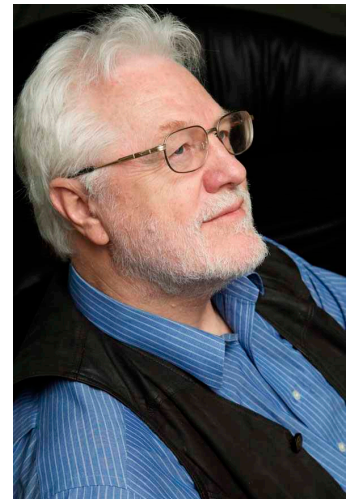# Results-driven Projects

Top level Critical Project Objectives:

How to quantify and control key objectives at all levels of the project.

Tom Gilb, Senior Partner, Result Planning, Norway·

ROOTS BERGEN Wednesday APRIL 30th 2008
08:30 to11:30 (3 Hours)

"Results-driven Projects"

- ! Speaker: **Tom Gilb**
- ! Subject: **Results-driven Projects**
- ! Event type: **Workshop 3**
- ! Interest field: **Both**
- ! Time: **08:30 - 11:30**
- ! Location: **BKS**
- ! Description: **Top Level Project Objectives: How to quantify and clarify the top level objectives for critical projects, so you can try to deliver what the stakeholders really want.**
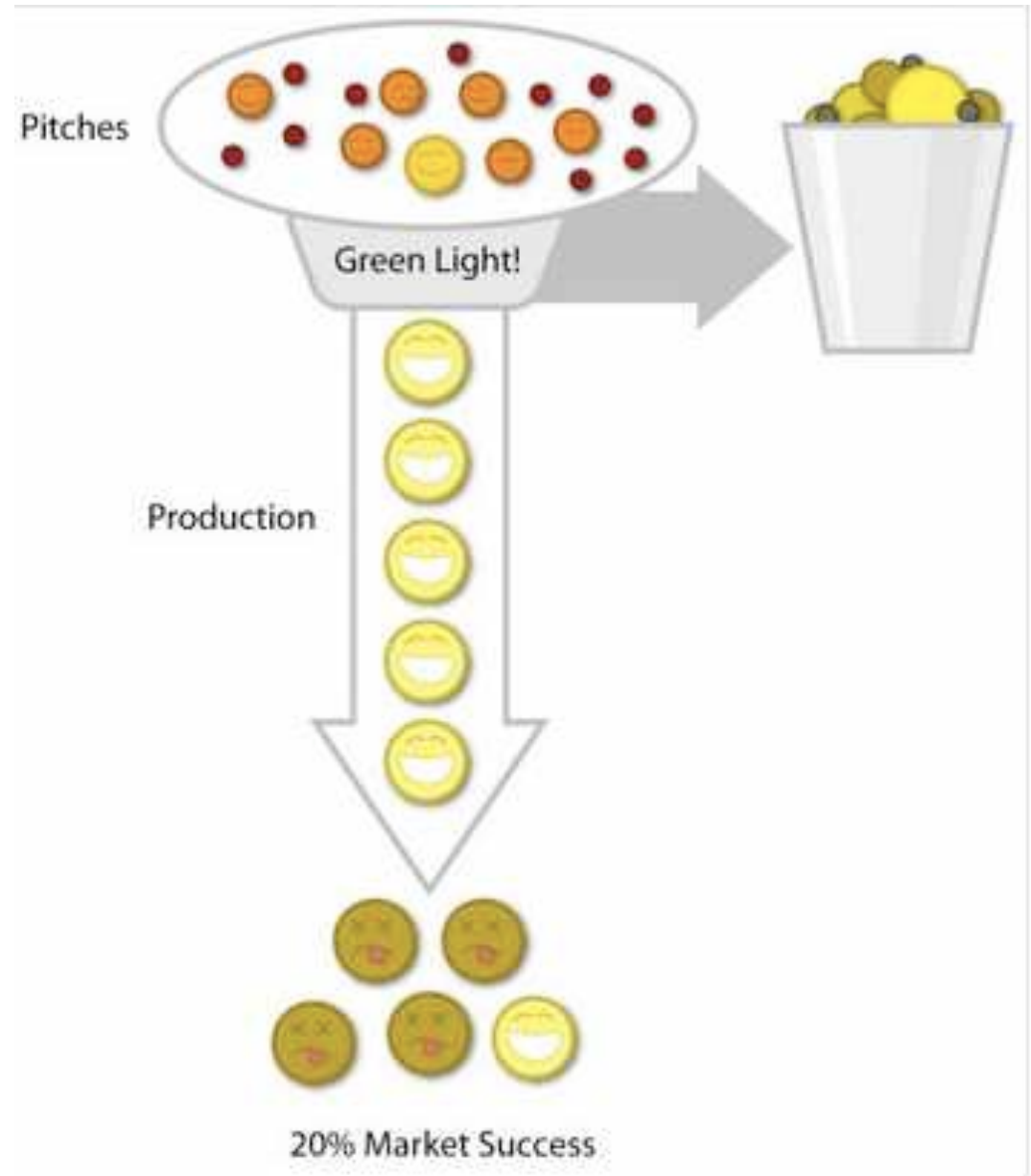
CONTENT
for (not ROOTS but consider using it as a guide)

- ! **Top Level Project Value Objectives: how they differ from product or system objectives**
· Stakeholder value analysis as basis for top level project objectives
· Project and project product objectives how they relate to value objectives
· How to specify all value/product/ system objectives quantitatively
· How to relate different levels of objectives to each other using Impact Estimation Tables
· How to manage the early and continuous delivery of quantified objectives using Evolutionary Project management
· Examples and real case studies of all of the above.

Iterative process, combining research and analysis facilitated by a stage-by-stage client partnership approach.

(Scope, Understand, Apply, Interpret, Examine, Explore)
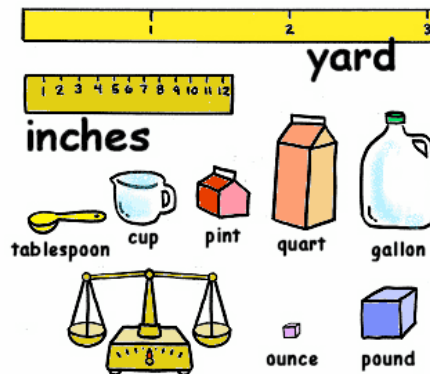
Horror Project Requirements Case

Based On Real Case 2006-8

Summary of Top '8' Project Objectives

Real Example of *Lack* of Scales

- ! **Defined** Scales of Measure:
  - ! Demands *comparative* **thinking**.
  - ! Leads to requirements that are unambiguously **clear**
  - ! Helps Team be **Aligned** with the Business

1. Central to The Corporations business strategy is to be the world's **premier** integrated_<domain> service **provider**.

2. Will provide a much more efficient **user** experience

3. Dramatically scale back the **time** frequently needed after the last data is acquired to time align, depth correct, splice, merge, recompute and/or do whatever else is needed to **generate** the desired **products**

4. Make the system much **easier** to **understand** and **use** than has been the case for previous system.

5. A primary goal is to provide a much more **productive** system **development** environment than was previously the case.

6. Will provide a richer set of functionality for **supporting** next-generation logging **tools** and applications.

7. **Robustness** is an essential system requirement (see rewrite in example below)

8. Major improvements in **data quality** over current practices

This lack of clarity cost them $100,000, 000

The Lesson

- !If management does not clarify the main reasons for a software development project, QUANTITATIVELY,

- !It can cost $100,000,000+ and 8 years of wasted time

What the Project Manager Wanted after $160,000,000* was spent

"Able to add features *without fear* …

Able to improve code *without fear* …

Able to incorporate improved technology *without fear* …

Able to rapidly adapt to changing requirements …

Code that's easy to maintain …

Code that's uniform, easy to understand …

Code that's readily and thoroughly testable …"

* The number was sometimes quoted at $100 million, and by 2008 it was certainly much higher, no deliveries had taken place by May 2008.

What the CIO Director Told Me

"In 1998 I voted to veto this project start because the requirements were insufficient.

But I was overruled by the other directors (including the current CEO)"

©2002RickLondon/JohannWessels

HONEY, I'M STUCK IN TRAFFIC, I SHOULD BE HOME SOON

Lemming rush hour

Main Hypothesis by Gilb:

1.! The requirements are unacceptably unclear.
- 1.! They are not defined to any objective level.
- 2.! the key results are NOT intelligible or NOT testable
- 3.! They contain far too much *specific design*, instead of the *actual results* that justify investment (results)
- 4.! The project should never have been approved on such a flimsy basis at the outset.
- 5.! The CORPORATION has to question its process for review and approval of such expenditure.
- 6.! The CORPORATION has to question the competence of the highest levels of executives that have allowed this to persist.
- 7.! You have to worry that many other projects have an equally bad problem of control of results.

2. The project has proceeded to throw masses of detail ('design') at the unacceptably unclear requirements.

3. There is no objective way to decide if any of the built or planned detail is necessary or sufficient to meet the unclear requirements.

4. There is no point whatsoever in continuing the project on this basis (the bad requirements).

Because there is no way to determine if the project is progressing towards any reasonable goals.

Suggested Practical Actions for HORROR Project.

1.! Stop all HORROR Project Effort based on the old plans
2.!   Adopt a new 'policy' for running this project
3.! Quickly (in a week or 2) rewrite the top level requirements.
   1.!   Review the current business and technical environment to see if new and different requirements are more appropriate than the current (3.13 2003 set)
   2.!   Quantify all the top few objectives
   3.!   Estimate the value of reaching the objectives
   4.!   Get the objectives approved by top management
      1.!   This is not the same as project funding approval.
      2.!   It just says we would value reaching these objectives
      3.!   And we don't know of any better ones.
4.!   Let a 'qualified' system architect decide the best way to deliver the results.
   1.!   The big question is how much, if any of the current HORROR project investment can be applied, and to what degree the results need to be evolved into the current customer product and environment.
   2.!   Approve the architecture
5.! Don't ever pour money into the project unless real measurable improvements are promised and delivered in short cycles.!
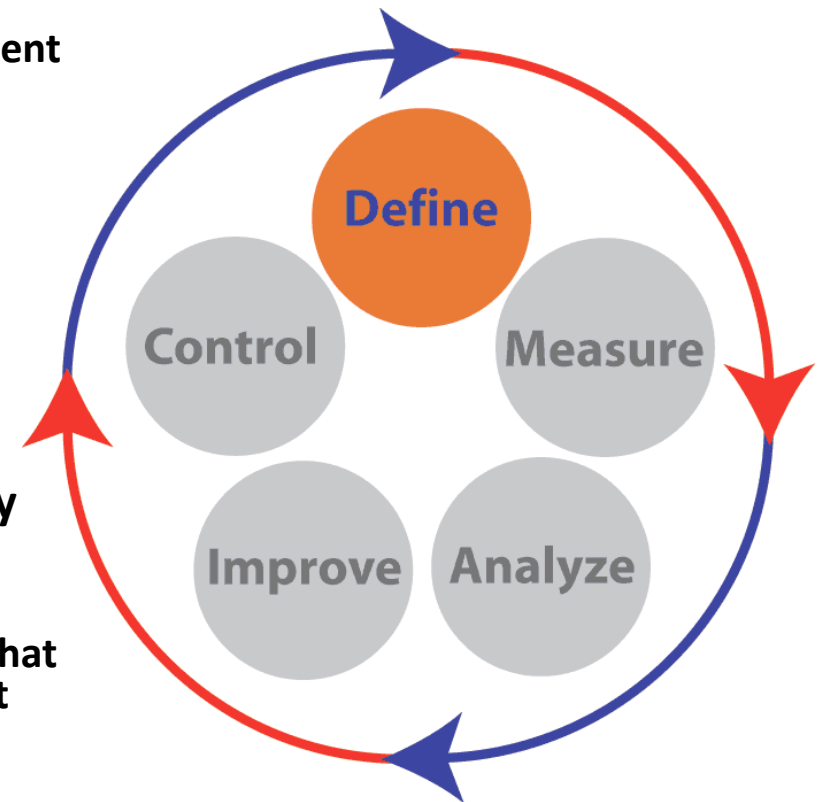
1. <u>Seamless</u> ROCKfield data and workflow

Central to THE CORPORATION's ROCKfield business strategy is to **be the world's premier <u>INTEGRATED</u>** ROCKfield service provider. Software is a key enabling technology towards providing this integration. As an active contributor to this overall strategy, Horror will provide the following:

   <u>Broad</u> MINESITE data coverage.

   Horror will be able to tap a **broad variety** of data about the well and its environment. Each of the Horror products will be able to store and exchange all of the following data types, e.g. wireline will be able to access MINING data, etc. These data types include:

- *GILB COMMENT: There is no attempt to define* **seamless** *quantitatively so that we can* **measure** *and* **track** *the final* **result**.
- *The content of the rest of the requirement is an equally vague set of functional requirements (like "will support standard Windows OLE compound document functionality").*
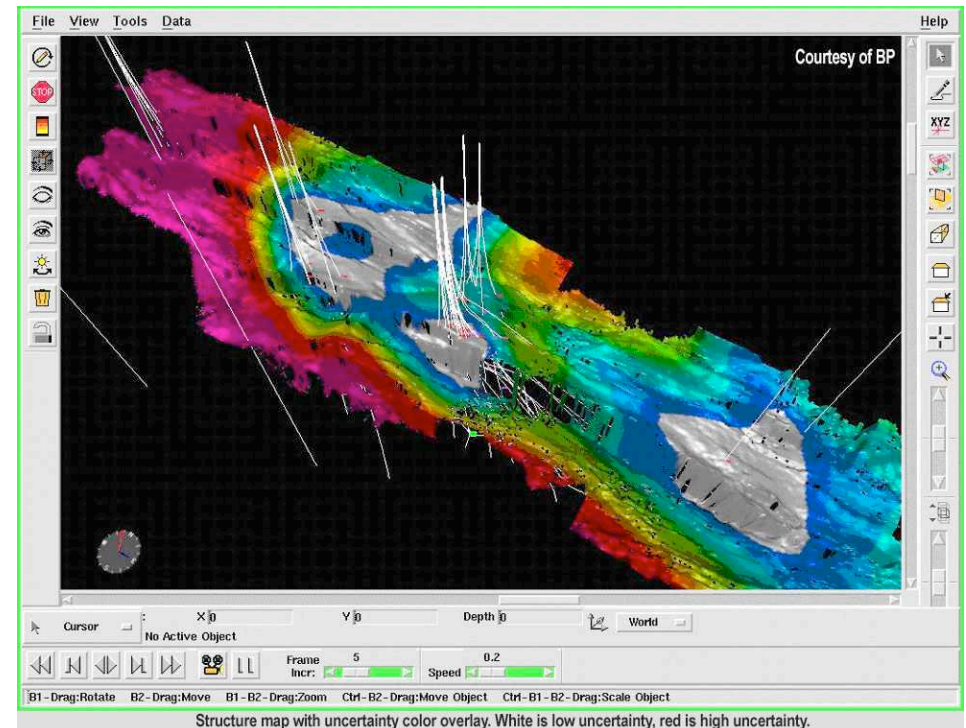- *It is not at all clear how well these things will be done (no performance or quality requirements for these are mentioned.*
- *The result is likely to be that the function is there but has substandard user quality and performance.*
- *We need to define the user experience – how fast, how easy.*
- *We need to define the end state that would make us the worlds premier provider.*
- *We have not even got close to it.*

Structure map with uncertainty color overlay. White is low uncertainty, red is high uncertainty.

2. Dramatic boost in operational efficiency

•HORROR will provide a
- much **more efficient user experience**
- –! **by**
- **automating a number of routine activities**
- and by **removing restrictions on when or how a number of activities may be performed.**

•!**These improvements include:**

•!**As-you-go product generation** HORROR will provide the following features

  –! to **dramatically scale back the time** frequently needed after the last data is acquired to time align, depth correct, splice, merge, recompute and/or do whatever else is needed to generate the desired products

  –! **by**

  –! semi-automating and/or performing these activities as the data comes in.

GILB ANALYSIS:

❖ *There is no unambiguous definition of 'operational efficiency' (no defined Scale or Scales of measure).*

❖ *There is no defined level on that (undefined) scale that tells us what is Dramatic (and when it is dramatic (short term levels, longer term levels, competitor levels). Goal, Stretch, Trend levels to use Planguage terms.*

❖ *The 'efficient user experience' is not at all defined in terms quantified*

❖ *In short this requirement completely fails, where is could have easily succeeded (in 1998)*

to specify the level of operational efficiency that the product would measurably achieve.

❖ *The rest of the specification with features like*

'Automated depth adjustment for data acquired since last deviation survey'

are merely suggested design elements,

that will only contribute to the operational efficiency

if they are well designed and implemented to a defined level of impact on

the (yet undefined quantified definition of operational efficiency).

These design ideas do not belong here at all

(this applies to all the requirements at this level).

They should be in a separate architecture or design

specification, that suggested appropriate designs for

3. Much easier to understand and use

A critical requirement for HORROR's success is to make the software much easier to understand and use than has been the case for previous CORPORATION MINE software.

Benefits of this requirement **include**

reduced training time, **better utilization** of system features

and fewer operational errors.

As an aid in achieving this objective, HORROR has adopted a new use-case centric development process,

which makes the users and their use of the system a focal point of the development

The intent is to design for and evaluate usability continually during the development process rather than fixing it at the end.

(And it goes on about processes and designs)

•**Gilb Comment**: essentially same criticism as above. This concept could be defined quantitatively (See Usability, Gilb CE Chapter 5, www.gilb.com download).

•! **'To understand'** needs definition (scale) and **'much easier'** needs specification of numeric points on the scale for various users and tasks.

•! The rest of the requirement makes the systemic mistake of diving into **specific design detail ("Minimized panes., Docked and undocked panes, Product generation console"** for example).

•!These are badly defined, and badly justified designs for an undefined problem.

•We would end up building them into the system and there is no guarantee that we would end up getting the 'operational efficiency' we need (since we have not even decided what we want!).

•⇗ "A primary goal of HORROR is to provide a **much more productive software development environment than was previously the case.**

•! In addition to traditional software development by professional software personnel,

–this goal is aimed at **facilitating the development of exploratory or custom software or reports by personnel such as tool or interpretation algorithm developers whose software expertise is more modest.**

•!A related aspect of this goal is that the **software development difficulty should scale,**

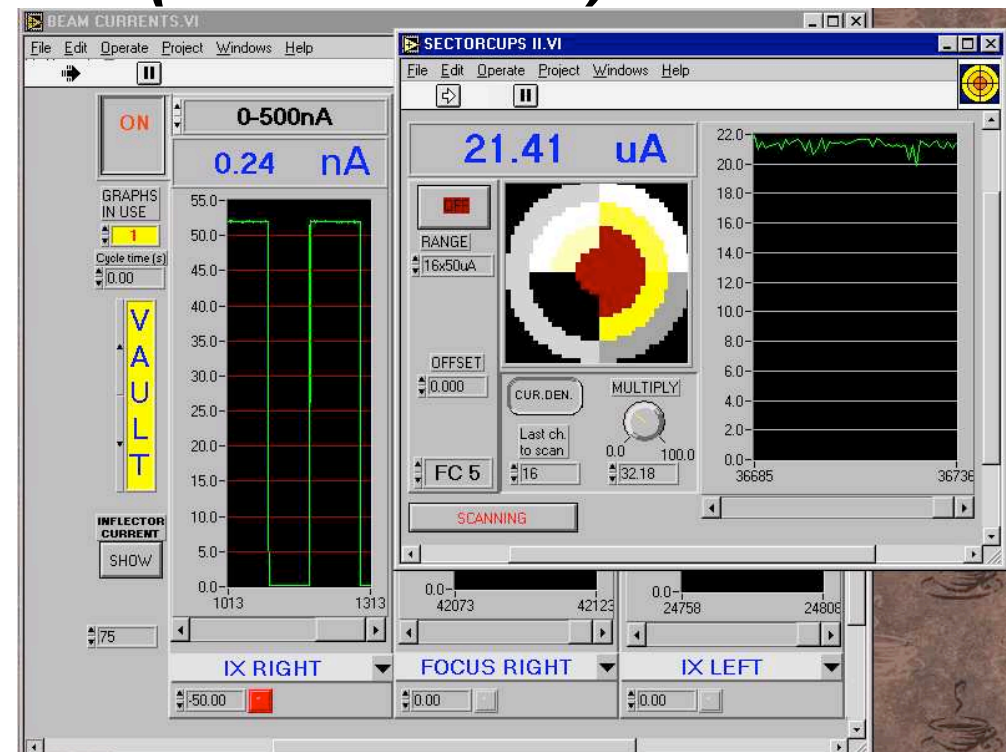–!i.e. simple applications should **be easy to develop.**

⇗ *GILB COMMENT:*
❖   *SAME COMMENTS AS ABOVE*

❖ *The Major concept (Productivity) is NOT defined.*
No level of productivity is numerically and testably set.
It could easily be
(ask me how!)

5. Rich support for next-generation tools and applications

"HORROR will provide

–!**a richer set of functionality**

–!<u>for</u> **supporting**

- **next-generation logging tools**
- !**and applications**.

Provided features include:

Richer equipment model

HORROR will

- **provide a**
  - –!**richer equipment model that**
  - –!**better fits modern hardware configurations.**

- *GILB COMMENT:*
  - –! **Total lack of quantified definition of what this "Supportability" is.**
    - It could easily be defined as a clear quantified requirement.
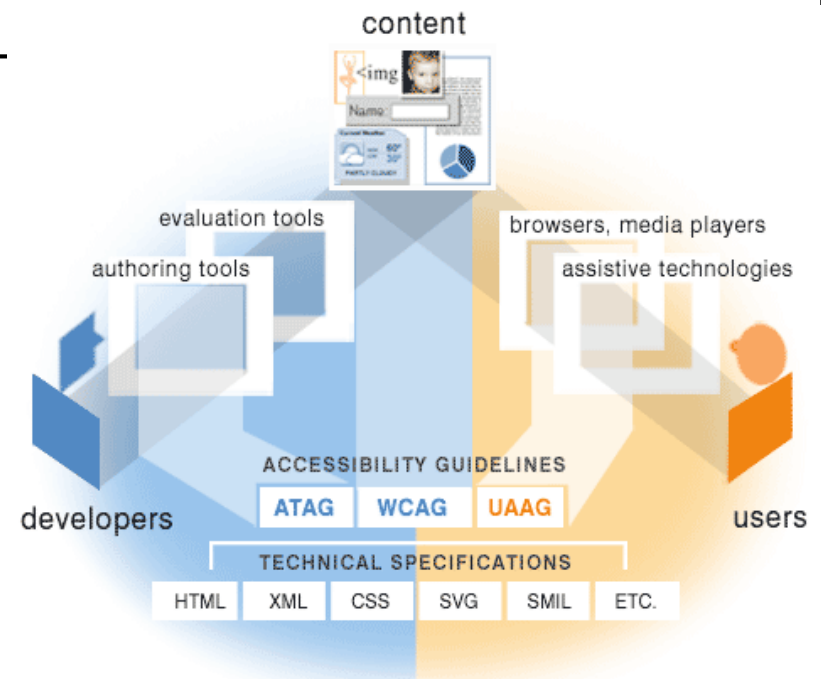 - –! Masses of ***nice sounding gratuitous design ideas***
  - –**unjustified** in relation to the (**undefined**) requirement.
  - –! A license to keep on **implementing all these things endlessly**
  - –!with no end in sight
  - –and no **responsibility** for costs or effects.

6. Rock solid robustness

•! 	While **robustness** is an **essential** HORROR requirement in all its uses, it is especially critical in MINING applications where the much longer job durations afford software defects (e.g. memory leaks) a greatly expanded opportunity to surface.

•! In this regard,

•HORROR will provide the following features or attributes:

Minimal down-time

•! 	A critical HORROR objective is to have **minimal downtime** <u>due to </u>**software failures**.

•This objective includes:

Mean time between forced restarts > 14 days

•! 	HORROR's goal for mean time between forced restarts **is greater than 14 days**.

•! 	Comment: This figure does not include restarts caused by hardware problems, e.g. poorly seated cards or communication hardware that locks up the system. MTBF for these items falls under the domain of the hardware groups.

Restore system state < 10 minutes

•! Log scripts and test scripts, subsystem tests

–! 	**Built-in testability**

•! 	HORROR will provide the following features and attributes to facilitate testing.

–! 	**Tool simulators**

•! 	GILB COMMENT:

–! 	For once a reasonable attempt was made to quantify the meaning of the requirement!

–! 	But is could be done much better

–!

–! 	As usual the **set of designs** to **meet the requiremen**t do not belong here.

–And none of them make any **assertion** about how well (to what degree) they will meet the defined numeric requirements.

–! 	And as usual another guarantee of eternal costs on pursuit of a poorly defined requirements is most of the content.

Rock Solid Robustness

Rock Solid Robustness:

Type: *Complex* **Product Quality Requirement.**

Includes: { Software Downtime, Restore Speed, Testability, Fault Prevention Capability, Fault Isolation Capability, Fault Analysis Capability, Hardware Debugging Capability}.

Software Downtime:

Software Downtime:
Type: Software Quality Requirement.
Ambition: *to have minimal downtime*
due to software failures <- HFA 6.1
Issue: *does this not imply that there is a system wide downtime requirement?*

Scale: <mean time between forced restarts for defined [Activity], for a defined [Intensity].>

Fail [Any Release or Evo Step, Activity = Recompute, Inrensity = Peak Level] **14 days** <- HFA 6.1.1

Goal [By 2008?, Activity = Data Acquisition, Intensity = Lowest level] **: 300 days** ??
Stretch: **600 days**

Restore Speed:

Restore Speed:
Type: Software Quality Requirement.

Ambition: Should an error occur (or the user otherwise desire to do so), Horizon shall be able to restore the system to a previously saved state in less than 10 minutes. <-6.1.2 HFA.

Scale: Duration from Initiation of Restore to Complete and verified state of a defined [Previous: Default = Immediately Previous]] saved state.

Initiation: defined as {Operator Initiation, System Initiation, ?}. Default = Any.

Goal [Initial and all subsequent released and Evo steps] 1 minute?

Fail [Initial and all subsequent released and Evo steps] 10 minutes. <- 6.1.2 HFA

Catastrophe: 100 minutes.

© 2003 Karl Schinn
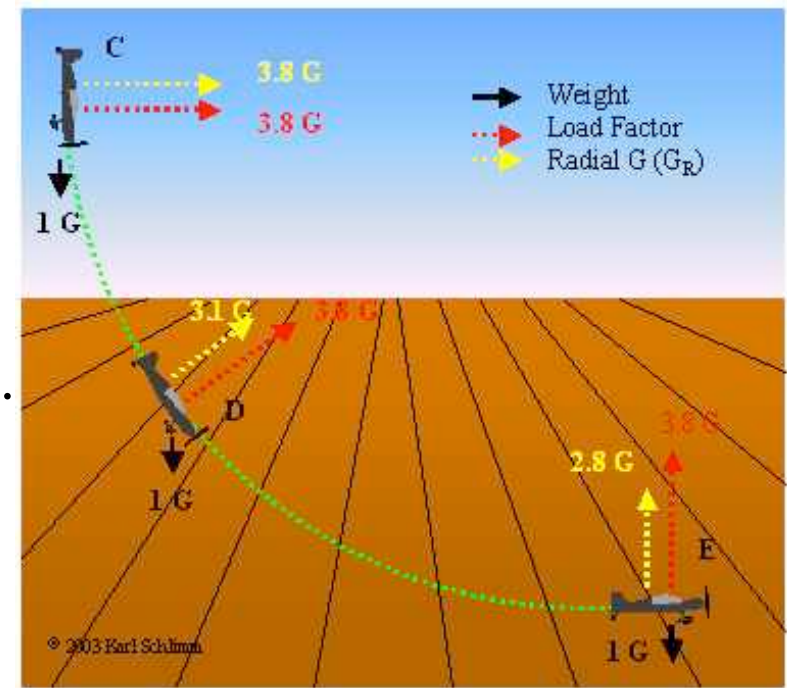
Testability:

Testability:
Type: Software Quality Requirement.
Version: 20 Oct 2006-10-20
Status: Demo draft,
Stakeholder: {Operator, Tester}.
Ambition: Rapid-duration automatic testing of <critical complex tests>, with extreme operator setup and initiation.

Scale: the duration of a defined [Volume] of testing, or a defined [Type], by a defined [Skill Level] of system operator, under defined [Operating Conditions].

Goal [All Customer Use, Volume = 1,000,000 data items, Type = WireXXXX Vs DXX, Skill = First Time Novice, Operating Conditions = Field, {Sea Or Desert}. <10 mins.

Design Hypothesis: *Tool Simulators, Reverse Cracking Tool, Generation of simulated telemetry frames entirely in software, Application specific sophistication, for drilling – recorded mode simulation by playing back the dump file, Application test harness console <-6.2.1 HFA*

The Software Quality Iceberg
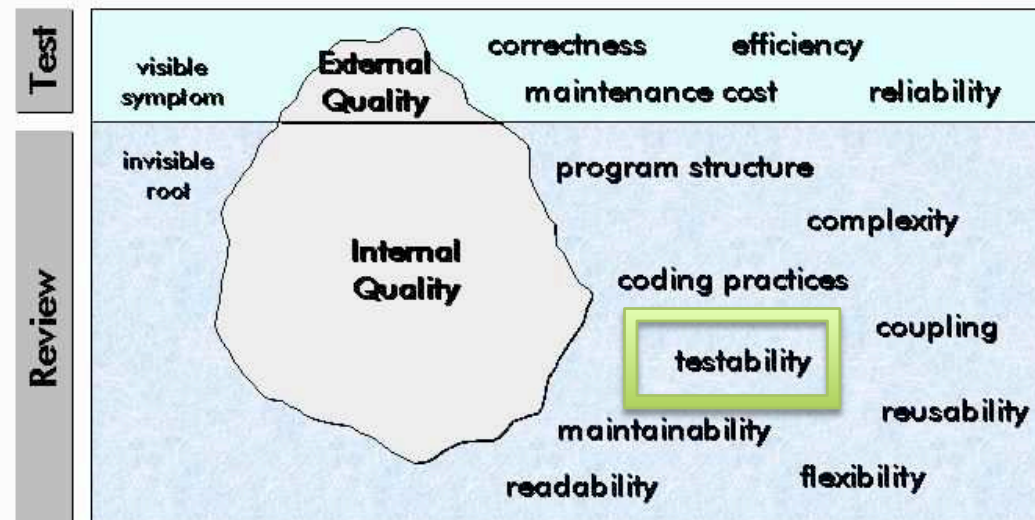
7. Improved data quality

"Quality improvements from job planning

The inclusion of job planners (see section xxx) as part of the HORROR mandate will provide **major improvements in data quality over current practices** wherein the job planning process is much more haphazard. These improvements include:

•**Client requirements capturing…"** **"HORROR's largest step towards improving data quality is freeing the user from many of the mundane system and data management tasks <u>and thereby providing</u> more time to monitor and improve data quality.**

•**In addition, HORROR will provide the following features and attributes aimed at this goal. (See also section xxx)**

•Same critical remarks as other requirements earlier.

•This is **not clearly defined, not quantified.**

•Of course it should and could have been
•What is the measure of data quality?
•How much improvement by when are we thinking of.
•(one poster session AL, DATA QUALITY , IS an good example of deeper thought on this vital subject)

•bThe usual detailed designs ("More flexible measure point support") themselves need quantified definition to be clear and powerful.

•So again masses of things to spend money on for badly defined purposes.

Intervera's four-step process uses the five separate DataVera modules to validate data quality and integrate it into daily operations.

Courtesy Intervera Data Solutions
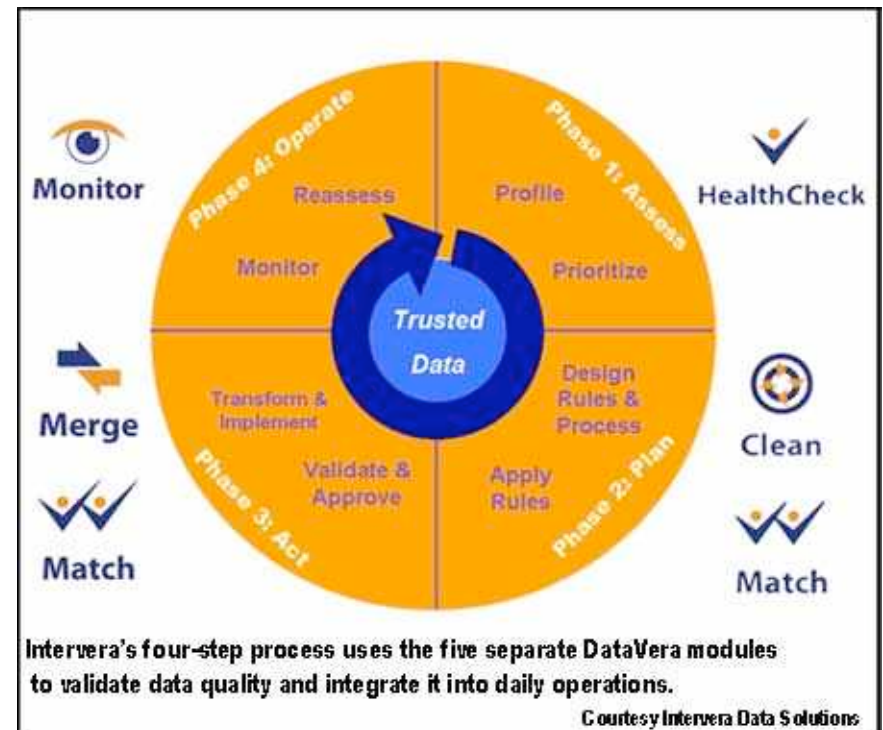
Project Manager Says

Hi Tom, I did receive your analysis and had the proverbial good intentions to reply but did not, so do apologize.

And I further apologize for taking so long to reply to this -- has been a hectic week on top of a busy two months...

Given the scope of your recommendations,

I am not terribly surprised that you did not receive a response from upper management -- am certain that they intend to "fix" the project in their own way.

We are, at our level, trying to improve our development processes, and

I am advocating that we understand and incorporate your principles in our working standards from here on out

I do appreciate/\the starting point you given us.

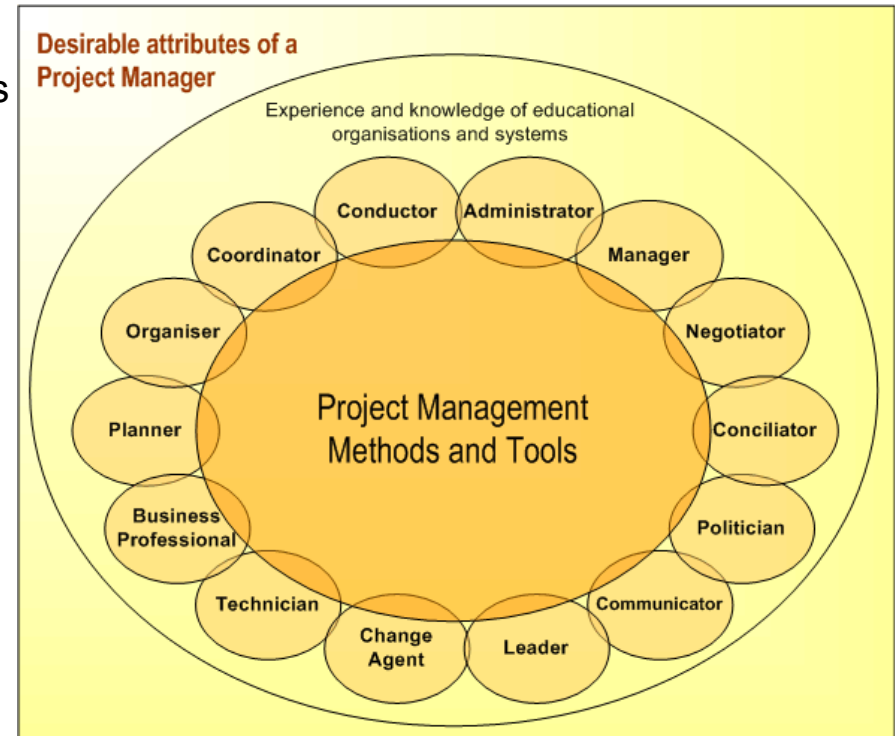Thanks again, and I hope you have a good holiday season

Sxxxx

About December 2006

22 April 2008
# Project Manager Looks Back

- Hi Tom, Sorry that I didn't pick this up last night so hope you check your email this morning.
- **Our project is on sound track**.
- Requirements aside, when you visited, our code base was "unstable" due to too much development with too little qc.
- We stopped,
  - stabilized the code,
  - emphasized inspections,
  - and quite significantly, the "powers that be"
  - replaced the PM with another,
  - quite well respected,
  - and with considerably more immediate domain experience.
- We also **focused** and **shortened our delivery cycle.**
- To that end I see that we essentially have done much,
- but not all, of what you suggested in your report
  - (but certainly not with the **requirements rigor that you advocate – still an issue**).
- I would like to think that your advice had an influence on the outcome however much of the directive came from levels on high to which I'm not privy.
- Fyi, M is very familiar with our project. Best regards,S

Desirable attributes of a Project Manager

Experience and knowledge of educational organisations and systems

Conductor · Administrator · Manager · Negotiator · Conciliator · Politician · Communicator · Leader · Change Agent · Technician · Business Professional · Planner · Organiser · Coordinator

Project Management Methods and Tools

$100-180 million+ Wasted

•! The above example was the basis in 1999 for a project that had

  –! in 2006 spent over $100 million,

  –! for 8 years

  –! and had never delivered any value whatsoever to the corporation.

•! There was never any quantified or testable definition of the requirements.

•! There was never any direct link

  –! from the project activity, requirements, or architecture,

  –! to these primary top management

    •! (CEO and next level directors) objectives.

•! The project was doomed from the start.

$ Expenditure

200,000,000

100,000,000

0

10 Years

■ Ser

■ Ser

■

■

■
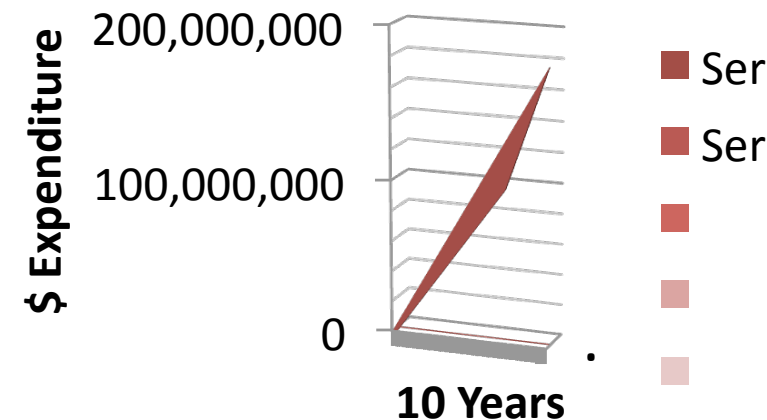
Top Manager Objectives

•! Here is an example of a CEO Level Plan to get £50 million from outside owners, in order to invest in organizational productivity and quality improvement for 800 software engineers producing a telecoms product.
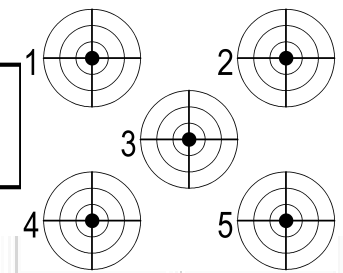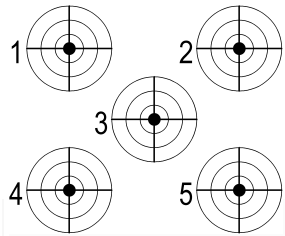
Real (NON-CONFIDENTIAL version) example of an initial draft of setting the objectives that engineering processes must meet.

Business objective	Measure	Goal (200X)	Stretch goal ('0X)	Volume	Value	Profit	Cash
Time to market	Normal project time from GT to GT5	<9 mo	<6 mo	X		X	X
Mid-range	Min BoM for The Corp phone	<$9	3			X	X
Platformisation Technology	# of Technology 66 Lic. shipping > 3M/yr	4	6			X	X
Interface	Interface units	>11M	>13M	X		X	X
Operator preference	Top-3 operators Issue RFQ spec The Corp		3			X	X
Productivity						X	
Get Torden	Lyn goes for Technology 66 in Sep-04	Yes		X		X	X
Fragmentation	Share of components modified	<10%	<5%		X	X	X
Commoditisation	Switching cost for a UI to another System	>1y	>2yrs			X	X
Duplication	The Corp share of 'in scope' code in best-selling device	>90%	>95%		X	X	X
Competitiveness	Major feature comparison with MX	Same	Better	X		X	X
User experience	Key use cases superior vs. competition	5	10	X	X	X	X
Downstream cost saving	Project ROI for Licensees	>33%	>66%	X	X	X	X
Platformisation IFace	Number of shipping Lic.	33	55	X		X	X
Japan	Share of of XXXX sales	>50%	>60%	X		X	X

Numbers are intentionally changed from real ones

Business Objectives Quantified

Objectives

Technical Strategies

Viking Deliverables

Business Objective		hardware adaptation	Telephony	Reference designs	IFace	Modularity	Defend vs Technology 66	Tools	User Exper'ce	GUI & Graphics	Security	Defend vs OCD	Enterprise
Time to market		20%	10%	30%	5%	10%	5%	15%	0%	0%	0%	5%	5%
Mid-range		15%						5%	10%	5%	5%	0%	0%
Platformisation Technology		25%	10%	30%	0%	10%		0%	5%	0%	10%	0%	5%
Interface		5%	15%	15%	0%	5%	0%	5%	0%	0%	10%	0%	10%
Operator preference		0%					20%	5%	10%	10%	20%	5%	10%
Get Torden		25%	10%	10%	-10%	0%	20%	0%	10%	-20%	10%	10%	5%
Commoditisation		20%	10%	20%	10%	-20%	25%	15%	0%	0%	5%	10%	5%
Duplication		15%		10%	0%	0%	40%	0%	0%	0%	5%	20%	5%
Competitiveness		10%	15%	20%	0%	10%	20%	10%	10%	20%	10%	10%	10%
User experience		5%		0%	0%		0%	0%	30%	10%	0%	0%	0%
Downstream cost saving		15%							10%	0%	0%	10%	5%
Platformisation IFace		10%	10%	20%	40%	0%	20%	5%	0%	0%	0%	0%	5%
Japan		10%	5%	20%	0%	10%	0%	0%	10%	5%	0%	0%	0%
Contribution to overall result		15%	9%	17%	4%								5%
Cost (£M)		£ 2.85	£ 0.49	£ 3.21	£ 2.54	£ 1.92	£ 2.31	£ 0.81	£ 1.21	£ 2.68	£ 0.79	£ 0.62	£ 0.60
ROI Index (100=average)		106	358	109	33	78	127	148	107	10	152	202	174

"Benefits"

Strategy Impacts on Objectives

Cost

Benefit/Cost ratio

358!

The CEO Got His Money

- Showing Financial People
    - Exactly what you will do for their money
    - Is a powerful way to sell complex technology

    - Sell them the results THEY are interested in
    - Show them Value for money
        - Not Techie Expenditure
    - Be prepared to be responsible for delivering the numbers you claim you can deliver
        - Then maybe you will get funded next time too!

And Now A True War Story

• ! About Why Bad IT Requirements
  – !Can lose a war in Iraq
  – !Or at least make it drag on for years
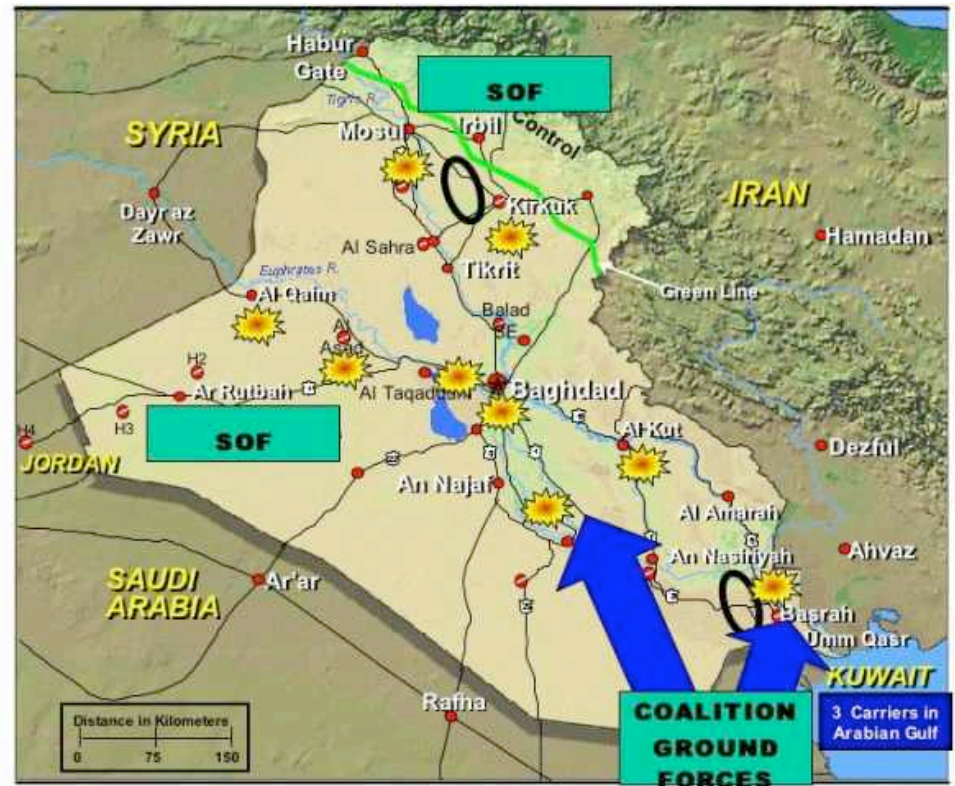
The Persinscom IT System
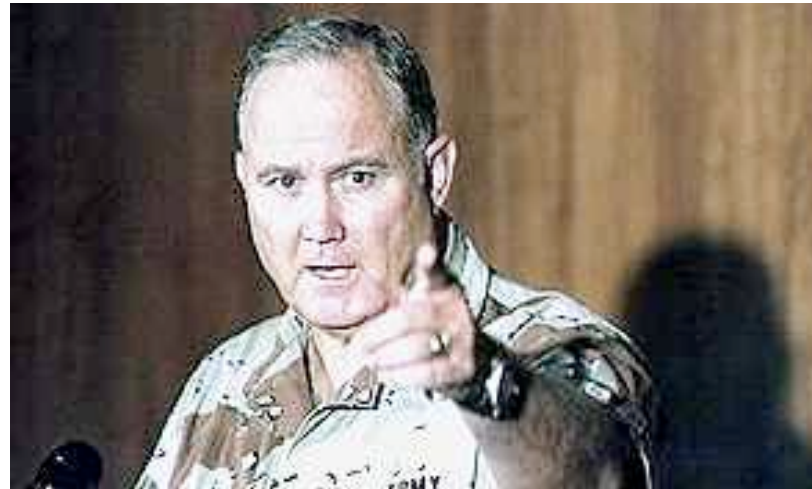
He who does not learn from history
Is doomed to repeat it

A Man Who understood that
"a bird in the hand is worth two in the Bush" <-tsg

The Evo Planning Week at DoD

- **Monday**
  - Define top Ten critical objectives, quantitatively
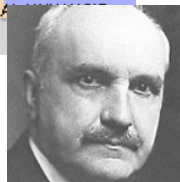 - Agree that thee are the main points of the effort/project
- **Tuesday**
  - Define roughly the top ten most powerful strategies,
  - for enabling us to reach our Goals on Time
- **Wednesday**
  - Make an Impact Estimation Table for Objectives/Strategies
  - Sanity Test: do we seem to have enough powerful strategies to get to our Goals, with a reasonable safety margin?
- **Thursday**
  - Divide into rough delivery steps (annual, quarterly)
  - Derive a delivery step for 'Next Week'
- **Friday**
  - Present these plans to approval manager (Brigadier General Palicci)
  - get approval to deliver next week

US Army Example: PERSINSCOM

Requirements and Architecture

Requirements
Design
Quality Control
(Construction/Acquisition)
Testing
Integration
Delivery -> Stakeholder
Measure & Study Results

STRATEGIES ➔ OBJECTIVES
Customer Service ?➔0 Violation of agreement
Availability 90% ➔ 99.5% Up time
Usability 200 ➔ 60 Requests by Users
Responsiveness 70% ➔ ECP's on time
Productivity 3:1 Return on Investment
Morale 72 ➔ 60 per mo. Sick Leave
Data Integrity 88% ➔ 97% Data Error %
Technology Adaptability 75% Adapt Technology
Requirement Adaptability ? ➔ 2.6% Adapt to Change
Resource Adaptability 2.1M ➔ ? Resource Change
Cost Reduction FADS ➔ 30% Total Funding

1 2 3 4 5

Monday
←The Top Ten Critical Objectives Were decided

•! *Example of one of the Objectives:*

Customer Service:

Type: Critical Top level Systems Objective

Gist: Improve customer perception of quality of service provided.

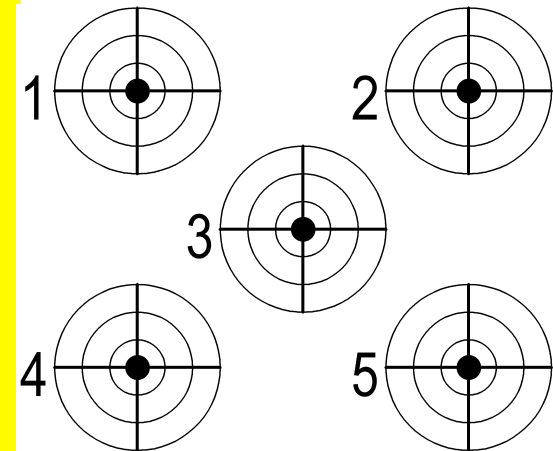**Scale**: Violations of Customer Agreement per Month.

Meter: Log of Violations.

Past [Last Year] Unknown Number ⬅State of PERSCOM Management Review

Record [NARDAC] 0 ? ⬅ NARDAC Reports Last Year

Fail : <must be better than Past, Unknown number> ⬅CG

Goal [This Year, PERSINCOM] 0 "Go for the Record" ⬅ Group SWAG

.

1   2

3

4   5

STRATEGIES ➔ OBJECTIVES	Technology Investment	Business Practices	People	Empow- erment	Principles of IMA Management	Business Process Re- engineering	SUM
Customer Service ?➔0 Violation of agreement							
Availability 90% ➔ 99.5% Up time							
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Requirement Adaptability ? ➔ 2.6% Adapt to Change							
Resource Adaptability 2.1M ➔ ? Resource Change							
Cost Reduction FADS ➔ 30% Total Funding							

Tuesday
The Top Ten
Critical Strategies
For reaching the
←objectives
Were decided

A Strategy (Top Level of Detail)

Technology Investment:

Gist: Exploit investment in high return technology.

Impacts: productivity, customer service and conserves resources.

Wednesday:
Day 3 of 5 of 'Feasibility Study

- **We made a rough evaluation**
  - of how powerful our strategies might be
  - in relation to our objectives

- **Impact Estimation Table**
  - 0%   Neutral, no ± impact
  - 100% Gets us to Goal level on time
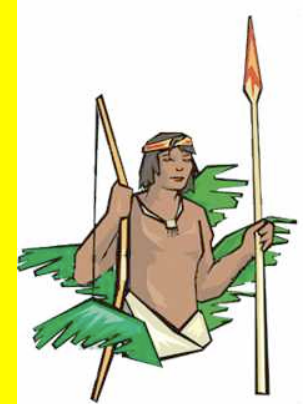 - 50% Gets us half way to Goal at deadline
  - -10% has 10% negative side effect

STRATEGIES ➔ OBJECTIVES	Technology Investment	Business Practices	People	Empow-erment	Principles of IMA Management	Business Process Re-engineering	SUM
Customer Service ?➔0 Violation of agreement	50%	10%	5%	5%	5%	60%	185%
Availability 90% ➔ 99.5% Up time	50%	5%	5-10%	0	0	200%	265%
Usability 200 ➔ 60 Requests by Users	50%	5-10%	5-10%	50%	0	10%	130%
Responsiveness 70% ➔ ECP's on time	50%	10%	90%	25%	5%	50%	180%
Productivity 3:1 Return on Investment	45%	60%	10%	35%	100%	53%	303%
Morale 72 ➔ 60 per mo. Sick Leave	50%	5%	75%	45%	15%	61%	251%
Data Integrity 88% ➔ 97% Data Error %	42%	10%	25%	5%	70%	25%	177%
Technology Adaptability 75% Adapt Technology	5%	30%	5%	60%	0	60%	160%
Requirement Adaptability ? ➔ 2.6% Adapt to Change	80%	20%	60%	75%	20%	5%	260%
Resource Adaptability 2.1M ➔ ? Resource Change	10%	80%	5%	50%	50%	75%	270%
Cost Reduction FADS ➔ 30% Total Funding	50%	40%	10%	40%	50%	50%	240%
SUM IMPACT FOR EACH SOLUTION	*482%*	*280%*	*305%*	*390%*	*315%*	*649%*	
Money % of total budget	15%	4%	3%	4%	6%	4%	
Time % total work months/year	15%	15%	20%	10%	20%	18%	
SUM RESOURCES	*30*	*19*	*23*	*14*	*26*	*22*	
BENEFIT/RESOURCES RATIO	*16:1*	*14:7*	*13:3*	*27:9*	*12:1*	*29:5*	

MEASURING HAND FOR GLOVE SIZE

DoDef. Persinscom Impact Estimation Table:

Designs

Requirements

R→ D Impacts

Design Ideas ->	Technology Investment	Business Practices	People	Empowerment	Principles of IMA Management	Business Process Re-engineering	Sum Requirements
	50%	10%	5%	5%	5%	60%	185%
Availability 90% <-> 99.5% Up time	50%	5%	5–10%	0%	0%	200%	265%
Usability 200 <-> 60 Requests by Users	50%	5–10%	5–10%	50%	0%	10%	130%
Responsiveness 70% <-> ECP's on time	50%	10%	90%	25%	5%	50%	180%
Productivity 3:1 Return on Investment	45%			100%		53%	303%
Morale 72 <-> 60 per month on Sick Leave	50%				15%	61%	251%
Data Integrity 88% <-> 97% Data Error %	42%	10%	25%	5%	70%	25%	177%
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Requirement Adaptability ? <-> 2.6% Adapt to Change	80%	20%	60%	75%	20%	5%	260%
Resource Adaptability 2.1M <-> ? Resource Change	10%	80%	5%	50%	50%	75%	270%
Cost Reduction FADS <-> 30% Total Funding	50%	40%	10%	40%	50%	50%	240%
Sum of Performance	482%	280%	305%	390%	315%	649%	
Money % of total budget	15%	4%	3%	4%	6%	4%	36%
Time % total work months/year	15%	15%	20%	10%	20%	18%	98%
Sum of Costs	30	19	23	14	26	22	
Performance to Cost Ratio	16:1	14:7	13:3	27:9	12:1	29:5	

US Army Example: PERSINSCOM: Personnel System

STRATEGIES ➔ OBJECTIVES	Technology Investment	Business Practices	People	Empow-erment	*Principles of IMA Management*	Business Process Re-engineering	SUM
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SUM RESOURCES	*30*	*19*	*23*	*14*	*26*	*22*	
BENEFIT/RESOURCES RATIO	*16:1*	**14:7**	**13:3**	**27:9**	**12:1**	**29:5**	

- ! We looked for a way to deliver some stakeholder results, next week
- ! 1 1 1 1
  - !1 increase from 0%
  - !1 stakeholder
  - !1 quality
  - !1 week

STRATEGIES ➔ OBJECTIVES	Technology Investment	Business Practices	People	Empow-erment	*Principles of IMA Management*	Business Process Re-engineering	SUM
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BENEFIT/RESOURCES RATIO	*16:1*	*14:7*	*13:3*	*27:9*	*12:1*	*29:5*	

Next weeks Evo Step??

•! "You won't believe we never thought of this, Tom!'

•! The step:
  –! When the Top General Signs in
  –! Move him to the head of the queue
    •! Of all people inquiring on the system.

Our Hero ?

UNITED STATES ARMY PERSONNEL INFORMATION SYSTEMS COMMAND

CERTIFICATE of APPRECIATION

is awarded to

MR. TOM GILB

for

SELFLESS AND DEDICATED SERVICE IN SUPPORT OF THE PERSONNEL INFORMATION SYSTEMS COMMAND. AS A MANAGEMENT CONSULTANT IN RESULT DELIVERY PLANNING, HIS PATRIOTISM, PROFESSIONAL COMPETENCE AND PERSONAL SACRIFICES ARE HIGHLY COMMENDABLE. TOM GILB'S DEDICATION AND THE EXCEPTIONAL MANNER IN WHICH HE PERFORMED HIS DUTIES HAD A DIRECT AND SIGNIFICANT IMPACT ON PERSINSCOM'S MISSION. HIS OUTSTANDING CONTRIBUTIONS AND DISTINGUISHED SERVICE REFLECT GREAT CREDIT ON HIM AND THE UNITED STATES ARMY. CONGRATULATIONS FOR A JOB WELL DONE.
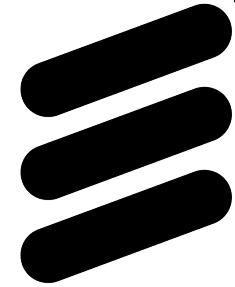
30 AUGUST 1991

Personnel Information Systems Command

JACK A. PELLICCI
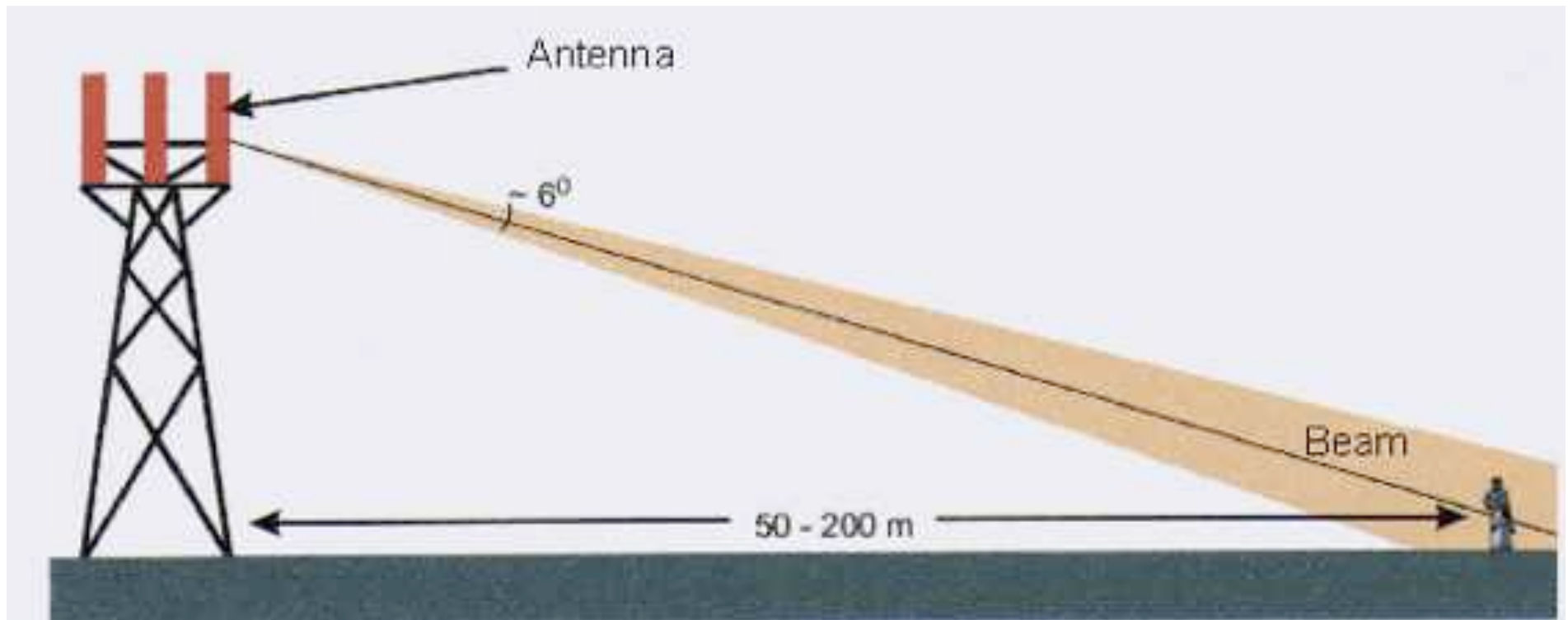Brigadier General, USA
Commanding

Software Engineering Productivity Study

ERICSSON

An example of setting objectives for process improvement

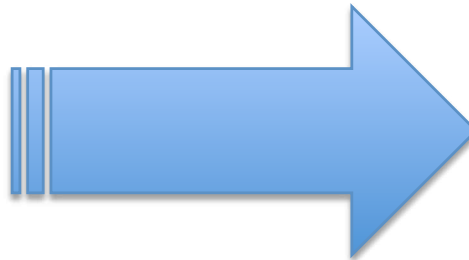### For 1997 with 70% software labor development content in products

Main beam from a macrocell base station antenna

The problem

- ! Great Market Growth Opportunities
- ! Too Few Software Engineers

- ! Solution:
    - ! Increase productivity of existing engineers

The One Page Top Management Summary
(after 2 weeks planning)
The Dominant Goal
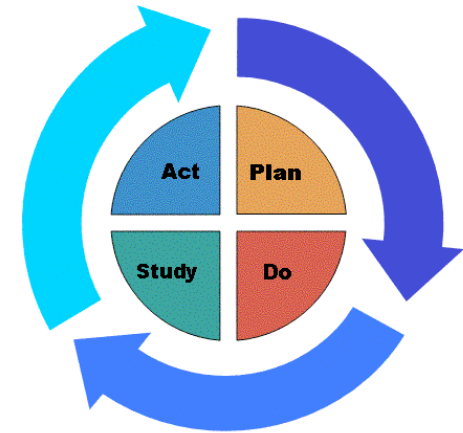
Improve Software Productivity in R PROJECT by 2X by year 2000

Dominant   (META) Strategies

Continual Improvement (PDSA Cycles)

.DPP: Defect Prevention Process

.EVO: Evolutionary Project Management

Long Term Goal [1997-2000+]

DPP/EVO, Master them and Spread them on priority basis.

Short Term Goal [Next Weeks]

DPP [RS?]

EVO [Package C ?]

Decision: {Go, Fund, Support}

The Ericsson Quality Policy:

ERICSSON

"every company shall _define_ **performance** indicators (which) ..

- reflect **customer satisfaction**,
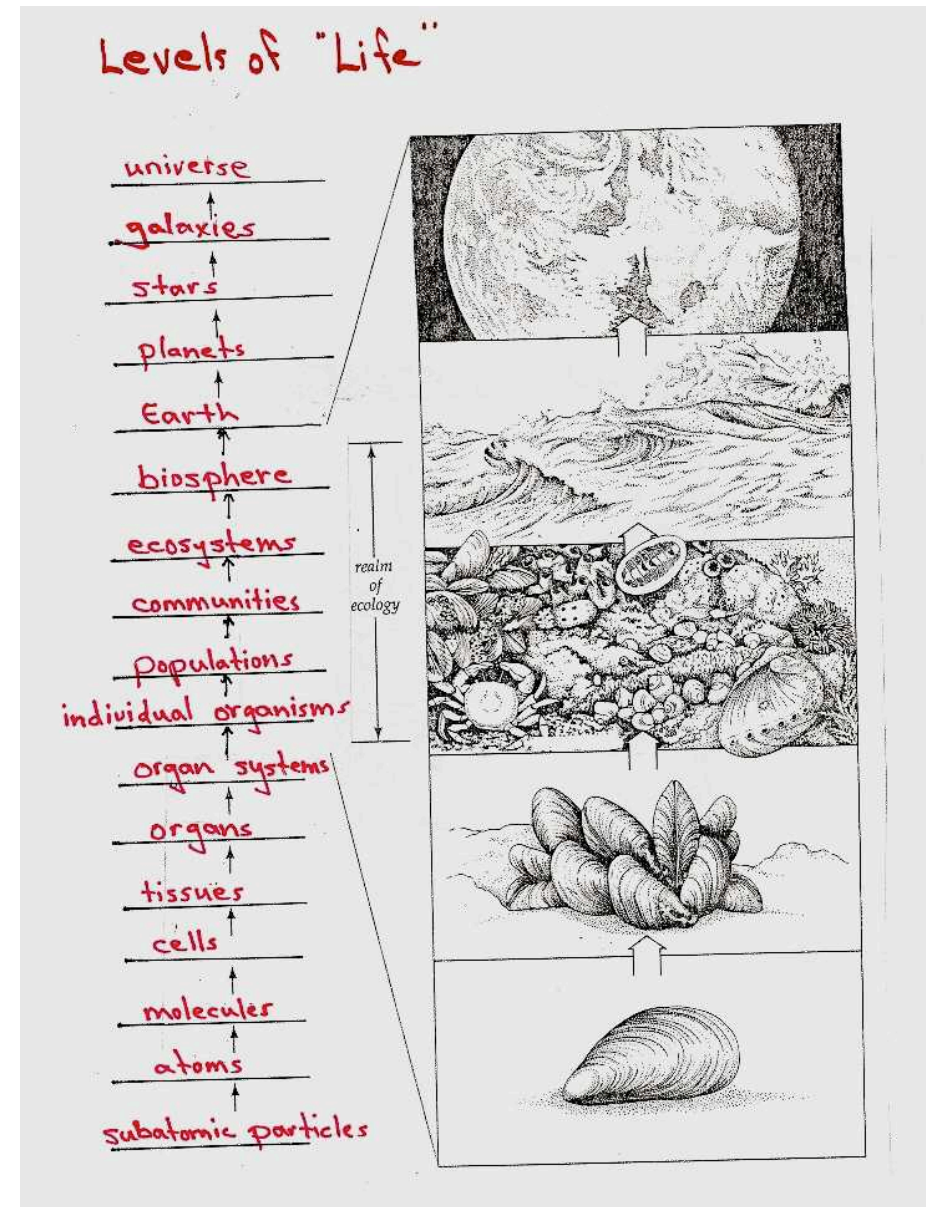- internal **efficiency**
- and business **results**.

- The performance indicators are used in **controlling** the operation."

- Quality Policy [4.1.3]

Levels of Objectives.

–! **Fundamental Objectives**

–! **Strategic Objectives**

–! **Means Objectives:**

–!

–! **Organizational Activity Areas.**

  •! Pre-study.

  •! Feasibility Study.

  •! Execution.

  •! Conclusion.

–! **Generic Constraints**

  •! Political Practical

  •! Design Strategy Formulation Constraints

  •! Quality of Organization Constraints

  •! Cost/Time/Resource Constraints

Levels of "Life"

universe
galaxies
stars
planets
Earth
biosphere
ecosystems
communities
populations
individual organisms
organ systems
organs
tissues
cells
molecules
atoms
subatomic particles

realm of ecology

Keeney's: Levels of objectives.

–! **1. Fundamental Objectives**

  •! **(above us)**

–! **2. Generic Constraints**

  •! **(our given framework)**

  •! Political Practical

  •! Design Strategy Formulation Constraints

  •! Quality of Organization Constraints

  •! Cost/Time/Resource Constraints

–! **3. Strategic Objectives**

  •! **(objectives at our level)**

–! **4. Means Objectives:**

  •! (*supporting* our objectives)

Constraints
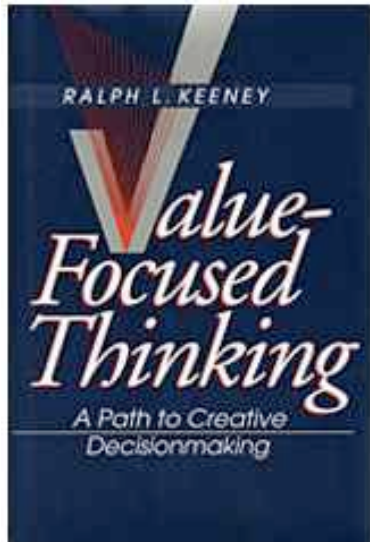
The Strategic Objectives (CTO level)

– !Support

- ! the **Fundamental** Objectives (Profit, survival)

- !**Software Productivity:**

  – ! **Lines of Code Generation Ability**

- !**Lead-Time:**

- !**Predictability.**

- !**TTMP: Predictability of Time To Market:**

- !**Product Attributes:**

- !**Customer Satisfaction:**

- !**Profitability**:

'Means' Objectives:

—! Support the **Strategic** Objectives

- •! *Complaints:*
- •! *Feature Production:*
- •! *Rework Costs:*
- •! *Installation Ability:*
- •! *Service Costs:*
- •! *Training Costs:*
- •! *Specification Defectiveness:*
- •! *Specification Quality:*
- •! *Improvement ROI:*

"Let no man turn aside,
ever so slightly,
from the broad path of honour,
on the plausible pretence
that he is justified by the goodness
of his end.
All good ends can be worked out
by good means."
Charles Dickens

6

Strategies: (total brainstormed list) 'Ends for delivering Strategic Objectives'

- Evo [Product development]:
- DPP [Product Development Process]: Defect Prevention Process.
- Inspection?
- Motivation.Stress-Management-AOL
- Motivation.Carrot
- DBS
- Automated Code Generation
- Requirement -Tracability
- Competence Management
- Delete-Unnecessary -Documents
- Manager Reward:?
- Team Ownership:?
- Manager Ownership:?

- Training:?
- Clear Common Objectives:?
- Application Engineering area:
- Brainstormed List (not evaluated or prioritized yet)?
- Requirements Engineering:
- Brainstormed Suggestions?
- Engineering Planning:
- Process Best Practices:
- Brainstormed Suggestions?
- Push Button Deployment:
- Architecture Best Practices:
- Stabilization:
- World-wide Co-operation?

Principles for Prioritizing Strategies

- •! **They are well-defined**
  - –! **Not vague**

- •! **The have some relevant predictable numeric experience**
  - –! **On main effects**
  - –! **Side effects**
  - –! **Costs**
  - –! **Risks - Uncertainty**
- •! **Not huge spread of experience**

"Software Productivity" =

Lines of Code Generation Ability

–! *"Software Engineering net production in relation to corresponding costs."*

–! *Ambition: Net lines of code successfully produced per total working hours needed to produce them. A measure of the*

–! *efficiency ('effective production/cost of production') of the organization in relation of spent effort.*

- Scale: [Defined Volume, kNCSS or kPlex] per
  - ! **Software Development**: Defined:
- Productivity calculations include Work-Hours
- ! **Meter : <PQT Database and EPOS, CPAC>**
  - *Comment: we **know** that real software prod... ...sure as it is available in our current culture. AB, PK, ...*
  - P1: Past [1997, ERA/AR] < to be calculated when data available ...ork Hours>
- ! **Past-R PROJECT: Past [1997, R PROJECT] < to be calculated when data available, available Volume/Work Hours >**
- ! **Past-EEI: Past [1997, Ireland, Plex] ___??__ kPLEX / Work-Hour.**
- <add more like LuleÂ>
- **Fail [end 1998, R PROJECT, <u>Same Reliability</u>] 1.5 x Past-R PROJECT**
  <- R PROJECT AS 3 c " by 50%".
  - !*"50% better useful code productivity in 1.5 years overall"*
- **Same Reliability: State: The Software Fault Density is not worse than with comparable productivity. Use official The Company Software Fault Density measures <- 1997 R PROJECT Balanced Scorecard (PA3).**
- **Goal [Year=2000, R PROJECT, Same Reliability] 2 x Past-R PROJECT,**
  - !**[Year=2005, RPL, Same Reliability] 10?? x Past-R PROJECT**
- **Wish [Long term, vs. D pack.] 10 x Past-R PROJECT "times higher productivity" <- R PROJECT 96 1.1 c**
- **Wish [undefined time frame] 1.5 x Past-R PROJECT <- R PROJECT AS 3 c " by 50%"**
  - *Comment: May 13 1997 1600, We have worked a lot on the Software Productivity objectives (all day) and are happy that it is in pretty good shape. But we recognize that it needs more exposure to other people.*

Scale: [Defined Volume, kNCSS or kPlex] per Software Development Work-Hour.
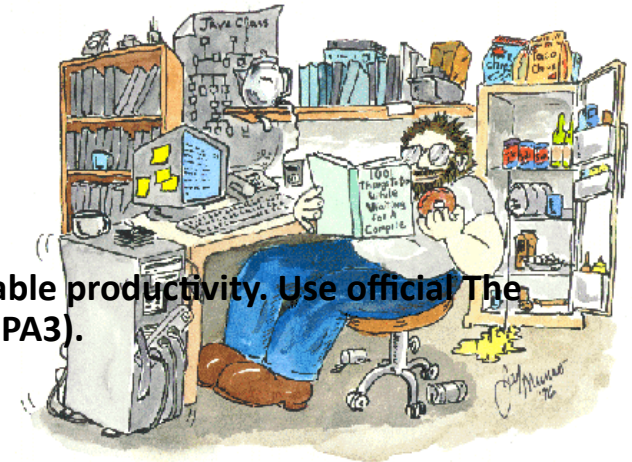
Lead-Time:

- •! **Lead-Time:**
  - –! *"Months for major Packages"*
- •! ***Ambition***: *decrease months duration between major Base Station package release.*
- •! **Scale**: **Months from TG0, to successful first use for**
  - –! **major work station package.**
  - –! *Note: let us make a better definition. TG*
- •! **Past** [C Package, 1996?] 20? Months?? <-guess tg
- •! **Goal** [D-package] 18 months <- guess tg
- •! **Goal** [E-package and later] 10.8 Months <- R PROJECT 96 1.1 a "40% > D"
- •! **Goal** [Generally] ??? <- R PROJECT AS 3a
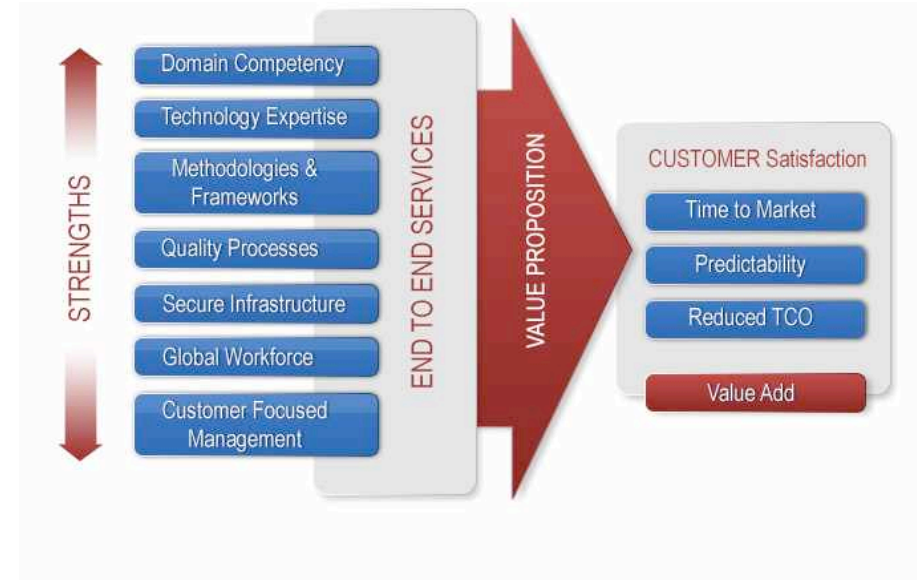 - –! *"10% Lead-Time reduction compared to any benchmark".*
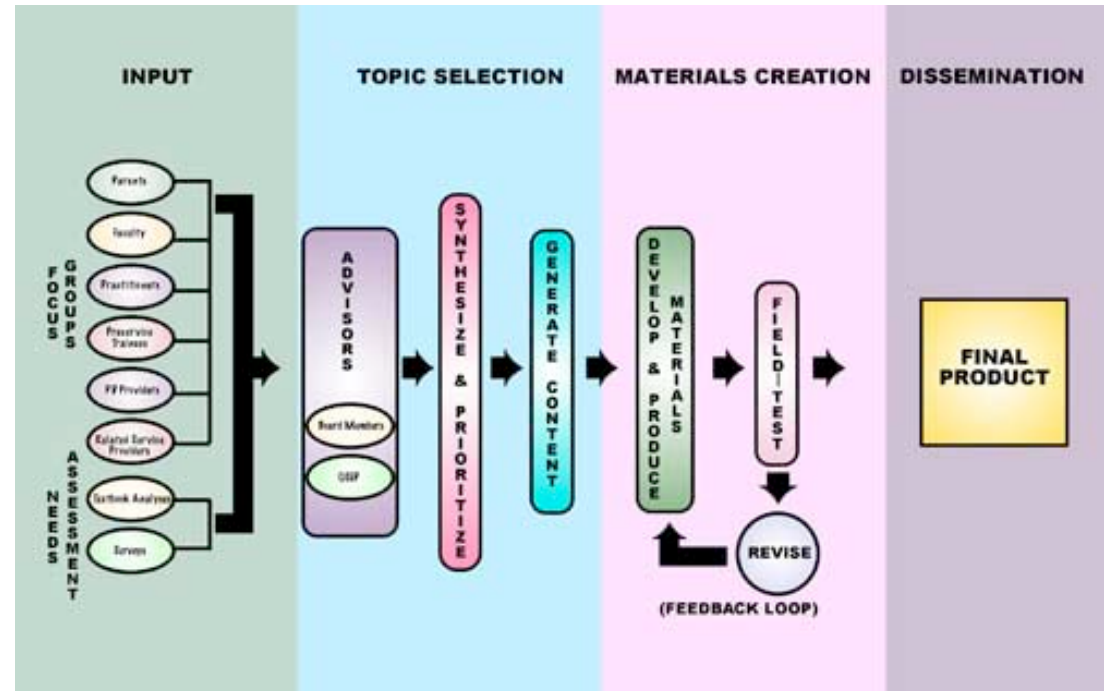
Predictability of Time To Market:

- TTMP: **Predictability of Time To Market:**
  - *Ambition: From Ideas created to customers can use it. Our ability to meet agreed specified customer and self-determined targets.*
 - **Scale: % overrun of actual Project Time compared to planned Project Time**
    - **Project Time: Defined:** time from the date of Toll-Gate 0 passed, or other Defined Start Event, to, the Planned- or Actually- delivered Date of All [Specified Requirements], and any set of agreed requirements.
    - **Specified Requirements: Defined:** written approved Quality requirements for products with respect to Planned levels and qualifiers [when, where, conditions].
      And, other requirements such as function, constraints and costs.
  - **Meter: Productivity Project or Process Owner will collect data from all projects, or make estimates and put them in the Productivity Database for reporting this number.**
  - **Past [1994, A-package] < 50% to 100%> <- Palli K. guess. [1994, B-package] 80% ?? <- Urban Fagerstedt and Palli K. guess**
  - **Record [IBM Federal Systems Division, 1976-80] 0% <- RDM 9.0 quoting Harlan Mills in IBM SJ 4-80**
  - *"all projects on time and under budget"*
  - **[Raytheon Defense Electronics, 1992-5] 0% <- RDE SEI Report 1995 Predictability.**
  - **Fail [All future projects, from 1999] 5% or less <- discussion level TG**
  - **Goal [All future projects, from 1999] 0% or less <- discussion level TG**

STRENGTHS

Domain Competency
Technology Expertise
Methodologies & Frameworks
Quality Processes
Secure Infrastructure
Global Workforce
Customer Focused Management

END TO END SERVICES

VALUE PROPOSITION

CUSTOMER Satisfaction
Time to Market
Predictability
Reduced TCO
Value Add

Product Attributes:

- **Product Attributes:**
  - *"Keeping Product Promises."*
  - *Ambition: Ability to meet or beat agreed targets, both cost, time and quality. (except TTMP itself, see above)*
- ***Scale: % +/- deviation from [defined agreed attributes with projects].***
- *Past* **[1990 to 1997, OUR DIVISION]** at least **100%** ???
  - **<- Guess. Not all clearly defined and differences not**
    - **tracked. TSG**
- *Goal* [Year=2000, R PROJECT] **near 0%** negative deviation <- TsG for discussion.

12
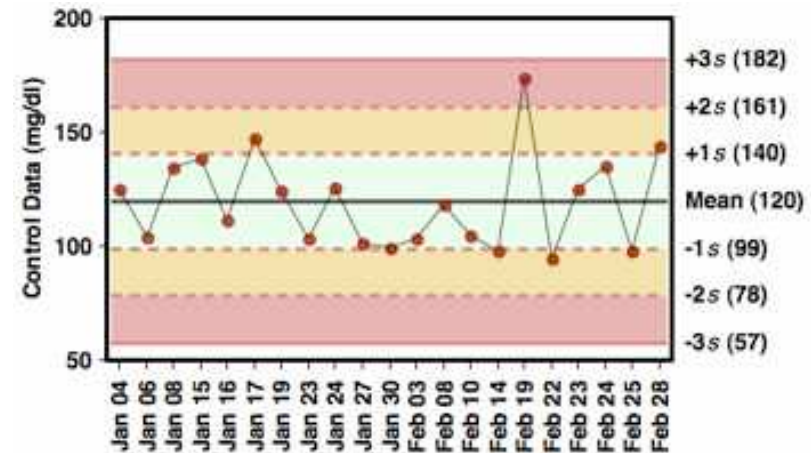
Customer Satisfaction

Customer Satisfaction:
"Customer Opinion of Us"

Scale: average survey result on scale of 1 to 6 (best)

Meter: The Company Customer Satisfaction Survey

Past [1997] **4**

Goal [1998-9?] **5** <- R PROJECT 96 1.1 b

TOTAL CUSTOMER SATISFACTION

Profitability

•! **Profitability:**
- –!*"Return on Investment."*

- –!*Ambition: Degree of saleable product ready for installation.*

- –!**Scale**: Money Value of Gross Income derived by
  - •![All R PROJECT Production OR
  - •! defined products] for
  - •! [Product Lifetime OR
  - •!a defined time period]
- –!Goal: <we did not complete this>

'Means Objectives' Samples
They use the
same *definition* process
as we use for the higher level objectives

15

Means Objectives

•! *"support Strategic Objectives"*

•! Summary:

–!**'Means Objectives'** are

•! not our major Strategic Objectives (above),

•! but each one represents areas which if improved

–!will normally help us achieve our Strategic Objectives.

–! Means Objectives have a lower priority than Strategic Objectives.

–!They must never be 'worked towards'

•! to the point where they reduce our ability to meet Strategic Objectives.

Complaints

Complaints:

    "Customer complaint rate to us"

Ambition:

    Means Goal: for Customer Satisfaction
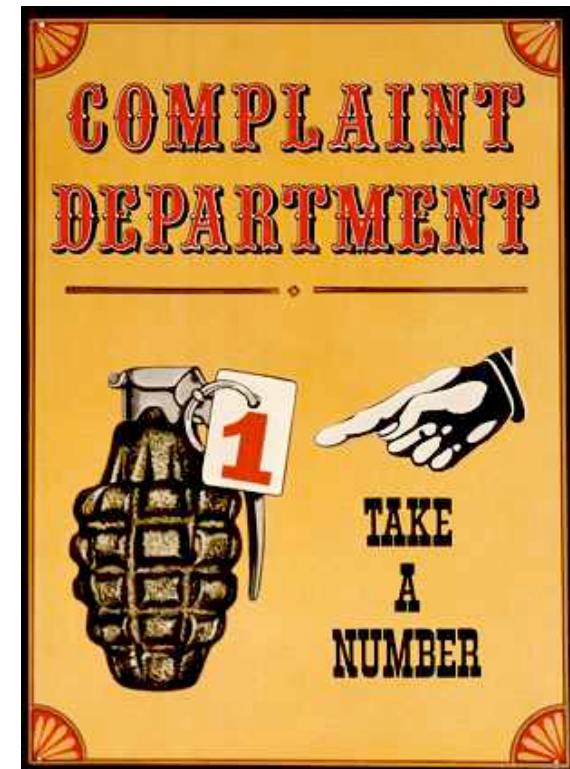   (Strategic).

Scale: number of complaints per customer in
    [defined time into <operation>]

Past [Syracuse Project , 1997] ?? <bad> <- ML

Goal [Long term, software component, in first
    6 months in Operation] **zero complaints** <-
    R PROJECT 96 1.1 b

 "zero complaints on software features"

Impacts: <one or more strategic objectives>

Feature Production:

- •! **Feature Production:**
    - •! *"ability to deliver new features to customers"*
  - –! ***Ambition****: reverse our <u>decreasing</u> ability to deliver new features <- R PROJECT AS 1.1*

  - –! **Scale**: Number of new prioritized <Features> delivered successfully to customer per year per software development engineer.

  - –! <u>Too Little</u>: **Past** [1997] ?? "estimate needed, maybe even definition of feature"

  - –! **Goal** [1998-onwards] **Too Little + 30% annually**?? <-For discussion purposes TsG.

  - –! "we need to <u>drastically</u> change our ability to effectively develop SW" <- R PROJECT AS 1.1

Release 12.3T

Major Release 12.4

Release 12.4T

Feature Set Frozen—Maintenance ONLY

Software Fixes

New Features and Hardware Support
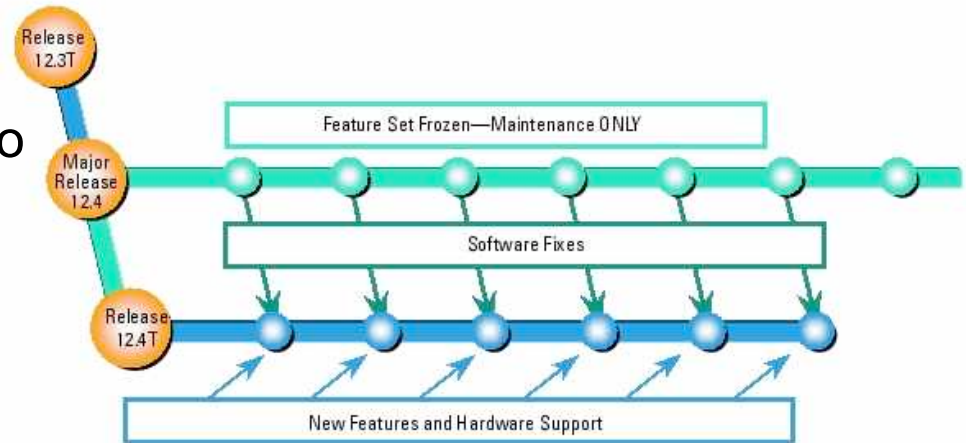
Note: Technology releases are those Cisco IOS Software releases that introduce new features, functionality, and hardware support.

Improvement ROI:

Improvement ROI:

"Engineering Process Improvement Profitability"

Ambition: Order of magnitude return on investment in process improvement.

Scale:

The average [annual OR defined time term] Return on Investment in Continuous Improvement as a ratio of [Engineering Hours OR Money]

Note: The point of having this objective is to remind us to think in terms of real results for our process improvement effort, and to remind us to prioritize efforts which give high ROI. Finally, to compare our results to others. <-TsG

Record

_____[Shell NL, Texas Instruments , Inspections] 30:1 <- Independently published papers TsG

Past

_____[IBM RTP, 1995, DPP Process] 13:1 <- Robert Mays, Wash DC test conference slides TsG

[Raytheon, 1993-5, Inspection & DPP] $7.70:1 <- RDE Report page 51 ($4.48 M$0.58M) Includes detail on how calculated. PK has copy.

[IBM STL, early 1990's] Average 1100% ROI (11:1) <- IBM Secrets pp32. PK has copy. NB Conservative estimate. See Note IBM ROI below.

ROI OF SOFTWARE PROCESS IMPROVEMENT

Metrics for Project Managers and Software Engineers

KRUGERRAND

FYNGOUD 1oz FINE GOLD

DAVID F. RICO

Foreword by Dr. Roger S. Pressman

2004

19
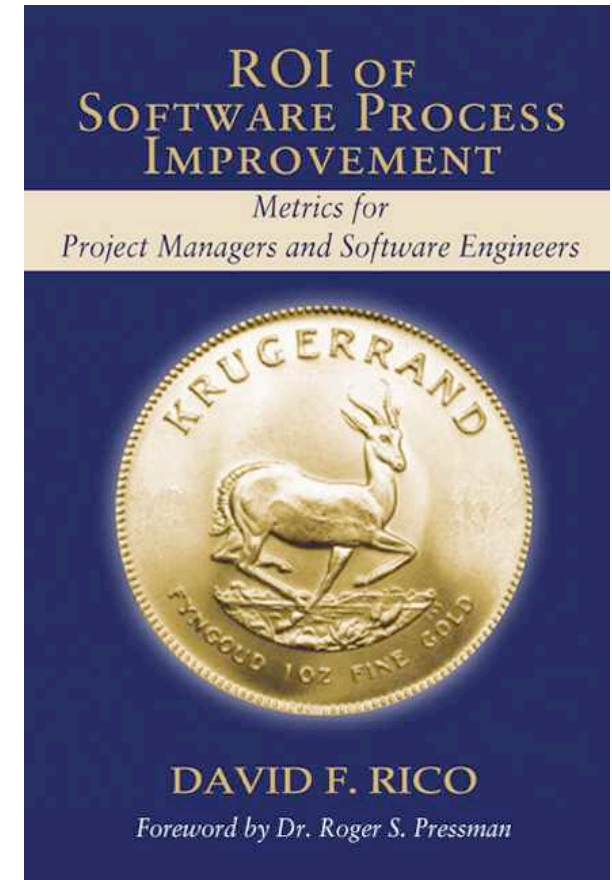
Finance Organization Case

- ! This case, 2007, is about defining an improved financial IT organization
- ! For a large multinational
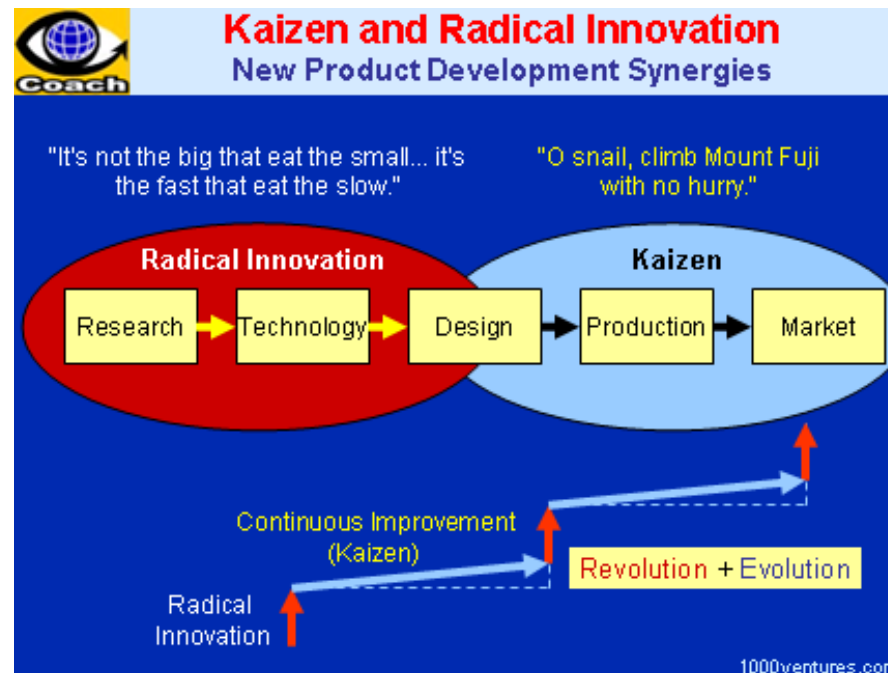
Defining
the Premier
IT Organization

Presentation
to XXXXX
from Tom Gilb

Intended for his reuse. May 2007

Updated Front End: May 4 17:5

Sanitised for Public Example Use

The Premier IT Organization

- ! Our new 'fact-based' CORP IT culture:
  - ! Organizational Culture -> Quantum Improvements
  - ! 5 Pillars Defined in terms of measurable performance attributes (Scorecard KPI's) of our organization
    - ! Present Levels of IT organization's performance = numeric
    - ! Best Practice Levels = numeric
    - ! Our Future Planned Goal levels = numeric
  - ! Why?
    - ! Differentiate ourselves competitively from competitors
      - ! Competitive Advantage
    - ! Communicate much better/clearer/focussed with everybody
      - ! Faultless Communication
    - ! Faster Response to change needs
      - ! Agility
    - ! Radical improvement in capability and smart decision-making for our professionals and managers
      - ! Superior Decisions
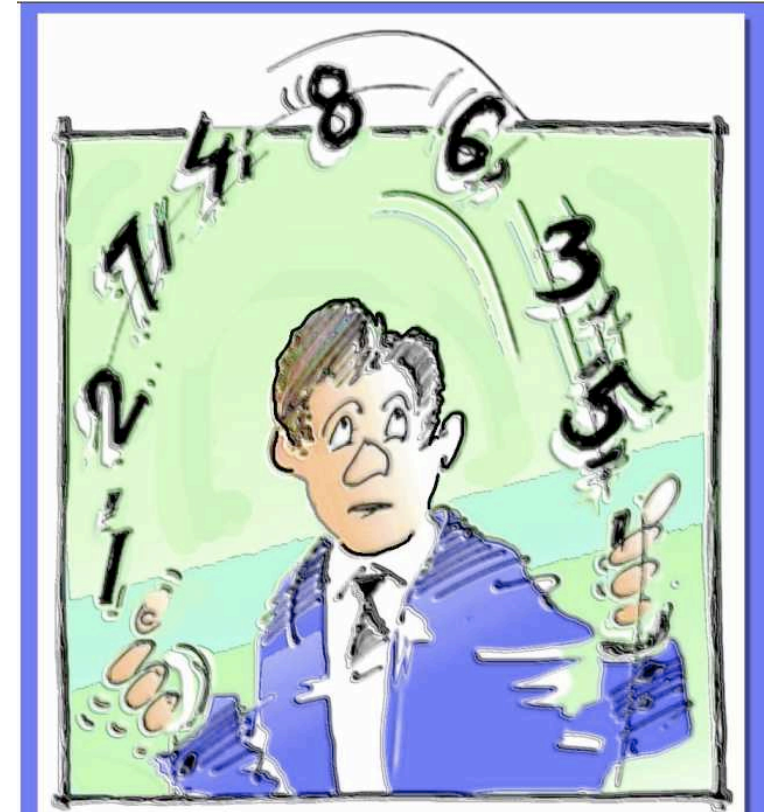
The Premier IT Organization is based on the Pillars

- ! Pricing
  - ! because we must deliver high return for investment
- ! Quality
  - ! because quality determines our business capability
- ! Capability
  - ! because IT organizational capability determines our capacity to serve the business competitively
- ! Risk
  - ! because managing risk, reduces unnecessary surprises
- ! People
  - ! because we need the best minds, equipped with the best tools
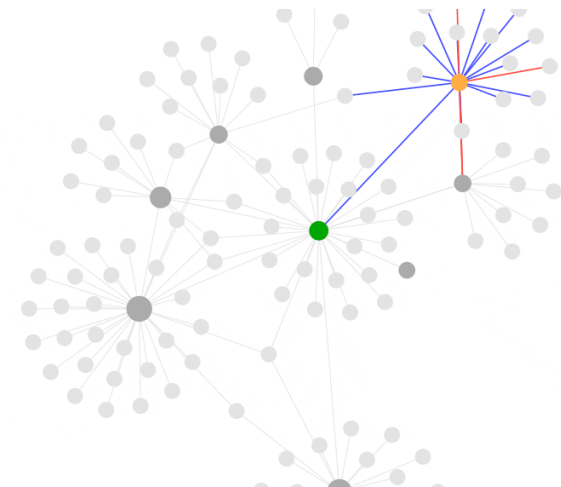
Pricing Pillar: Managed Elements

- **Estimation Skills**: ability to understand what things really cost
  - because we need realistic understanding of costs, to make smart investment decisions
- **ROI**: Business Benefits related to real costs
  - Superior return on IT Organization Improvement investments
- **Cost Level**: our recurrent costs of delivering service
  - because we need to learn to work smarter, not harder
- **Budget Commitment**: our ability to stay within budgets and deadlines
  - Because we need ability to deliver essential value within planned budgets
- **Relentless Waste and Cost Reduction**: Our ability to trim off unnecessary cost element.
  - because we need to root out unnecessary cost elements for delivering first class value to the business

Carved pillars dating 1024 a.D. of Sun Temple. Modhera. Gujarat, India

Quality Pillar: Managed Elements

- **Availability**: IT service when the business needs it.
  - because it is expected and needed, and can be managed
- **Usability**: design to improve business productivity.
  - because we can multiply business peoples productivity greatly by premier interface design
- **Maintainability**: fast and safe fixes and enhancements
  - because we cannot tolerate errors and small irritations
- **Flexibility**: ability to change/adapt to new business and technical situations, without disproportionate costs
  - because we must expect big changes, and design to live competitively with them
- **Scalability**: ability to grow volume without disproportionate costs
  - Because we must expect growth, but not disruption
- **Security**: absolute trustworthy IT systems, for any threats
  - because we can outwit the threats, and build trustworthiness

The Five Pillars *of* Organizational Excellence

I II III IV V

Presenting a quintet of methods to achieve quality
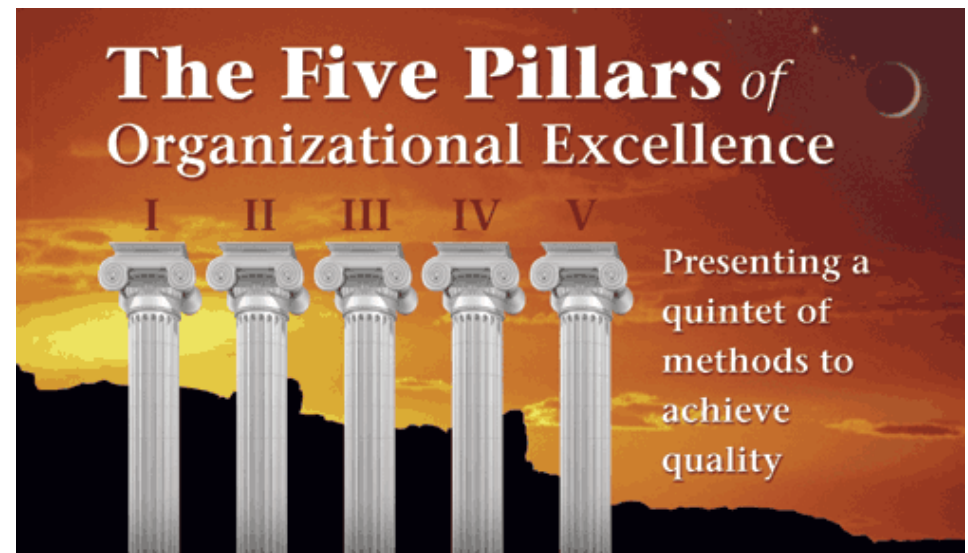
Capability Pillar: Managed Elements

- **Commitment Capability**: ability to deliver against commitments
  - Because we need to avoid eating up perceived profit
  - Because we need to deliver when the business needs it
- **Communication**: avoiding the waste of imperfect communication
  - Because we need to reduce the calendar time to get it right
  - Because we need to reduce the cost of wasted effort
  - Because we can not afford to waste time of our great IT and business people
- **Resource Deployment**: smartest prioritization of our resources
  - Because we we need to outsmart the competition
  - Because we need to quickly move resources to the best investment
- **Business Alignment**: deep and conscious specific alignment to real business needs
  - Because that is our main reason for being
  - Because we *can* deliver superior business capability by focusing better
- **Competitive Advantage**: giving our business the best tools to fight for profitable business
  - Because that is the main competitive battleground for us
- **Platform Capability**: making sure that current IT platforms do not reduce our capability to deliver what the business needs
  - Because we cannot afford to restrict the business because of technology
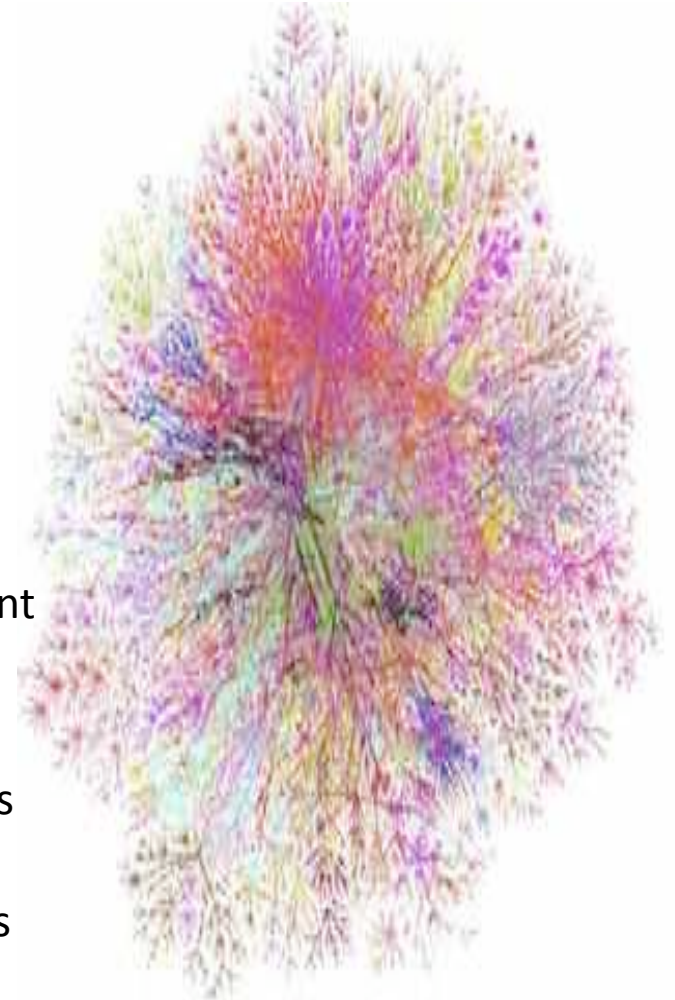
Risk Pillar: Managed Elements

- **Mandatory Risk Control**: risks we are legally obliged to tackle at any necessary cost
  - Because we have no choice, trustworthiness
- **Discretionary Risk Control**: risks we can choose to tackle be cause it pays off or is good business
  - Because we have a choice and can create competitive advantage by making smart choices early
- **Security Risks**: risks regarding threats to the integrity of our IT systems
  - because it pays off, and adds trustworthiness
- **Business Continuity Risks**: risks that might cause partial business disruption
  - Because it is necessary insurance for survival and trustworthiness

People Pillar: Managed Elements*

* not detailed elsewhere yet :)

- **Superior Smart Decision-Making**: best basis with the best decision process
  - Because great minds are an awful thing to waste on poor data and bad decision-making processes.
- **Enthusiasm**: I love my job and the assignments I am getting.
  - Because positive enthusiasm is the fuel that drives us towards being the Premier IT organization
- **Empowerment**: I have the power, budget and discretion to reach our goals.
  - Because strong empowerment is necessary for Premier level responsibilities
- **Commitment**: I can't imagine a better place to develop my career
  - Because we need to retain the best people in the long term
- **Teamwork**: the ability to effectively help a team reach their goals
  - Because everything we do is a team game
- **Learning Ability**: the ability for groups and individuals to systematically and rapidly learn from experience.
  - Because our game is complex and the fastest learners are the winners

TRIBES LEARNING COMMUNITY

IT Planning Policy Summary

- ! We are going to increase our 'focus'
- ! By *Quantification*, of:
  - ! Objectives
  - ! Strategies
  - ! Practical Progress

Planning Policy

Planning Policy for the Premier IT Organization

Outcome Goals
Save Lives and Prevent Injuries.

Intermediate Outcome Goals

Reduce the Occurrence of Crashes

Mitigate the Consequences of Crashes

Program Outputs

Presidential Management Agenda
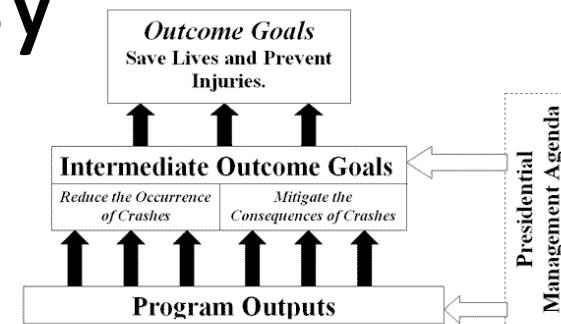
Quantified Quests
"Numeric Goals and Plans"

Critical Competence
"Prioritize Most Critical Areas"

Measurable Meritocracy
"Be measurably better"

Prioritize Profit
"Benefits/Costs Rule"

V5000 Sales Goal

Consolidated (in ¥100M)

Non-Consolidated (in ¥100M)

| 2,080 | 2,641 | 2,164 | 2,143 | 2,648 | 3,303 | 3,865 | 4,432 | 5,000 |
| 1,634 | 2,141 | 1,523 | 1,615 | 2,076 | 2,587 | 3,014 | 3,437 | 3,860 |

4,196 (Consolidated)

3,112 (Non-Consolidated)

FY2000 FY2001 FY2002 FY2003 FY2004 FY2005 FY2006 FY2007 FY2008

Jack Welch with Suzy Welch WINNING

pSPIEL

Optimal algorithm

Greedy–Connect

Distance–weighted Greedy

Mutual information

Communication cost

1. Quantified Quests: POLICY

- ! The formal, official, and agreed definition of our ambitions is,
    - ! fully defined in our quantified objectives:
    - ! "CORP IT Organizational Objectives"

- !

- ! Actions supporting:
    - ! continuously update these objectives.
    - ! update and review specific plans for reaching these objectives.
    - ! track actual progress towards objectives, and deal with deviation.
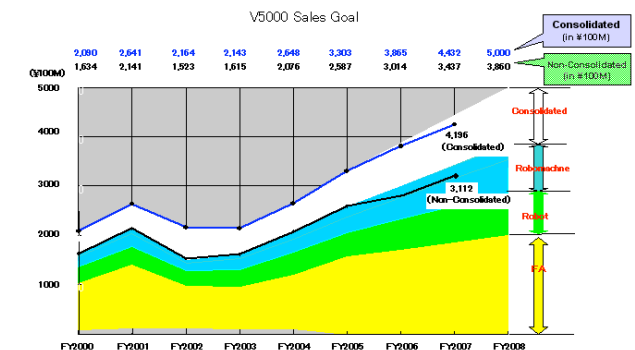
2. Critical Competence: POLICY

- ! Our primary priority is
  - ! to systematically get better,
  - ! in critical areas of competence
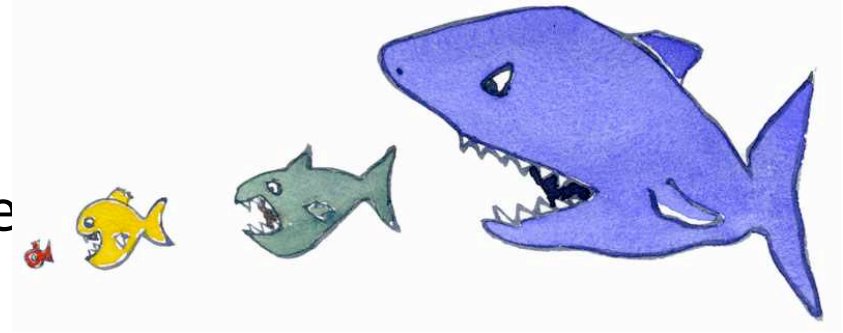
- ! Consequently, we need to :
  - ! Identify currently most critical improvement areas.
  - ! Identify the numeric Goal level of of Premier Performance.
  - ! Make sure resources are allocated to the critical areas.

3. Measurable Meritocracy : POLICY
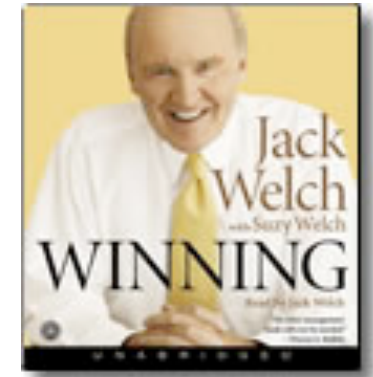
- ! Our continuous and long-term ambition is
    - –! to clearly be the measurably superior IT Organization,
    - –! compared to our competitors.

- ! Consequently we need to:
    - –! Benchmark: Find out the levels of performance in our critical areas, exhibited by competitors, and by leading IT organizations.

4. Prioritize Profit: POLICY

- ! Change investment proposals
  - ! that have the highest Benefit/Cost ratios
  - ! should get the highest priority
  - ! for near-term implementation.
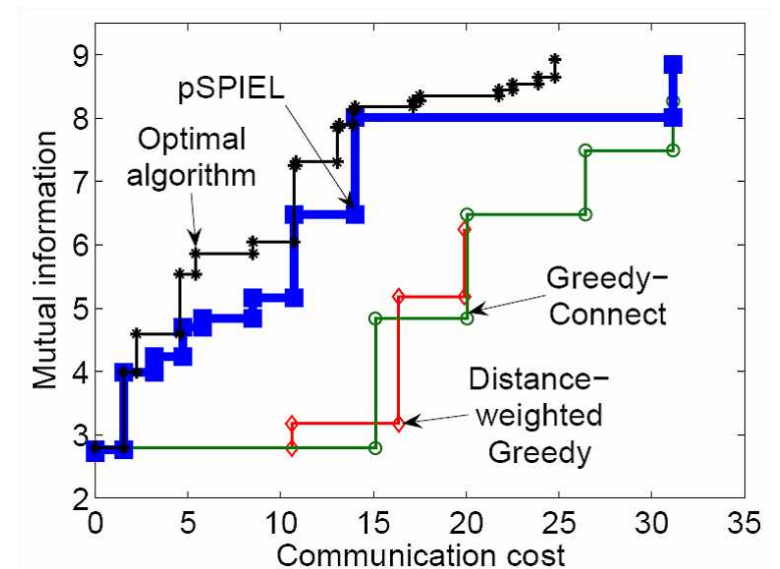
Principles of The Premier IT Organization

•! The IT Planning Policy leads to some practical principles for planning;

 –! All based on the notion of quantifying critical factors, in order to:

   •! get control over our results

   •! focus intensely on priorities

   •! communicate clearly
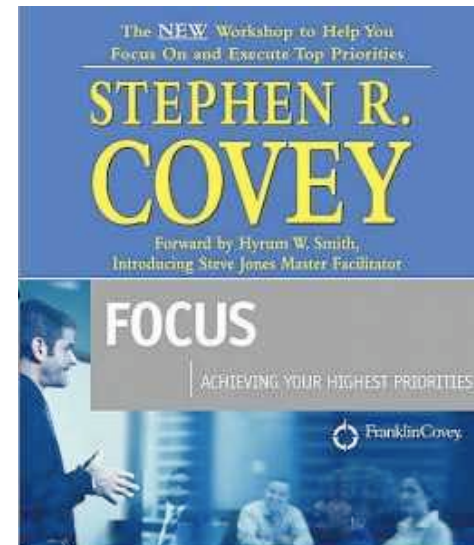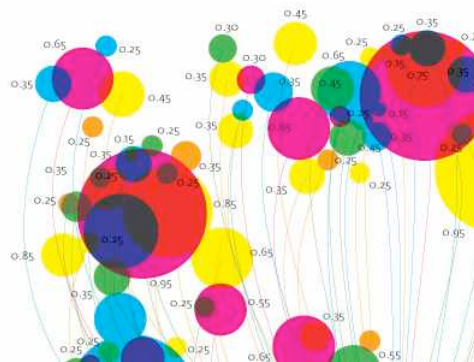
Principles of Premier IT Organization

Premier Planning Principles "Quantified Culture"

Relevant Ambitions "Quantified Relevance"

Quantified Ambitions "Numeric Improvement"

Smart Prioritization "Priority Quantification"

Real Results "Measure All Results"

Planned proof "Plan to Prove Results

Strategy Success "Estimate Strategy Impact""

Tacit   Dialogue   Explicit

Tacit

Socialization
Sharing experiences
Observing, imitating
Brainstorming
without criticism

Externalization
Writing it down
Creating metaphors
and analogies
Modeling

Field
Building

Linking
Explicit
Knowledge

Explicit

Internalization
Access to
codified knowledge
Goal based training

Combination
Sorting, adding,
categorizing
Methodology creation

Best practices

Learning by Doing

Principles Summary: see next →

1. **Relevant Ambitions**: Our ambitions must be *quantifiably* relevant to *our business*, not blindly copying competitor's methods and levels of competence.

2. **Quantified Ambitions**: Our ambitions for improvement are always quantified, in terms of useful Organizational Results, that can be clearly related to Business Results

3. **Smart Prioritization**: Our short term plans are made with a quantification of benefits and costs, of our most critical priorities; we focus our limited resources where it will do our business the most good.

4. **Real Results**: if you cannot actually measure the projected effects of your improvement initiative, then you have probably failed, and should at least learn why you failed.

5. **Planned Proof**: you must plan, budget for and carry out early pilot, acceptance and operational measurement of how your initiative or strategy is really working. If not, you are not serious, and should not be doing it here.

6. **Strategy Success**: for any proposed improvement initiative or strategy you must make the best estimate you can make, with evidence, sources and plus/minus uncertainty – as the basis for 'selling' the idea. Ideas without quantified benefit assertions cannot get priority over those that do have them.

"OUR PERMANENT AMBITION."

1. Relevant Ambitions:
Focus on Being Customer-Relevant!

- •! **Our ambitions must be**
  - —! **quantifiably relevant to our business,**
    - •! **not blindly copying competitor's methods and levels of competence.**

2. Quantified Ambitions: Quantification Clarifies and Communicates

- ! Our ambitions for improvement are
    - ! always quantified,
    - ! in terms of useful Organizational Results,
    - ! that can be clearly related to Business Results.

3. Smart Prioritization: Prioritize Profitability!

- Our short term plans are
  - made with a quantification of benefits and costs
  - of our most critical priorities;
  - we focus our limited resources
    - where it will do our business the most good.

4. Real Results:
Reality counts,
learn quickly if you fail.

- ! if you cannot actually
measure the projected effects
of your improvement initiative

  - ! then you have probably failed,

  - ! and should at least learn why you failed.

5. Planned Proof:
Prove it in practice!

- ! you must plan, budget for and carry out
  - ! early pilots,
  - ! acceptance and operational measurement
    of how your initiative or strategy
    is really working.
- ! If not,
  - ! you are not serious
  - ! and you should not be doing it here.

6. Strategy Success:
"Prove your idea!"

- ! for any proposed improvement initiative or strategy
  - ! you must make the best estimate you can make,
    - ! with evidence,
    - ! sources
    - ! and plus/minus uncertainty
    - ! – as the basis for 'selling' the idea.
- ! Ideas without quantified benefit assertions
  - ! cannot get priority over those that do have them.
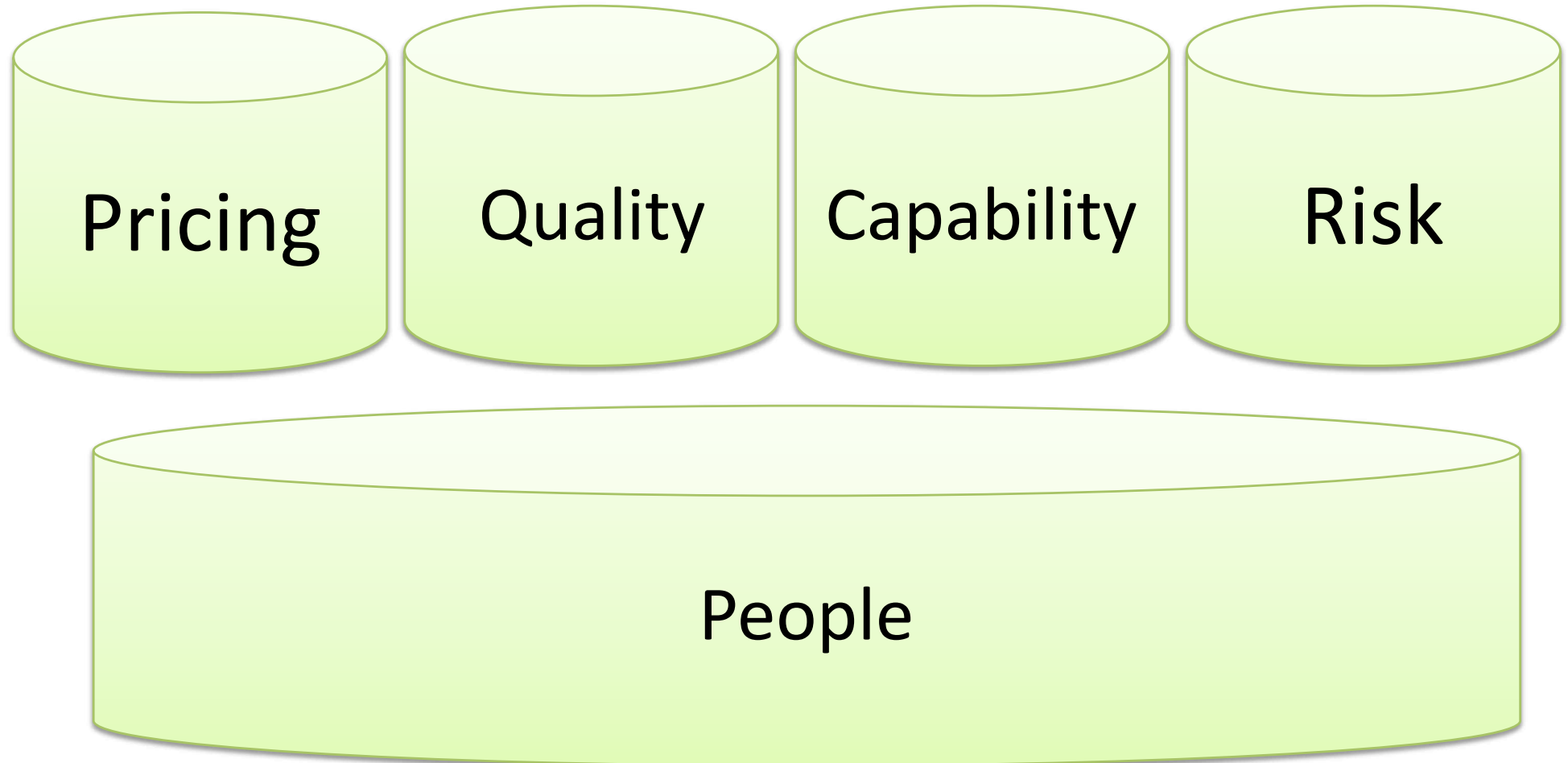
Defining A Premier IT Organization in terms of the Pillars

What
Strategic IT Objectives
(Our desired future state)
Quantified!

- ! Quantified Performance Objectives
  - ! Past Performance
    - ! (how 'bad' are we today?)
  - ! Best known levels of performance
    - ! (us, competitors)
  - ! Goals: short term and longer term
    - ! (becoming "Premier")
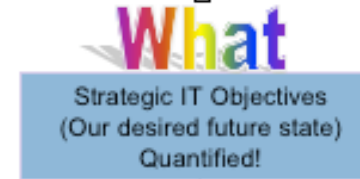
How Good?

Defining Strategies for Reaching Goals

- ! Quantified-impact Strategies
  - ! means objectives:
    - ! quantified future supporting levels of performance, or
  - ! specific strategies
    - ! for getting to strategic objective levels
  - ! And the quantified expected impacts of these strategies on our strategic Goals can
    - ! be estimated in an Impact Estimation Table,
    - ! or in the specification of the strategies themselves ("Impacts")

Defining Premier IT Organization

What

How

How Good?

Strategic IT Objectives
(Our desired future state)
Quantified!

Strategies
How we plan
to meet Strategic IT Objectives

Evo Plans
When and how
we plan to deliver results

Evo Project Reports
Current report of progress
towards our Goals

When

How Far?

Means Objectives
Levels of Performance
necessary to reach
Strategic Objectives

Distinct Strategies
Specific Initiatives
to directly impact
Strategic Goal levels

Distinct Strategies
Specific Initiatives
to directly impact
Means Goals

Pricing Pillar Model

Pricing

Pricing Pillar Model

Pricing

Return On Investment (Value for Money)	Relative Cost Level
Estimation Ability . (see next slide for detail)	Estimation Correctness
Estimation Commitment Ability	

Scale:

**Average % negative deviation
from defined [Commitment Level]
at defined [Measurement Point]
for defined [Cost Type].**

Detail on Estimation Ability
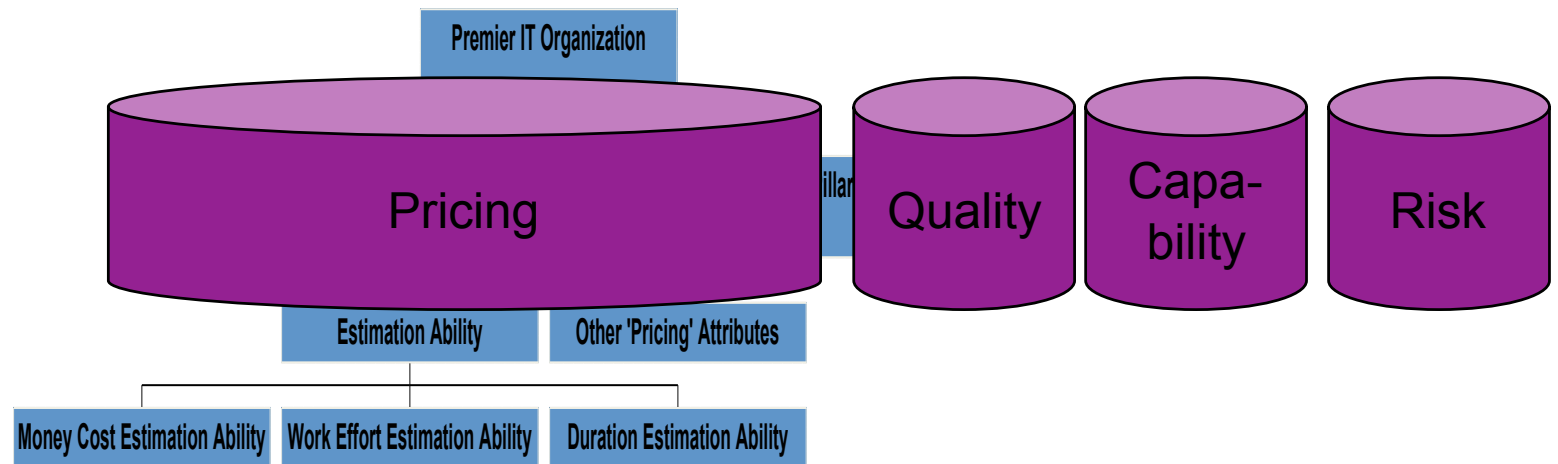
Defining Scales of measure

Premier IT Organization

Pricing

Qua-lity

Capa-bility

Risk

Estimation Ability

Other 'Pricing' Attributes

Money Cost Estimation Ability

Work Effort Estimation Ability

Duration Estimation Ability

Scale: % deviation of final real money cost compared to specified (approved budget) estimated money cost, for defined [Capability].

Scale: % deviation of final real work effort compared to specified (approved budget) estimated work effort, for defined [Capability].

Scale: % deviation of final real calendar time duration compared to specified (approved budget) estimated calendar time duration, for defined [Capability].

Quality Pillar Model

Quality

Quality Weakness

Premier Level

IT Product
Quality Levels

Regulation Conformance

Process Auditibility

System Auditability

Service Quality levels

Development Quality Levels

Maintenance Quality Levels

User Productivity Quality levels

Scale: % of audited
defined [User Service Levels]
that were in fact delivered.

Scale: Cost of defined [Audit Type]
as % annual cost
of a defined set of [Systems].

Capability Pillar Model

Capability

Estimation Commitment Ability

Human Capability

Business Alignment

Competitive Advantage

Human Communication Ability

Human Resource Adaptability

Scale: % probability that defined [Message Types] are in practice interpreted *as intended* *by defined [Sender Type]*, by defined [Recipients] under defined [Conditions], for a defined [Communication Process].

Scale: the Calendar Time needed to Redeploy defined [Resource Types] for defined [Task Types] of defined [Priority] with defined [Effectiveness].

Scale: % ratio of Alignment Defects to total Alignment Opportunities (= Alignment Defects + Alignment Items).

Scale: number of times a strategy or other plan element directly references this (Impacts: Competitive Advantage) or we judge any defined strategy, or impact, to give our clients significant Competitive Advantage per Logical Page of planning

Risk Pillar Model

Data Security

Risk

Business Continuity

Controlled Risk

Uncertainty

Recklessness

Failed Mitigation

Scale:
% of Potential Risk Elements
that are in fact specified with planned mitigation

Scale: % of all finally identified risks or threats that crop up during **real** system **use** {IT testing and user operation}, which *should* ideally have been identified by **Intellectual** Processes {requirements, architecture, planning, programming}

Scale: % of all finally (through operations experience) identified risks which were either not properly identified at all, or were not properly mitigated (planning and effective execution of mitigation)

Scale: % of specified risk mitigation strategies that failed to curb the risk and negative consequences as they should have, for defined [Reasons].

People Pillar

People

- Superior Smart Decision-Making
- Enthusiasm
- Empowerment
- Commitment
- Teamwork
- Learning Ability

People Pillar: Managed Elements*
* not detailed elsewhere yet :)

- **Superior Smart Decision-Making**: best basis with the best decision process
  - Because great minds are an awful thing to waste on poor data and bad decision-making processes.
- **Enthusiasm**: I love my job and the assignments I am getting.
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  - Because everything we do is a team game
- **Learning Ability**: the ability for groups and individuals to systematically and rapidly learn from experience.
  - Because our game is complex and the fastest learners are the winners

Objectives Hierarchy [CIO Level]

Fundamental

Strategic [CIO]

Fundamental Objectives
for CIO

Improve Profitability
Fundamental Corp Objective

Grow Revenues
Fundamental Corp Objective

Improve Processes
Strategic CIO Objective
'Fundamental' for CIO's IT Staff

Scalable Technology
Strategic Objectives for IT Staff

Flexible Technology
Strategic Objectives for IT Staff

People Management
Strategic Objectives for IT Staff

Means Objectives [CIO View]

Pillars Support Quantified Higher-level Objectives
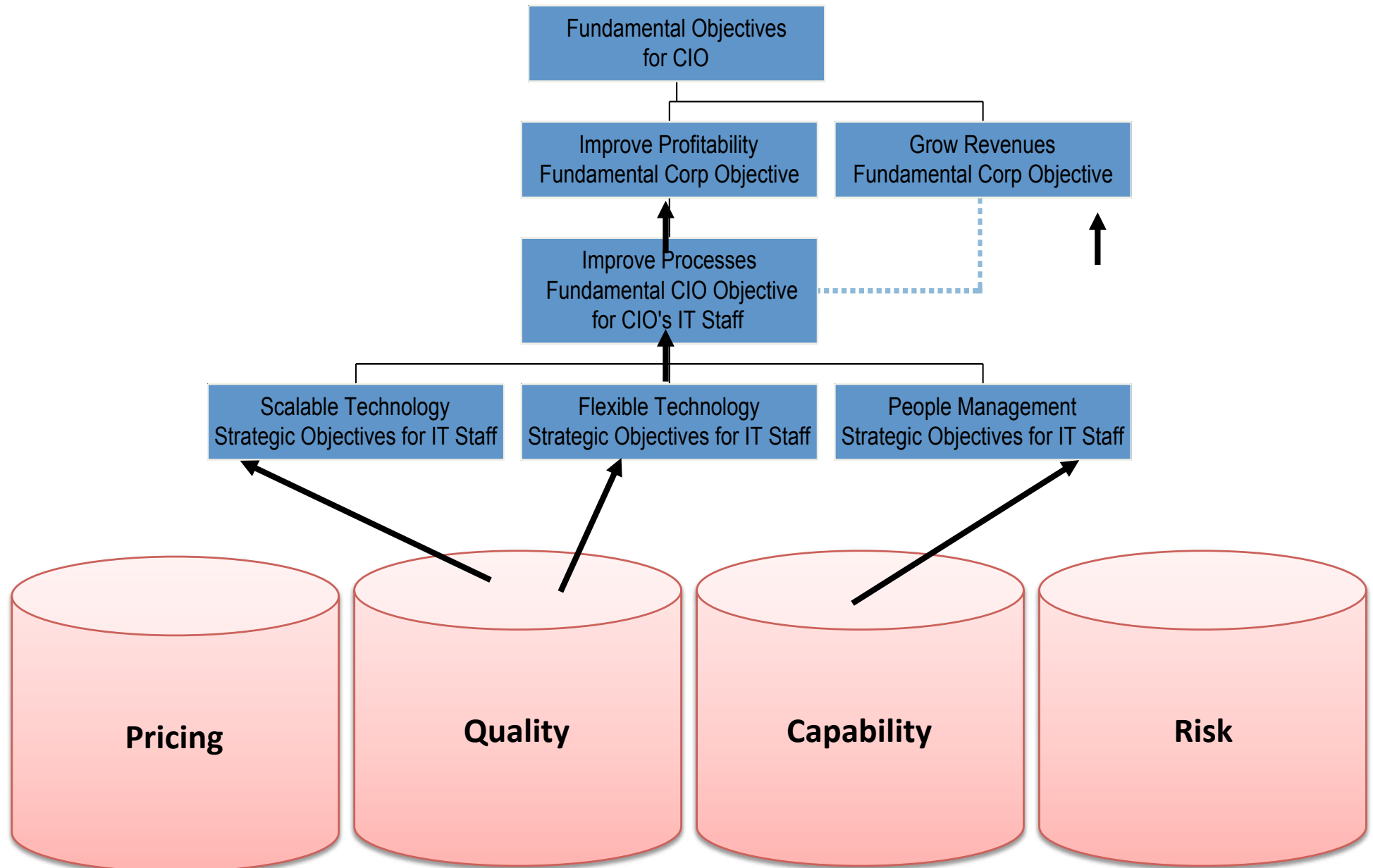
Example

•! How would you measure:

•! "Human Communication Ability" ?

–!See next slide →

Example of Generic Pillar Objective

If this detail is 'too much' see next slide!

- •! Human Communication Ability:
    - •! *"Generic model covering all such HC Ability".*
    - –! Scale: **Major defect rate density** (default per 300 words Logical Page) for defined [Message Types], items that are in practice not **interpreted or interpretable, as intended, by defined** [Sender Type], by defined [Recipients] under defined [Conditions], for a defined [Communication Process].
        - •! Meter: Specification Quality Control, and Agile Inspections, can be used to measure this to some degree. But only for People via Document, not Direct Oral communication.
            - –! Source: Gilb: CE book, SQC Chapter, and Agile Inspection paper (included in kit sent with this suggestion).
        - •! Past: 60 to 200 Major defects/Page <- assertion TG based on Inspection data
        - •! Goal [CORP, Long Term, Communication Process = First Submission] **less than 1 Major defect** on the first submission).

Sorry About all the detail!

- ! Human Communication Ability:
  - Scale: "unintelligible ideas"
    - !Meter: count fuzzy words and statements
    - !Past: awful! 100 or more fuzzies per page!
    - !Goal : almost totally clean!

Example of Same Objective, with Focus

- **Human Communication Ability [IT Requirements]**:
  - **Scale**: Major defect rate density for defined [**Message Types**] are in practice NOT interpreted *as intended by defined [**Sender Type**]*, by defined [**Recipients**] under defined [**Conditions**], for a defined [**Communication Process**].

  - **Past** [CORP London, Message Type = {Business Requirement, Per 300 Words}, Sender Type = Business Analyst, Recipients = IT Requirements Specialist, Conditions = {Well-trained Business Analyst, Untrained in Planguage Business Analyst} , Communications process = Unstructured Text Written Document, Time = End 2006 , Business Area = IT] more than **80.0** majors/300 words. <- example of real measure from 8 development projects

  - **Best Practice** [Message Type = {Business Requirement, Per 300 Words}, Sender Type = Business Analyst, Recipients = IT Requirements Specialist, Conditions = {Well-trained Business Analyst, Untrained in Planguage Business Analyst} , Communications process = Unstructured Text Written Document, Time = End 2006 , Business Area = IT, C-Crop] less than **10.0** majors/300 words. <- real 6 months improvement result
  -
  - **Goal** [Message Type = {Business Requirement, Per 300 Words}, Sender Type = Business Analyst, Recipients = IT Requirements Specialist, Conditions = {Well-trained Business Analyst, Untrained in Planguage Business Analyst} , Communications process = Unstructured Text Written Document, Deadline = End 2008 , Business Area = IT] less than **1.0** majors/300 words <- premier IT company level. It might not pay off to get better.

Simplified!

- Human Communication Ability [IT Requirements]:
  - **Scale: density of fuzzies per page**
    - Past: > 80
    - Best Practice   10
    - **Goal: < 1**

Notice how the '[Qualifier]' helps us zoom in on real and specific problems of high priority?

1.!   [Message Type = {Business Requirement, Per 300 Words},

2.!   Sender Type = Business Analyst,

3.!   Recipients = IT Requirements Specialist, Conditions = {Well-trained Business Analyst, Untrained in Planguage Business Analyst} ,

4.!   Communications process = Unstructured Text Written Document,

5.!   Deadline = End 2008 ,

6.!   Business Area = IT]

[Qualifier] Simplified

(go back a slide if this is not detailed enough!)

1.! Requirements Page

2.! Analyst writes it

3.! IT rewrites it clearer

4.! Starting with ordinary text

5.! Deadline = End 2008 ,

6.! Business Area = IT

Moving Towards a Specific best Practice Goal
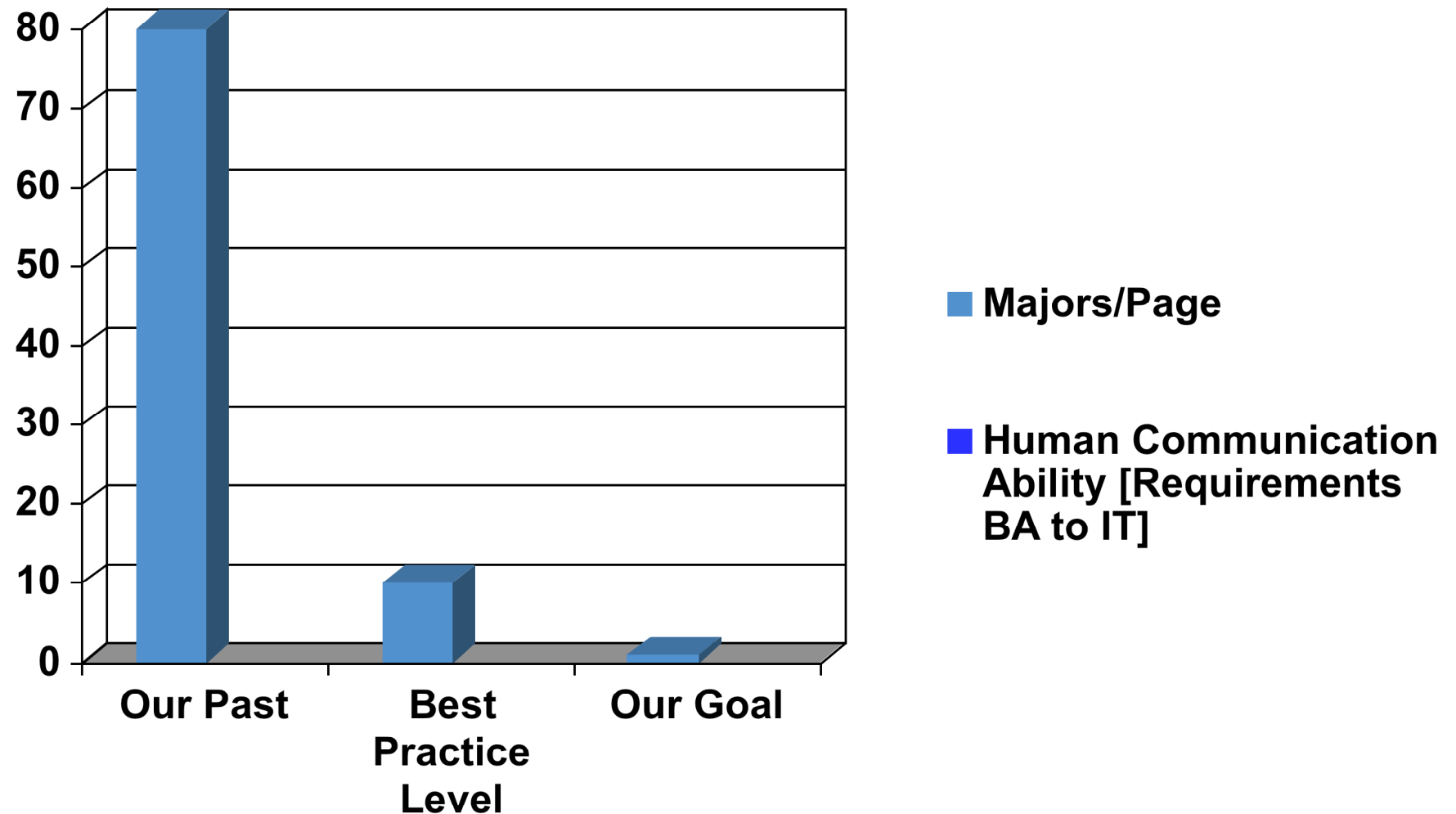
So how do we reach our goal on time? :
"Clarify Requirements"

Strategies to Reach the Goal
"Specific Means to our Specific Ends"
Strategy = Clarify Requirements

Use Planning Language
"Planguage"
defined in Gilb: 'Competitive Engineering" 2005

Measure and Motivate Using Sampling Inspections
now known as 'Agile SpecificationQuality Control
See CE book chapter on Spec QC

Pilot The method on Critical London DV Projects
Projects X, Y , Z

Hold 3 day training course in Requirements using Planguage

Write at least sample of requirements in Planguage

Get Consultant Help to mentor requirements writers first time

Trial Spec QC to make sure defects are reduced sharply

Establish Official 'Rules' for Our Requirements

Top Level Practical Strategy

- ! **Clarify Requirements:**
  - ! Type: Complex Strategy
  - ! Includes {Planguage Requirements, Requirements SQC, London DV Pilot}.
  - ! Supports: **Human Communication Ability [IT Requirements]**.Goal [End 2008].
  - !   Impact: 100%
  - !   Assumptions: serious focus and management support for 1.7 years, to get to 1.0 majors/page.
  - !
  - ! ------------   Sub-strategy definitions ------
  - ! **Planguage Requirements.Training**:
  - ! **Planguage Requirements.Mentoring**
  - ! **Sample Inspections with Exit Control**

Simplified

- ! Clarify Requirements:
  - !Here is how we are going to make sure that our requirements are extremely clear!

  - !<- "High-Quality, innovative and cost-efficient technology solutions, giving a unique competitive advantage to our business." <-   CIO April 18,2006 slide 6

Detailed Sub-strategy 1 of 3

Planguage Requirements.Training:

Type: Strategy

Component of: Clarify Requirements.

Summary: 3 day training course.

Detail: the course is provided for IT requirements analysts who participate in this initial trial. The subject is writing requirements to the defined Rules for IT requirements. The basis teaching is Gilb, Planguage as in "Competitive Engineering" book.

Impact: 10%±5%, limited impact alone , unless mentoring, measurements, exit control added.

Costs:

Training Cost: £6,000 instructors cost courses (3 days up to 40 students). Long term effect (years).

Requirements writing cost: assumed to not be more than sloppy writing.

Implementation Person Responsible: ?

Pilot projects: X, Y , Z

Initiation Date: 1 June 2007

First Results: within 3 weeks

Intermediate Results (< 10 Majors) within 6 months of initiation on all pilot projects

Final Results: End 2008 (the 1.0 defects)

Simplified

–!Planguage Requirements.Training:

  •! Train requirements writers to write exceptionally clearly.

  •! "Improve: drive significant process improvement ..."

  •! <- CIO, slide 7 April 18 2006

Detailed Sub-strategy 2 of 3

—! Planguage Requirements.Mentoring:

- ! **Type**: Strategy

- ! **Component of**: Clarify Requirements.

- ! **Summary**: Consultant helps trained IT requirements writers practice on real requirements.

- ! **Impact**: 5% alone, major effect combined with sister strategies here.

- ! **Costs**: Consultants £2-3,000/day, can work with about 4 projects (2 people on 2 half days each project).

Simplified

–!Planguage Requirements.Mentoring:

•! Make sure clear requirements training works immediately.

•! "Maximize IT execution and responsiveness for selected high-priority business initiatives that will enable competitive advantage" <- CIO, slide 13 April 2006

Detailed Sub-strategy 3 of 3

- **!** Sample Inspections with Exit Control:
  - **–!** **Type**: Strategy
  - **–!** **Version**: May 3 2007 tg
  - **–!** **Summary**: Agile Inspection (see Gilb papers and CE book) are used to measure defect density, and determine Exit to process.
  - **–!** **Detail**: the method process is described in detail in Gilb paper: "Agile Specification Quality Control: Shifting emphasis from cleanup to sampling defects" (in Documentation package following this paper, and downloadable from www.gilb.com)
  - **–!** **Process Detail**: in Gilb, CE book page 244-45.
    - **!** Agile SQC Process
    - **!** **Tag**: Agile SQC. **Version**: April 18, 2005. **Owner**: Tom@Gilb.com. **Status**: Revised Draft.
      - **–!** **Entry Conditions**
    - **!** A group of two, or more, suitable people* to carry out Agile SQC is assembled in a meeting.
    - **!** The people have sufficient time to complete an Agile SQC. Total Elapsed Time: 30 to 60 minutes.
    - **!** There is a trained SQC team leader at the meeting to manage the process.
      - **–!** **Procedure**
    - **!** P1: **Identify Checkers**: Two people, maybe more, should be identified to carry out the checking.
    - **!** P2: **Select Rules**: The group identifies about three rules to use for checking the specification. (My favorites are clarity ('clear enough to test'), unambiguous ('to the intended readership') and completeness ('compared to sources'). For requirements, I also use 'no optional design'.)
    - **!** P3: **Choose Sample(s):** The group then selects sample(s) of about one 'logical' page in length (300 non-commentary words). Choosing such a page at random can add credibility – so long as it is representative of the content that is subject to quality control. The group should decide whether all the checkers should use the same sample, or whether different samples are more appropriate.
    - **!** P4: **Instruct Checkers**: The SQC team leader briefly instructs the checkers about the rules, the checking time, and how to document any defects, and then determine if they are major defects (majors).
    - **!** P5: **Check Sample**: The checkers use between 10 and 30 minutes to check their sample against the selected rules. Each checker should 'mark up' their copy of the document as they check (underlining issues, and classifying them as 'major' or not). At the end of checking, each checker should count the number of 'possible majors' (spec defects, rule violations) they have found in their page.
    - **!** P6: **Report Results**: The checkers each report to the group their number of 'possible majors.' Each checker determines their number of majors, and reports it.
    - **!** P7: **Analyze Results**: The SQC team leader extrapolates from the findings the number of majors in a single page (about 6 times** the most majors found by a single person, or alternatively 3 times the unique majors found by a 2 to 4 person team). This gives the major-defect density estimate. If using more than one sample, you should average the densities found by the group in different pages. The SQC team leader then multiplies the 'average major defects per page density' by the 'total number of pages' to get the 'total number of major defects in the specification' (for dramatic effect!).
    - **!** P8: **Decide Action**: If the number of majors per page found is a large one (ten majors or more), then there is little point in the group doing anything, except determining how they are going to get someone to write the specification 'properly', meaning to acceptable exit level. There is no economic point in looking at the other pages to find 'all the defects', or correcting the majors already found. There are simply too many majors not found.
    - **!** P9: **Suggest Cause**: The team then chooses any major defect and thinks for a minute why it happened. Then the team agrees a short sentence, or better still a few words, to capture their verdict.
      - **–!** **Exit Conditions**
    - **!** **Exit if less than 5 majors per page extrapolated total density**, or if an action plan to 'rewrite' the specification has been agreed.

Simplified

–!Sample Inspections with Exit Control:

- •! Count unintelligible wording in requirements.

- •! "Integrate: Our objective is to achieve absolute excellence in operational efficiency and effectiveness, ... every day to our clients" <- CIO, April 18, 2006, slide 8

Strategy Implementation Task List

– !Tasks [Clarify Requirements]: -> <responsible for doing task>.

- ! T1: write at least a sample of requirements (a page or few) in Planguage

- ! T2: Trail SQC on the sample to make sure the defect rate is 10x reduced.

- ! T3: select official rules (about 7±3) for making the requirements clear (clear, unambiguous, no design, quantified variables, constraint and target levels, justification for example). -> Tom Gilb, or Process owner if identified yet.

- ! T4: determine Exit level: initially 10 majors/page, later target max 1.0 per page. -> Tom Gilb or Process owner if identified yet.

Simplified

–!Tasks for Clarify Requirements strategy

–!Check early, to make sure it works as expected, against excellent standards.

- •!

- •! "Improve: our objective is to deliver the highest possible level of agility and responsiveness in meeting our clients strategic technology needs, and deliver state of the art solutions…" <- The CIO, April 18 2006, slide 8

Summary: Strategy Focus

- ! The previous slides should give you
  - –! a completely realistic view of practical strategy planning
  - –! in order to reach a focused and narrow goal level.

- ! Next we will look at:
  - –! **Impact estimation**
    - •! How do we quantify the goodness of strategies w.r.t. goals
  - –! and **Evolutionary planning**
    - •! How do we find small doable steps for fast practical delivery of real results?

Quantifying the Complexity

Impact Estimation <- CE Ch 9   50

Strat-> Objectives	Clarify Requirements	Uncertainty	Evidence	Source	Credibility	Actual To date	
Human Communication Ability 80<->1 def./p	**100% End 2008**	±20%	Major Bank London experience 2003-5	T. Gilb	0.8	0% before start	
Quality Weakness (possible side effect)	> 10% ?						
Reliability (possible side effect)	> 10% ?						
Premier level (possible side effect)	3%?						

- ! Impact Estimation
- !   makes us think deeply
- ! And communicate clearly
- ! And commit and take responsibility.

- ! Scary for the incompetent!

Impact Estimation <- CE Ch 9

Strat-> Objectives	Clarify Requirements	Uncertainty	Evidence	Source	Credibility	Actual To date	
Human Communication Ability 80<->1 def./p	## 100% ## End 2008	±20%	Major Bank London experience 2003-5	T. Gilb	0.8	0% before start	
Quality Weakness (possible side effect)	> 10% ?						
Reliability (possible side effect)	> 10% ?						
Premier level (possible side effect)	3%?						
Regulation Conformance (possible side effect)	2%?						
Development Quality Levels (possible side effect)	20%?						
Data Security (possible side effect)	7%?						

Impact Estimation
100% = meets Goal on time

Strat-> Objectives	Clarify Requirements	Uncertainty	Evidence	Source	Credibility	Actual To date	
Human Communication Ability 80<->1 def./p	100% End 2008	±20%	Major Bank London experience 2003-5	T. Gilb	0.8	0% before start	
Quality Weakness (possible side effect)	> 10% ?						
Reliability (possible side effect)	> 10% ?						
Premier level (possible side effect)	3%?						
Regulation Conformance (possible side effect)	2%?						
Development Quality Levels (possible side effect)	20%?						
Data Security (possible side effect)	7%?						

Impact Estimation Fact-Based Estimates

Strat-> Objectives	Clarify Requirements	Uncertainty	Evidence	Source	Credibility	Actual To date	
Human Communication Ability 80<->1 def./p	100% End 2008	±20%	Major Bank London experience 2003-5	T. Gilb	0.8	0% before start	
Quality Weakness (possible side effect)	> 10% ?						
Reliability (possible side effect)	> 10% ?						
Premier level (possible side effect)	3%?						
Regulation Conformance (possible side effect)	2%?						
Development Quality Levels (possible side effect)	20%?						
Data Security (possible side effect)	7%?						

Fact-Based Estimates

Impact Estimation <- CE Ch 9

Strat-> Objectives	Clarify Requirements	Uncertainty	Evidence	Source	Credibility	Actual To date	
Human Communication Ability 80<->1 def./p	100% End 2008	±20%	Major Bank London experience 2003-5	T. Gilb	0.8	0% before start	
Quality Weakness (possible side effect)	> 10% ?						
Reliability (possible side effect)	> 10% ?						
Premier level (possible side effect)	3%?						
Regulation Conformance (possible side effect)	2%?						
Development Quality Levels (possible side effect)	20%?						
Data Security (possible side effect)	7%?						

Side-effect consideration

Conclusions

- •! We can model the Premier IT Organization quantitatively

- •! We can evolve the model continuously

- •! It will enable us to move as one IT organization

- •! It will enable competent professionals to work much better

- •! It should dramatically enable us to really and probably improve the organization continuously,

- •! and with a clearer shared notion of priorities

"To Do"
Suggestions for Management

1.! Adopt the Policy

2.! Adopt the Principles

3.! Adopt the Quantified model of Premier IT Org.

   1.! But assign it an owner

   2.! Evolve it from present state

   3.! Do NOT let a committee rewrite it before moving

4.! Find one or more 'narrow' priority areas for improvement (selected Objectives and areas to make change happen in)

   1.! Get going NOW this MONTH (May 07) on change, 'evolutionally'

   2.! Increase change as fast as you can bring people on board

Detailed Documentation for these slides

- •! Primary Base:
  - –! Word File: "**Premier Org Detailed Plan MASTER.doc**",
    - •! Tom Gilb, May 4 2007, for COO
    - •! This contains details, such as full set of 'scales of measure' for defining the 4 Pillars model of Premier IT Organization.

  - –! Supporting Literature
    (delivered in digital package from Tom@gilb.com)
    - •! CE Book Gilb Ch9 Impact Estimation.pdf
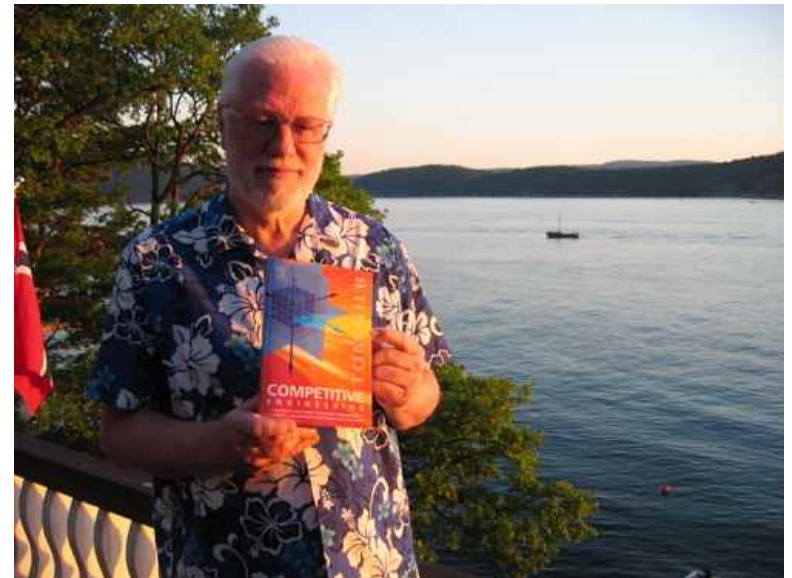   - •! Gilb CE Ch5 Scales of Measure How to Quantify.pdf
    - •! Quantifying Security (for CORP from Gilb)
    - •! Agile SQC CORP Copy from Gilb.rtf
    - •! Gilb CE book Ch8 Specification Quality Control.pdf

Last Slide

- •! Prepared for A DIRECTOR
- •! By Tom Gilb, Result Planning Limited
- •! Tom@Gilb.com
- •! www.gilb.com
- •! May 4th 2007 Presentation.

- •! SANITISED VERSION.

The IT Portfolio Management Project
An Analysis and Some Suggestions

A slide summary of key points from our written report
The slides are mainly focusing on constructive STP* advice.
The report contains a great deal more of our detailed analytical basis.

For COO,,Group IT COO

October 6 2007

(Using a 2 week time frame)

* STP = Save The Project

by

Tom Gilb


Kai Gilb

Consensus: from the interviews

- ! There is broad and consistent consensus amongst the interviewees about what is wrong with the project.
- ! Few are happy with anything.
- ! Most are quite unhappy with the project.
- ! Many would love to see a better tool!

Stakeholder Feedback

- The primary summary of all remarks from stakeholders is:
  - No Value Yet:
    - The project has not delivered real value to any stakeholder.
  - No Credibility:
    - Stakeholders have lost faith that it will ever deliver them value, as is.
  - IT Tool Bias:
    - The project is far too heavily weighted towards a 'tool' and 'IT', rather than the business.
  - Business Involvement:
    - The Business has consciously not been involved. But they are the big customer of IT and they demand involvement.
  - Feared Results:
    - The expected results of continuing the project as we currently are doing it, even with the recent improvements made, is expected (by us and many interviewees) to be:
  - Cost:
    - Substantial added cost (at least 2 or 3 times current levels before stopping investment, TG).
  - Results:
    - no satisfactory improvement for the business, compared to what they already have, or would get from other sources.
  - Credibility:
    - dramatic loss of IT credibility.
  - Delay:
    - time to delivery of satisfactory systems, measured in 'years' from 2007

Our Recommendations

- ! Involve the Business:
  - ! re-orient the projects to serve business stakeholders and deliver business value. One stakeholder set might be IT.
- ! Separate Out The Tool.
  - ! Separate IT Portfolio Management ('VALUE') as a project, from 'Create a The Tool Tool [The Tool Project]" as a project.
- ! Improve The Tool Focus.
  - ! Let IT run the The Tool 'tool' project, on an improved-project basis.
  - ! Focussed on delivering measurable results and value using The Tool.
- ! Deliver Real Value.
  - ! Let the Business, assisted by IT, run the VALUE project, to get more Business value from IT projects, and other projects.
  - ! Independently of the tool development, but hopefully assisted by it asap.
- ! Set Quantified Critical Objectives:
  - ! insist that each project (and all other projects !) are primarily defined in terms of measurable improvements.
  - ! All other project activity (requirements, design, testing, evaluation etc.) will PRIMARILY relate to how well those agreed quantified objectives have been met.
- ! Evolve Results:
  - ! these projects, and all other non-trivial projects, must be run evolutionarily.
  - ! That means that using the long term quantified objectives as our navigation star, we will attempt to deliver real provable progress towards those goals early, continuously and frequently.
  - ! We will both learn rapidly and achieve rapidly.
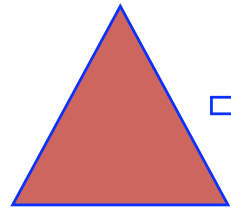
The Paradigm Shifts
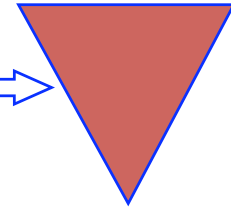
(they have been present, but with a small voice)

See next slides for detail

- •! Tool -> Value
- •! IT -> Business
- •! Global -> Sufficient
- •! Cost -> Efficiency
- •! Bureaucracy -> Agile
- •! Perfection -> Just Enough
- •! Nobody Responsible - Unclear Objectives -> Clear identified Responsibility
- •! Pre-Project Portfolio Management -> Real Time Project Value Management
- •! One Project -> The Tool & VALUE
- •! Big Bang -> Evo
- •! Value, 'Sometime' -> High Value Early, next month!
- •! We will manage you -> We will demonstrate results
- •! From The Corporation gets better -> Stakeholders Get better.

Paradigm Shifts:

- To move from the present situation -
  - to make a successful project,
    - we need the following
      - Project Management Culture Changes:

Tool - >Value

- !We (The Corporation, and this project) need to move from
  - –!a project that has become tool-centered,
  - –!to a project that is focused
    - !on helping real projects
    - !deliver real value,
    - !fast,
    - !to the Business.

Focus on Value delivery

- **!** Is a *new* part of current project planning
  - **!** source Fujitsu Consulting, GJ, Sept-07
  - **!** emphasis on selection based on value, alignment, risk.
  - **!** not planned at the ' project evolution level'
- **!** Our suggestion is:
  - **!** That 'VALUE' be a distinct new project, from The Tool
  - **!** The current ideas (Sept 07) are an excellent start.
  - **!** The concepts of value can be further improved
    - **!** Using value to *specific* stakeholders
    - **!** Using in-project feedback (step by step) re delivery of planned value and value drivers, for large and high risk projects, at least
      - **!** (such as performance attributes, quality levels)
    - **!** By making the measurable Value and/or value drivers a core driver (target, objective, requirement) for the individual project
    - **!** This implies real time value control and decision making
      - **!** Based on agreed value and cost requirements
    - **!** Use the notion of investment 'Efficiency' = Value/Cost (ROI, Profit)
      - **!** As a prioritization rule. Not *just* 'value'
      - **!** Needed to re-prioritize projects with high costs, high risk cost estimates, and real time inflated costs, compared to estimates/budget.

•IT -> Business

- •We need to shift from an 'IT Focus'
  - – (we will design a system for the business)
- •to a Business Focus
  - – (we will deliver real, valued, results to the Business, immediately and continuously)

Global -> Sufficient

- ! We need to shift from
  - ! 'solving the problem of making a system for all the Business Globally',
    - ! to
  - ! 'delivering solutions
    - ! to the right place
    - ! and time,
    - ! for value maximization'.

Cost -> Efficiency

- ! We need to shift from a predominantly
    - ! 'cost centered approach'
        - !to
    - !a 'value for money' approach.

    - !It's not about spend,
        - !it is about profit and competitiveness.

Bureaucracy -> Agile

- ! We need to move away from
  - ! over-formal and bureaucratic (well-intended) system development methods.
- ! We need to use development methods that are
  - ! capable of delivering the best business results faster.
- ! We need to use this project to demonstrate in practice what that means.
- ! Agile methods should be such that we are
  - ! more effective at business result delivery -
    - ! than well intended bureaucracy.
- ! We devote more focus to real results now,
  - ! rather than a comprehensive hypothesis beforehand.

Perfection -> Just Enough

- ! We need to avoid devouring CTB and RTB resources
  - ! by attempting to reach different types of perfection.
- ! Perfection costs infinity.
- ! Perfection is not profitable.
- ! We need to find the level of resources that
  - ! maximizes profit
  - ! and other business-plan delivery-capability.
- ! "Maximize competitiveness with finite resources".

- •! We need to move from a position where
  - –! 'it was impossible to ascertain exactly what this project was responsible for, and who was responsible for requiring it'
- •! TO
  - –! a position where
    - •! 'we know exactly what the project is aiming for,
    - •! and exactly whose head is on the block, if it is not reached'.

Pre-Project Portfolio Management -> Real Time Project Value Management

- ! We need to move from a culture of
    - ! primarily trying to evaluate projects **before** realities hit us,
    - !   TO
    - ! a mode of 'portfolio management' that
        - ! **also** includes
        - ! '*each* project responsible for managing their *own* value delivery and cost',
        - ! early and continuously throughout the project.

    - ! If you look after the pennies, the pounds will look after themselves
    - ! Pound wise, penny foolish (intentional inversion of old saying)

- ! **_This_** project should set an example of doing that in practice.

One Project -> The Tool & VALUE
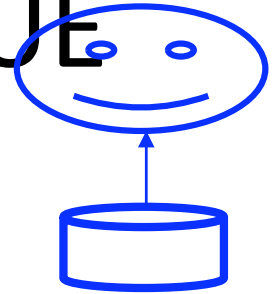
- •! We need to split the project into (at least) two independent projects
  - –! (but hopefully symbiotic, not as currently - 'antibiotic').

- •! The Tool (The Tool) a tool-centered project;
  - •! that will ready the tool for practical use in the organization.
  - •! The Tool itself will also shift its own emphasis from
    - –! 'deliver the tool' to
    - –! 'deliver agreed measurable results from using the tool'.

- •! VALUE (Value-Added) The Corporation United for Efficiency,
  - –! The VALUE Project will focus on
    - •! vastly improving our organizational ability
    - •! to understand project value,
    - •! and to consequently deliver high value early in practice.
    - •! VALUE will not be limited to IT projects.

Split into 2 Projects

- ! The Tool (The Tool): a The Corporation database and tool for project information
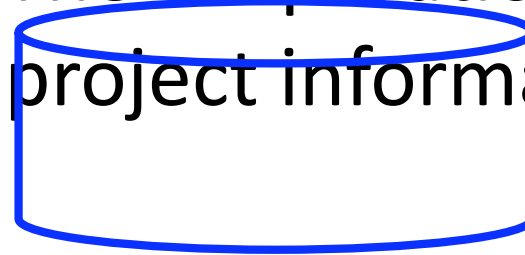
- ! VALUE: a project to help the organization, milk the most value out of our resources
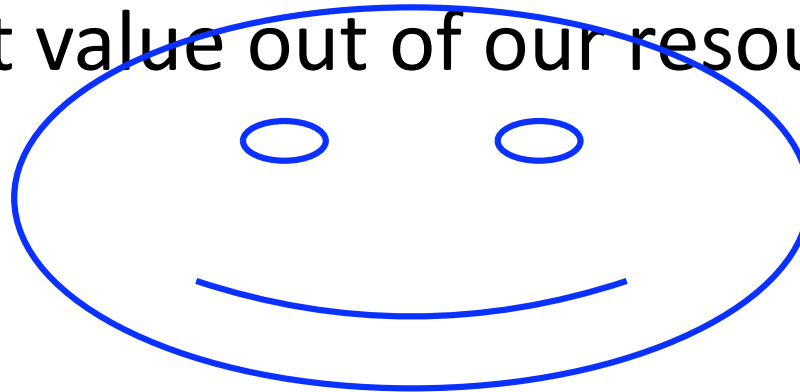
Value Relationships
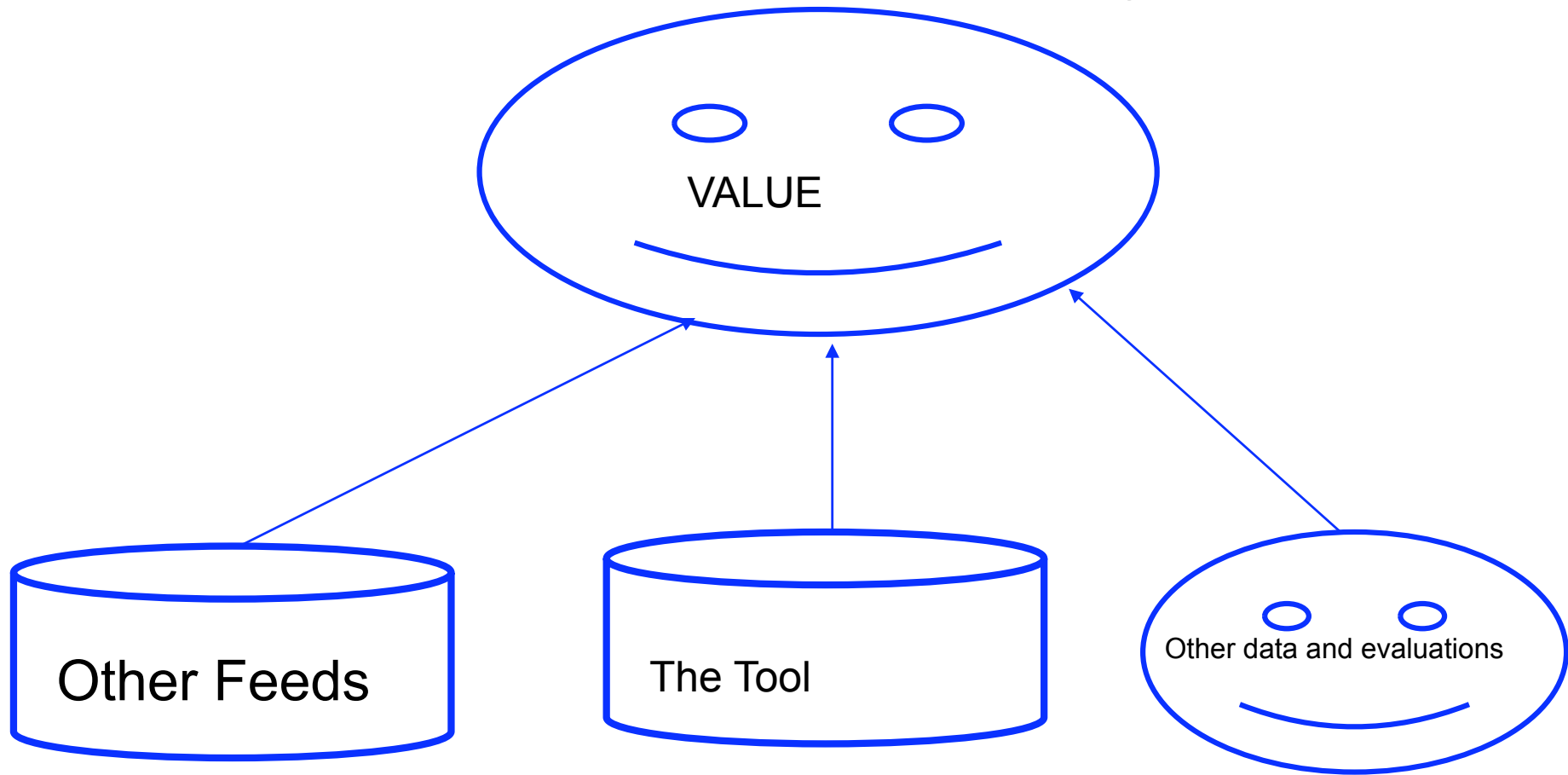
Advantages of the Project Split
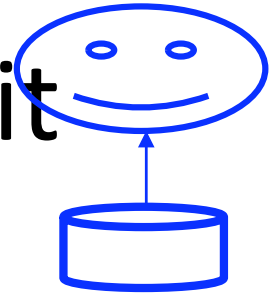
- •! Each can go at its own culturally necessary pace
  - –! without impeding progress of the other
- •! We get increased focus on the main point (Value)
  - –! we have to solve an organization problem (evaluating value, delivering it) **not** an IT problem
- •! Different parts of the organization can focus on the project and project aspects that most interest them at a given time
  - –! they are not *doomed* to a 'synchronized Global bureaucracy'
    - •! when they really need just a part of it.
- •! Each project can focus on doing what it does best
  - –! Value Delivery, or Data Collection

Advantages of a separate 'VALUE' Project

- ! Delays and political disputes on The Tool tool will
  - ! NOT delay our capability of better portfolio / program / project management
    - ! for better value delivery to the business
- ! We can focus on business results, not tool building
- ! The tool building (The Tool) can focus on
  - ! becoming a useful support tool, for portfolio analysis
    - ! when it is ready.

Disadvantages of the Project Split
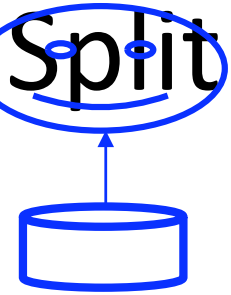
- ! None ?
- ! (there must be, but I cannot think of them just now!)

Big Bang -> Evo

- ! We have to move from our current big bang approach (Waterfall Model),
  - ! to an evolutionary approach (Evo).

- ! Evo means:
  - ! early result delivery (next month, not next year - maybe),
  - ! proof of real value,
  - ! frequent result delivery (every month like clockwork),
  - ! real-time project prioritization,
    - ! of highest attainable value first
      - ! (not waiting years for low-value things to be deployed at the same time).

- ! Evo means
  - ! learning in the project,
  - ! what works in practice,
  - ! rather than using workshops, committees, and speThe Corporation.

- ! Evo means
  - ! the stakeholders are directly involved in practice
  - ! during actual deployment,
  - ! and can strongly influence the results they get,
    - ! in real time.
  - ! See Larmans history of evolutionary methods:
    - ! http://www2.umassd.edu/SWPI/xp/articles/r6047.pdf

Advantages of an Evo Result Delivery Approach to Projects

- ! You can dive in very early, and deliver some real results
  - ! value is delivered to the business
  - ! Credibility of IT team is raised
  - ! Motivation to go with your project is raised
  - ! Communication with users/Business is much better both ways (what can be done, what we need)
- ! You choke off inefficient projects - No Cure No Funding
  - ! they cannot deliver
  - ! or cannot do so profitably,
    - ! even the smallest practical thing
- ! You avoid throwing good money after bad projects
  - ! Real time reprioritization of projects, During a project
- ! You are not dependent on theory and estimates and flaky ideas
  - ! Everything is rapidly tested on the battlefield of business reality

Vizualizing Value: The Dashboard
half way towards the deadline

Delivered	**Not Yet**	
	Delivered	**Not Yet**
Delivered	**Not Yet**	
		Spent Budget / **Not Yet**

100% Goal value

•! Are we getting value for money?

•! Is deadline delivery threatened?

Value, 'Sometime' -> High Value Early (every month from first month)

- ! We have to move from a situation where project value is
  - ! 'alluded to' vaguely *(next slide for examples in our project)*   (TO)
- ! **defining our project values in top-level, critical, quantified statements**
  - ! (drafts for this project are available already, if this seems strange).
  - ! Quantified Goals, deadline driven, with named responsible sponsor and Business Owners.

- ! We need to tear away the juicy bits,
  - ! the high value changes,
  - ! from the infinite mass of 'nice to have sometime',
  - ! and DELIVER THEM to the organization.
- ! We need to make sure, motivate, reward, and punish, to make sure that the intended value is actually firmly in place
  - ! (the head count is really reduced, the new business has really arrived - no excuses) before the 'job is considered done'.
  - ! Before anybody is paid a bonus for the change
    - !   thanks Mark Rollings, for being so clear on this idea in your interview 3-oct-07!

** examples of 'alluded to vaguely' (simplified, but quoted): Objectives

•! **• Achieve "One Corp." Vision**

•! **• Perform accurate measurement**
  • Track Human Resources
  • Enable Business alignment
  • Enable ... sound management
  • Replace (bad) tools with (better) ones
  • Faster response to business changes
  • reduction in costs..
  • better planning

•! So, how will we know if we have succeeded or failed on this project?

•! Who is responsible is we fail to meet these fuzzy objectives?

•! Who can "claim success and move on"? (Gerstner, IBM)

Source: Business problems: PID 2.0 August 2007, and earlier versions Oct 2006.

We will manage you -> We will demonstrate results

- ! We need to move from
  - !an attitude that 'we will manage IT investment'
    - !to
  - !we (the projects(s)) will enable any project investor to
    - !THEMSELVES manage project investments smarter.
- !We need to demonstrate that
  - !we can manage our own project,
  - !and become a role model to other projects -
    - !by getting a clear value delivery focus at all times.

From The Corporation gets better -> Stakeholders Get better

- !   We need to shift our level of concern from
  - ! the total business,
  - ! TO
- ! looking at very specific 'Stakeholders' in the business
  - ! (of which there are very many! Next slide = examples)
  - ! and their special needs.
- ! We need to deliver improvements to
  - ! very specific stakeholders.
  - ! Not just the Business in general.
- ! This will enable us to deliver
  - ! higher value earlier to the business,
  - ! by focusing on special needs of critical players.

Stakeholders List ,
some samples of stakeholders

•!

•! **Project Manager**
     IT project Manager
     Business project Manager
Business Owner

•! **Investment Decision Policy Maker**

•! **Value Coach**

•! **Investment Decision Board (IDB)**

   Value Management Office (VMO)

   Portfolio Manager
   Program Register Owner
   Program Architect
   Strategic Planner
   **Business Beneficiary (a specific
   stakeholder, but general concept)**
   COO
   CTO
   Program Manager

Auditor
Accounting
Cost Allocation
IB
TIS
AM
The Corporation
PB
IT4IT
CIO
Legal

Accountable Employee
Accountable Contractor
PRE-SELECTION COMMITTEE
SPONSOR
CFO
GENERAL COUNCIL
HR
IT CROSS DIVISION SPM
REGION
============ External Stakeholders
The Tool
<other tool and service vendors>

Some Suggested Management Actions, and decisions, to Implement Project Change;

CIO/COO Level Actions

A1: Adopt the 'IT Project Policy'.

- a draft, Oct 5 2007, is available as starter.
- there should be one version (for One Bank) of this, we believe.
- It should be strongly 'believed in' and used at every junction to drive change.
- It should be sponsored by the CIO, and driven, in daily practice, by the COO and probably also the CTO

A2: Reorganize the Planview Project ['PV']

- see draft of new structure in this document "Specific Recommendations The Planview Project ('PV')"
- focus here is to develop a better tool for project data
- and to move PV into the organization asap, where ready and useful
- there will be no attempt at some 'universal' solution
- each step of PV delivery must 'stand on its own feet' as a high value-to-cost delivery. Each step must pay its own way.
- the new 'Value Driven' Policies (Business Project Policy, IT Project Policy; see A1 above) will be applied to this project. Teach by example, learn by doing.
- it is a 'political decision' whether to view this PV project as a 'continuation' of the current IT Portfolio Management project, or to give the team a fresh start!

A3: Create the VALUE Project ['VALUE']

- See more-detailed draft design "Specific Recommendations : The 'VALUE' Project"
- Note that good initial work on this, conceptually, is embedded in recent work "Portfolio Management Processes High Level Process Design Workshop" , Date: September 19th – 20th, 2007, Gareth Jones and co. Focus on Value quantification and management.
- a business driver in this has been Fujitsu Consulting (GJ, Slides Summer 07).
- the new 'Value Driven' Policies (Business Project Policy, IT Project Policy, see A1 above) will be applied
- we (Gilbs) see this project as dramatically demonstrating delivery of value to the business in practice.
- initial delivery steps should be delivered no later than 2 months after 'go'. Hopefully in 2007
- it should be sufficient to start with one or few projects, to demonstrate the ideas, and iron out organizational problems. PV and VALUE themselves could be those projects.
- This project could be viewed as extracting the people and work done recently by the 'High Level Process Design Workshop', and continuing the work as a separate project, in order to focus on early results.
- VALUE = Value-Added Logistics United for Efficiency (in case someone wants to know :)) If Swiss want to know it might be Value-Added Logistics Und Efficiency (sorry!)

CTO Level Actions

T1: Value Driven Architecture:

T1a: Derive suitable methods (CEng book, Planguage for example) for Value Driven Architecture, Document this in stadards (rules, templates, process)

T1b: Train our system architects in how to apply the above:

- define both Business and Technical critical performance (quality included) top level objectives and constraints for any project, using CS Planguage (meaning quantified, and more)
- how to define a projects Value objectives (quantitatively)
- how to design to meet both system performance objectives, and value objectives
- how to express the relationship between objectives and corresponding supporting designs and architecture
- how to review all the above (requirements, design) according to a high and necessary CS Standard
- how to plan Evolutionary steps to deliver the architecture
- how to participate on the delivery team during the evolutionary result delivery.

Business Level Actions (eg IB, PB)

B1: Adopt 'Business Project Policy' (see suggestion in this document):

- draft Version oct 4 2007 available
- but make a better one, get it agreed by at least the relevant Business IT MDR's
- Policy does not have to be identical. The important thing is that they have a policy they feel fits their business. But it would be great if there were some common agreement at the level suggested, regarding value delivery and priority. But better to have different policies than to never get common agreement. Bad initial policies can be modified in the direction of clearly more-successful policies. A little 'value delivery' competition might be a good thing here.

Business Project Policy:

Version: Oct 5 2007

Policy Owner: ? (CEO ;) I)

BPP1: **Value Policy**: all non-mandatory (discretionary) projects will be managed and evaluated in terms of quantified, estimated, and delivered value-to-cost (efficiency, net profit).

BPP2: **Evo Policy**: all projects will be carried out evolutionarily: defined as - results delivered to stakeholders, early and continuously in monthly or shorter cycles. The most valued results first. Learning and changing based on the experiences at each cycle.

BPP3: **Stakeholder Focus Policy**: projects will direct their defined requirements at specific stakeholder categories. These will be direct respected participants in defining what they value and deciding if they got it.

BPP4: **Priority Policy**: Each business will determine the priority, of allocation of resources, for the projects paid by themselves. They will develop priority policy and rules to guide, and partly automate, the prioritization decisions in real time, about current priorities. The general outcome of prioritization will be that delivery of business process change of highest value for money will have highest priority.

BPP5: **Mandatory Projects Evaluation Policy**: All projects that are somehow mandated will be judged by degree of satisfaction of their critical requirements in relation to costs. All performance (including quality) requirements will be quantified. We cannot take the step of evaluating their 'value to the business'.

IT Project Policy

ITPP1: Value Delivery Control

IT projects will formally plan, the expected, quantified, degree-of-value expected by specific stakeholders. They will plan exactly how it will be achieved, get it signed off, and they will follow though to make sure it happens in practice. Bonus, and other rewards, will be given for 'actually delivered value', NOT for mere delivery of a functioning IT system alone. The process of ensuring value delivered must be part of the IT life cycle process. Our customers have a day job!

ITPP2: Quantify Value Means

IT will plan, probably at the project architecture level, all necessary designs, strategies, organizational changes, solutions (all 'means' to the value 'end') necessary to actually achieve the value. They will get and give an overview of the set-of-means needed to meet the set-of-values, by using an Impact Estimation Table (CEng Chapter 9).

ITPP3: Application Performance Control

IT System Performance Attributes: IT will specify and control at all stages, the top critical performance requirements for the IT system. Performance here includes all quality requirements, and all work capacity requirements.

'Control' means that we use a high standard of requirement specification (example CEng book Rules and templates?), quality control of all related specification, design and architecture to meet the performance levels, evolutionary delivery of the performance levels, and testing of the performance levels delivered.

These performance attributes are part of the design of the IT system necessary to achieving value delivery. They include Usability, Adaptability, Availability (CEng Chapter 5).

ITPP4: Evolutionary Delivery

IT Projects will normally be planned, and project-managed, evolutionarily (Evo). (CEng Chapter 10).

This means they will

use little time for launch (a week to a month)

do most of the detailed analysis, design, delivery testing on a series of short delivery cycles to stakeholders (1 week to 1 month)

the primary delivery at each delivery cycle is some prioritized part of the Performance (how good) and Function (what it does) requirements.

Some Principles of <IT?> Project Portfolio Management: (by Tom Gilb for CS)

The Project Profit Principle

Realistic values and costs must be estimated, then tracked, for logical analysis of any project, program or portfolio.

The 'Show Me' Early Principle

Resource can be allocated based on promises and estimates, but it should not be consumed in practice except in small increments of proven delivery of value.

The Prove It Principle

A project has not really earned its potential value until the organization has really taken full advantage of it - by actually deploying it, and measurably getting to expected benefits.

The Preconditions are not success principle

Fulfilled project requirements are the prerequisite for creating value for stakeholders, but they are not sufficient to deliver the value over time alone.

The 'Value is at stakeholder level' Principle

There are very many stakeholder types for a large project, and value is delivered to them directly, and decided by them in particular - failure to deal with stakeholders and their values - will result in failure to deliver the potential value.

The Consistency Principle

We do not have to be 'consistent' at a detailed level, we only need to consistently deliver business-aligned results consistently; and the best way for diverse businesses to do so, may be, to also be 'diverse' at the operational level.

The Magic Development Process Principle

Contrary to persistent myth, development processes do not need to be consistent, or quality controled, or audited, or at a certain maturity level - as long as they provably, rapidly, and impressively produce a valid business-aligned stream of results, and real stakeholder value. Even Magic is OK, then.

People feel the need to micromanage development processes when they do not know how to define or produce results in the short term.

'It's The Business, not IT's the Business' Principle

Project efforts must constantly and clearly address real current business needs, and deliver the goods. If not, we lose our customers and they will find alternatives. Golden Rule: If the Business has the Gold, They Rule.

The Communication By Reality Principle

Communicating by real results,and real live systems, beats communicating by committee, by specification, and by phone. People understand and appreciate the difference.

The 'Credibility By Results' Principle

System developers will always be judged by others in terms of real results delivered.

- End of slides intended for presentation to COO Friday Oct 6 2007 1400-1500

Governance Structure
All Levels

Note that projects themselves would be monitoring their value step by step
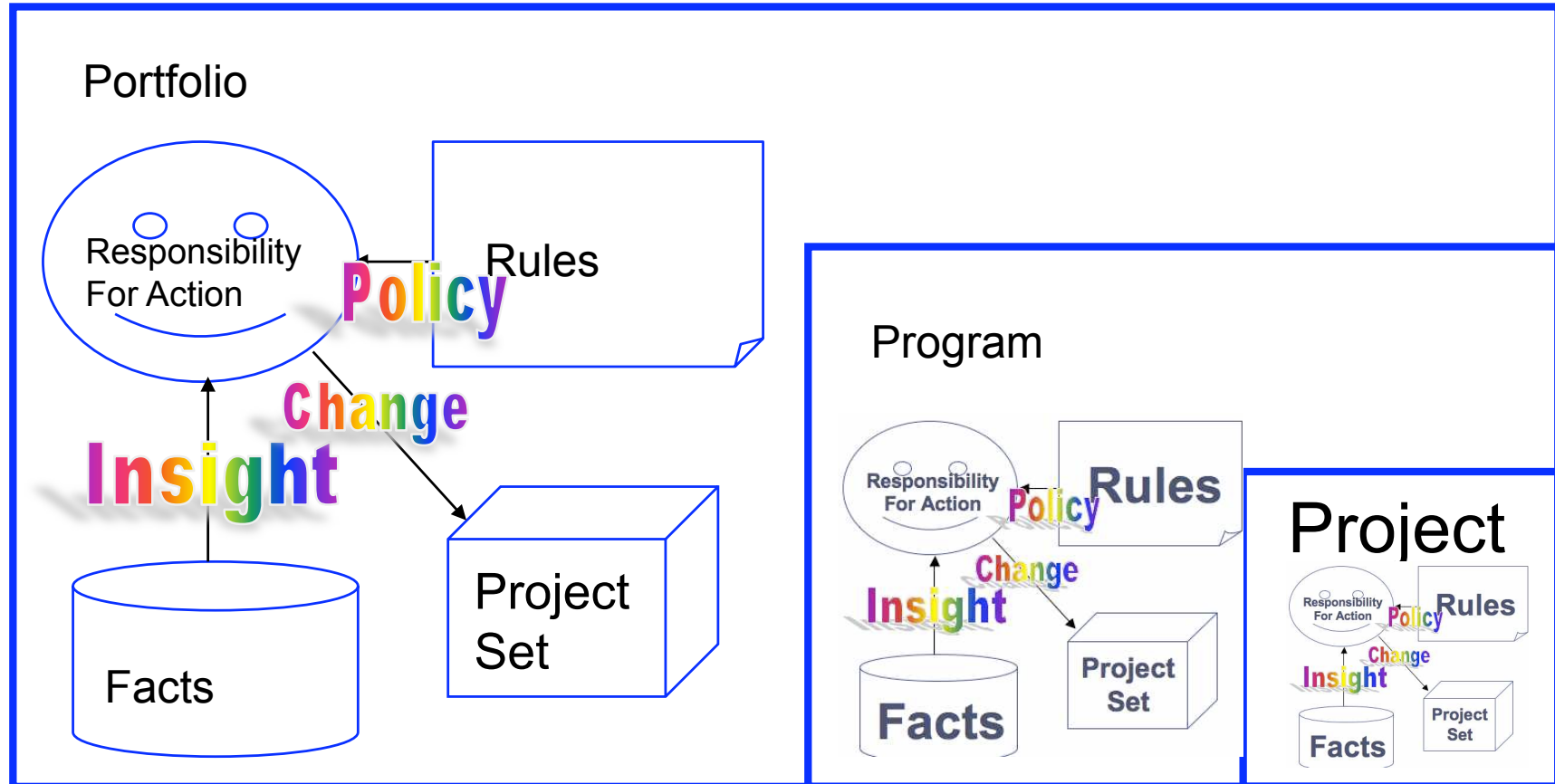
•! The same basic governance structure at any
level of investment perception

Governance Structure: from current plans
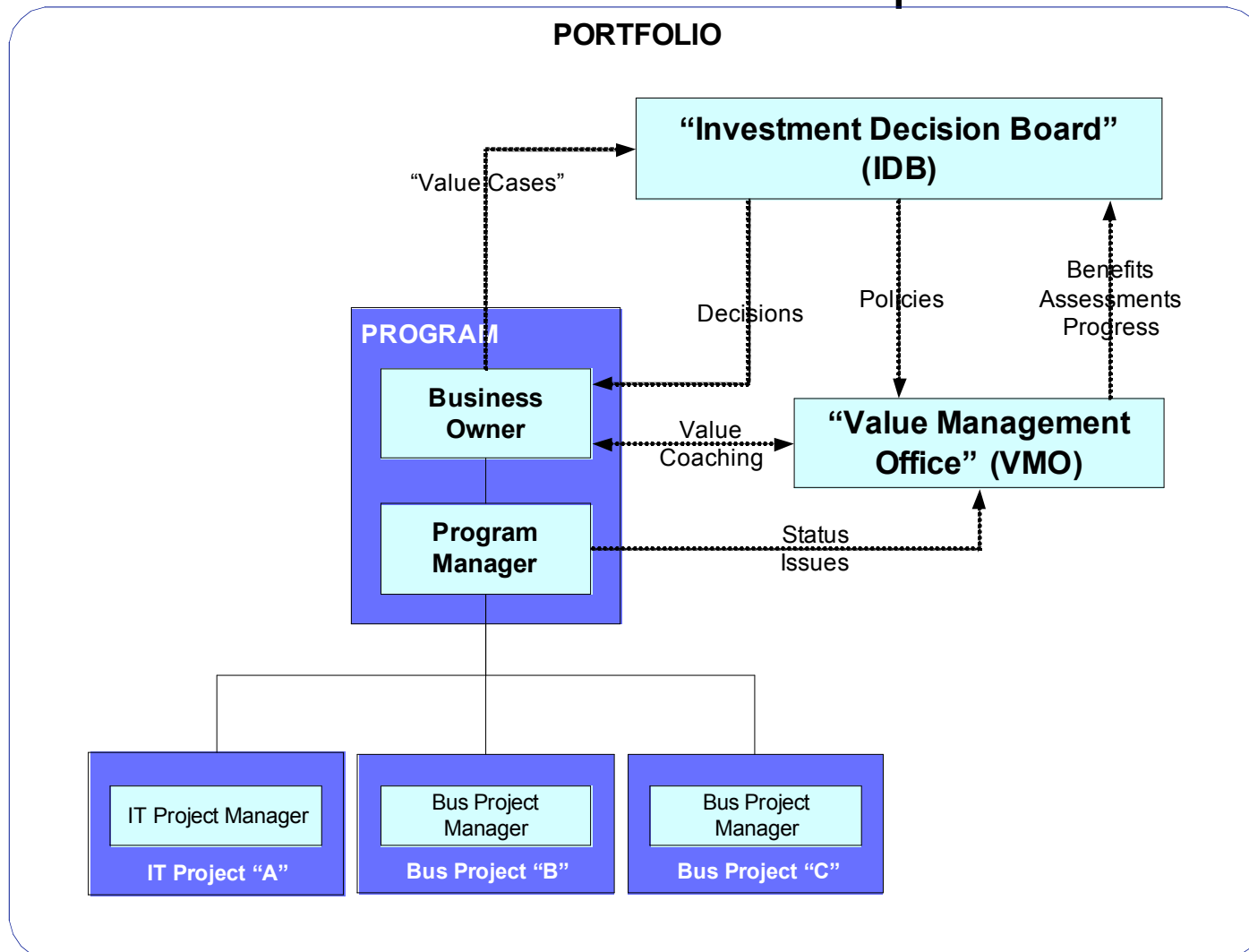
A Prioritization Policy

we need to be more specific about the prioritization process

- ! How do we plan to evaluate and prioritize projects?

1. ! By track record of value delivery from the current team?
2. ! By value/cost (ROI) projected?
3. ! One small project delivery step at a time?y
4. ! By subjective, responsible, executive judgement ?

Financial IT Examples of Top Management Planning

The 'Official' Forgotten CIO Objectives: $60 Million in 1 Year

The business problem and opportunities to be addressed are:

Business Problem

- Achieve "One Bank" vision through globally integrated IT Portfolio Management, by implementation of a single toolset supporting existing (and consistent) processes across _____ IT.
- Perform accurate measurement and tracking of project and non-project related IT expenses.
- Track and allocate human resources based on skills, level of work commitment and timing.
- Enable Business alignment through the ability to manage critical initiatives on a portfolio basis and support faster time to market, providing the potential for increase in revenues.
- Enable the business and SMT to make sound management decisions around the portfolio and optimize IT spend so as to effectively prioritize IT spend and maximize business value.
- Replace resource intensive and disparate Portfolio Management tools with industry "best in breed" capabilities.
- Improvement in the time it takes IT to respond to business changes.
- Reduction in costs through eliminating redundant projects.
- Better planning and tracking capabilities so as to reduce project cost and time overruns.

Initial CIO Objectives

Benefits:
Reduce the costs associated with managing redundant / regionally disparate systems.
Single global portfolio management system.

Reduce overall spending with a reduction in redundant initiatives.
Governance structures - system agnostic.
All projects in IT Portfolio system.

Reduce IT spend on low priority work with better alignment between IT and business demand.
IT Portfolio Framework, Business Value metrics for prioritization.

Reduction in cost over runs.
Definition criteria for project success.
Metrics and exception reporting for cost management.
Linkage of actual costs to forecast.

Increase revenue with a faster time to market.
Knowledge management, project ramp up templates.
Provide quantitative & qualitative benefits. State the consequences of project cancellation.
These need quantification, and then a plan for delivery and delivery measurement focus – on results not the process.

Notes PM: The Objectives

1. COO wanted us to write up the objective he gave on the fly, and that's what he will present to CIO.

EXTRACT OF COO 4 OBJECTIVES:
CIO has shifted from One IT , to 'don't let my view on that stand in the way of <getting results>. <- COO.

1 of 3 billion of new demand.

1. Make sure it is for key business goals,
2. avoid duplication,
3. not re-inventing the wheel
4. I am interested in the MIS. Id like some good metrics about what's coming off the 1 billion production line,
(are we delivering on time, under budget, are customer satisfied, and are we delivering the value).<- COO My View

If we were using Evo delivery, for most of the billion, and if I am wasting 40% 400 million/year) Id like to know and
    deploy it better.
What is the cost of failure of processes used today. Where do they come from (Requirements or what). <Root cause>
    I do not feel comfortable (am flying blind) we have the metrics to manage the 1 billion. Where is my compliance
    for processes (have requirements been inspected). I might use The Tool for this. <- COO

my process; work on COO 4 goals, then check with previous The Tool objectives.

Reminder of COOs Initial 4 main objectives for Single IT, text 22 Sept meeting

- ! 1. "Make sure it is for key business goals." <- COO,
- ! 2. "avoid duplication" <- COO,
- ! 3. "not re-inventing the wheel" <- COO
- ! 4. "I am interested in the MIS. I'd like some good metrics about what's coming off the 1 billion production line,
- ! (are we delivering on time, under budget, are customer satisfied, and are we delivering the value)."<- COO My View

Draft in Planguage of Objectives

- !Scope: the 1/3 of IT spend for New Demand <- COO
- !Top Objectives for RESULTS Projects
- !
- !

- !

SPEC TEMPLATE:

<Tag>:

Ambition:

-------------- *Measurement* -----------------

Scale:

Past:

Goal:

Meter:

-------------- *Relationships* -------------

Type:

Supports:

Supported By:

--------- *Objective Admin* -------------

Version:

Owner:

Status:

Scope:

------------ *Definitions* --------------------

Business Result Alignment: BRA:

- *Ambition: **Maximize delivery speed, and satisfaction level, of the Change the Bank Book of Work to achieve 'key business goals'***
- Scale: % of Planned Value actually Delivered to the Business by defined [Time].
- Past [Corp., Time = Deadline, 2007]: X% (guess
- X < 30%??) <- tg
- Goal [Corp., Time = Deadline, 2009]: < 50%, maybe much more?
- Issue: can The Tool be exploited to track Value?
-

Avoid Duplication:

- ! *Ambition: **eliminate corporate efforts that duplicate other corporate efforts.***
- ! Scale: % of project investment that is Duplicated
- ! Past [2007]: > 30%?? Wild guess
- ! Goal [2010] < 5%   hope
- !

Exploiting Existing Tools:

- ! *Ambition:* **make use of existing tools, avoid reinventing the wheel.**
- ! Scale: % by Total Investment Value that Arguably could be avoided by Profitably making use of Existing Tools
- ! Past: 30%±30% ?? wild initial guess to start discussion tg
- ! Goal [2012?, Corp. Wide]: ~ 100%
- !

Results MIS:

- •! *Ambition:* **deliver high-significance real-time metrics, on critical aspects, of project results and resources.**

- •! Scale: % of defined [Key Project Data] available to management in real time.

- •! Key Project Data: default: {% of Goal Delivered to date, Stakeholder Satisfaction level, Value for Money}

- •! Past [Corp., 2007]: 0%

- •! Goal [Corp., 2010]: > 90%

Ambition: ***Maximize delivery speed, and satisfaction level, of currently prioritized business improvements, for 'key business goals'***

--------------- *Measurement* -----------------

Scale: % of Planned Value actually Delivered to the Business by defined [Time].

Past [Corp., Time = Deadline, 2007]: X% (guess X < 30%??) <- tg

Goal CS, Time = Deadline, 2009: < 50%, maybe much more?

Meter: <The Tool?>

Issue: can The Tool be exploited to track Value?

-------------- *Relationships* -------------

Type: IT COO Level Project Objective

Business Result Alignment: BRA:

Supports:

1. Portfolio Management Strategic Initiative {Management Framework, Change Drivers, Driving Issues, Results}. Not Quantified.

2. Business problem statement (PID 2.00. 9 areas. Not Quantified.

3. High Level Business Requirements: OMSC3 (Align Business Needs), OMSC6 (Resource Allocation), OMSC7 (Change Alignment). All quantified!

Supported By: <The Tool>, Planguage, Evo

--------- *Objective Admin* -------------

Version: 23 Sept 2007

Sponsor: CIO

Owner: , IT COO

Status: draft tg for COO? -> TS

Scope: : the 1/3 of IT spend for New Demand <- COO

---------- *Definitions* ------------------------

Planned Value:

The monetary benefit estimated for a given scope and duration, that we have formally estimated the organization would get as a result of meeting defined project requirements, at defined levels.

For example if a project had a requirement to save 1 hour per employee of learning to use a new IT application, and that hour was measurably saved, then the value would be the cost of employee time and overheads saved for a defined period, for a set of employees that needed to learn to use the system. For example for 1,000 employees learning the system in one year, the value would be the cost saving of their 1,000 hours save that year.

Delivered:

'Delivered' means actually put into place; so that there are no restraints on obtaining the benefits (savings, productivity, and consequent value) that was formally planned in the project.

Business:

'Business' means a real defined set of stakeholders, that we need to give the improved systems to in order to derive benefits and consequent value, when they access or apply the improved system. These stakeholders can be any set of employees, contractors, or customers.

Planguage:

a Corp.Tailored planning language, for projects, that demands formal planning of Planned Value for all critical project performance (Improvement) requirements. *Planguage has been used in Corp.Swiss, and is judged to a be a necessary supplement to Corp.requirements to deal with non-use case requirements.*

Evo:

a project management discipline that focuses on delivering measurable critical requirements and consequent value, to stakeholders, in practice, early and continuously. Evo is about value maximization for the business. The frequent measured delivery of projects Business improvement, can be reported in terms of value delivery. It will keep projects and managers focussed on value delivery to the business.

Avoid Duplication:

Ambition: *eliminate corporate efforts that duplicate other corporate efforts.*

--------------- *Measurement* -----------------

Scale: % of project investment that is Duplicated

Past [2007]: > 30%?? Wild guess

Goal [2010] < 5%   hope

Meter: <manual estimate of all projects.>

-------------- *Relationships* -------------

Type: IT COO Level Project Objective

Supports:

1. Portfolio Management Strategic Initiative {Management Framework, Change Drivers, Driving Issues, Results}. Not Quantified.

2. Business problem statement (PID 2.00. 9 areas. Not Quantified.

3. High Level Business Requirements: OMSC1 (One IT), OMSC2 (Top Down), OMSC4 (Common Methods), OMSC6 (Resource Allocation). All quantified!

Supported By: <strategy not identified yet>. <-tg

--------- *Objective Admin* -------------

Version: 23 Sept 2007

Sponsor: CIO

Owner: -, IT COO

Status: draft tg for COO? -> TS

Scope: : the 1/3 of IT spend for New Demand <- COO

---------- *Definitions* ------------------------

Duplicated:

Work that could to a substantial degree (30% or more) be avoided and saved, by making use of another similar effort or investment – is 'duplicated'.

Exploiting Existing Tools:

Ambition: *make use of existing tools, avoid reinventing the wheel.*

--------------- *Measurement* -----------------

Scale: % by Total Investment Value that Arguably could be avoided by Profitably making use of Existing Tools

Past: 30%±30% ?? wild initial guess to start discussion tg

Goal [2012?, Corp.Wide] : ~ 100%

Meter: <human evaluation of case by case basis, possibly a sample>.

-------------- *Relationships* -------------

Type: IT COO Level Project Objective

Supports:

1. Portfolio Management Strategic Initiative {Management Framework, Change Drivers, Driving Issues, Results}. Not Quantified.

2. Business problem statement (PID 2.00. 9 areas. Not Quantified.

3. High Level Business Requirements: OMSC4 (Common Financial Mgt Methods). All quantified!

Supported By: <strategies not identified yet> <-tg

--------- *Objective Admin* -------------

Version: 23 Sept 2007

Sponsor: - CIO

Owner: COO, IT COO

Status: draft tg for COO? -> CIO

Scope: : the 1/3 of IT spend for New Demand <- COO

------------- *Definitions* --------------------------

Total Investment Value:

Entire IT budget, both new investments, and Run the Business costs.

Arguably:

A CORP. appointed human expert would argue that the cost could profitably be avoided if we reused some Existing Tool.

Existing Tools:

Tools {software, databases, hardware, contracts, development projects, methods, processes, and any other tool} for delivering/operating/ maintaining an IT system for the business.

Results MIS:

•!Ambition: ***deliver high-significance real-time metriCorp., on critical aspects, of project results and resources.***

•!--------------- *Measurement* -----------------

•!Scale: % of defined [Key Project Data] available to management in real time.

•!Key Project Data: default: {% of Goal Delivered to date, Stakeholder Satisfaction level, Value for Money}

•!Past [CORP., 2007]: 0%

•!Goal [CORP., 2010]: > 90%

•!Meter: < manual evaluation of projects not feeding a defined as useful set of data to The Tool, or another useful system for management>.

•!-------------- *Relationships* -------------

•!Type: IT COO Level Project Objective

•!Supports:

•!1. Portfolio Management Strategic Initiative {Management Framework, Change Drivers, Driving Issues, Results}. Not Quantified.

•!2. Business problem statement (PID 2.00. 9 areas. Not Quantified.

•!3. High Level Business Requirements: OMSC1 (One IT), OMSC3 (Aligning the Business), OMSC4 (Financial Transparency), OMSC5 (IT Risk Control), OMSC6 (Resource Allocation), OMSC7 (Change Alignment). All quantified!

•!Supported By:

•!--------- *Objective Admin* -------------

•!Version: 23 Sept 2007

•!Sponsor: - CIO

•!Owner: - IT COO

•!Status: draft tg for COO? -> TS

•!Scope: : the 1/3 of IT spend for New Demand <- COO

•!------------- *Definitions* --------------------

•!Goal Delivered:

•!defined as: *The Goal refers to a formally defined and approved quantified level of performance that a project is committed to delivering. Goal satisfaction is the primary priority of the project team. The Goal level is needed to enable or drive business performance. 100% of a goal means that the numeric goal is reached measurably in practice. 0% means that no progress from a benchmark level has been made.*

•!Value for Money:

•!defined as:

•!Project Value is defined as the estimated (or measured) stakeholder consequence from the delivery of the main project objectives. This can be expressed in money terms. It will be for a defined set of assumptions and for a defined time period and scope. Money is the current real cost of getting that Value in place (investment and operational costs).

•!Stakeholder Satisfaction Level:

•!Defined as: a survey set of measures from defined stakeholders about satisfaction with a set of questions about current operational situation, and results of new technology implementation.

Some Literature

- ! The 'Priority Management' book manuscript, by Tom Gilb: aimed at management Planning
  - ! http://www.gilb.com/community/tiki-download_file.php?fileId=76

- ! Competitive Engineering: the Handbook on the Planguage Method
  - !See www.gilb.com for 2 chapter sample
  - !http://www.gilb.com/community/tiki-download_file.php?fileId=26