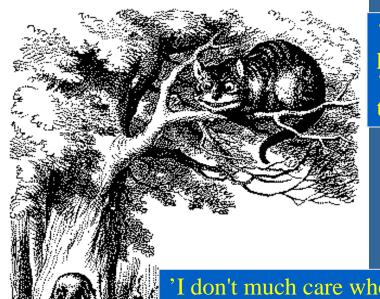


Why to Measure



'Cheshire Puss,' she began, ... 'Would you tell me, please, which way I ought to go from here?'

'That depends a good deal on where you want to get to,' said the Cat.

'I don't much care where –' said Alice.

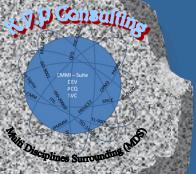
Then it doesn't matter which way you go,' said the Cat.

- so long as I get somewhere,' Alice added as an explanation.

'Oh, you're sure to do that,' said the Cat, 'if you only walk long enough.'

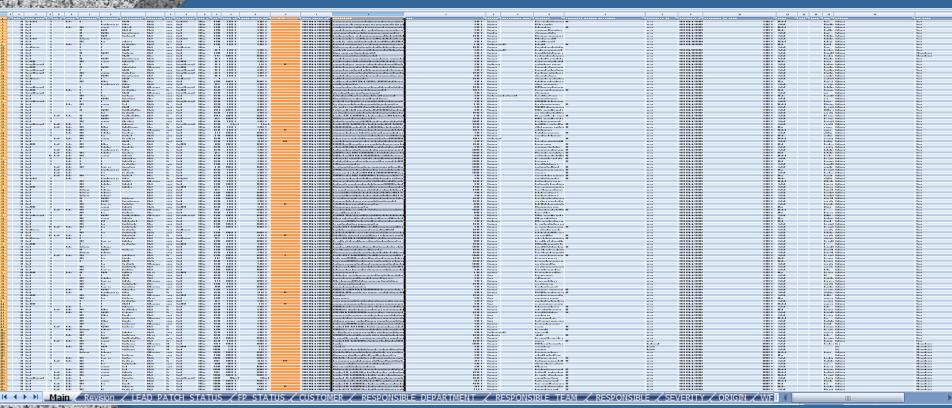


Tell me where you want to be and I will show (measure) you the way

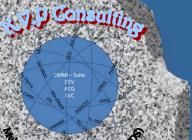


"which way I ought to go from here"

Bug Database



~33000 Records With 36 Attributes

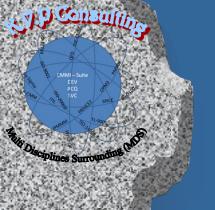


"which way I ought to go from here"

Call Center – Calls Database

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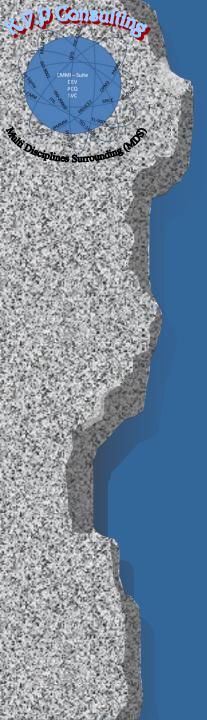
~45000 Records With 22 Attributes



"That depends a good deal on where you want to get to,' said the Cat."

'Immediate' Level Analysis

1		_		_		_			_		
50	Version View vs Other		Internal Status View vs Other		Company View vs Other		Call View vs Other	Priority View vs Other		View Cross vs. LC Record	Count of Call per View
3	Version vs OnAir		Internal Status vs OnAir		Company vs Status		Call vs Status	Priority vs Environment		Company & LC	Priority
	Version vs Sub Module		Internal Status vs TargetMil		Company vs Internal		Call vs Internal Status	Priority vs Status		Priority & LC	Company
	<u>Version vs Status</u>		Internal Status vs Sub		Company vs OnAir		Call vs Company	Priority vs Internal Status		Type of Call & LC	Type of Call
	Version vs Internal		Status View vs Other		Company vs TargetMil		Call vs OnAir Module	Priority vs Company		Closed on Initial Call & LC	Closed on Initial Call
100	Version vs Call		Status vs OnAir		Company vs Sub Module		Call vs Target Mileston	Priority vs OnAir Module		Status & LC	<u>Environment</u>
	Version vs Company		Status vs TargetMil				Call vs Environment	Priority vs Target Milestone		Internal Status & LC	<u>Status</u>
		1	Status vs Sub Module		Environment View vs Other Environment vs Status		Call vs Sub Module	Priority vs Sub Module		Environment & LC	Internal Status
3	Sub vs TargetMi				Environment vs Internal			Priority vs Call		Version & LC	<u>Version</u>
		1			Environment vs Company					GoLive Target & LC	GoLive Target
	OnAir Module View vs Other OnAir vs TargetMi				Environment vs OnAir					Target Milestone & LC	OnAir Module
	OnAir vs Sub				Environment vs TargetMil					Sub Module & LC	Target Milestone
F 60 3					Environment vs Sub Module					OnAir Module & LC	Sub Module
100											



Utilizing Project Current Data for Better Management Decisions

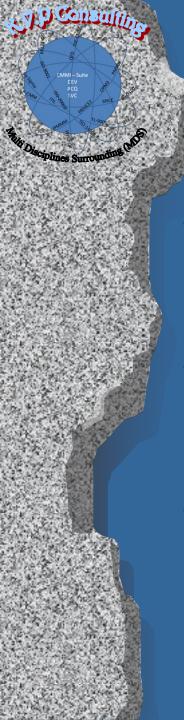
Increasing Project Data Usability
Real Life Case Study



Disclaimer

We have based the presentation content on the current program raw data, therefore presentation accuracy or level details presented may impacted by it

• In some cases we guesstemate on data or some of its segments

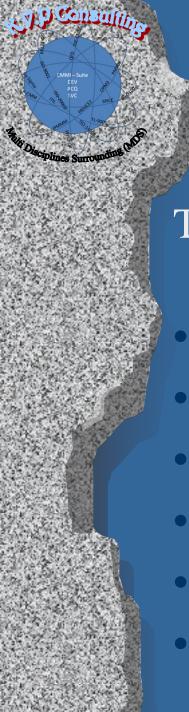


Unit Improvement Objectives

 Improve communication among the different stakeholders

 Increase system interfaces management and control efficiency

 To increase insight to effort deviation for better planning



Presentation Objectives

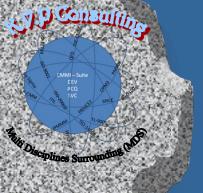
To give the program and the division ideas, how to:

- Increase product / deliverable quality
- Reduce project lifecycle duration
- Reduce project cost
- Increase resource (human) utilization
- Increase processes efficiency
- Have better control on effort distribution

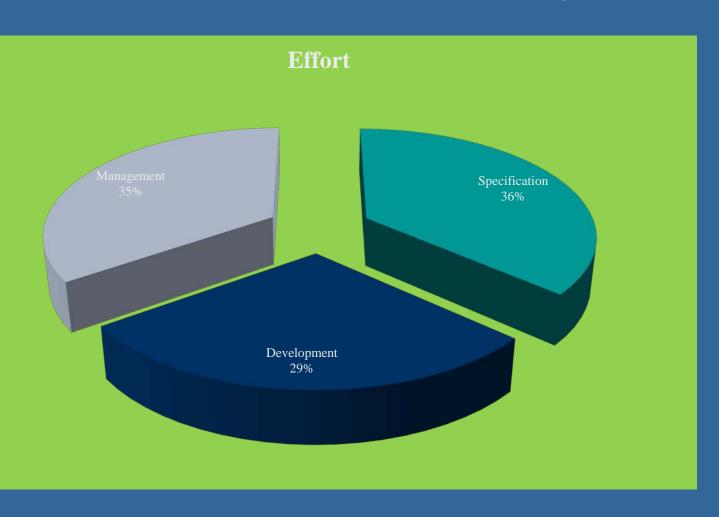


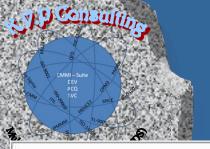
The Presentation Will Not

- Give you detailed root cause analysis
- Will not provide silver bullets
- Will not solve your tomorrow problems
 - But it is practical for next phase



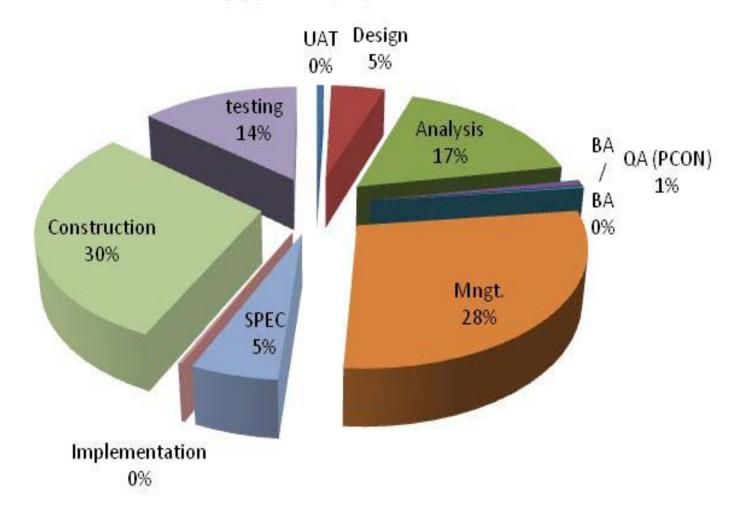
Initial Effort Planning



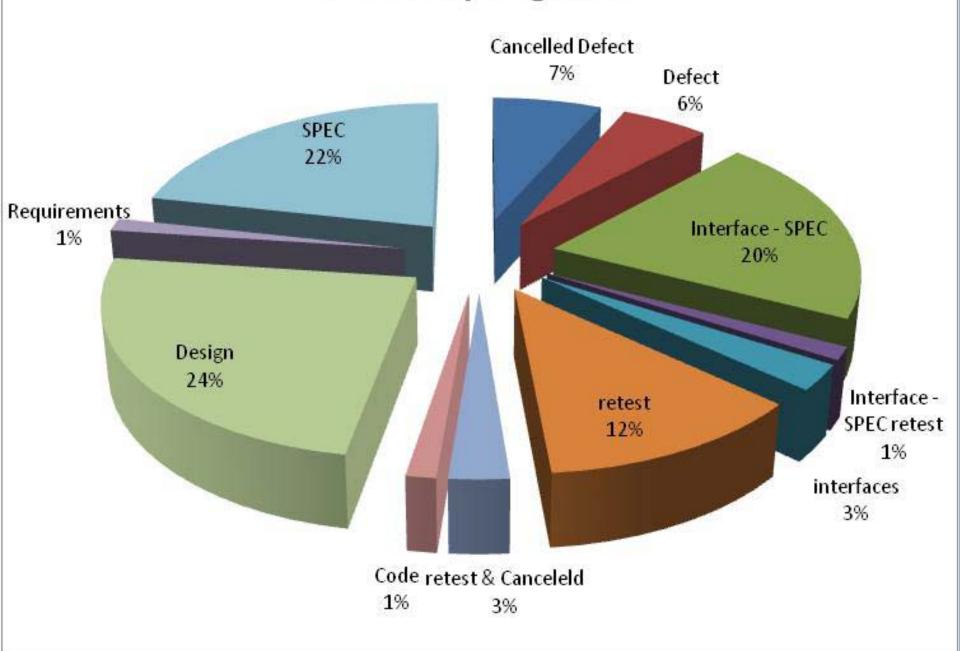


Current Effort Distribution For all Project Phases

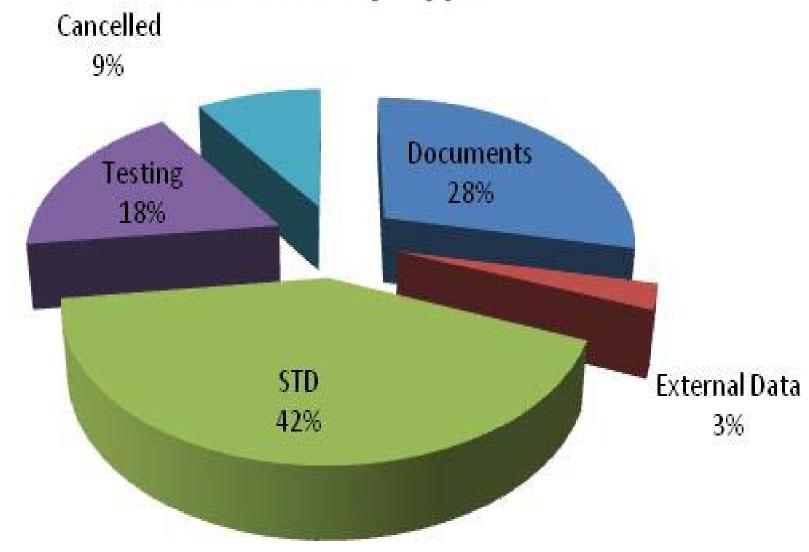
Total Effort

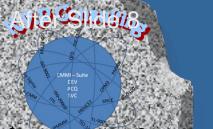


Defects by originator

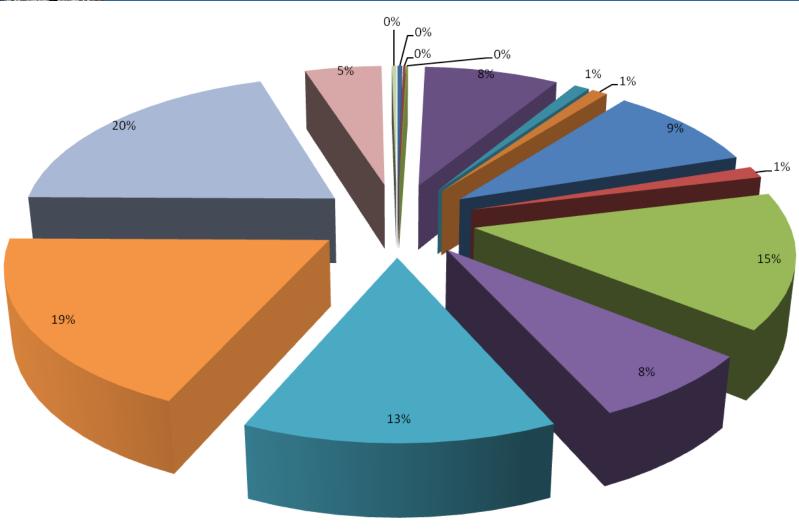


Defects by Type

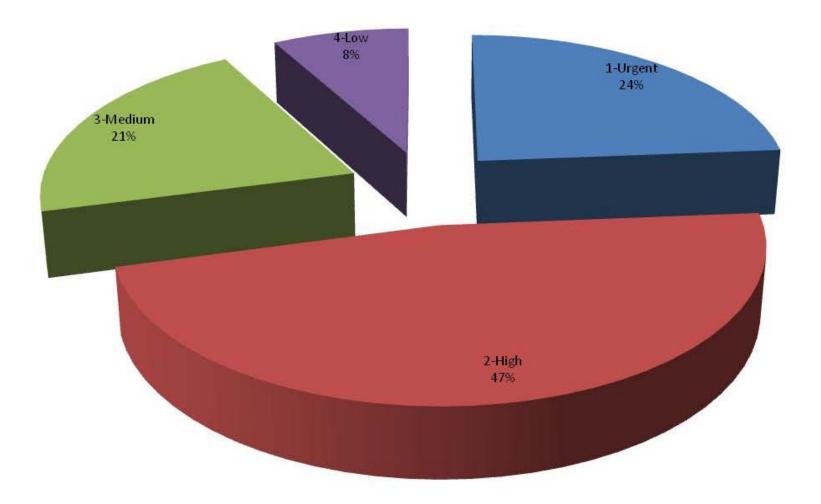




Program Modules

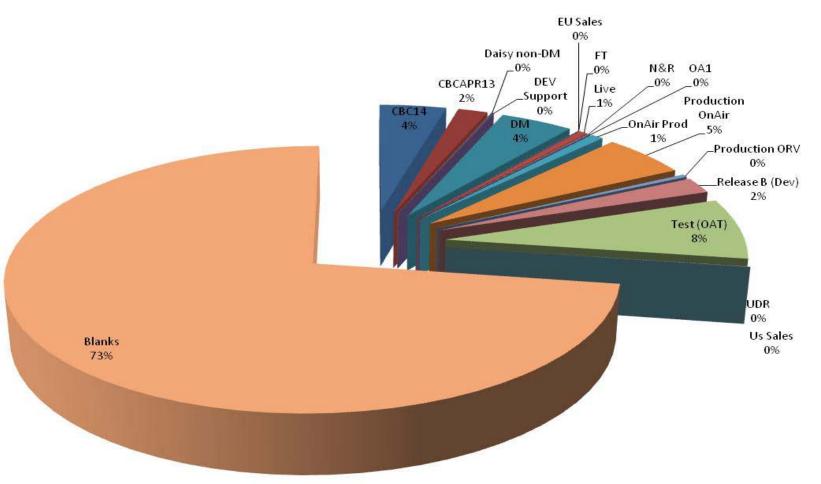


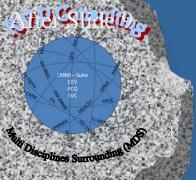




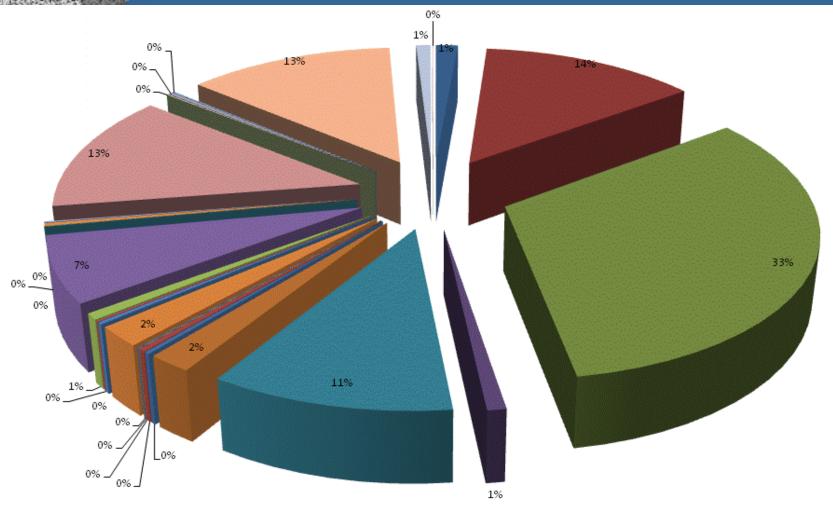


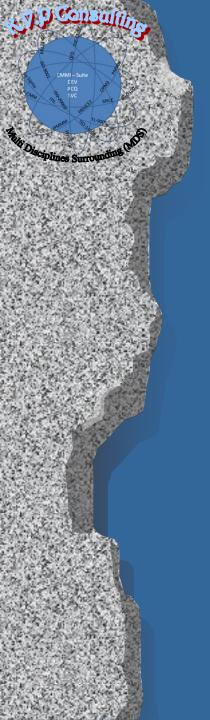
Environments





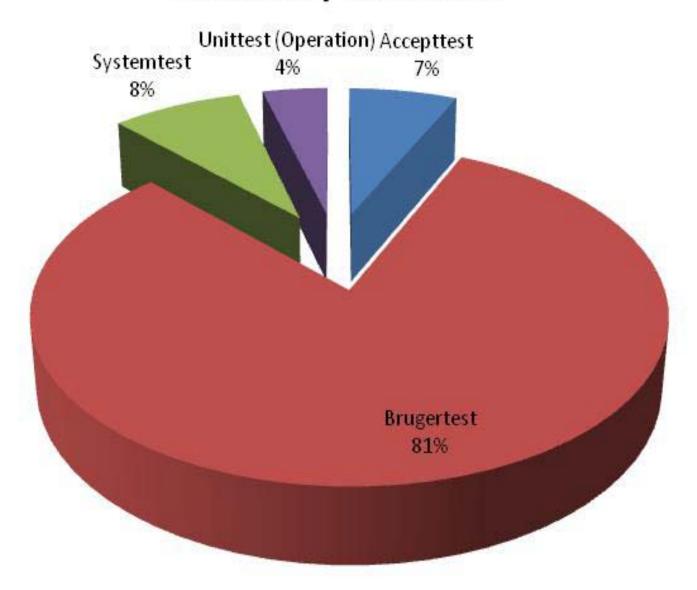
Clients

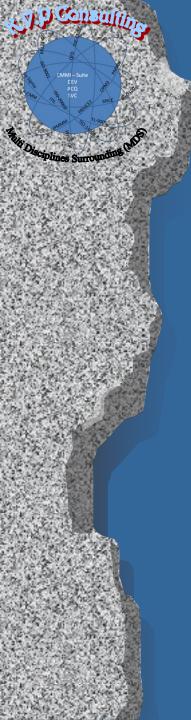




All	LC	%
71	40	56%
693	575	83%
1670	1572	94%
43	24	56%
547	455	83%
102	44	43%
12	1	8%
15	7	47%
1	0	0%
4	1	25%
1	1	100%
112	81	72%
13	6	46%
6	0	0%
36	20	56%
373	231	62%
2	0	0%
15	9	60%
7	4	57%
676	418	62%
5	5	100%
15	7	47%
5	4	80%
661	569	86%
46	34	74%
2	0	0%

Defects by Test Level

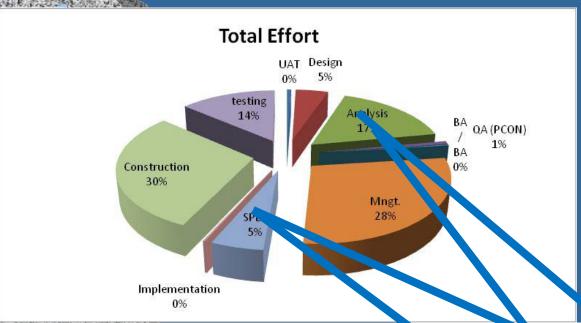


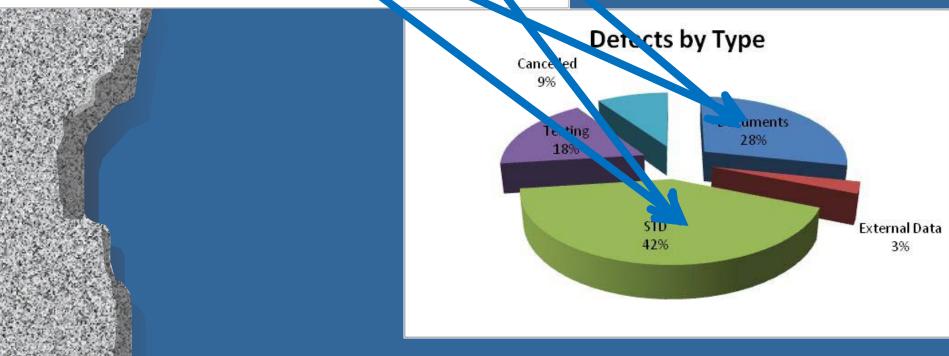


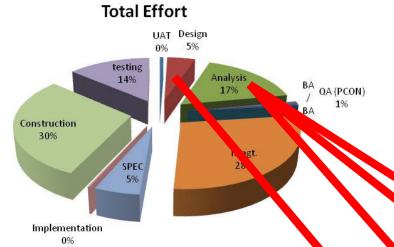
Let's Try Some Mix and Match

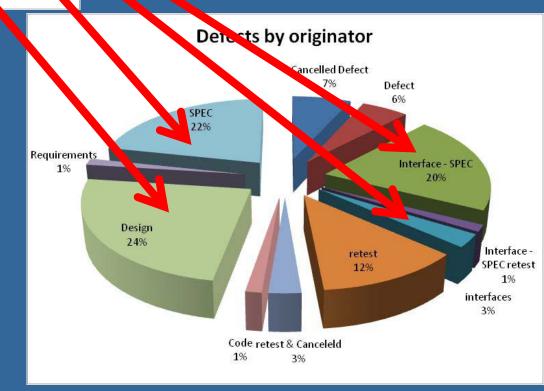
We Will Demonstrate How Relationships Between Measures Can Benefit the Organization for Better Planning and Management





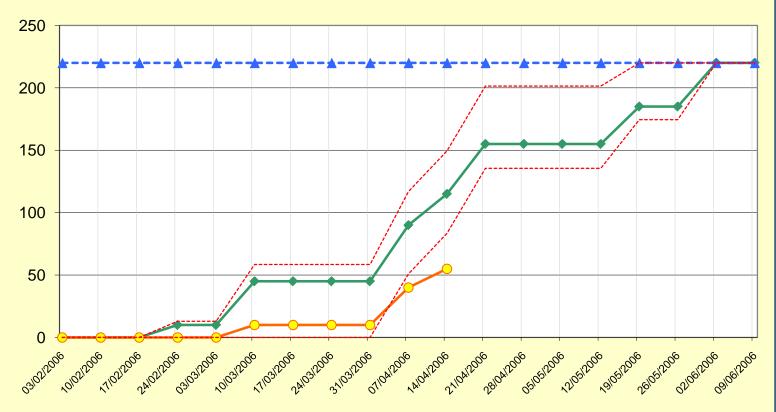




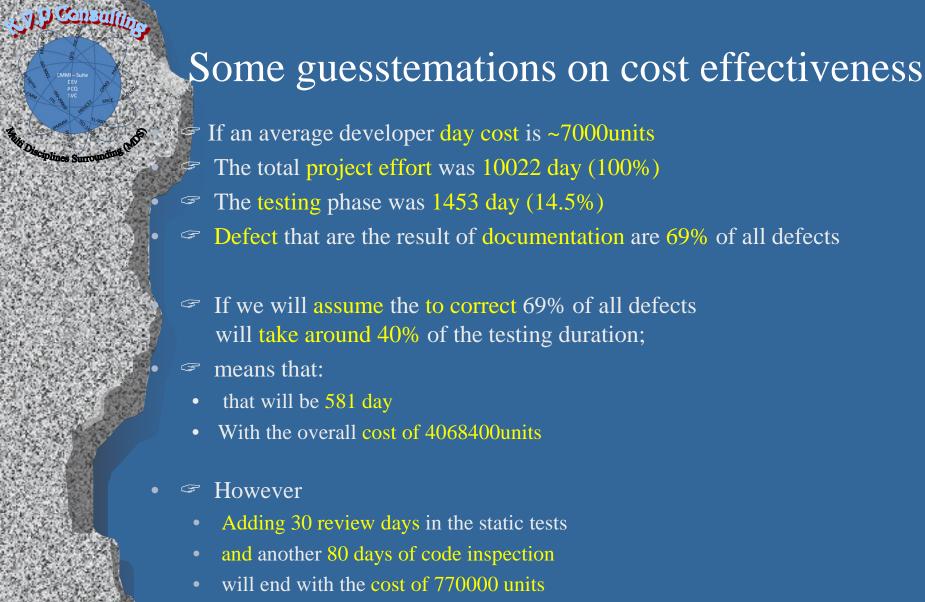


Points

Planned and Actual Completion

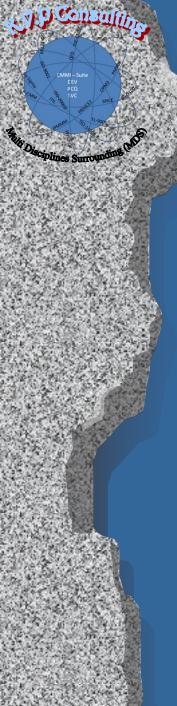


	02/03/	02/10/	02/17/	02/24/	03/03/	03/10/	03/17/	03/24/	03/31/	04/07/	04/14/	04/21/	04/28/	05/05/	05/12/	05/19/	05/26/	06/02/	06/09/
	06	06	06	06	06	06	06	06	06	06	06	06	06	06	06	06	06	06	06
Plan	0	0	0	10	10	45	45	45	45	90	115	155	155	155	155	185	185	220	220
	0	0	0	0	0	10	10	10	10	40	55								
Baseline	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220
Lower	0	0	0	0	0	0	0	0	0	51	84	136	136	136	136	175	175	220	220
Upper	0	0	0	13	13	59	59	59	59	117	150	202	202	202	202	220	220	220	220



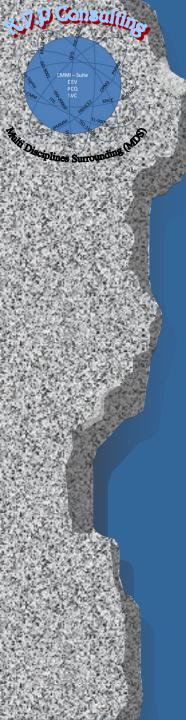
And still we have saved at least 9401000 units (1343 days)

Means that we ware able to reduce 13.04% of the project time



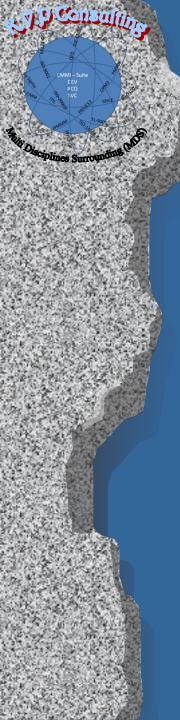
What Organizational Processes we have touch

- Tailoring
- Scope and Size
- Status meetings
- Static Tests
- Testing (planning and execution) all phases
- Lesson learned
- Process Improvement



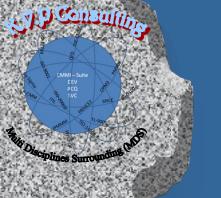
CMMI Effecting PA's

- Project Planning
- Project Monitor and Control
- Measurement and Analysis
- Validation
- Verification
- Requirements Development
- Technical Solution
- Product Integration
- Organizational Process Focus



Practical Improvements Suggestions

- Requirements Development
 - Writing
 - Verifying
 - Validating
- **Effort Distribution**
 - Overhead planning
 - Estimation models
 - Project control
 - Lessons learned
- Verification
 - Planning
 - Guidelines for conducting
 - Checklist
 - Results analysis
 - Efficient communication
 - Lessons learned and root causes



PHASE	PERCENT OF EFFORT
Requirements Evaluation Phase	8%
Project Planning Phase	3%
Analysis Phase	10%
Design Phase	20%
Construction Phase	32%
Test Phase	23%
Implementation Phase	1%
Customer Support Phase	2.5%
Completion Phase	.5%

Characteristic	Level	Weightage
Product complexity	High	1.15
Main storage constraints	High	1.06
Applications experience	Low	1.13
Programmer capability	Low	1.17
All other characteristic	Nominal	1.00
Effort Adjustment Factor	1.15 * 1.0	6 * 1.13 * 1.17 * 1.00 = 1.61

Activity	Small Project	Medium Project	Large Project
User Documentation	10	05	03
Project Management	25	15	10
Quality Assurance	15	10	10
User Training	10	07	02
Acceptance Testing	10	05	05
Performance Tuning	05	08	10
Totals (%age)	75	50	40

IMPERATIVE	OCCURRENCE
shall	0
must	46
is required to	0
are applicable	0
are to	0
responsible for	0
will	18
should	3
TOTAL	67

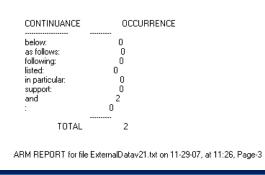
ARM REPORT for file ExternalDatav21.txt on 11-29-07, at 11:26, Page-2

NUN DEPTH	MBERING STRUC		SPEC DEPTH	FICATION STRUCTURE OCCURRENCE
	2201		40	
2	2201 81	2	49	
3	55	3	14	
4	54	4	2	
5	Ö	5	ō	
6	19	6	0	
7	0	7	0	
8	0	8	0	
9	0	9	0	
TOTAL	2410	т		67
TOTAL	2410	'	OTAL	67
1 ARM	1 REPORT for file	Externa	alDatav21.txt on	11-29-07, at 11:26, Page-8

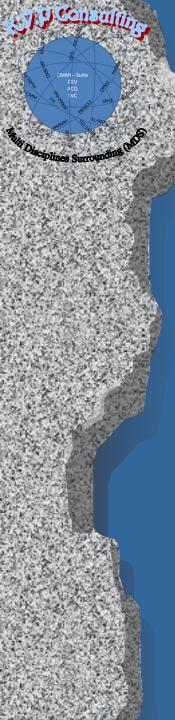
DIRECTIVE	OCCURRENCE
e.g. i.e. For example Figure Table Note:	0 1 0 0 0
TOTAL	1

ARM REPORT for file ExternalDatav21.txt on 11-29-07, at 11:26, Page-4

WEAK PHRASE	OCCURRENCE	
adequate	0	
as appropriate	0	
be able to	0	
be capable of	0	
capability of	Ō	
capability to	0	
effective	0_	
as required	0	
normal	0	
provide for timely	0	
easy to	n	
TOTAL	0	
ARM REPORT for file E:	xternalDatav21.txt on 11-29-07, at 11:26, Page-6	



ARM REPORT for file ExternalDatav21.txt on 11-29-07, at 11:26, Page-5



Practical Improvements Suggestions

Validation

- Planning
- Guidelines for conducting
- Checklist
- Results analysis
- Efficient communication
- Lessons learned and root causes

Measurements

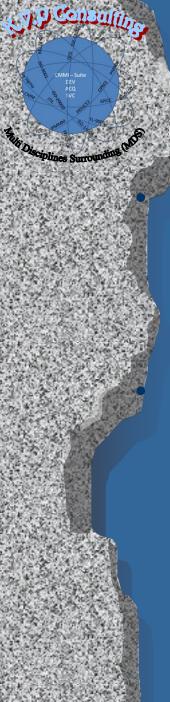
- Definition with direct line to business objectives
- Measurements structures, content and context
- Guidelines for collecting and 'work with'
- Checklist
- Results analysis
- Efficient communication
- Lessons learned and root causes

Control Measures

	Country of the Property of the Country of the Count		
ite	Computed Metric Name	Alias	Objective of Computed Metric
N.C.	⊟ACWP	L⊫LACTUAL C.OST OT WORK PERTORMED.	Identify the actual labor hours spent on the project to date.
1	⊟BAC	■ Budget at Completion	Identify the project's budget.
	⊟BCWP		Identify budgeted labor hours associated with the work that has been completed.

Performance Measures

VELLE - 23	Goal		Metric			frequency (dev)
できたがい	Improve productivity	How efficient are tests?	Testing efficiency	Defects detected through testing / hour of testing	DTS	Monthly
S. S. S. S.		How efficient are reviews?	Review efficiency	Defects detected through reviews / hour of review	DTS	Monthly
The state of the s		What is the productivity in fixed price projects?	Productivity	(Actual size of the product delivered to the customer / Actual effort spent to complete the project) in each technology platform	PINS (add size field)	End of the project
		How effective is best practices sharing?	KR artifact usage index	KR artifacts used / project	KR	Monthly
お なんない はって	Carried Co.		KR artifact contribution index	KR artifact added / project	KR	Monthly



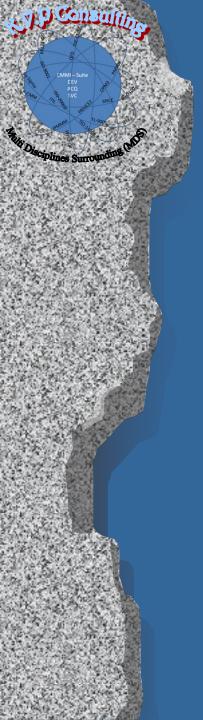
Practical Improvements Suggestions

Development & Interfaces Integration

- Improve content of guidelines in the different technical document to build more strong and clear descriptions
- Peer reviews
- 'Internal' documentation

Quality Assurance and Process Improvements

- Identify process goals and targets with direct line to business objectives
- Plan to process evaluation; including:
 - Guidelines for conducting
 - Checklist
 - Results analysis
 - Efficient communication
 - Lessons learned and root causes



Questions