Value Delivery
in
Systems Engineering

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Updated Jan 16 2016

Quality Days Vienna

**Presented on Tuesday 19 January 2016
15:45 to 16:30**

Slides Copy at gilb.com
http://www.gilb.com/dl869

Engineering Quality into Software: Quantifying All Qualities in Requirements, Architecture and Project Management

- I will present a real engineering method for software development.

- It is based on the Planning Language ('Planguage').

- First we express all quality and value requirements as quantifications.

- Then we estimate all design and architecture suggestions in terms of their estimated impact on our quantified quality goals, on an Impact Estimation Table.

- Then we go into agile mode, with 'Evo' (the grandfather of agile methods)
    - and we decompose the architecture into weekly value delivery steps of measurable value.

- We feedback multiple quality & cost experience to the Impact Table.

- We learn from numeric deviation from expectations.

- We update our estimates of time/cost to all Goals met.

- We replace bad architecture with better.

- The method has decades of practical experience, like at HP, Intel, Citigroup

The Main Ideas

- **1. EFFECT MANAGEMENT**

    – **Quantify values**

- **2. PLAN MANAGEMENT**

    – **Quantify plans. Strategies on terms of values**

- **3. PROFIT MANAGEMENT**

    – **Efficiency**

- **4. RISKS MANAGEMENT.**

    – **Do a little, measure, adjust.**
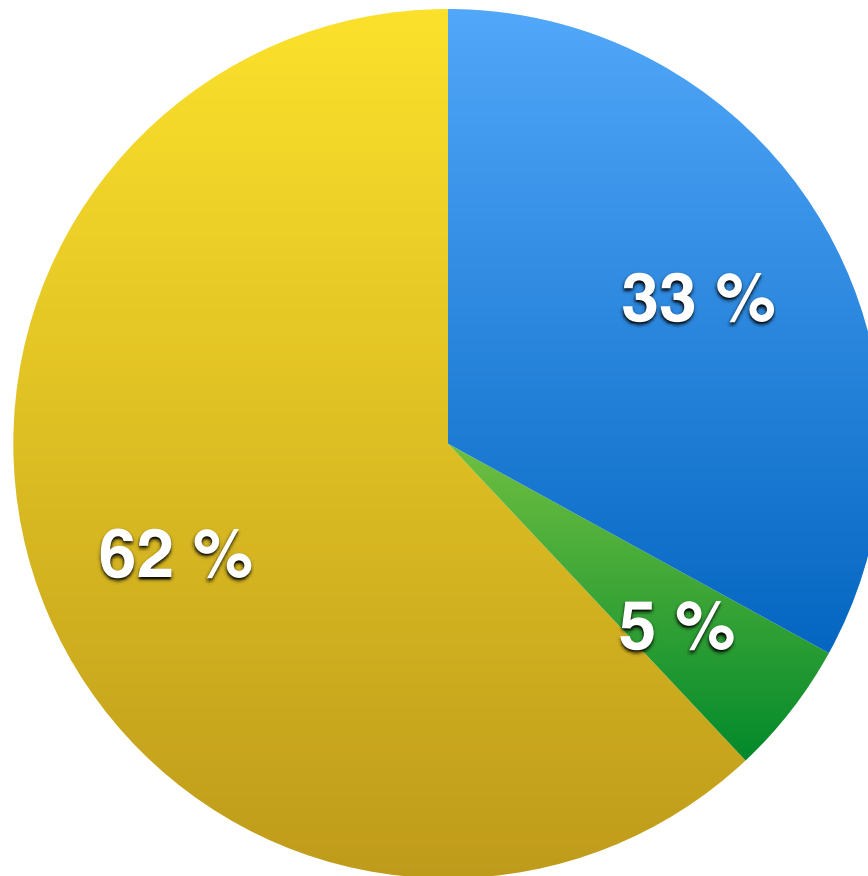
- **5. PRIORITIZATION:**

    – **Do highest efficiency first.**

Some Practical Cases from my practice

How to measure
the clarity and other qualities
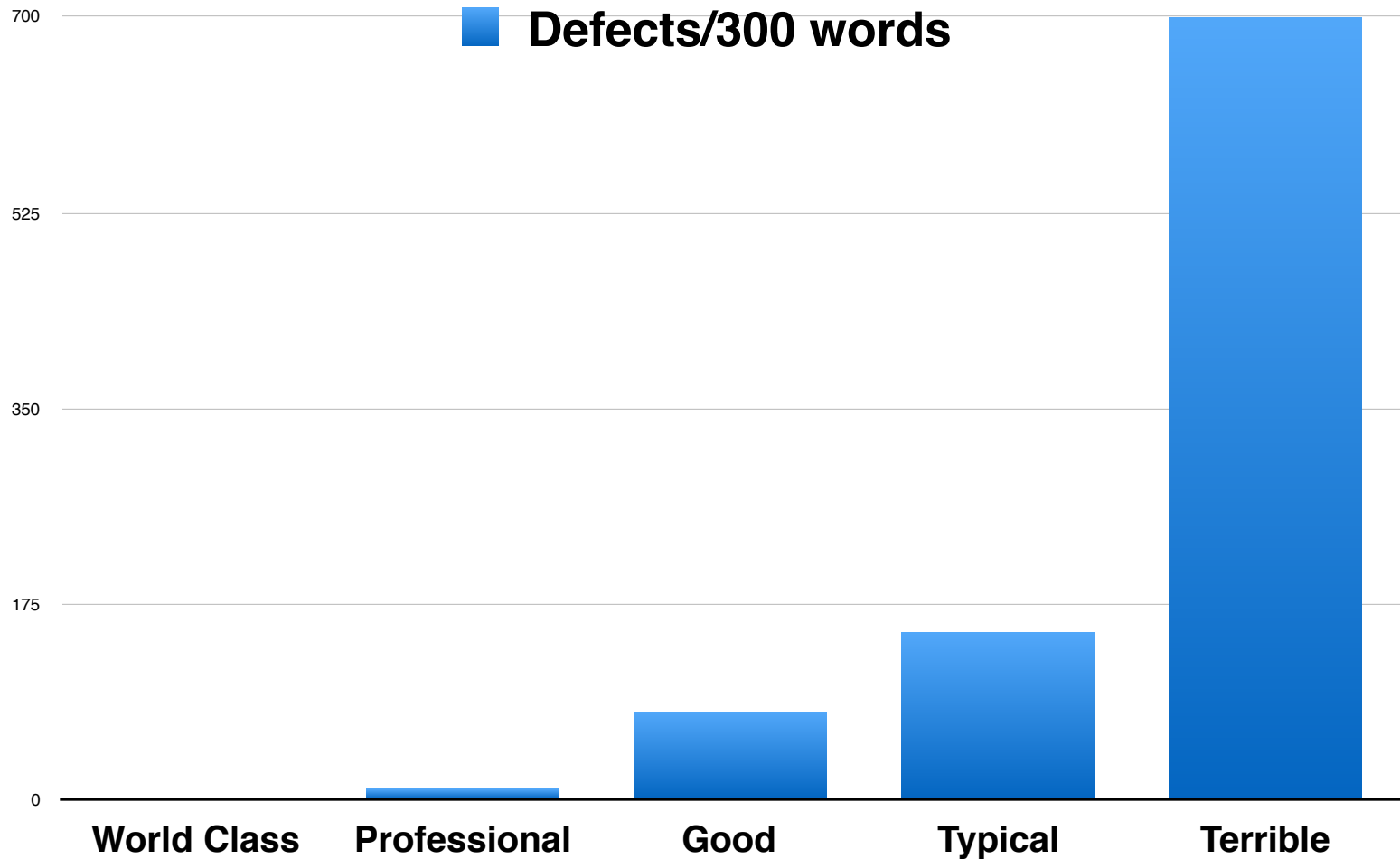# of requirements, architectures
and other software plans

because then we can stop bad planning upstream (Lean!)

% Intelligible Plans

Planning Clarity Quantified

Defects/300 words

World Class	Professional	Good	Typical	Terrible

The Spec QC Process

"Agile Specification Quality Control:
Shifting emphasis from cleanup to sampling defects"
in Testing Experience, March 2009
http://www.gilb.com/tiki-download_file.php?fileId=264

## Da Vinci on The Rigor Needed for Creativity

**"these rules will enable you to have a free and sound judgment:
since good judgment is born of clear understanding,
and a clear understanding comes of reasons derived from sound rules,
and sound rules are the issue of sound experience –
the common mother of all sciences and arts."**
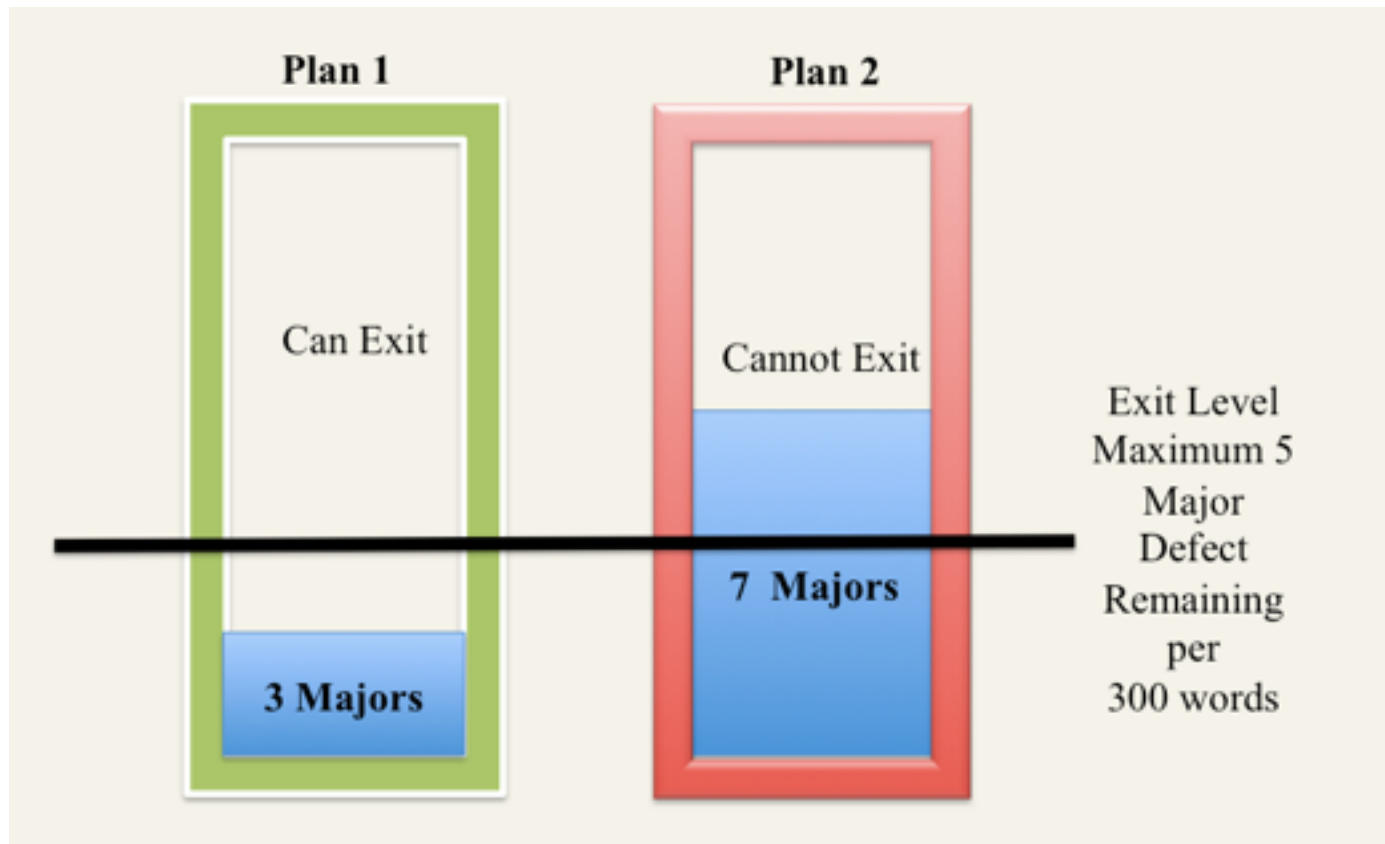
The Notebooks of Leonardo da Vinci. 18.

The point: we need clear rules for what is a good clear specs,
and we need clear rules for when a spec can be used ('Exit'),
or must be improved ('No Exit')

QC Process with Exit
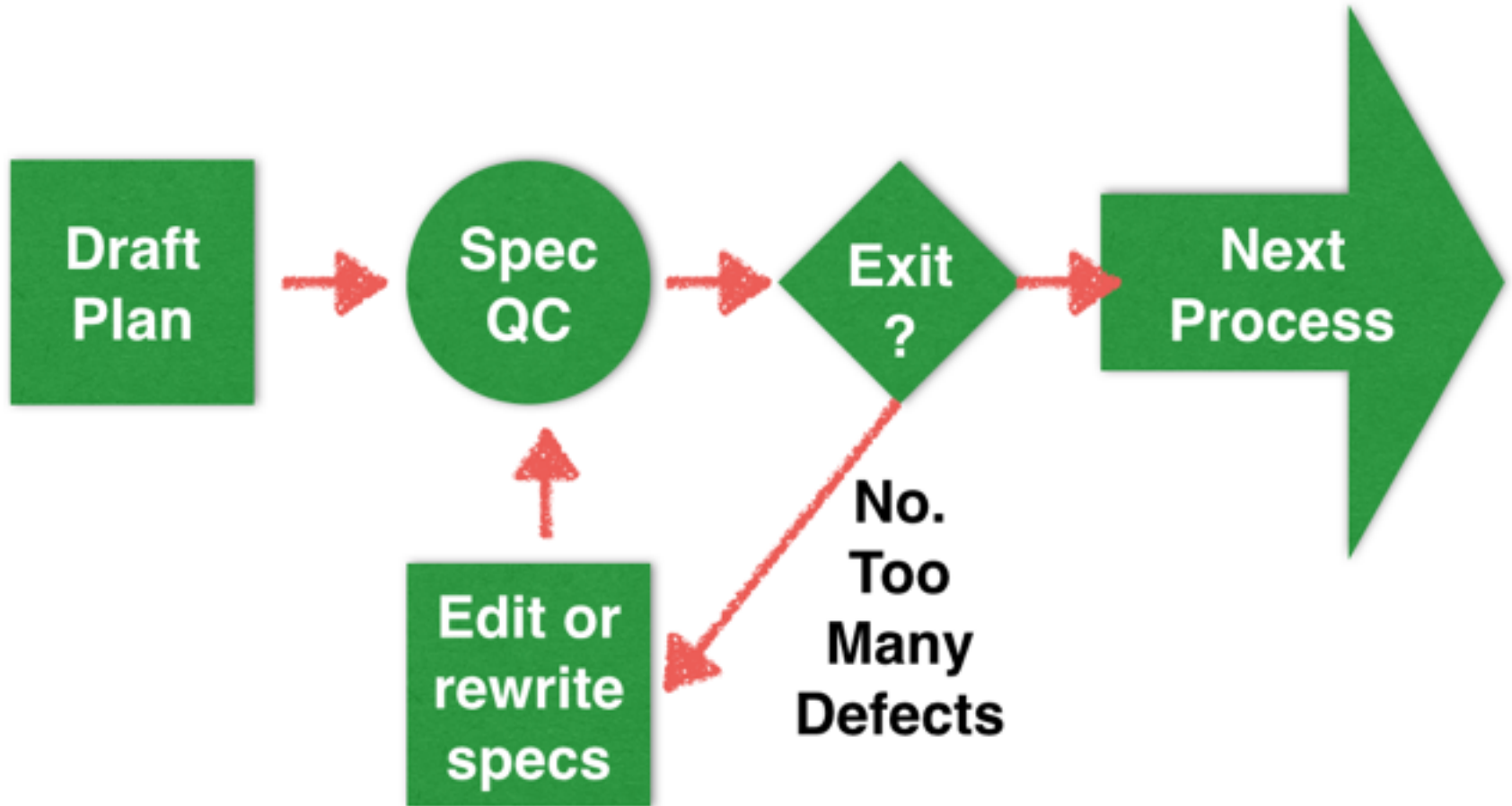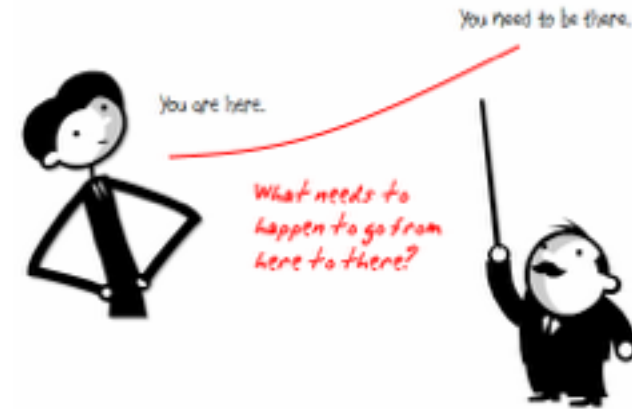
How clear must a plan be?

Real Example
"Platform Rationalisation Initiative"
"<u>Main Objectives.</u>"
<u>London Multinational Bank</u>

- **Rationalize into a smaller number of core processing platforms. This cuts technology spend on duplicate platforms, and creates the opportunity for operational saves. Expected 60%-80% reduction in processing cost to Fixed Income Business levies.**
- **International Securities on one platform, Fixed Income and Equities (Institutional and PB).**
- **Global Processing consistency with single Operations In-Tray and associated workflow.**
- **Consistent financial processing on one Accounting engine, feeding a single sub-ledger across products.**
- **First step towards evolution of "Big Ideas" for Securities.**
- **_Improved development environment_, leading to increased capacity to enhance functionality in future.**
- **Removes duplicative spend on two back office platforms in support of mandatory message changes, etc.**

Basic QC Rules
for Top Level Objectives

- **CLEAR: Every word and phrase should be clear enough to allow objective test of a delivery.** (we need to know exactly what is required and expected)

- **UNAMBIGUOUS: Every word and phrase should be unambiguous to all potential intended readers.** (no different than intended interpretations should be possible)

- **QUANTIFIED QUALITY:** all qualities (good things we want to improve) shall be expressed quantitatively.

- After we started the exercise I regretted not adding the usual rule:

- 4. **NO DESIGN: objectives shall not be expressed in terms of a design or architecture**
  - (a 'means' to reach the 'real' objective), when it is possible and is our real intent, to express the improvements in terms of quality, performance, and cost that are expected, instead.

Potential consequence
of major defects
in architecture specs

- "Rationalize into a smaller number of core processing platforms. This cuts technology spend on duplicate platforms, and creates the opportunity for operational saves. Expected 60%-80% reduction in processing cost to Fixed Income Business lines.
- International Securities on one platform, Fixed Income and Equities (Institutional and PB).
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- First step towards evolution of "Big Ideas" for Securities.
- _Improved development environment_, leading to increased capacity to enhance functionality in future.
- Removes duplicative spend on two back office platforms in support of mandatory message changes, etc."

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LINK WORDS: OBJECTIVE:ARCHITECTURE
RULE 4. No Design/Architecture

- **Rationalize into a smaller number of core processing platforms. _This cuts technology spend_ on duplicate platforms, and _creates the opportunity for_ operational saves. Expected 60%-80% reduction in processing cost to Fixed Income Business lines.**
- **International Securities on one platform, Fixed Income and Equities (Institutional and PB).**
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Agile Spec QC Results

- **Reported** major defects =
- Last week: 15, 17, 21
- **Today** =18, 15, 15, 13   others less

- Estimated appx. Total defects found by a small team (2-4 people) = 36±6
  - 2x highest found.
- Estimated appx. Total Majors in the 110 words = 100±10
  - (3x group total. 30% effectiveness of team)
- Estimated approximate total defects in normalized page (300 words) = 280±20

  - (Majors in 110 words x 3)

Development Capacity:

Version: 3 Sept 2009 16:26

Type: Main <Complex/Elementary> Objective for a project.

Ambition Level: radically increase the capacity for developers to do defined tasks. <- Tsg

Scale: the Calendar Time for defined [Developers] to Successfully carry out defined [Tasks].

Owner: Tim Fxxx

Calendar Time: defined as: full working days within the start to delivery time frame.

Past [2009, {Bxx, Lxx, Gxx}, If QA Approved Processes used, Developer = Architect, Task = Draft Architecture]   **15 days** ±4 ?? <- Rob

Goal[2011, { Bxx, Lxx, Gxx }, If QA Approved Processes used, Developer = Architect, Task = Draft Architecture]   **1.5 days** ± 0.4 ?? <- Rob

Justification: Really good architects are very scarce so we need to optimize their use.

Risks: we use effort that should be directed to really high volume or even more critical areas (like Main Objective).

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Reducing unintelligible IT requirements from 80/page to 10/page in 6 months
London, Citigroup
## Spec QC/Extreme Inspection + Planguage Requirements

Major defects/page on 1st Quality Control

90	
67,5	
45	
22,5	
0	

SQC+Planguage   Old Requirements

■ Financial

© Tom@Gilb.com

See Slide Note for details
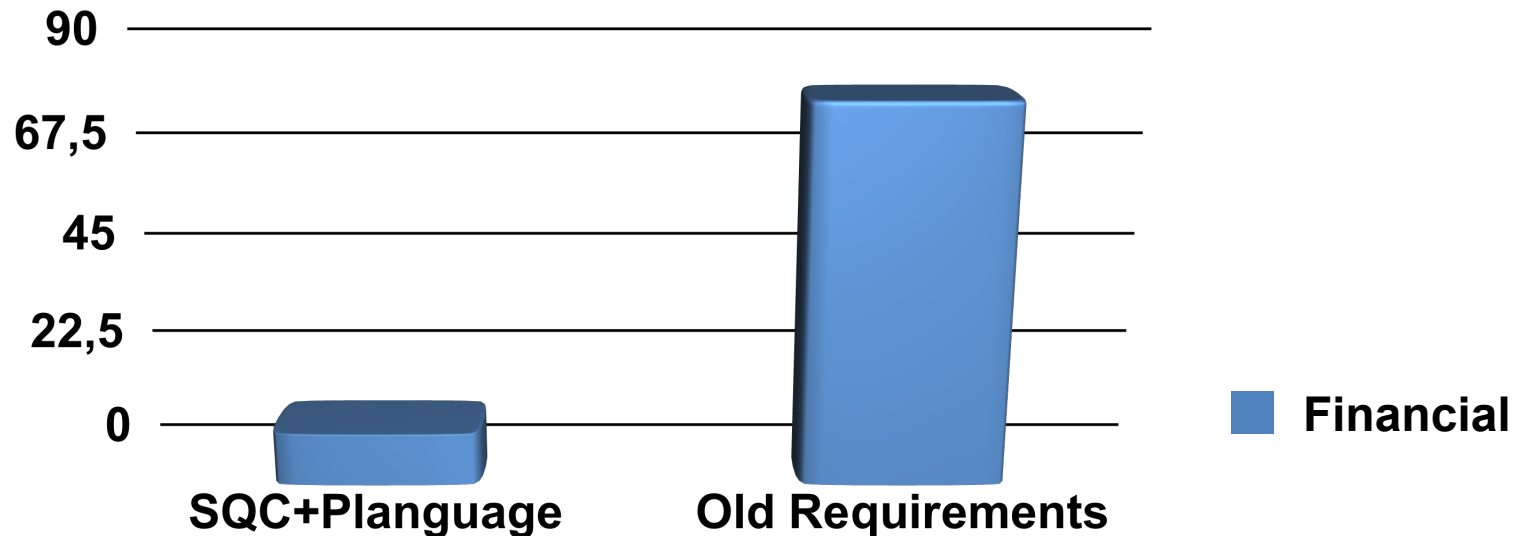
Extreme Quality Management using Planguage and my Spec QC

Application of Specification Quality Control by a SW team resulted in the following defect density reduction in requirements over several months:

Rev.	# of Defects	# of Pages	Defects/ Page (DPP)	% Change in DPP
0.3	312	31	10.06	
0.5	209	44	4.75	−53%
0.6	247	60	4.12	−13%
0.7	114	33	3.45	−16%
0.8	45	38	1.18	−66%
1.0	10	45	0.22	−81%
Overall % change in DPP revision 0.3 to 1.0:				−98%
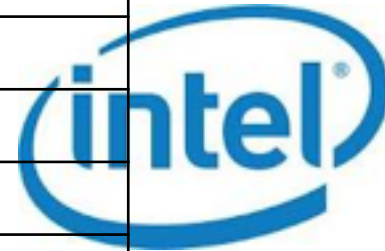
Downstream benefits:
• Scope delivered at the Alpha milestone increased **300**%, released scope up 233%
• SW defects reduced by ~**50%**
• Defects that did occur were resolved in far less time on average
• Teams typically exit with densities ranging from 5 majors per page (600 words) to 1 defect in a couple of pages.

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Some Practical Tools

"THIS STUFF WORKS"

Erik Simmons, Intel in CE Foreword —->

- **A VALUE PLANNING LANGUAGE:**
    - Planguage (a *paper* on Planguage)
        - http://www.gilb.com/dl831
    - The Planguage Handbook **"Competitive Engineering" (2005)**
        - TEMPLATES, PRINCIPLES, TERMINOLOGY, PROCESSES, STANDARDS
    - **"Value Planning"** book (2016). Free book, cheap 'appendix' ++.
        - LeanPub.com/ValuePlanning

January 8, 2016 Email.

"Instead, I believe that the majority of what you have included for ideas, principles, etc. from CE and VP are in fact scale-free.

They are not dependent on project or organization size.

They are good heuristics for almost any project, and nearly universally applicable (nearly universal because I hear Koen in my head, and all is heuristic).

 So, CE and VP are not about scaling so much as they should be taught and understood as scale-free.

Size is not a reason to choose (or not choose) to use CE, Evo, Planguage, etc.

As you quoted me in the paper – 'this stuff works' . It works on small projects.

It works on large projects.

Evo on a 5-person team is not really much different than Evo on a 100-person team, except there are more people.

The principles apply without alteration (or "scaling").

Anyone who sees a random page of your new paper would probably not guess the topic is scaling (unless you happen to mention that in the text on that particular page). CE does not scale. It doesn't need to.

Your work for decades has been focused on a very good set of these. SQC, for example, works on any size specification. It does not (need to) scale."

"Some Advanced Tools and Principles for Scaling Agile Projects - Agile Engineering."

40 practical Engineering ideas for scaling agile development successfully all the time.
A very short pdf paper, supported by references to necessary detail.
Not least the new LeanPub.com/ ValuePlanning book

http://www.gilb.com/dl865

Some More
Practical Experiences
with
Value Engineering

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Quantifying Values and Solutions in 1 week

because then we can begin trying to delivery value the second week
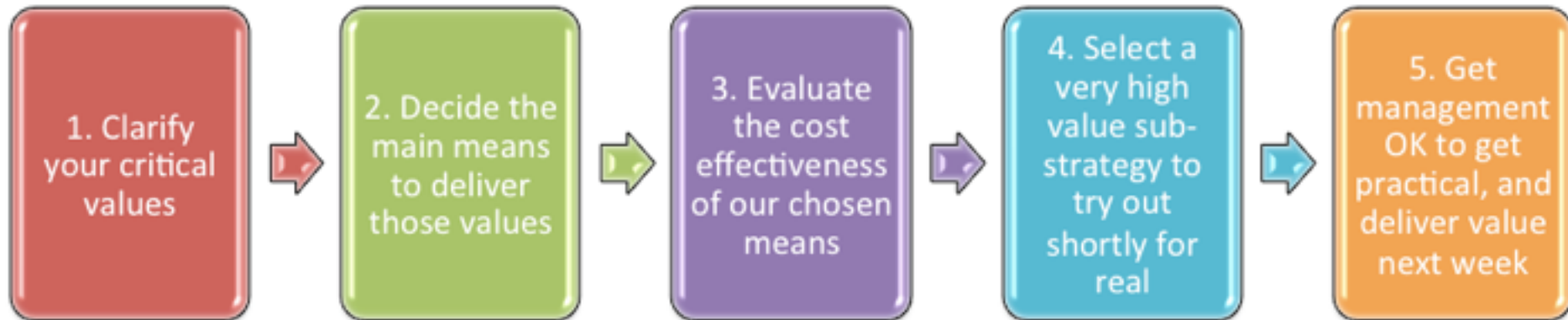
Startup Week: Process

1. Quantify Critical Few Objectives → 2. Pick Most Powerful Strategies → 3. Estimate Power and Costs of Strategies, for reaching our Goals → 4. Decompose Strategies and find something doable next week → 5. Present to Management and Get OK, try to deliver value next week

An Agile Project Startup Week

Gilb's Mythodology Column

www.gilb.com/dl568

Startup Week Purposes

| 1. Clarify your critical values | → | 2. Decide the main means to deliver those values | → | 3. Evaluate the cost effectiveness of our chosen means | → | 4. Select a very high value sub-strategy to try out shortly for real | → | 5. Get management OK to get practical, and deliver value next week |

Evo Startup Standard, Jan 12 2013 http://www.gilb.com/dl562

The First Day of the Startup Process
Top Ten Critical Values
a *quantification* process
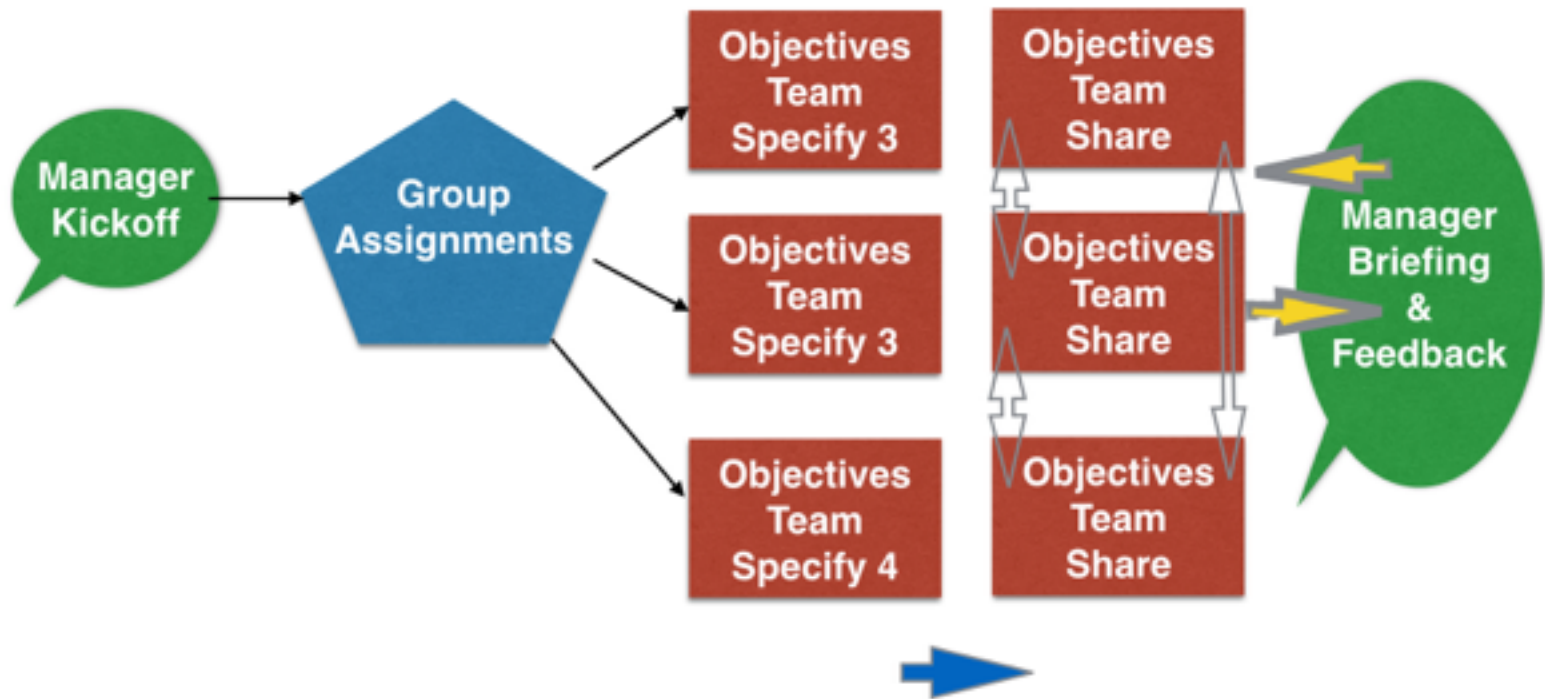
Example of Top Ten Critical Objectives
(Real Set, Confirmit)

Treportal E-Sat Team Objectives for 12 weeks

- Intuitiveness 80%
- Consistency.Visual 14
- Productivity 2 minutes
- Flexibility.Formats 4
- Robustness 0 errors
- Replacability. 3 Features
- ResponseTime.Export Report 5 minutes
- Usability.ViewReport. 1 sec.
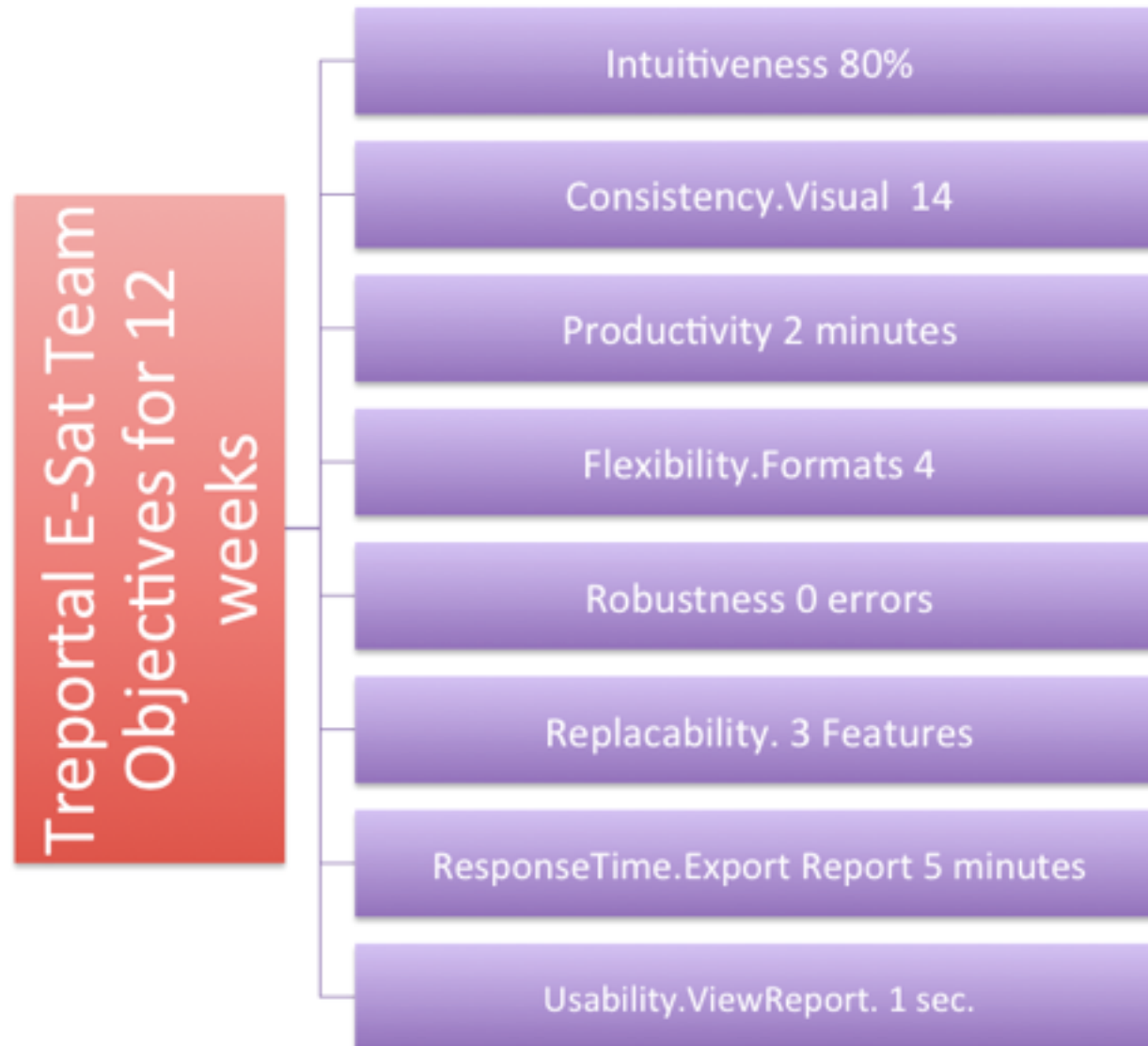
Many variable Critical Values to be managed at once
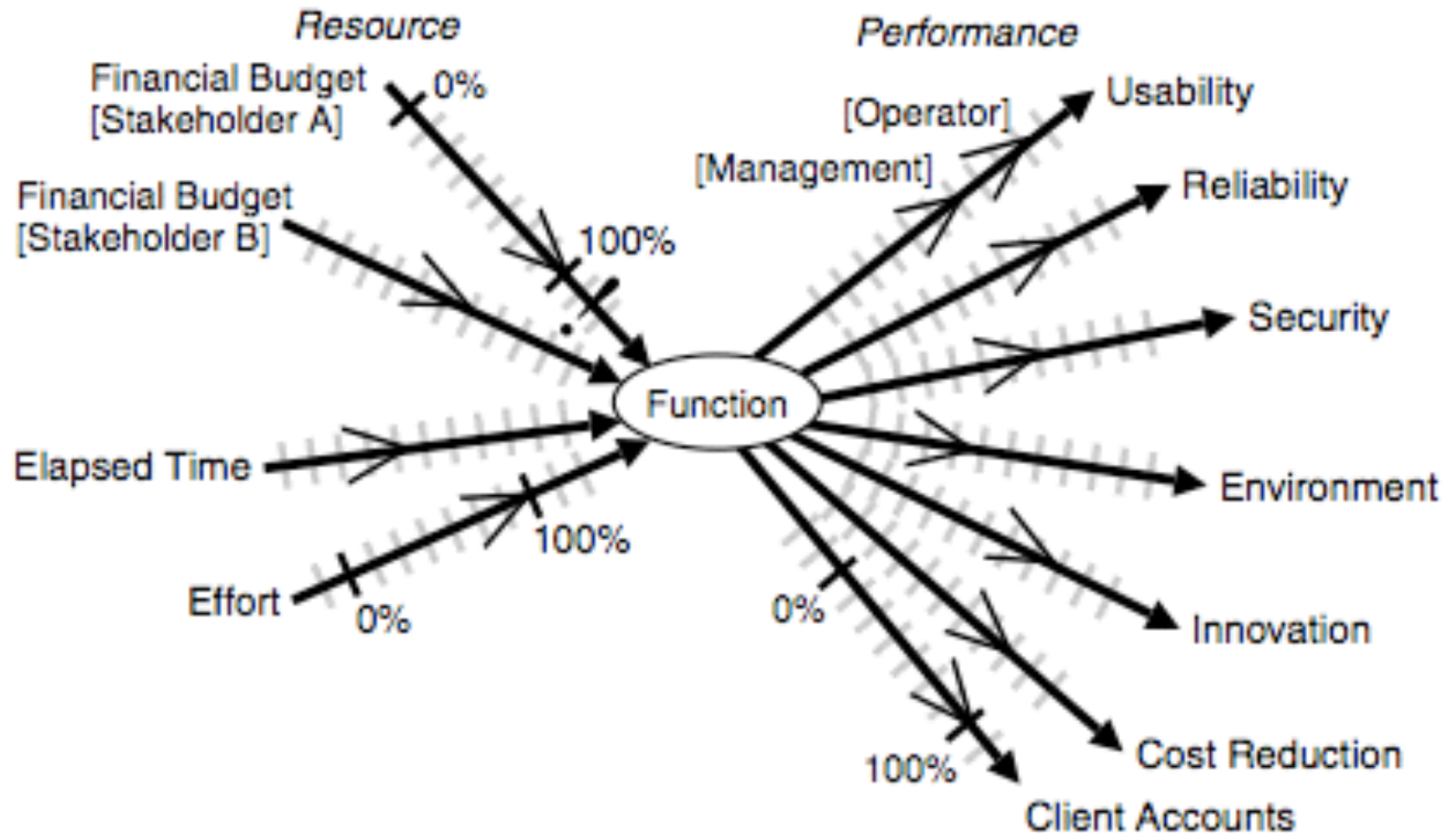
THE QUANTIFICATION PRINCIPLE
Performance objectives,
ranging from *core objectives* to 'any' detailed performance objective
– where 'getting better-and-better in time' is implied –
can *always* be defined using 'scales of measure'.
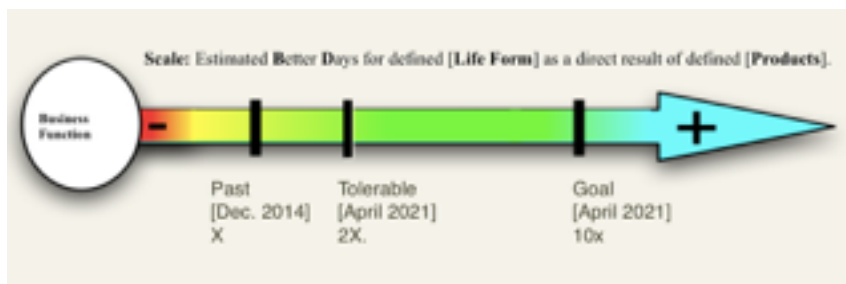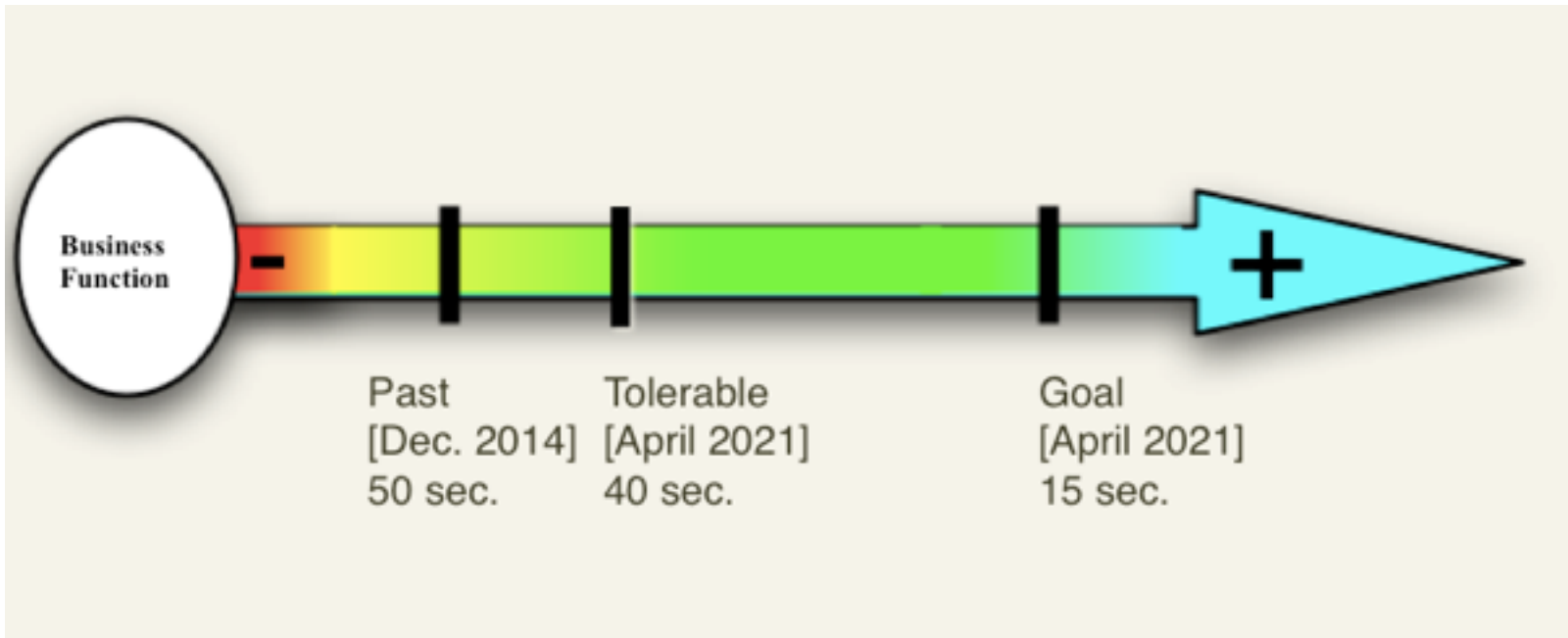
Top 10 Large Bank Project Requirements
Quantifying the most-critical project objectives on day 1, on 1 page

P&L-Consistency&T P&L: **Scale:** total adjustments btw Flash/Predict and Actual (T+1) signed off P&L. per day. **Past 60 Goal**: **15**

Speed-To-Deliver: **Scale**: average Calendar days needed from New Idea Approved until Idea Operational, for given Tasks, on given Markets.
Past [2009, Market = EURex, Task =Bond Execution] **2-3 months** ?
Goal [Deadline =End 20xz, Market = EURex, Task =Bond Execution] **5 days**

Operational-Control: **Scale**: % of trades per day, where the calculated economic difference between OUR CO and Marketplace/Clients, is less than "1 Yen"(or equivalent).
Past [April 20xx] **10%** change this to 90% NH **Goal** [Dec. 20xy] **100%**

Operational-Control.Consistent: **Scale**: % of defined [Trades] failing full STP across the transaction cycle. **Past** [April 20xx, Trades=Voice Trades] **95%**
Past [April 20xx, Trades=eTrades] **93%**
Goal [April 20xz, Trades=Voice Trades] <**95 ± 2%**>
Goal [April 20xz, Trades=eTrades] **98.5 ± 0.5 %**

Operational-Control.Timely.End&OvernightP&L Scale: number of times, per quarter, the P&L information is not delivered timely to the defined [Bach-Run].
Past [April 20xx, Batch-Run=Overnight] 1 **Goal** [Dec. 20xy, Batch-Run=Overnight] <**0.5**> **Past** [April 20xx, Batch-Run= **T+1**] **1 Goal** [Dec. 20xy, Batch-Run=End-Of-Day, Delay<1hour] **1**

Operational-Control.Timely.IntradayP&L Scale: number of times per day the intraday P&L process is delayed more than 0.5 sec.

Operational-Control.Timely.Trade-Bookings Scale: number of trades per day that are not booked on trade date. **Past** [April 20xx] **20 ?**

Front-Office-Trade-Management-Efficiency Scale: Time from Ticket Launch to trade updating real-time risk view
Past [20xx, Function = Risk Mgt, Region = Global] ~ **80s** +/- **45s** ??
Goal [End 20xz, Function = Risk Mgt, Region = Global] ~ **50%** better?
Managing Risk – Accurate – Consolidated – Real Time

Risk.Cross-Product Scale: % of financial products that risk metrics can be displayed in a single position blotter in a way appropriate for the trader (i.e. – around a benchmark vs. across the curve).
Past [April 20xx] **0%** 95%.   **Goal** [Dec. 20xy] **100%**

Risk.Low-latency Scale: number of times per day the intraday risk metrics is delayed by more than 0.5 sec. **Past** [April 20xx, NA] **1% Past** [April 20xx, EMEA] ??**% Past** [April 20xx, AP] 100**% Goal** [Dec. 20xy] **0%**
Risk.Accuracy

Risk. user-configurable Scale: ??? pretty binary – feature is there or not – how do we represent?
Past [April 20xx] **1% Goal** [Dec. 20xy] **0%**

Operational Cost Efficiency Scale: <Increased efficiency (Straight through processing STP Rates)>

Cost-Per-Trade Scale: % reduction in Cost-Per-Trade
Goal (EOY 20xy, cost type = I 1 – REGION = ALL) **Reduce cost by 60% (BW)**
Goal (EOY 20xy, cost type = I 2 – REGION = ALL) **Reduce cost by x %**
Goal (EOY 20xy, cost type = E1 – REGION = ALL) **Reduce cost by x %**
Goal (EOY 20xy, cost type = E 2 – REGION = ALL) **Reduce cost by 100%**
Goal (EOY 20xy, cost type = E 3 – REGION = ALL) **Reduce cost by x %**

In addition to 'Core' specification,
the Value Driven planning language allows you to specify many other value-related things
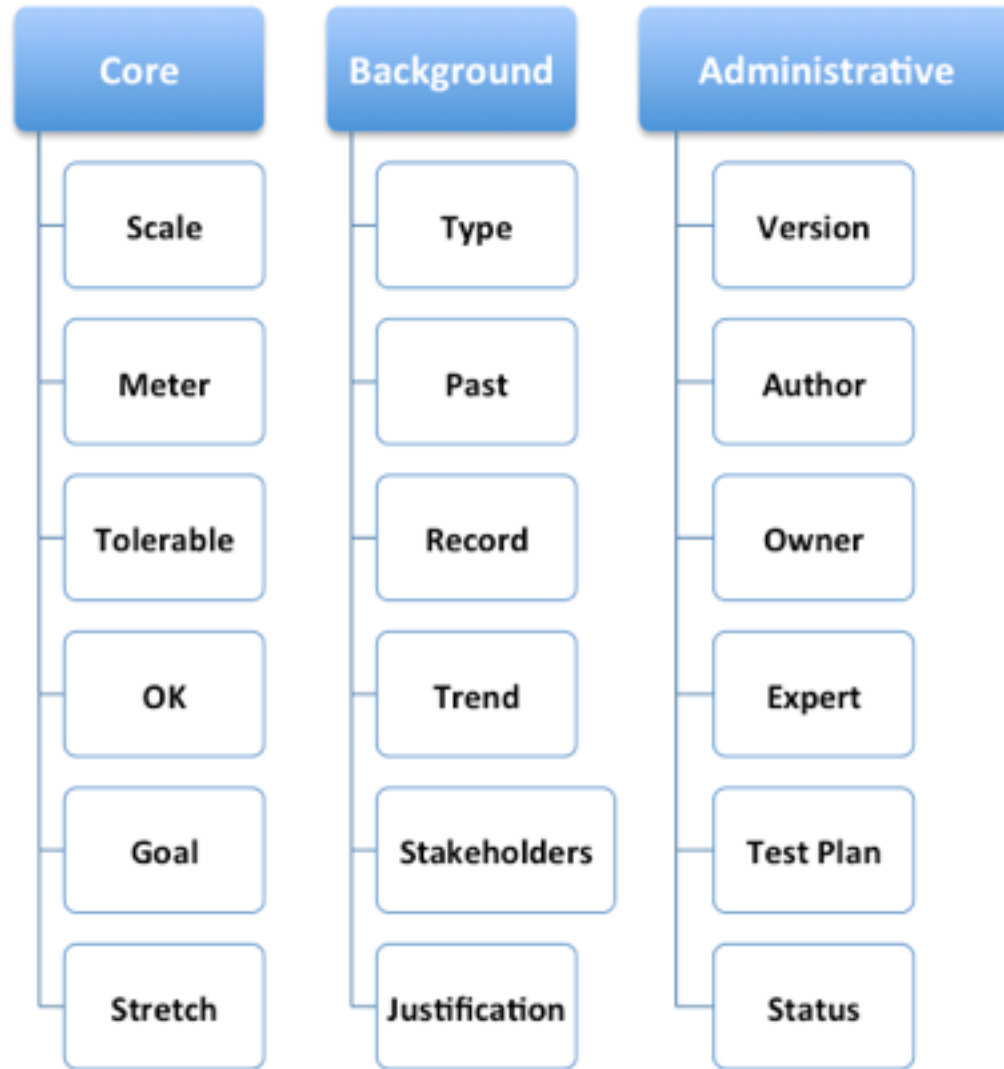# in a single requirement

Core	Background	Administrative
Scale	Type	Version
Meter	Past	Author
Tolerable	Record	Owner
OK	Trend	Expert
Goal	Stakeholders	Test Plan
Stretch	Justification	Status

Figure: *682.   Some Examples Of Core, Background, And Administrative Parameters. (Source 'Value Planning' Diagram 4.3, Aug 2015)

20 Sept, 2011 Report on Gilb Evo method (Richard Smith, Citigroup)

ON STABILITY OF 'REAL REQUIREMENTS' AND INSTABILITY OF 'DESIGN' AND 'ARCHITECTURE

- http://rsbatechnology.co.uk/blog:8
- Back in 2004, I was employed by a large investment bank in their FX e-commerce IT department as a business analyst.
- The wider IT organisation used a complex waterfall-based project methodology that required use of an intranet application to manage and report progress.
- However, it's main failings were that it almost **totally missed the ability to track delivery of actual value improvements to a project's stakeholders**, and **the ability to react to changes in requirements and priority for the project's duration.**
- The toolset generated lots of charts and stats that provided **the illusion of risk control**. but actually provided very little help to the analysts, developers and testers actually doing the work at the coal face.
- The proof is in the pudding;

  - I have **used Evo** (albeit in disguise sometimes) on two large, high-risk projects in front-office investment banking businesses, and several smaller tasks.

  - On the largest critical project, the original business functions & performance objective **requirements document, which included no design, essentially remained unchanged** over the 14 months the project took to deliver,

  - but **the detailed designs** (of the GUI, business logic, performance characteristics) **changed many many times**, guided by lessons learnt and **feedback** gained by delivering a succession of early deliveries to real users.

  - In the end, the new system responsible for 10s of USD billions of notional risk, **successfully went live over over one weekend for 800 users worldwide**, and **was seen as a big success by the sponsoring stakeholders.**

    " I attended a 3-day course with you and Kai whilst at Citigroup in 2006"

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Richard Smith's Planning Tool
which we are using on Courses, Startups.
Great for 'First Week' and all later weeks followup

https://app.needsandmeans.com

Early Experience of the 'Needs and Means' Tool

- Email January 11 2016

- **Double thumbs up for 'needs and means' (tool).**

- **I think every business, project, planning activity should use it!**

- **Time saver,**

- **and for me its amazing how you get the bigger picture instantly because it offers a real practical measure, unlike the usual hypothetical based tools that offer no measuring tool in addition.**

- **I mentioned to you the other day that it has ``unexpectedly`` automatically shaped job descriptions for incoming staff with realistic deadlines.**

- **So I'm working hard to finish the finance projections bit and we can see what the effects are.**

- **I am honoured to have my project be the first real case study on N&M**

- **gottfriedosei.ofei@gmail.com,**
- **STARTUP ENTREPRENEUR, OSLO**
- **Incognito**

CRITICAL OBJECTIVES
- Content Delivery
- Created Value by Students
- Cross Disciplinary Skill Development
- Incognito Toolkit Growth
- Learning Capability
- Multi-Sensory Experience
- Participant Interest
- Student Ownership

Top Level STRATEGIES
- 3) Integrated Access to Subjects
- 3b) Peer to Peer Collaboration
- 4) S.C.G (Sustainable Client Growth)
- 4b) S.P.P.D (Sustainable Product Portfolio Dev
- 5) Learning Motivation
- 5) User Experience ̈Design ̈
- 5a) School Curriculum (Aligning our offerings t
- 6) Touring
- 6b) Creative Hands on Building
- 7a) Competitions
- 8) Collaborations
- Cultural Themes Through Sustainable Approac
- Rewards and Recognition

Quantifying Critical Values

Safari File Edit View History Bookmarks Window Help

app.needsandmeans.com/iet/IET-6TLBFMM?subpage=performance

Inbox (15) - tomsglb@g… Inbox (15) - tomsglb@g… Inbox (15) - tomsglb@g… Booking.com: My Bookin… Faraday Future concept… Glimpse Into

Learning Capability

Type: Performance Requirement   (by IncognitoToolkits Admin - 14 days ago)

% Permalink   0.0.1

Gist: The ability of a student to learn what is taught in a given environment

Description: Learning Capability: refers to Incognito Toolkits' increasing a users ability to intuitively grasp and apply cross disciplinary c

Scale: Speed of attaining [Competence Level] by [Learner Type] with [Learning Basis] in given [Learning Environments]

Tolerable: Level: 2 Product Version Number [Competence Level = [Beginner]*, [Intermediate], [Expert], [Advanced] , Learner Type = 1) [Highly Physical

Test: Reference to Product Development and version 1 Alpha Tests with Kjeller Skole

Goal: Level: 1.1 Product Version Number [Competence Level = Intermediate, Learner Type = All, Learning Basis = All, Learning Environments = All] By

Wish: Level: 3 Product Version Number [Competence Level = All, Learner Type = All, Learning Basis = All, Learning Environments = All] By end of 20th

Multi-Sensory Experience

Type: Performance Requirement   (by IncognitoToolkits Admin - 14 days ago)

% Permalink   0.0.1

Gist: Number of human senses activated in the user at the same time

Description: All Incognito Toolkits should be able to activate more than one human sensory function at one time. This will make offering

Scale: Number of Senses Activated during [Learning Basis] by [Activity]

Tolerable: Level: 2 Number of Senses Activated at the same time [Learning Basis = Subject Interrelationships, Activity = Learning Tasks] By end of

Test: Reference to Product Development and version 1 Alpha Tests with Kjeller Skole

Goal: Level: 3 Number of Senses Activated at the same time [Learning Basis = Subject Interrelationships, Activity = Learning Tasks] By end of 25th

Wish: Level: 9 Number of Senses Activated at the same time [Learning Basis = Subject Interrelationships, Activity = Learning Tasks] By end of 20th

Participant Interest

% Permalink

—Add Parameter

- Ambition Level
- Authority
- Baseline
- Budget
- Description
- Due
- Fail
- Gist
- Goal
- Impact
- Intended Readership
- Meter

+Scale Library

+Specification Rules

Solution Specification and Evaluation

Estimating Impacts of Architecture/ Solutions/Strategies

Visual Comparison of Strategies
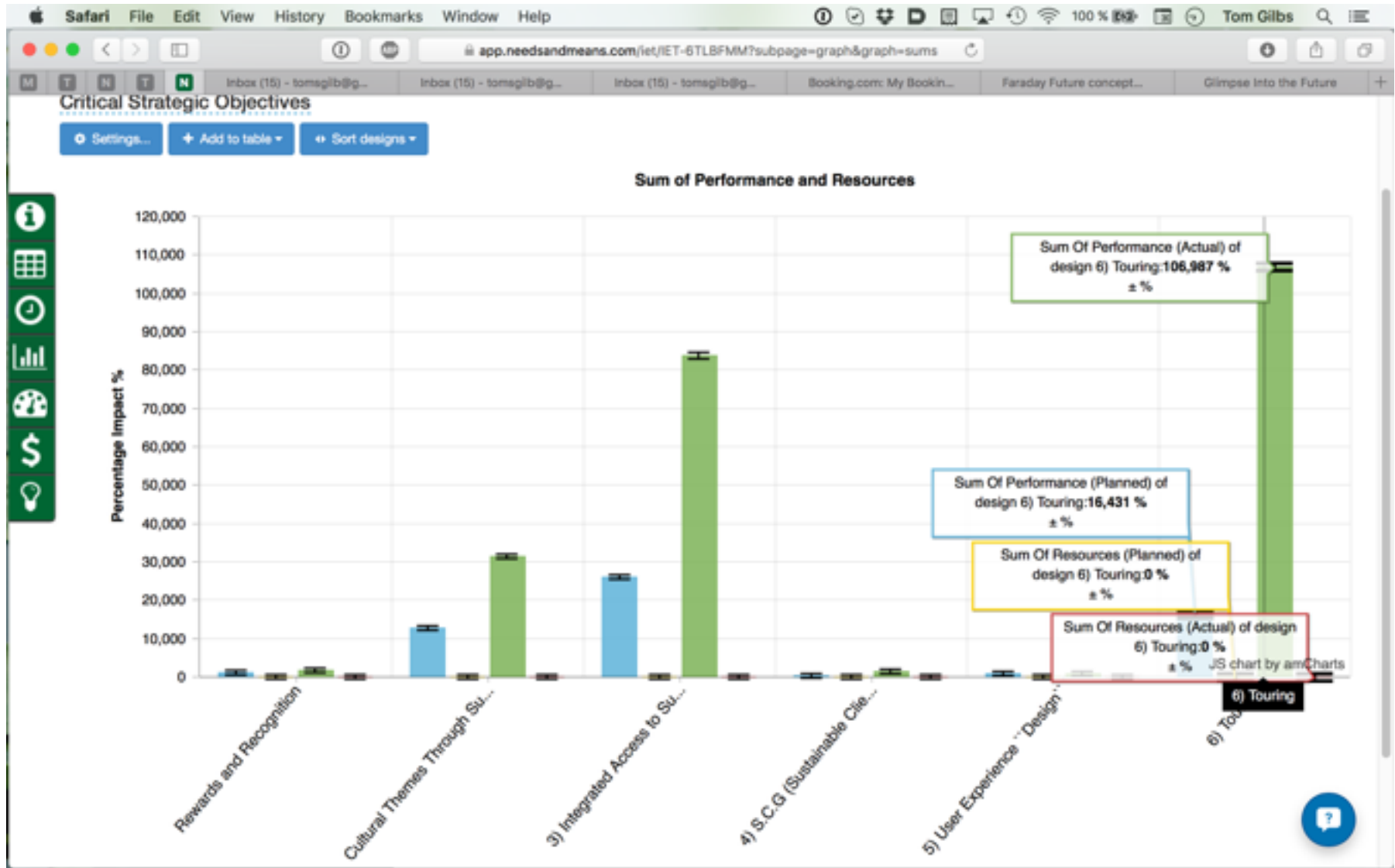
Quantify Values the First Week
Start Delivering the next weeks

An Agile Project Startup Week:
 'Evo Start'
Our Column in AgileRecord.com,
 as published 7 March 2013
http://www.gilb.com/dl568

The Standard
http://www.gilb.com/dl562
This is a detailed standard for
 conducting an 'Evo' (Evolutionary
 Project Management, Gilb's Agile
Method) as described in my book
 Competitive Engineering,
Chapter 10
[http://www.gilb.com//tiki-
download_file.php?fileId=77]

Talk slides pdf from
 ACCU Conference April 9 2014
90 minutes talk
Includes Startup Planning for
Business Startups, Confirmit, US
DoD
 case, 2 Bank cases, Detailed
Startup week outlines
and links to sources.
Bristol ACCU Conference
http://www.gilb.com/dl812

Startup Process Day 1 and 2

- **Day 1: <u>Project Objectives</u>: The top few critical objectives quantified.**
  - Objective: Determine, clarify, agree critical few project objectives – results – end states
  - Process:
    - Analyze current documentation and slides, for expressed or implied objectives (often implied by designs or lower level objectives)
    - Develop list of Stakeholders and their needs and values
    - Brainstorm 'top ten' critical objectives names list. Agree they are top critical few.
    - Detail definition in language – meaning quantify and define clearly, unambiguously and in detail (a page)
    - Quality Control Objectives for Clarity: Major defect measurement. Exit if less than 1.0 majors per page
    - Quality Control Objectives for Relevance: Review against higher level objectives than project for alignment.
    - Define Constraints: resources, traditions, policies, corporate IT architecture, hidden assumptions.
    - Define Issues – yet unresolved
    - Note we might well choose to several things in parallel.
  - Output: A solid set of the top few critical objectives in quantified and measurable language. Stakeholder data specified.
  - Participants: anybody who is concerned with the <u>business results</u>, the higher the management level the better.
  - End of Day Process: meet 30 minutes with any responsible interested managers to present the outputs, and to get preliminary corrections and go-ahead.
  - Note: this process is so critical and can be time consuming, so if necessary it can spill over to next day. Perhaps in parallel with startup of the strategy identification. Nothing is more critical or fundamental than doing this well.

- **Day 2: <u>Project Strategies and Architecture</u>: the top few critical strategies for reaching the critical objectives**
  - Objective: to identify the top 'ten' most critical strategic decisions or architectures; the ones that will contribute or enable us most, to reach our primary objective goal levels on time.
  - Process:
    - Analyze current documentation and slides to identify candidate strategies, implied or expressed.
    - Brainstorming of the 'names' of the specific strategy list, the top ten and a set of less powerful ideas (say 11-30)
    - Detail each top ten strategy sufficiently to understand impacts (on objectives, time and costs)
    - Specify, for each strategy all critical related information (like stakeholders, risks, assumptions, constraints, etc.)
    - Quality Control for clarity – correct unclear items. Exit based on defect level, or not.
    - Later, the review will need to work in parallel, or else to do then strategy into rich level of specification.
  - Output: A formal strategy specification, ready for evaluation, and decomposition and delivery of partial value results.
  - Participants: system architects, project architects, strategy planners. And members of the project team who will be in on the entire weeks process. The major input here is technical and organizational strategy (the means to reach the objectives)
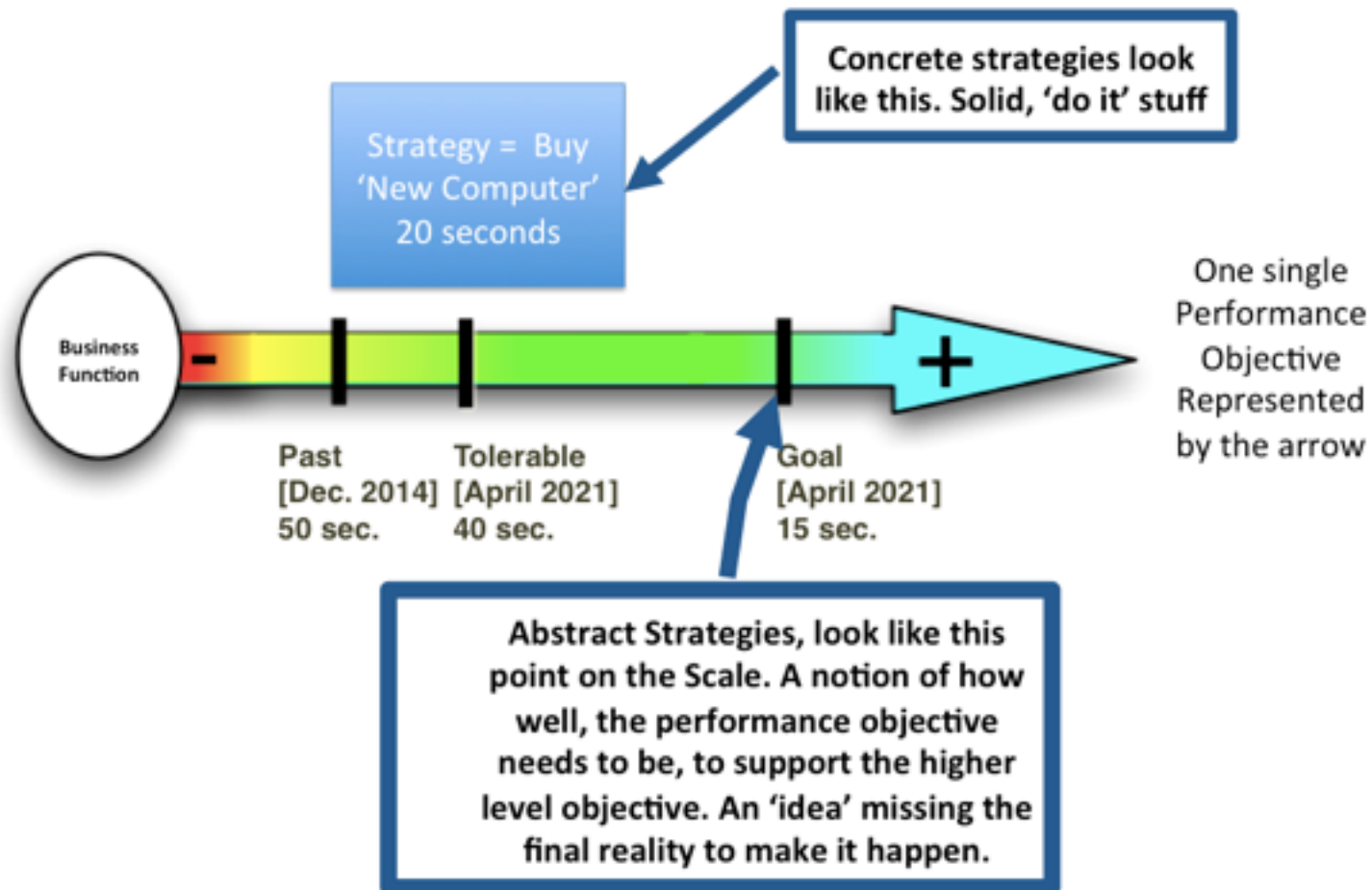 - End of Day Process: : meet 30 minutes with any responsible interested managers to present the outputs,

Day 3: Evaluation of Strategies using Impact Estimation: our best estimates with experience and risk. How sure are of the major strategy decisions.

- **Objective: to estimate to primary effects and all side effects of all top critical strategies on all top critical objectives, and on some resources (time, cost, effort). The estimates will be backed up by evidence, or their credibility will be rated low.**
- **Process:**
  - **Using the objectives and strategies developed on first 2 days as inputs**
  - **Populate an Impact Estimation table (aka Value Decision Table) with estimates of the expected result of deploying defined strategies. Estimate main intended impacts**
  - **And all side effects (on other core objectives)**
  - **And on all resources (time, money. Effort)**
  - **Estimate ± ranges**
  - ** y evidence a d sources for estimates**
  - **   mine credibi   levels**
  - ** uality Contr   the E tab   a ins st da d (les or II   CE   ory) for p   sible x it' (meet   standa ds)**
  - **Lots of parallel work needed and expected to do a good job.**
- **Output:**
  - **A fairly decent Impact Estimation table, possibly a several level set of them**
  - **   this   d us   it   te to   used /   re g   en gh   strat   ies**
  - **   nd   wil help   prioriti   the   ue   ities set**
- **Participants: architects, planners, anybody with strong views on any of the strategies. The team for the week.**
- **Note: it might be necessary and desirable, now or later, to do this impact esti   process at 2 or 3 related levels (Business, Stakeholder, IT   n)   o er   p   e   us   ss   r relationship clea y. This   i   t e   e   me   m ts a   be done parallel or later.**
- **End of Day Process: meet 30 minutes with any responsible interested managers to present the outputs, and to get preliminary corrections and go-ahead.**

Day 4: Evolutionary Step Decomposition: what are the high value short te m va ue delivery st ps we an execute.

- **Objectiv : to   entify ear tea   andida es for real value delivery to real stakeholders. What can we d for real n xt week!**
- **Process:**
  - **Identify   nes   alue (costs) strategies and sub-sets of strategies**
  - **Decompose into d able subsets in weekly to m nt ly c cles r result delivery**
  - **Plan the near steps (1 or more) in detail so that we are ready to execute the step in practice.**
    - **Who does it, main responsible, team.**
    - **Expected measurable results and co   s**
    - ** take holder in ol ed in eceiv ng**
    - **Test process (for value)**
  - **Output: 1 or more potential steps for value delivery to some stakeholders, a plan good enough to app ove   d exe ut i pactive.**
  - **Participants: Project Management, architects prepared to decompose architecture in practice. The week team for this start up st dy**
  - **E d of D   Process: meet 0 inu   w th any responsible interested managers to present the outputs, and to get preliminary**
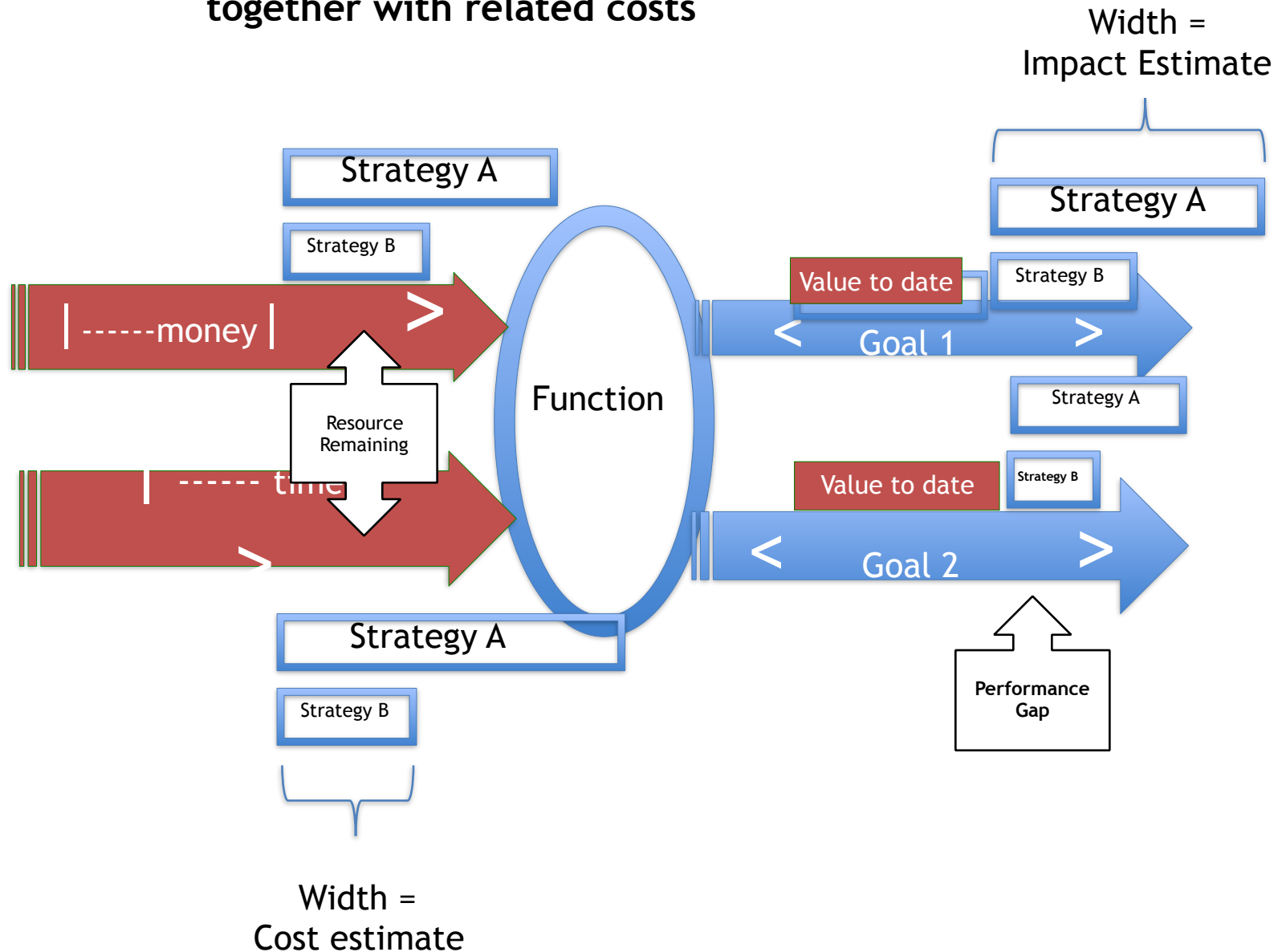
Abstract and Concrete Value Strategies

Concrete strategies look like this. Solid, 'do it' stuff

Strategy = Buy 'New Computer' 20 seconds

One single Performance Objective Represented by the arrow

Business Function

Past
[Dec. 2014]
50 sec.

Tolerable
[April 2021]
40 sec.

Goal
[April 2021]
15 sec.

Abstract Strategies, look like this point on the Scale. A notion of how well, the performance objective needs to be, to support the higher level objective. An 'idea' missing the final reality to make it happen.

Estimating the Power of suggested architecture together with related costs

Width =
Impact Estimate

Strategy A

Strategy A

Strategy B

Strategy B

| ------money | >

Value to date

<   Goal 1   >

Function

Resource
Remaining

Strategy A

Strategy B

| ------ time

Value to date

<   Goal 2   >

>

Strategy A

Strategy B

Performance
Gap

Width =
Cost estimate

Day 3 of Project Startup

- How do the strategies/architecture

- deliver value for your quantified value requirements?

	Identify Binding Compliance Requirements Strategy	System Control Strategy	System Implementation Strategy	Find Services That Meet Our Goals Strategy	Use The Lowest Cost Provider Strategy
Strategies **Goals**					
Security Administration Compliance 25 % → 90 %	100 %	100 %	100 %	50 %	0 %
Security Administration Performance 24 hrs → 4 hrs	75 %	100 %	100 %	100 %	0 %
Security Administration Availability 10 hrs → 24 hrs	0 %	0 %	0 %	100 %	0 %
Security Administration Cost 100 % → 60 %	50 %	100 %	100 %	100 %	100 %
Total Percentage Impact	225 %	300 %	300 %	350 %	100 %
Evidence	ISAG Gap Analysis Oct. 03	John Collins	John Collins	John Collins	John Collins
Cost to Implement Strategy	15 man days (US$ 5,550)	15 man days (US$ 5,550)	15 man days (US$ 5,550)	15 man days (US$ 5,550)	1 man day (US$ 1,110)
Credibility	0.9	0.6	0.6	0.75	0.9
Cost Adjusted Percentage Impact	202.5 %	180 %	180 %	262.5 %	90 %

Citigroup, London

Figure 4. Acer Project: Impact Estimation Table.

A Real London Impact Estimation Table
Made one day, to get £50,000,000 next day

		......................................Deliverables						
		Telephony	Modularity	Tools	User Experience	GUI & Graphics	Security	Enterprise
Business Objective								
Time to Market		10%	10%	15%	0%	0%	0%	5%
Product Range		0%	30%	5%	10%	5%	5%	0%
Platform Technology		10%	0%	0%	5%	0%	10%	5%
Units		15%	5%	5%	0%	0%	10%	10%
Operator Preference		10%	5%	5%	10%	10%	20%	10%
Commoditization		10%	-20%	15%	0%	0%	5%	5%
Duplication		10%	0%	0%	0%	0%	5%	5%
Competitiveness		15%	10%	10%	10%	20%	10%	10%
User Experience		0%	20%	0%	30%	10%	0%	0%
Downstream Cost Saving		5%	10%	0%	10%	0%	0%	5%
Other Country		5%	10%	0%	10%	5%	0%	0%
Total Contribution		90%	80%	55%	85%	50%	65%	55%
Cost (£M)		0.49	1.92	0.81	1.21	2.68	0.79	0.60
Contribution to Cost Ratio		**184**	42	68	70	19	82	92

Day 5: Boss Says 'Go' (next week only)

- Boss approves doing the next week
  - This is normally used to present the plan to management and get approval to go forward the next week.
  - In our case we have chosen a 4 days model due to Easter Holidays. So we have to find another way to present and approve.
  - **Objective**: To present the entire set of plans to responsible executive(s) and discuss them, with approval if possible, or approve with changes.
  - **Process**:
    - Present all planned outputs
    - Discuss them and answer questions
    - Take corrections
    - Get approval for the next implementation step.
  - **Output**: Approval for next implementation step, corrections
  - **Participants**: project tem + key manager above the project manager.
  - **End of Day Process**: none, unless corrections needed before execute OK.
    - Possible corrections and ready to execute a delivery step next week
  -

Boss Approves Next week experiment To Get Real Value Delivered And measured

Selling 'Value' to your IT Boss

- Value Planning (Using 'Planguage')
  - Links directly to management's values and plans
  - Is visible and measurable **evidence** of IT value to the organization
  - Is some methods for **very early** increments of value delivery (weeks not years)
  - Is **intelligible** to 'your boss' (is not IT technology,
  - it is **results** that make everybody look like good managers.
  - Can be used to manage outsourcing **contracts**: no value, no pay.

'Just do'ing 'Value':
(nobody can stop you)

- Whenever you encounter **value-talk** at meetings and in documents
  - **Quantify it**
- Whenever you are selling or being sold 'technology'
  - **Quantify** (estimate, measure, contract for) **specific value delivery**
    - NOT: *"it is cutting edge technology"* (Management BS)
      - http://www.gilb.com/dl465
    - BUT *"It will deliver 50-70% of the Productivity Goal by next year, contractually guaranteed."*
- *Measure the BS Level, and don't accept it:*
  - *Is 100 fudge words per page in requirements OK to hand on to the rest of the organization?*

http://www.gilb.com/dl465

12 Tough Questions

Involving Management

- **The 12 Tough questions**
  - **Are a way to get managers interested in metrics**
  - **They lead directly**
    - **to quantified management objectives**
    - **to quantified project and product requirements**
    - **to the use of impact estimation tables evaluating alternative solutions quantitatively**
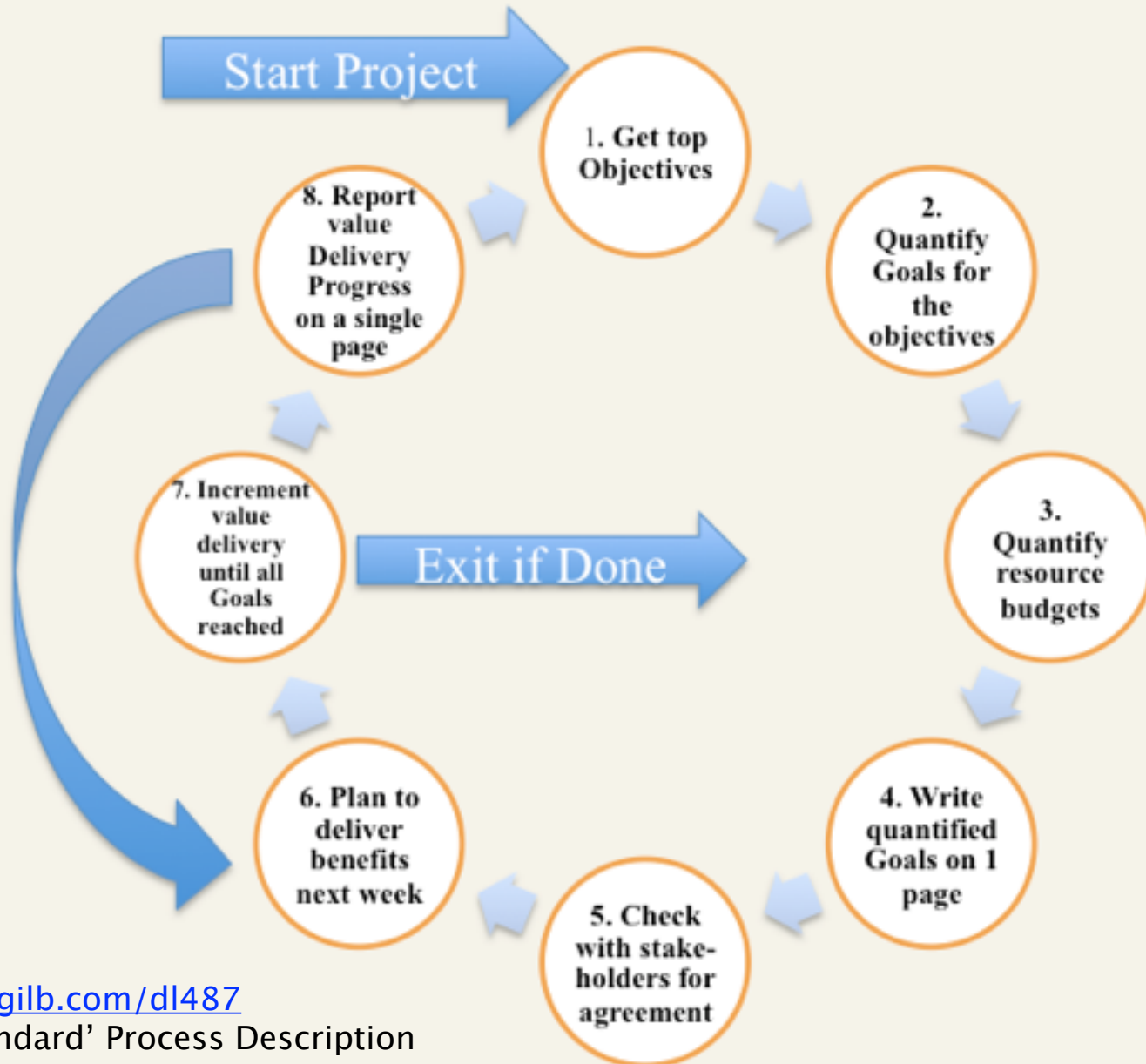
TWELVE TOUGH QUESTIONS

- **1. Why isn't the improvement quantified?**
- **2. What is degree of the risk or uncertainty and why?**
- **3. Are you sure? If not, why not?**
- **4. Where did you get that from? How can I check it out?**
- **5. How does your idea affect my goals, measurably?**
- **6. Did we forget anything critical to survival?**
- **7. How do you know it works that way? Did it before?**
- **8. Have we got a complete solution? Are all objectives satisfied?**
- **9. Are we planning to do the 'profitable things' first?**
- **10. Who is responsible for failure or success?**
- **11. How can we be sure the plan is working, during the project, early?**
- **12. Is it 'no cure, no pay' in a contract? Why not?**

There is a detailed paper on these questions at www.result-

Longer explanation of these simple but powerful value questions

- 12 tough questions paper
- http://www.gilb.com/tiki-download_file.php?fileId=24
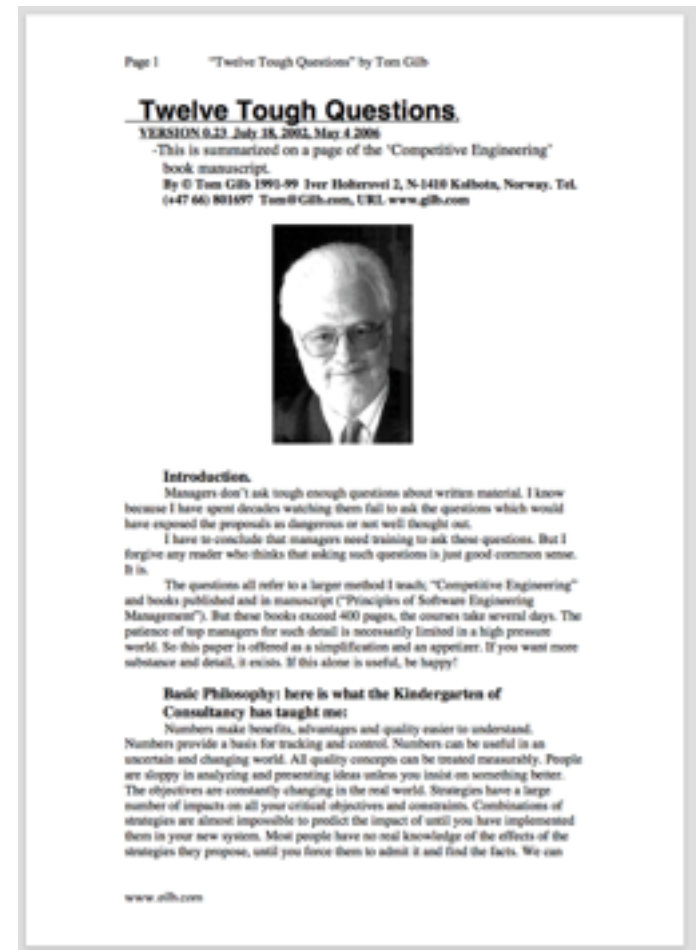
A View of the 'Evo' Agile for values Project Management Process

Start Project

1. Get top Objectives

2. Quantify Goals for the objectives

3. Quantify resource budgets

4. Write quantified Goals on 1 page

5. Check with stake-holders for agreement

6. Plan to deliver benefits next week

7. Increment value delivery until all Goals reached

8. Report value Delivery Progress on a single page

Exit if Done

http://www.gilb.com/dl487
The Evo 'Standard' Process Description

Some Deeper aspects of Value Engineering

Design Strategy Relationships
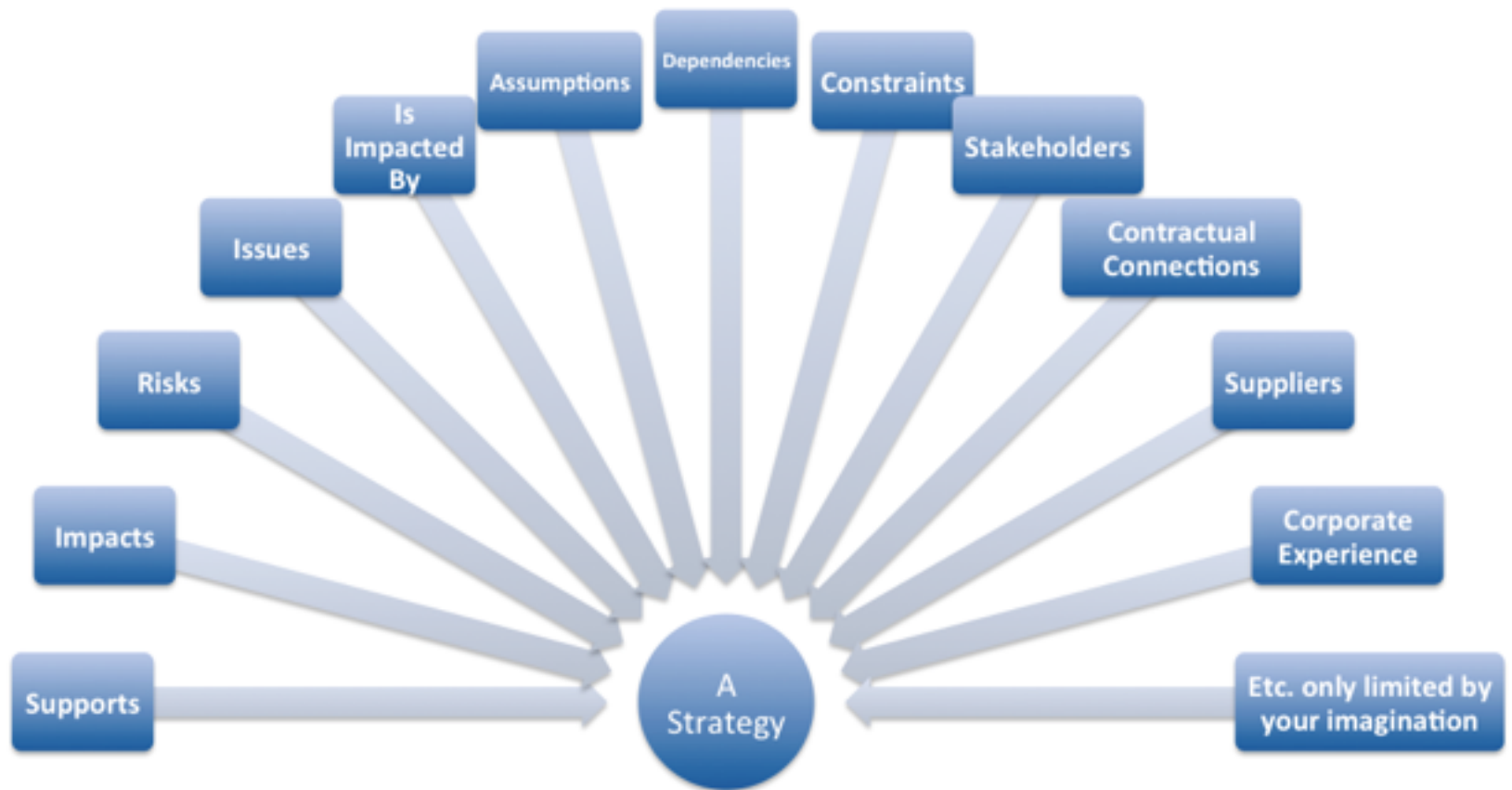
A Basic Solution with options for Background info on right side

Value Decomposition
by delivery and learn , not build and hope

Not decomposition for this

Build 1 | Build 2 | Build 3 | Build 4 | THEN DEPLOY AND MEASURE

More like this

Deploy Strategy, increment value

Deploy Strategy, increment value

Deploy Strategy, increment value

Deploy Strategy, increment value
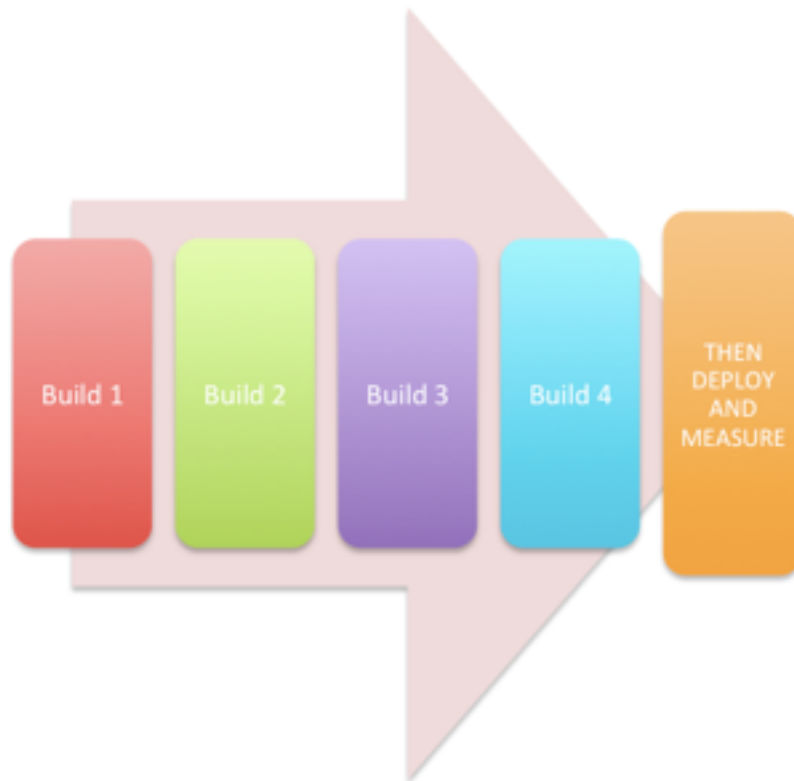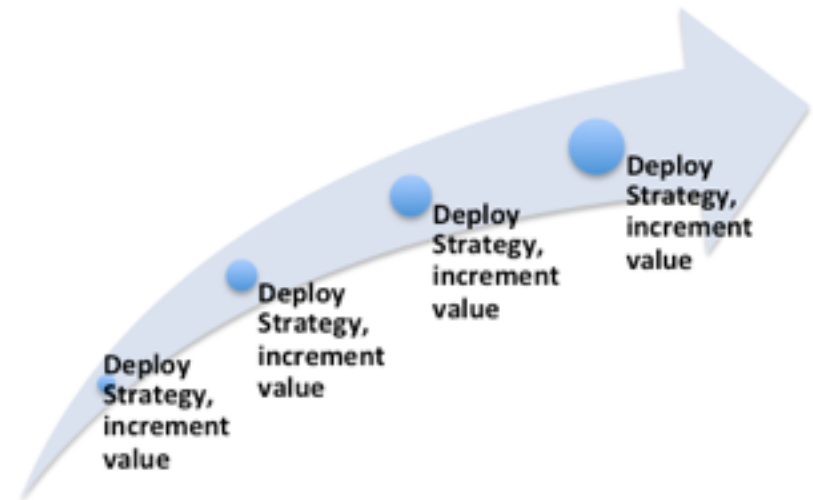
Value Delivery Cycle Decomposition ('Evo')

Feedback to Top Level Planning

Study Top

Critical Objectives

Powerful Strategies

Deliver Value 1

Deliver Value 2

Deliver Value n
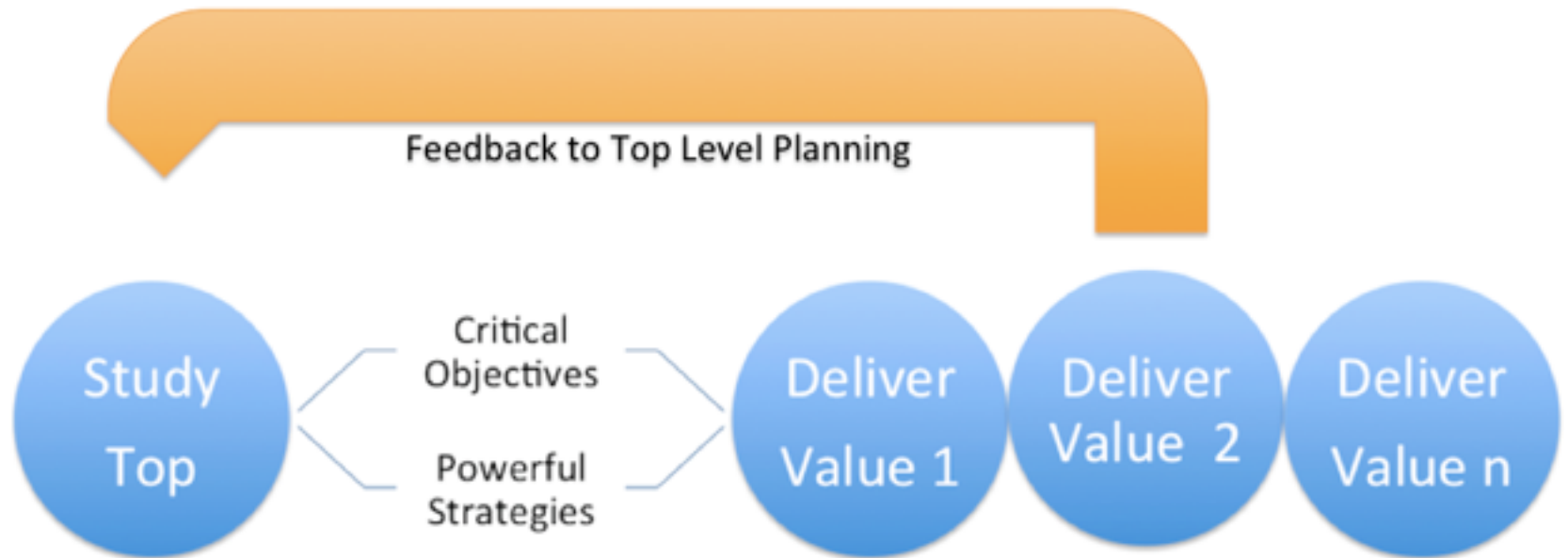
Various Risks to Plans

Design Strategy Risks

The strategy has never worked, but we don't know it

The strategy has nasty hidden side effects

The strategy costs too much initial resources

They strategy costs too much operational resources

The strategy fails to deliver, even in a pilot experiment

The strategy fails to deliver when scaled up

The strategy fails to work with a subsequently implemented strategy

The strategy fails to work in a changed environment

The strategy becomes illegal in some places

What could possibly go wrong with that *great* strategy?
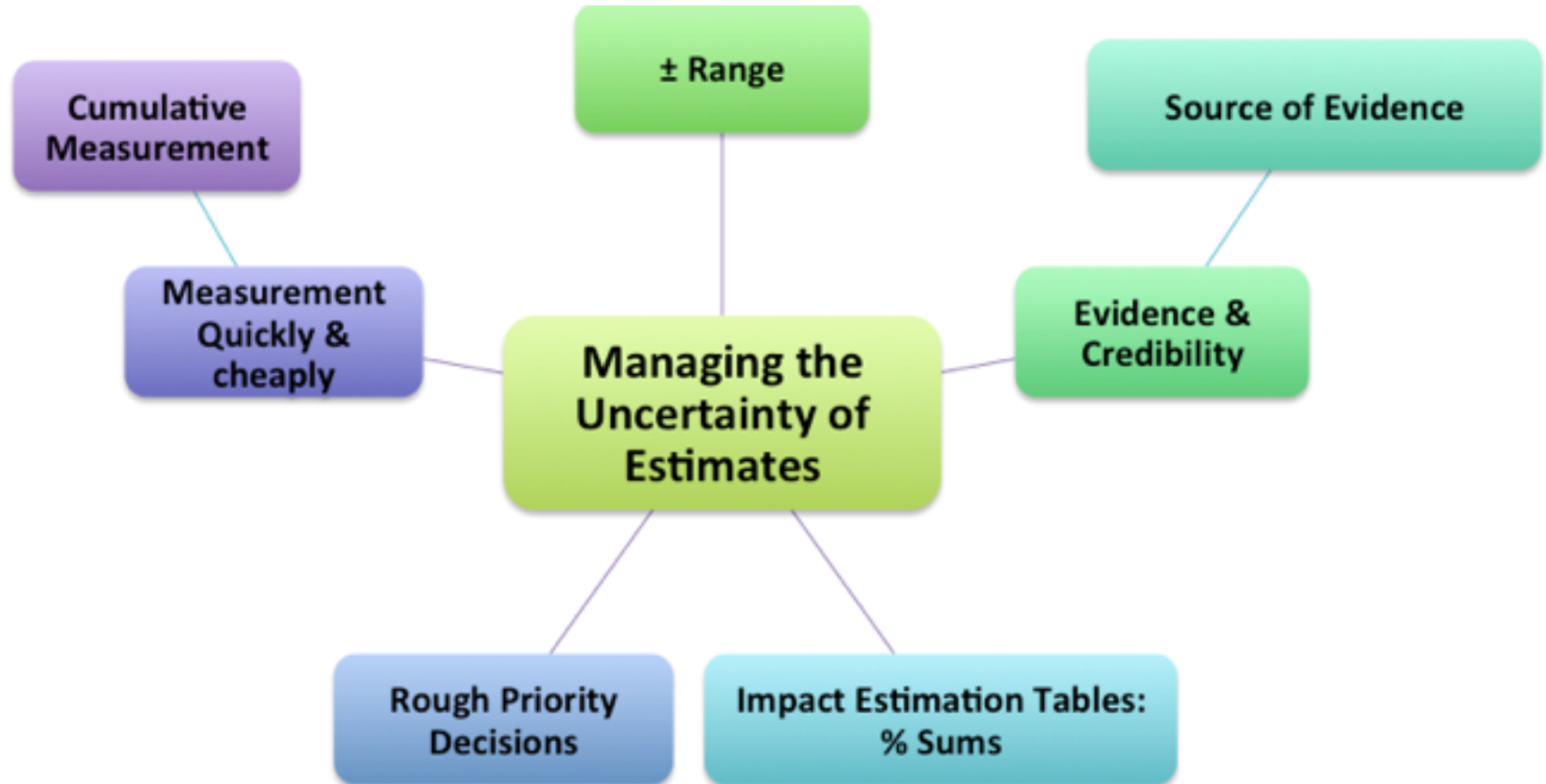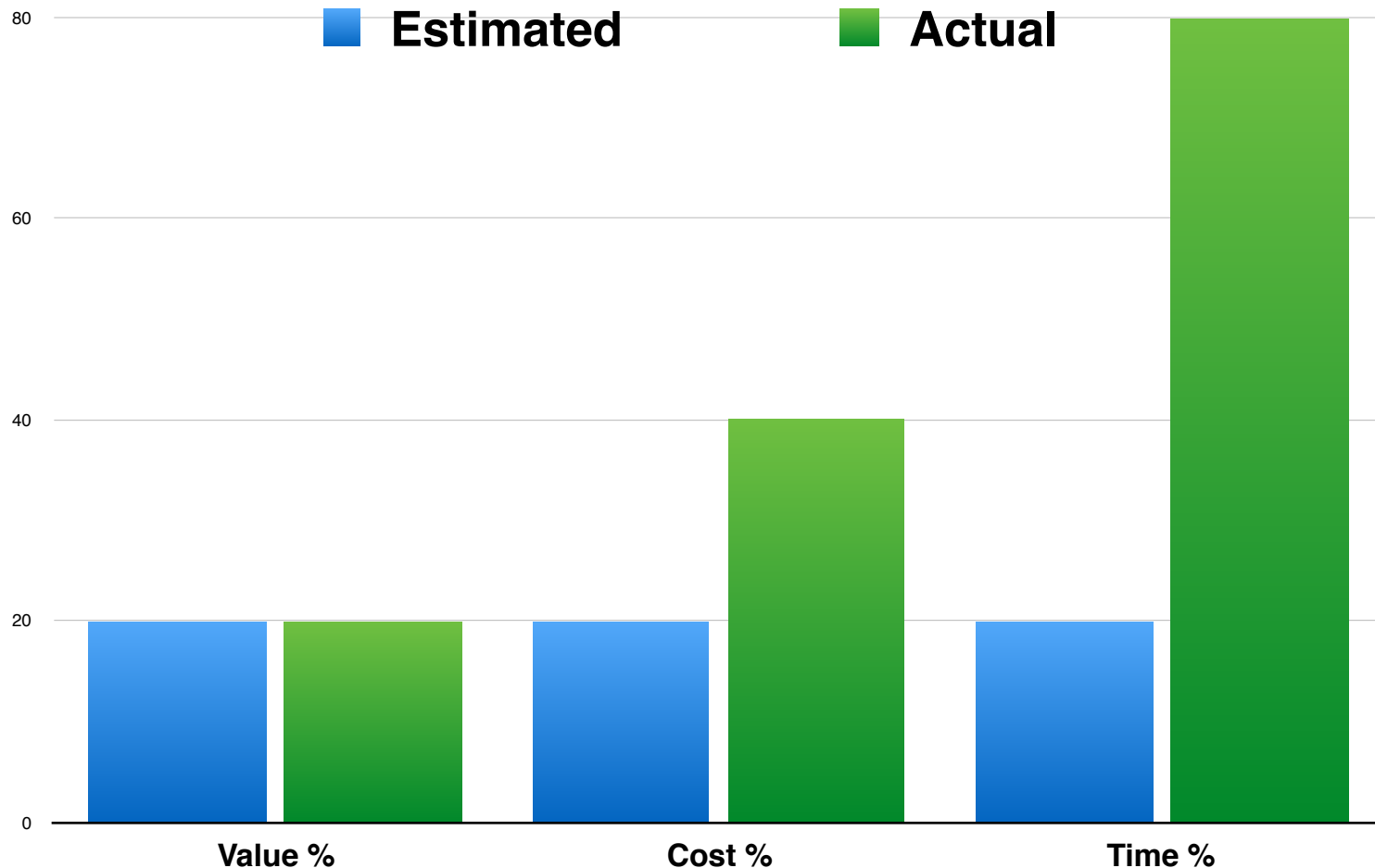
Cost Risks

Risk Tools in Impact Estimation

20% Snapshot:
Design to Cost Dynamically.
The point being that unexpected residual resources may force you to choose unexpectedly different architecture, in order to achieve deadline and budget

Legend: ■ Estimated ■ Actual

Categories: Value %, Cost %, Time %

SUMMARY:
The Fundamental Principles of Value-Driven IT Systems 'Engineering'.

1. Values are multiple and simultaneous: unavoidable.

2. All technical solutions contain multiple values and

   costs.

3. All values and costs have unknowns, uncertainties and

   risks.

4. Value delivery must work incrementally, with feedback

   and change.

Free Book Core

- Leanpub.com/ValuePlanning
-
- Aimed at 'management'
    - (not IT or Engineers)

- and German Edition
- leanpub.com/ ValuePlanningDeutsch

Value Planning

TOM GILB

Praktische Werkzeuge

für

klarere Management-Kommunikation

65

The End of slides

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