 1.4 Manage Project Performance

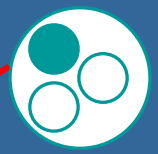
SG 2 Statistically Manage Subprocess Performance

- SP 2.1 Select Measures and Analytic Techniques
- SP 2.2 Apply Statistical Methods to Understand Variation
- SP 2.3 Monitor Performance of the Selected Subprocesses
- SP 2.4 Record Statistical Management Data

Quantitative Project Management Context



OPP

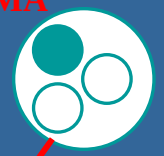


IPM

Quantitatively Manage the Project

- Establish Project's Objectives
- Project's Quality and Process-Performance Objectives
- Compose the Defined Process
- Remedial Actions
- Manage Project Performance
- Select the Subprocesses that Will Be Statistically Managed

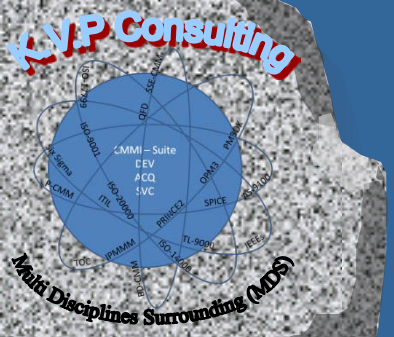
- Predictions of Quality and Process Performance
- Organization's Measurement Repository
- Selected Subprocesses



MA

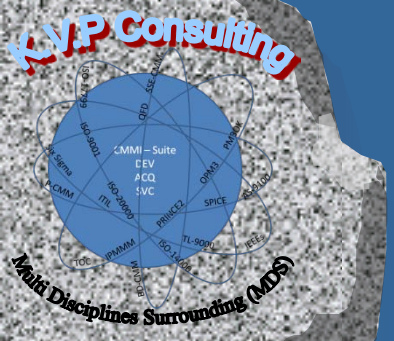
Statistically Manage Subprocess Performance

- Subprocess Capability
- Record Statistical Management Data
- Monitor Performance of the Selected Sub-processes
- Apply Statistical Methods to Understand Variation
- Select Measures and Analytic Techniques



QPM Summary

- QPM involves both quantitative and statistical management. The project
  - establishes quantitative objectives based on the organization's business objectives and needs of the customer
  - composes a defined process based on historical capability data that will help it meet those objectives
  - monitors the project quantitatively to assess whether the project is on course to achieve its objectives.
- For each subprocess to be statistically managed,
  - objectives are established for its process performance
  - its variation is understood (subprocess is stable)
  - when the subprocess fails to achieve its objectives, corrective action is taken



Specific Practices of CAR

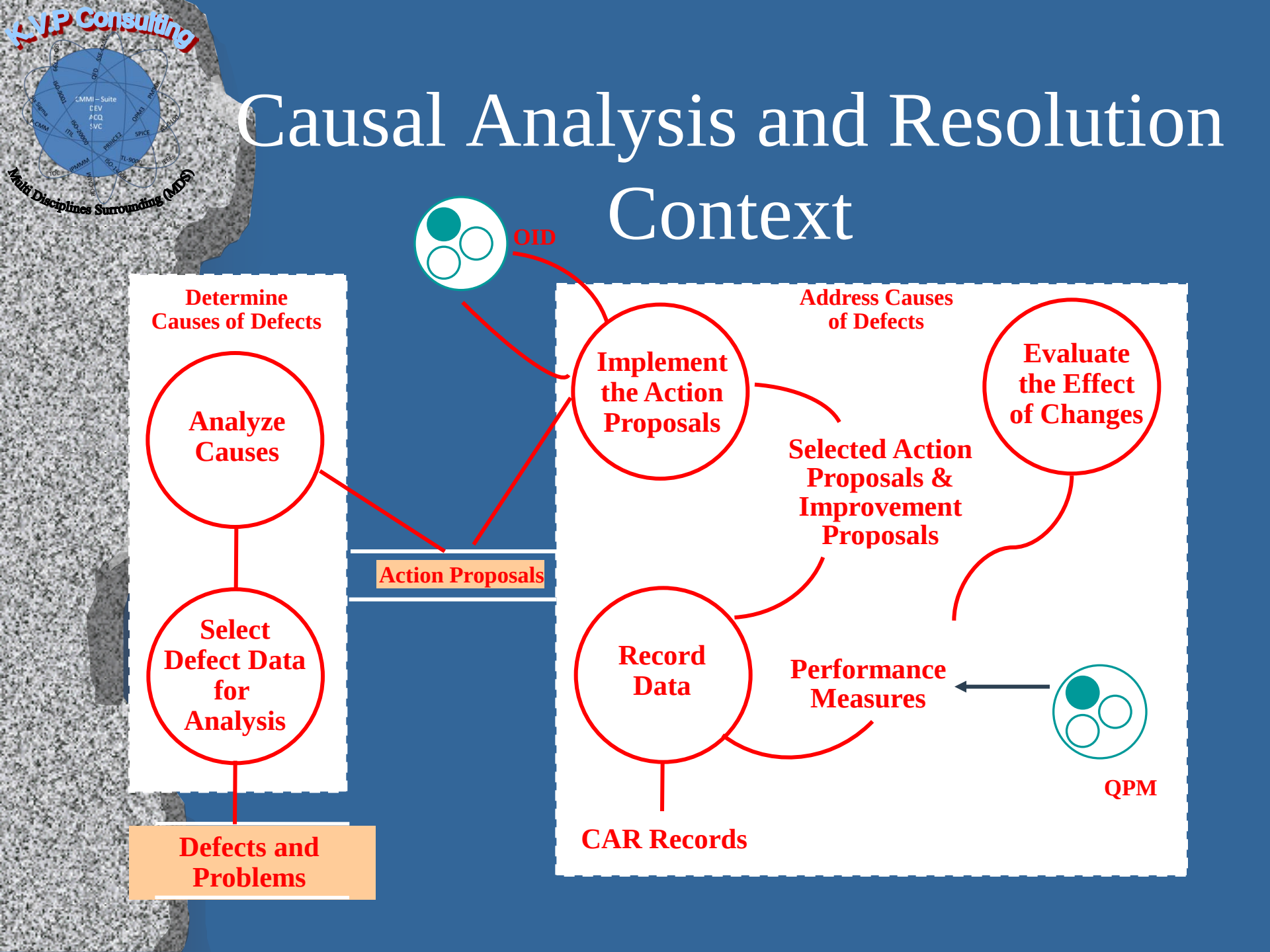
SG 1 Determine Causes of Defects

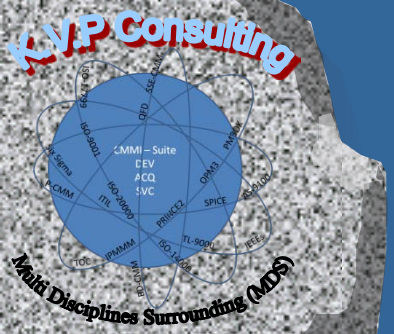
- SP 1.1 Select Defect Data for Analysis
- SP 1.2 Analyze Causes

SG 2 Address Causes of Defects

- SP 2.1 Implement the Action Proposals
- SP 2.2 Evaluate the Effect of Changes
- SP 3.2 Record Data

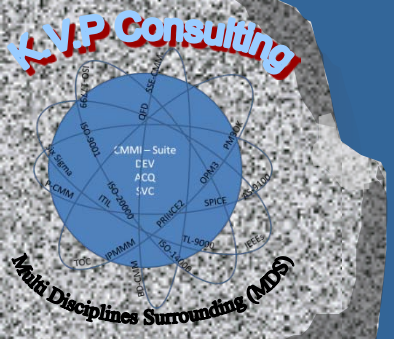
Causal Analysis and Resolution Context





CAR Summary

- CAR has its greatest value when performed in the context of a quantitatively managed process.
- CAR involves
  - a selection of defects or problems whose resolution would benefit the organization
  - a root cause analysis
  - development and implementation of an action plan to remove the root causes of the defects or problems



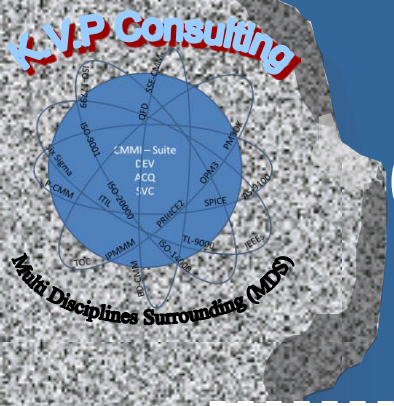
Specific Practices of OID

SG 1 Select Improvements

- SP 1.1 Collect and Analyze Improvement Proposals
- SP 1.2 Identify and Analyze Innovations
- SP 1.3 Pilot Improvements
- SP 1.4 Select Improvements for Deployment

SG 2 Deploy Improvements

- SP 2.1 Plan the Deployment
- SP 2.2 Manage the Deployment
- SP 2.3 Measure Improvement Effects



Organizational Innovation and Deployment Context

Select Improvements

OPF

Collect and Analyze Improvement Proposals

Identify and Analyze Innovations

Pilot Improvements

Select Improvements for Deployment

Process and Technology Improvement Proposals

Candidate Innovative Improvements

Pilot Evaluation Reports Lessons Learned

Deploy Improvements

Measurement Results

Updated Training Materials

Deployment Plan

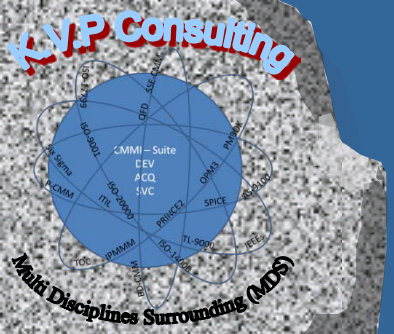
MA

Measure Improvement Effects

Updated Processes

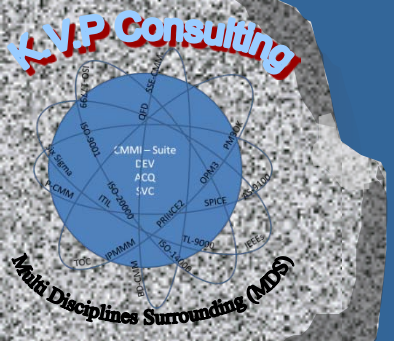
Manage the Deployment

Plan the Deployment

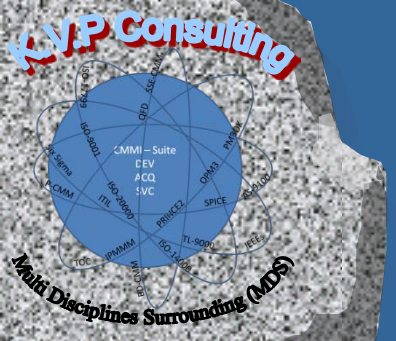


OID Summary

- OID uses the quantitative information developed at ML4 to identify, analyze, and select incremental and innovative improvements to the organization's processes and technologies.
- OID involves both incremental improvement (everyone in the organization is involved) and revolutionary improvements (outward looking and opportunistic) to targeted processes.
- Improvements are introduced systematically in the organization by conducting pilots, analyzing costs and benefits, and planning and managing deployment.
- OID embodies continuous improvement that results from implementing all the PAs in the model.



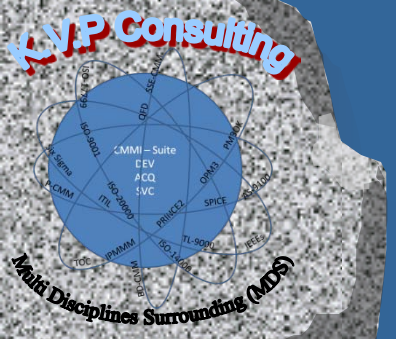
Main Steps for High Maturity Process Improvement



Main Steps for High Maturity Process Improvement

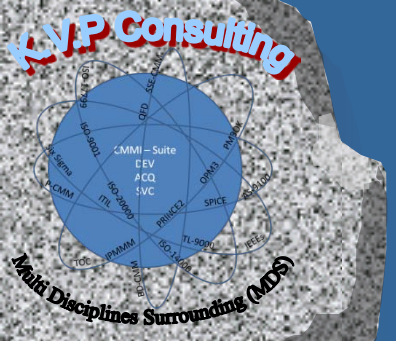
- During our analysis and planning, we were able to identify improvement targets in main lifecycle areas such as
  - operations,
  - information,
  - governance,
  - people
  - organizational structure,
  - portfolios,
  - project execution,
  - finance.
- And as in core process that are critical to the system success such as stakeholder management, technical interfaces and integration.

Main Steps for High Maturity Process Improvement



As the result of this observation we have built an action plan,

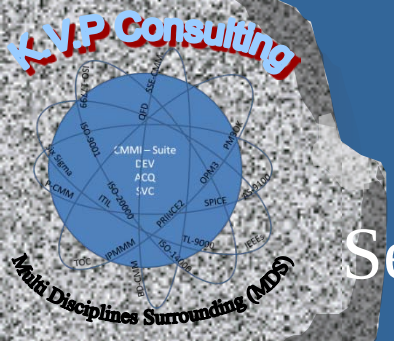
- Our first step was to suggest to the senior management to address the lifecycle and process (as a whole) as a complex of crossing services
  - To add additional content to the lifecycle map (as a layer)
  - To add content in the guideline that will define the different interactions as services.



Main Steps for High Maturity Process Improvement

As the result of this observation we have built an action plan,

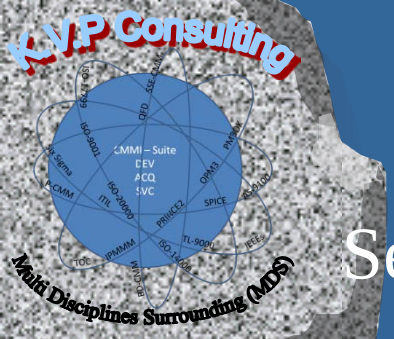
- Then in the second step we have built a services roadmap using the CMMI-SVC, that allow companies to begin the improvement journey, and manage the transformation to maturity by building on each successive step, and ultimately delivering the benefits expected:
  - service reuse,
  - improved perception
  - response time,
  - interoperability,
  - business agility.
- Service performance and its impact on the organization governance is a significant part of that journey



Case Study

Service level management for Incident and Problem Management

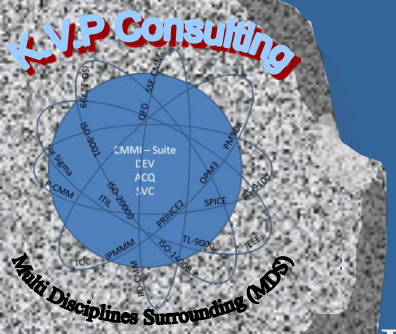
- The service provider provides a large number of services to its customers, which are mainly departments from a sibling organization.
- To manage the communication with customers regarding those services, the department has implemented helpdesk management and problem management processes.
- The implementation of these processes has been based on the CMMI-SVC with elements of other CMMIs (for the organization maturity) and ITIL (for the individuals' education).



Case Study

Service level management for Incident and Problem Management

- Help Desk Management is used to guarantee the continuity of services, while Problem Management is used to improve the level of service in the future. So, Help Desk Management deals with *incidents*, whereas Problem Management is concerned with solving the *problems* that cause these incidents.
- The goal of this case study was to assess the quality and performance of the Problem Management process.

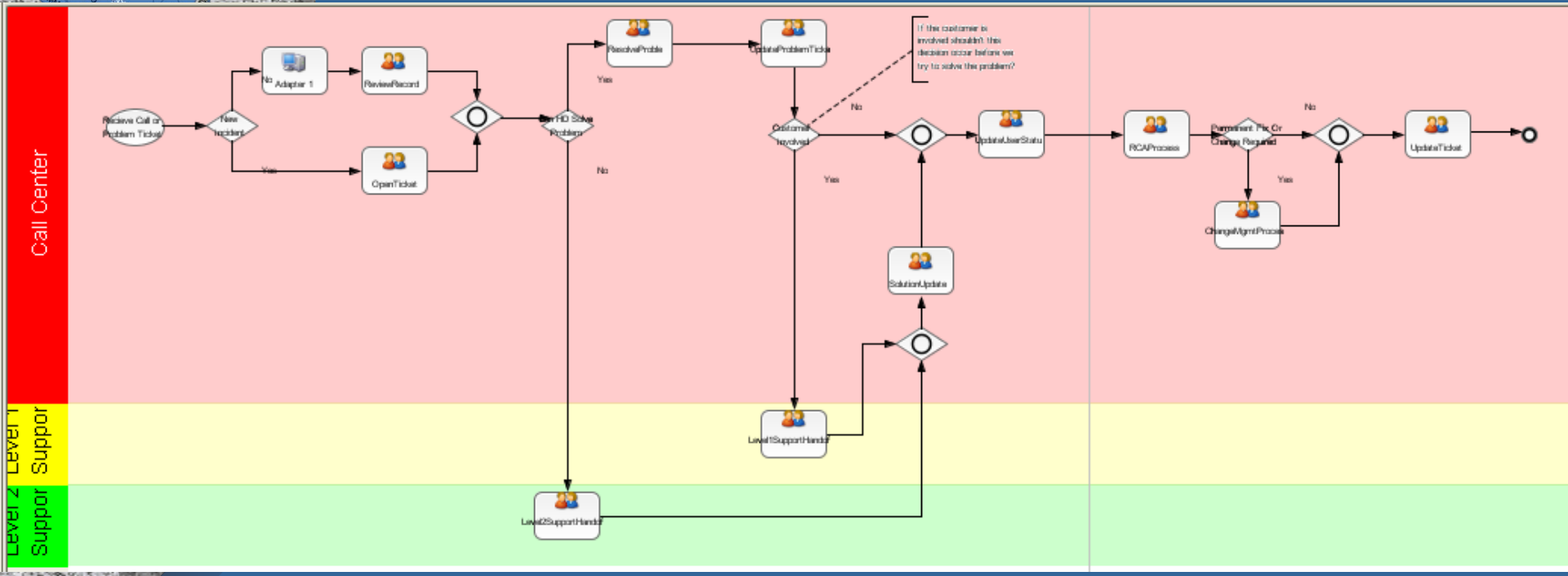


Case Study

Service level management for Incident and Problem Management

- It soon became apparent that the organization was not able to execute the Problem Management process properly,
- Because the Help Desk Management process did not result in the necessary data needed to adequately analyze and solve problems.
  - For example, many incidents were not classified in the right incident code, or not classified at all.
  - This resulted in a low validity of the incident database: it was estimated that more than 30% of the incidents were coded incorrectly.
  - Therefore, it was not possible to understand the range of results from these subprocesses.
  - It was found necessary to first implement a clear and consistent registration of the incidents that occur during service delivery, before attempting to improve the problem management process.

Case Study



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ScheduledDate	Date	Scheduled date	✓	
Attachments	Document	Attachments	✓	
CustomerConta...	String	Customer conta...	✓	
CustomerName	String	Customer name	✓	
Description	String	Description	✓	
EstimatedDurat...	String	Estimated durat...	✓	
Installation	String	Installation	✓	
Skid	String	Skid	✓	
TicketPriority	String	Ticket priority	✓	

Dataslots

Name: OpenTicket

General | Fields | Simulation

Scenario: (default)

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Randomize duration using: Normal Distribution (StDev=(none))

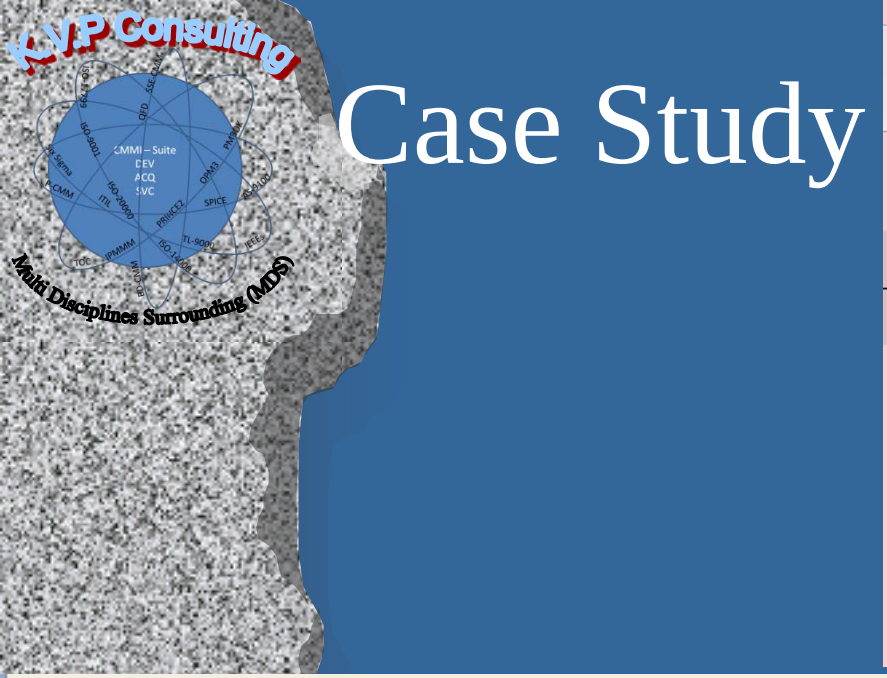
Resources

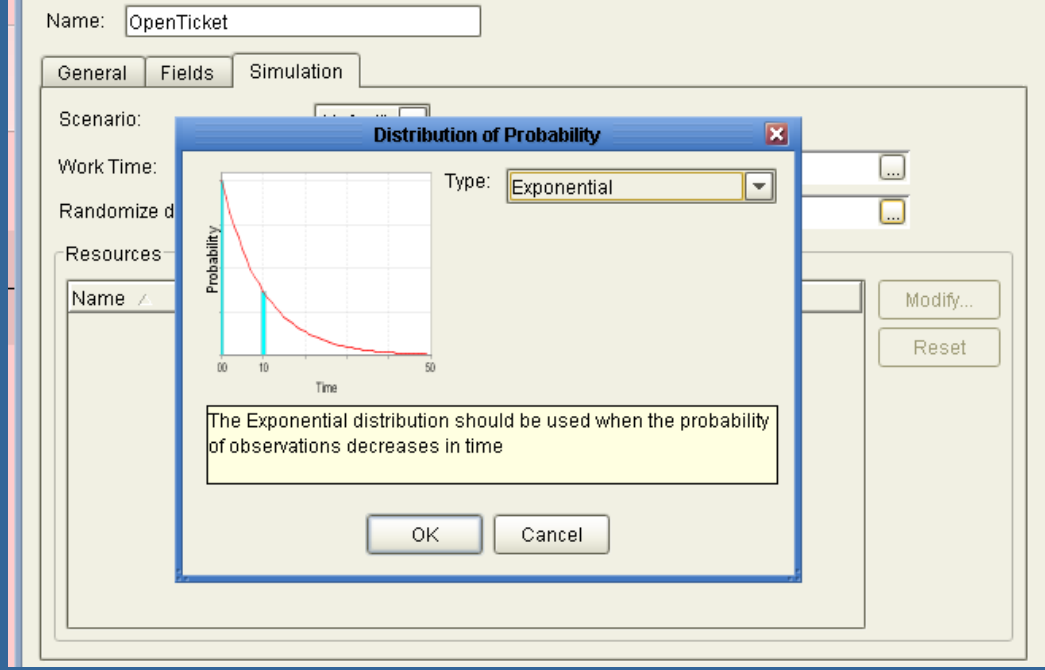
Name	Value	Unit	Cost per unit	Threshold

Modify... Reset

OK Cancel Help

Case Study


V.P Consulting
CMMI – Suite
DEV
ACQ
SVC
Multi Disciplines Surrounding (MDS)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Scenario:
Work Time:
Randomize d
Resources
Name
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Reset
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Probability
Time
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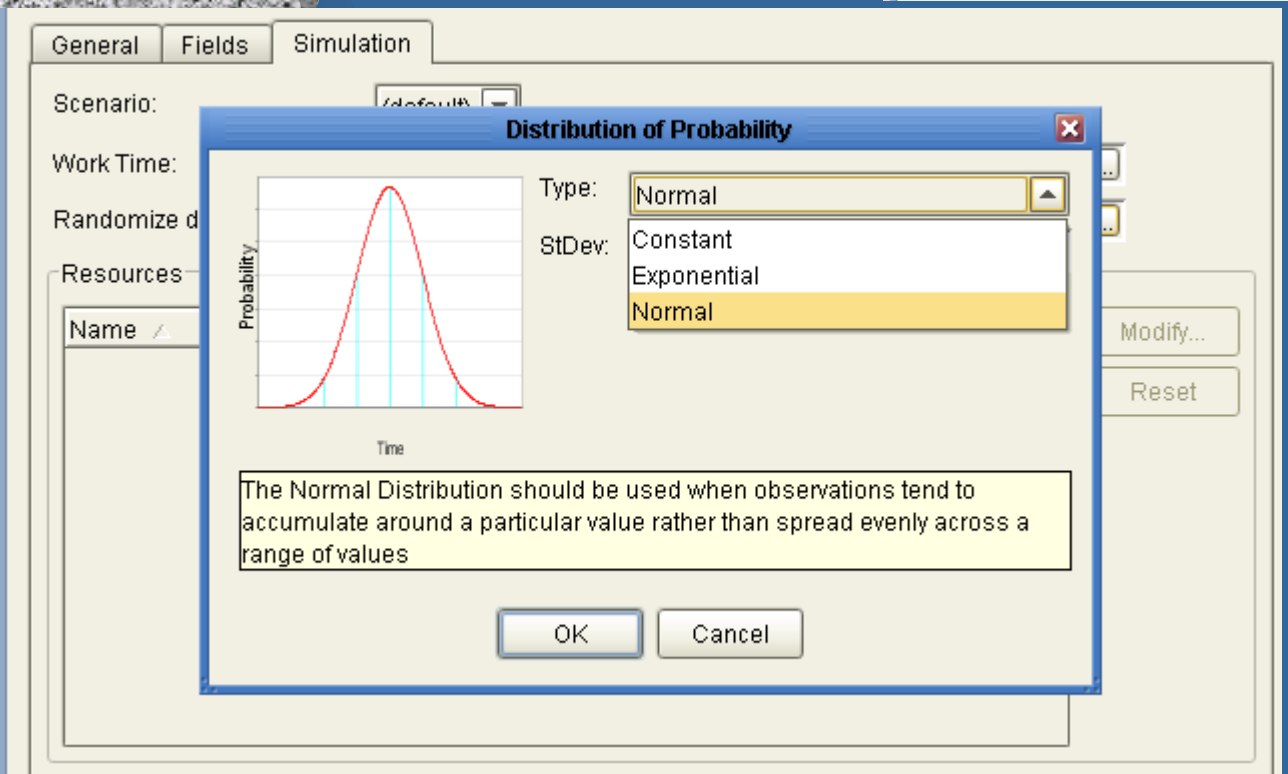
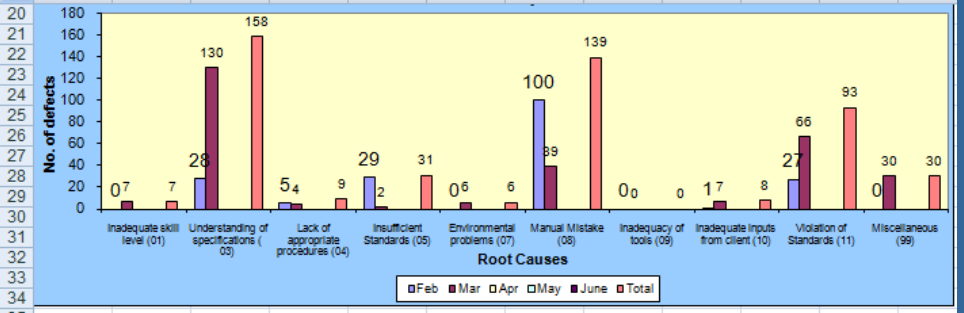
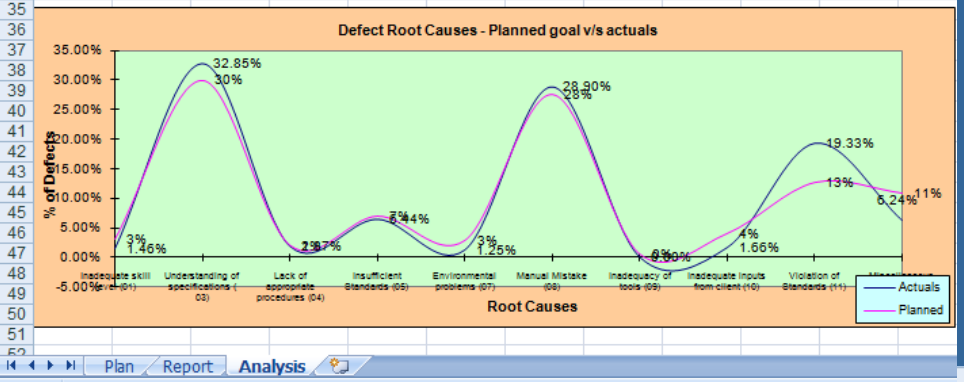
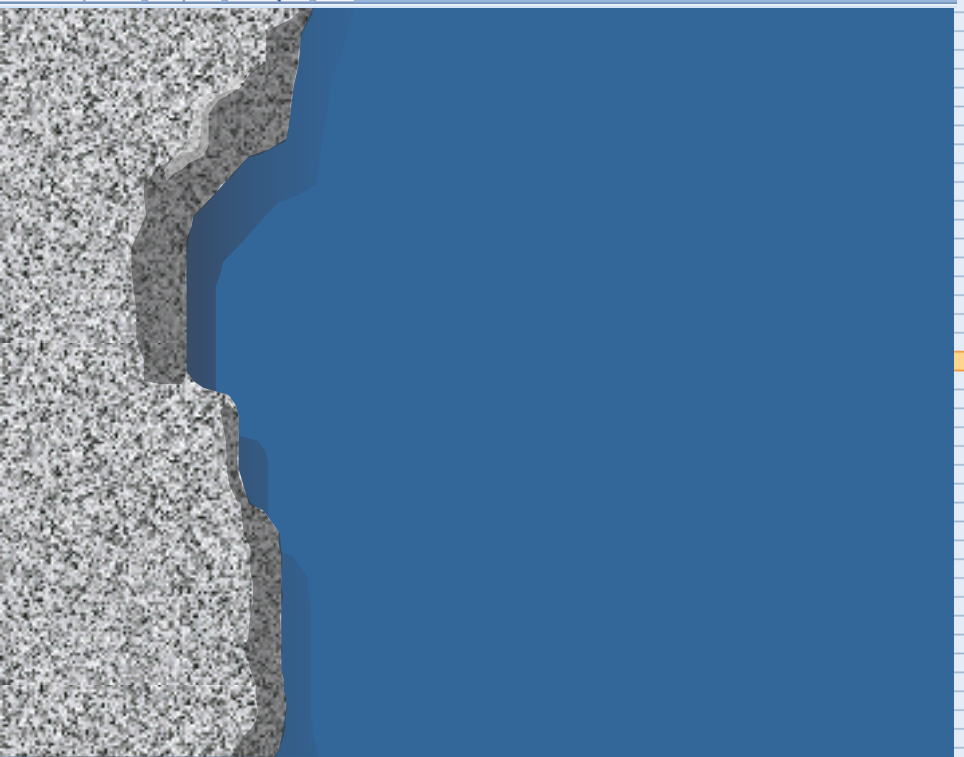
Cancel

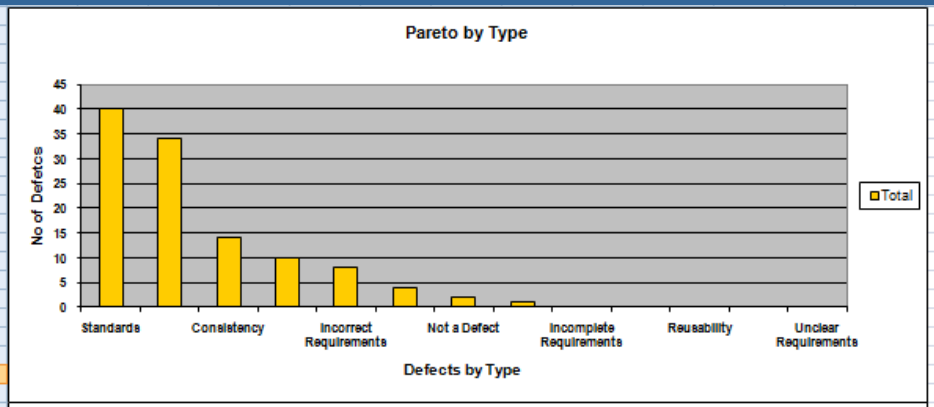

General
Fields
Simulation
Scenario:
Work Time:
Randomize d
Resources
Name
Modify...
Reset
Distribution of Probability
Type: Normal
StDev:
Constant
Exponential
Normal
Probability
Time
The Normal Distribution should be used when observations tend to accumulate around a particular value rather than spread evenly across a range of values
OK
Cancel

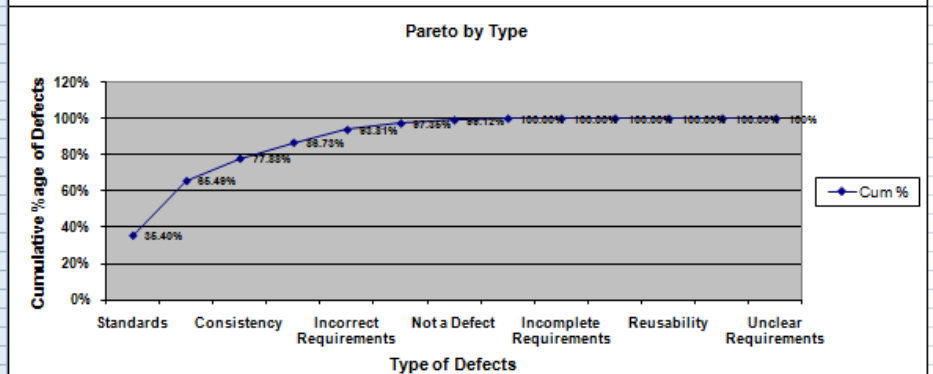
Case Study

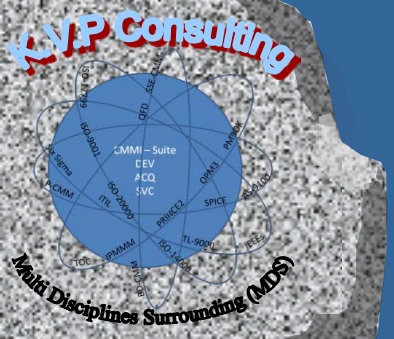

No. of defects
Inadequate skill level (01)
Understanding of specifications (03)
Lack of appropriate procedures (04)
Insufficient Standards (05)
Environmental problems (07)
Manual Mistake (08)
Inadequacy of tools (09)
Inadequate Inputs from client (10)
Violation of Standards (11)
Miscellaneous (99)
Root Causes
Feb
Mar
Apr
May
June
Total


Defect Root Causes - Planned goal v/s actuals
% of Defects
Root Causes
Actuals
Planned

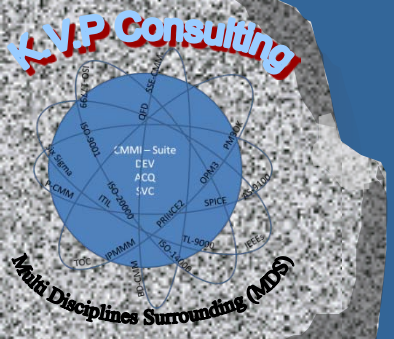



Pareto by Type
No of Defetcs
Standards
Consistency
Incorrect Requirements
Not a Defect
Incomplete Requirements
Reusability
Unclear Requirements
Defects by Type
Total


Pareto by Type
Cumulative %age of Defects
Standards
Consistency
Incorrect Requirements
Not a Defect
Incomplete Requirements
Reusability
Unclear Requirements
Type of Defects
Cum %

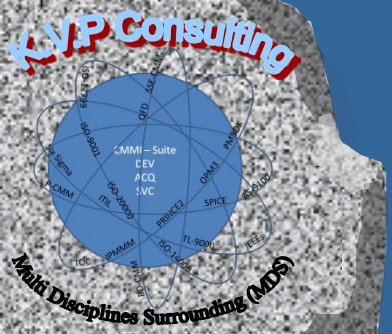


Pilot Lessoned Learned

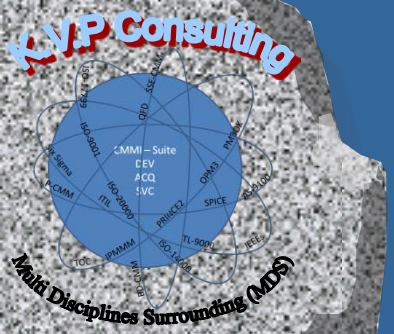


Pilot Lessoned Learned

- Foundations to implement ongoing business process evaluation and re-engineering
- Basics on collecting and analyzing business process-oriented real-time performance metrics
- How to identify what to improve and returns from continuous improvement
- Foundations to implement self-correcting business processes


V.P Consulting
CMMI – Suite
DEV
ACQ
SVC
Multi Disciplines Surrounding (MDS)

Questions ?



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