# How to Quantify,
# and Focus on,
# Critical Value Objectives

## Not on 'supporting ideas'
## like
## functions, use cases, coding and user stories.
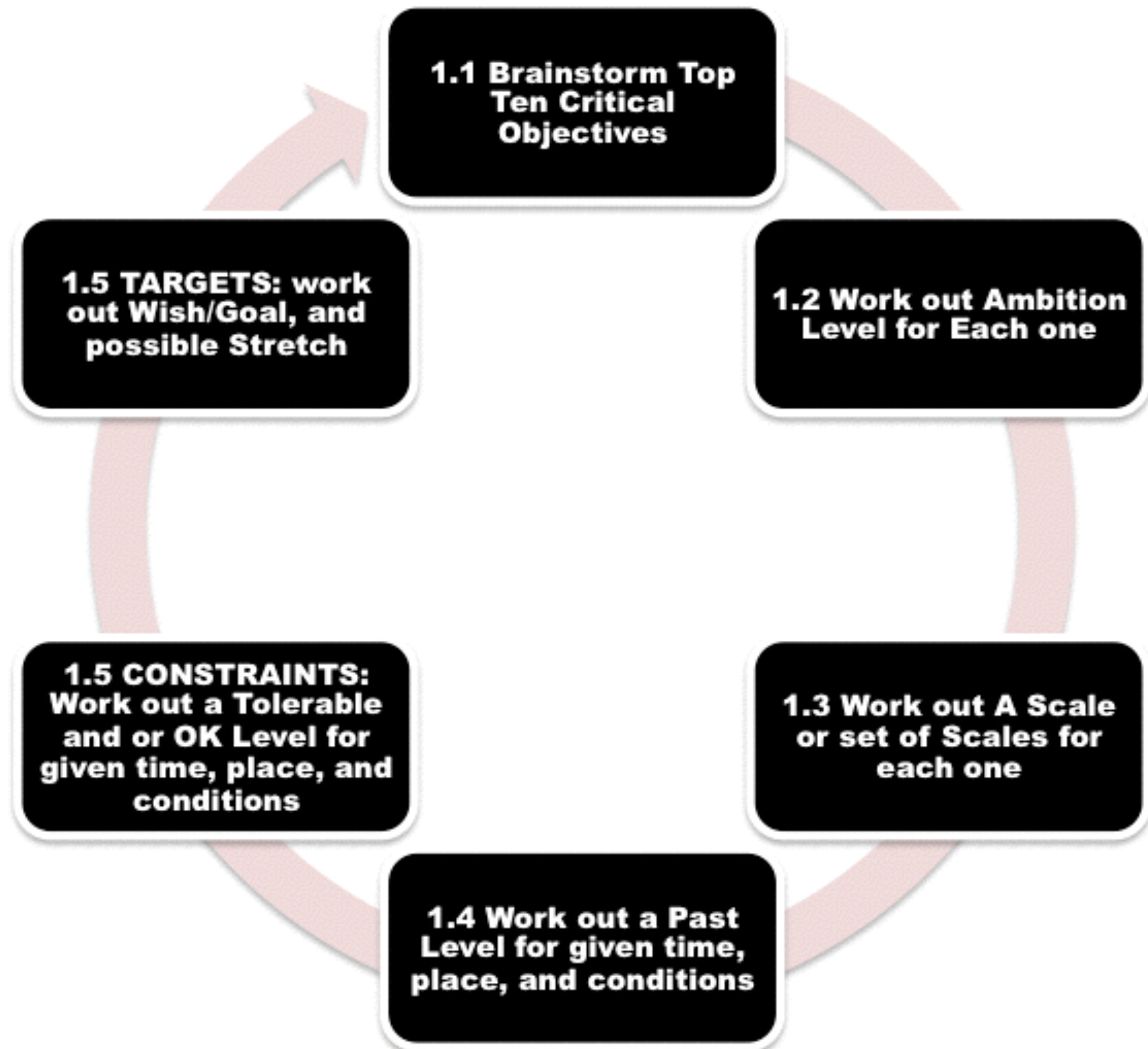
Lviv, Ukraine. #ITArena2015
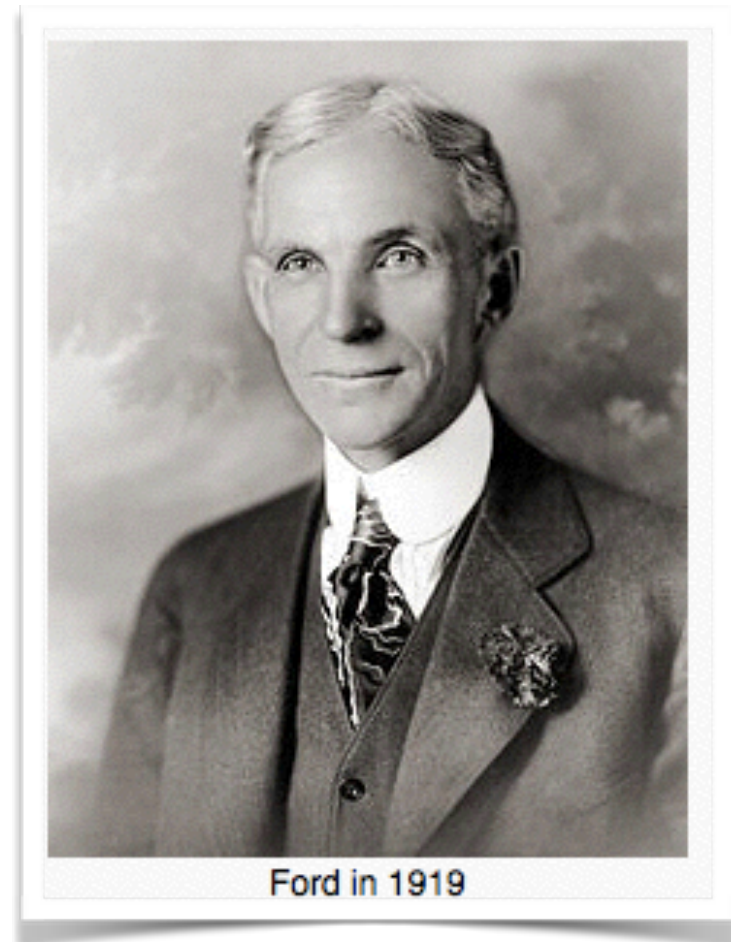Date: 03.10.2015
Time: 18:15 - 19:00
Lecturer
tom@Gilb.com, @ImTomGilb

The practical art of analyzing the 'real' Objectives.

Right level, right relationships to other objectives.

1.1 Brainstorm Top Ten Critical Objectives

1.2 Work out Ambition Level for Each one

1.3 Work out A Scale or set of Scales for each one

1.4 Work out a Past Level for given time, place, and conditions

1.5 CONSTRAINTS: Work out a Tolerable and or OK Level for given time, place, and conditions
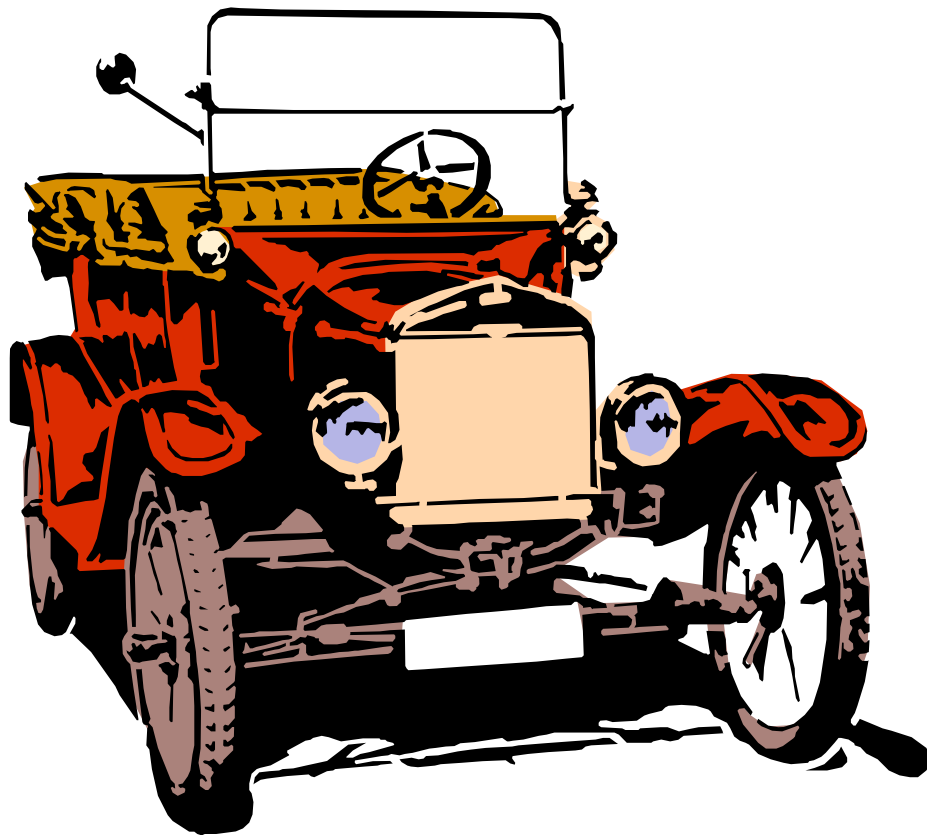
1.5 TARGETS: work out Wish/Goal, and possible Stretch

Ford in 1919

The Obligatory
Henry Ford Quote
for all Lviv IT
Arena Speakers

'lighter telephone kiosks'

as
paraphrased by
my hero
Steve Jobs

**This is what customers pay us for -
to sweat all these details
so it's easy and pleasant for them
to use our computers.**

**We're supposed to be really good at this.
That doesn't mean we don't listen to customers, but
it's hard for them to tell you what they want
when they've never seen anything remotely like it."**
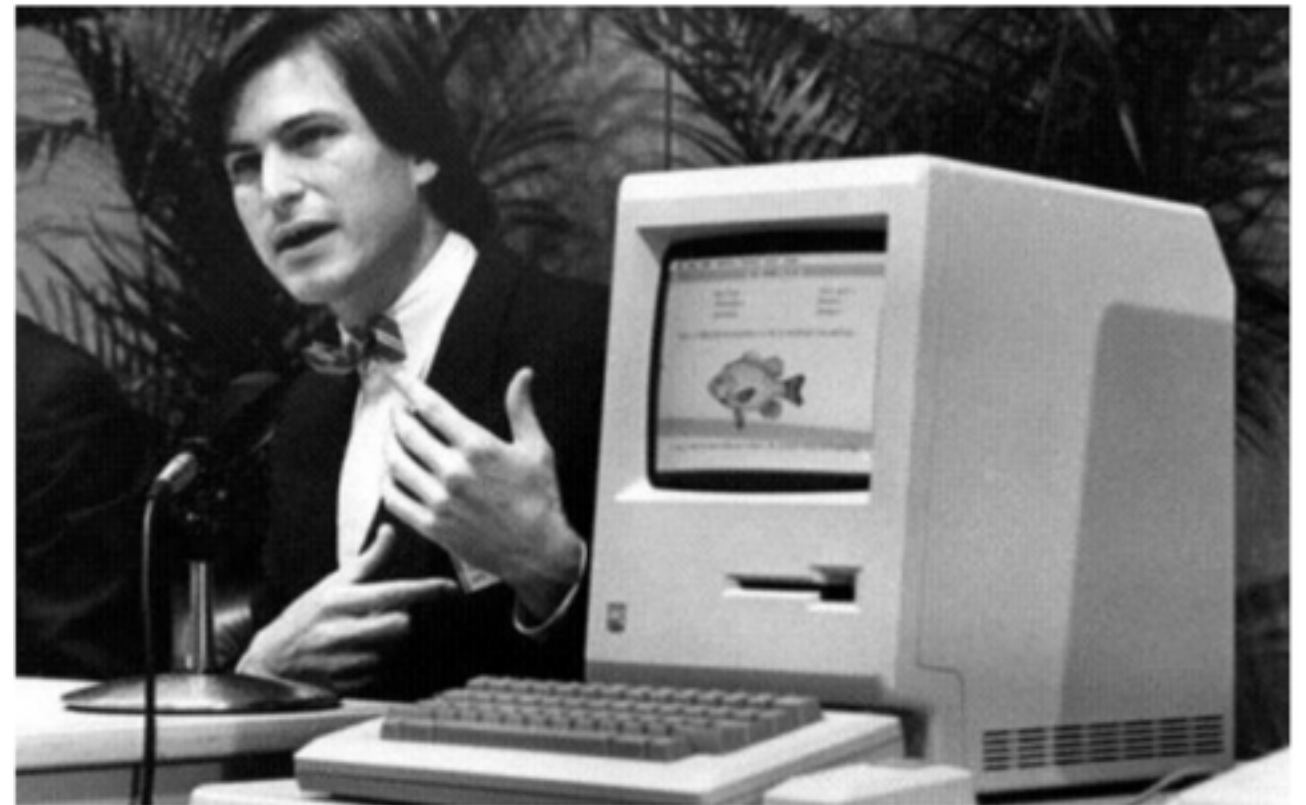
**Steve Jobs (1955-2011) .**

# Steve set value objectives

He did not decide on detailed technology.
He set the following objective when the original Mac was being designed.

"A manager must feel in control of the Mac within 30 minutes of beginning to play with it:
(if not he will buy an IBM PC instead)

YouTube

http://www.businessinsider.com/steve-jobs-mac-video-1984-2014-1

http://time.com/1847/steve-jobs-mac/

# In my Planning Language it might have looked like this

**Mac Usability:**

**Type:** critical product quality requirement.

**Ambition**: a short demo would enable a manger to feel he could get the Mac to do his bidding.

**Stakeholders**: Mac Team, Individual Mac Owners, Apple Stockholders.

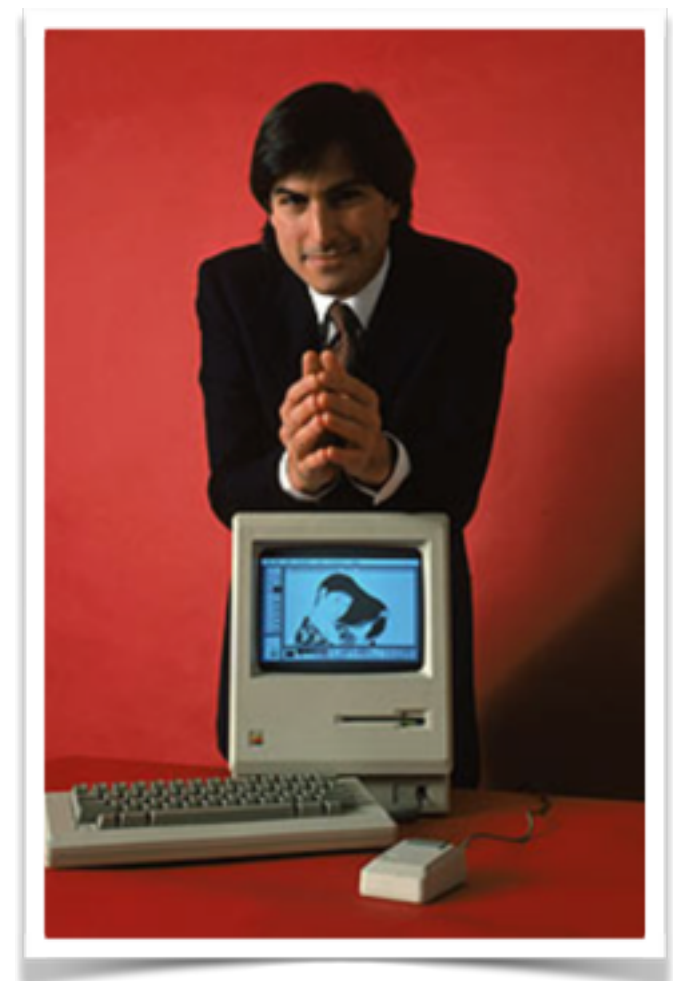**Owner of Requirement**: Steve Jobs

**Solution Designer**: Andy Hertzfeld.

**Scale**: time for a manager to feel in control,

   from first touch, until request to buy it.

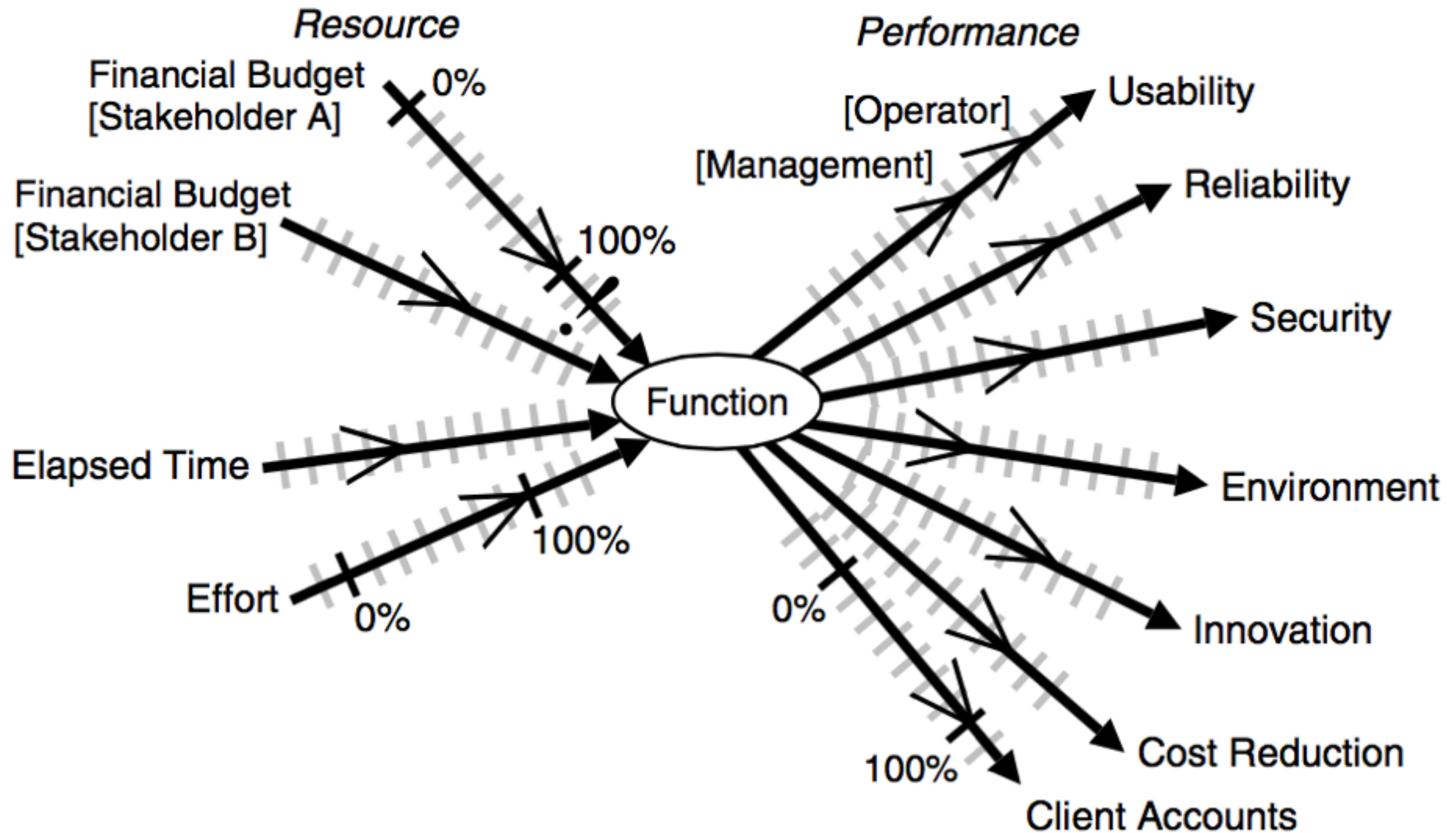**Fail**: over 30 minutes, and no sale.

**Tolerable**: 30 minutes.

**Goal**: 10 minutes

# The Real World of Multiple Values and Costs
## which must be quantified
## if you want to manage them at all

**Part 2
The practical art of
turning critical values
into quantified (clear)
and measurable (trackable)
specifications.**

# Love Quantification

# Is Love unmeasurable?



- "Love should never be too much or too less, yet it cannot be measured."
- — Rizi Dame C. Briz

- http://www.goodreads.com/quotes/tag/measurement

# Exercise: Aspects of Love, or
## Love is a many splendored thing!

- **Make inventory of love's many aspects**
- **Quantify one requirements for love**

- **Duration: 6 minutes**

See note for Sutra

•**Kissed-ness**
•**Care**
•**Sharing**
•**Respect**
•**Comfort**
•**Friendship**
•**Sex**
•**Understanding**
•**Trust**

• **Support**
• **Attention**
• **Passion**
• **Satisfaction**
• **...**
• **...**
• **...**
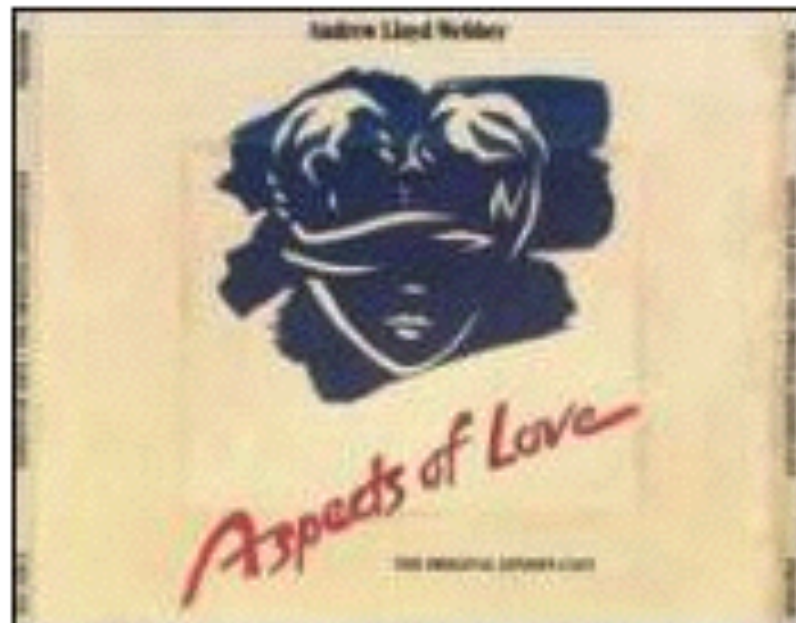
**Other aspects of Trust:**

**1. 'Truthfulness'**

**2. Broken Agreements**

**3. Late Appointments**

**4. Late delivery**

**5. Gossiping to Others**

# Trust. Truthfulness

- ## Love.<u>Trust</u>.<u>Truthfulness</u>

**Ambition: No lies.**

**Scale:**

   **Average Black lies/month from [defined sources].**

**Meter:**

   **independent confidential log from sample of the defined sources.**

**<u>Past Lie Level</u>:**

   **Past [My Old Mate, 2004] 42 <-Bart**

**Goal**

   **[My Current Mate, Year = 2005] Past Lie Level/2**

**Black: Defined: Non White Lies**

- ## __Truthfulness__

## Scale: Average Black lies/month


## Past 42

## Goal < 21

# Should Christians Quantify Love?

# Book of First Corinthians, Chapter 13

A person who loves acts the following way toward the person being loved:

**Suffereth long**

**Is kind**

**Envieth not**

**Vaunteth not itself**

**Is not puffed up**

**Doth not behave itself unseemly**

**Seeketh not her own**

**Is not easily provoked**

**Thinketh no evil**

**Rejoiceth not in iniquity**

**Rejoiceth in the truth**

**Beareth all things**

**Believeth all things**

**Hopeth all things**

**Endureth all things**

**Never faileth**

# A Paper on 'Love Quantified'

## Love Quantified

By:

Lawrence E. Day

for

Dr. Larry Beebe

And

Dr. Raghu Korrapati

## Table of Contents

# Mathematical Models of Love & Happiness

## J. C. Sprott

*Department of Physics*

*University of Wisconsin - Madison*

Presented to the

**Chaos and Complex Systems Seminar**

in Madison, Wisconsin

on February 6, 2001

# 3 Practical Quantification Methods, for ANY quality or value

**1. Use domain know-how, and work it out in a few minutes**

**2. Decompose, like 'love' ,
one or two levels
 (Cartesian Analysis)
'until quantification becomes obvious'**

**3. Google it:**

**Project timeliness metrics: 395,000 hits**

**Usability Metrics    583,000 hits**

**Social awareness metrics  2.6 mill. hit**

**Software security metrics 12,3 mill. hits**

It is clear the source of the problem or necessary actions when the metric goes up, down, flat or off-target

People in the organization recognize what the metric means

Actionable

Common interpretation

The perfect metric

Accessible, creditable data

Transparent, simple calculation

The data can be acquired with modest effort from a source that people trust

How the metric is generated is shared and easy to understand

# Part 3
# The use of a planning language
to relate

the expected impacts

of

any strategies

on

any quantified

value objectives.
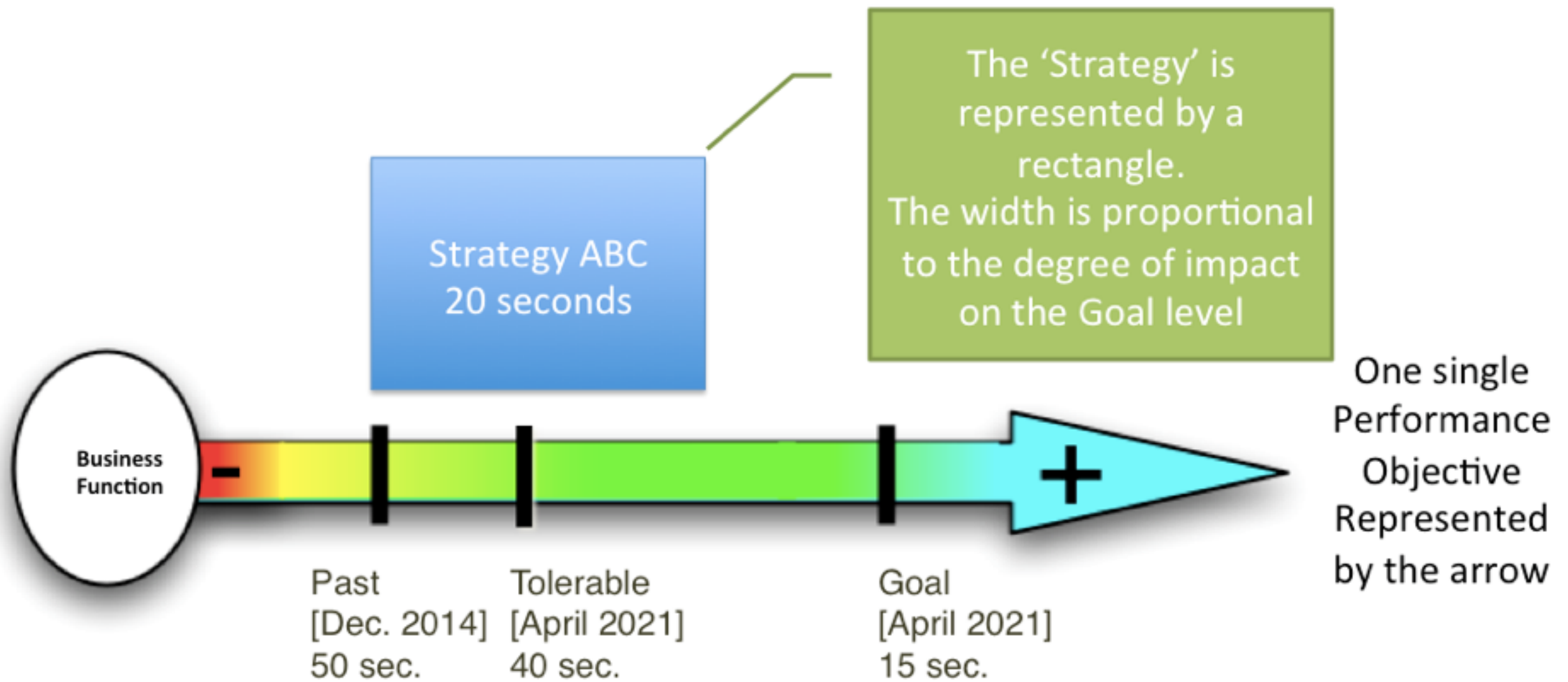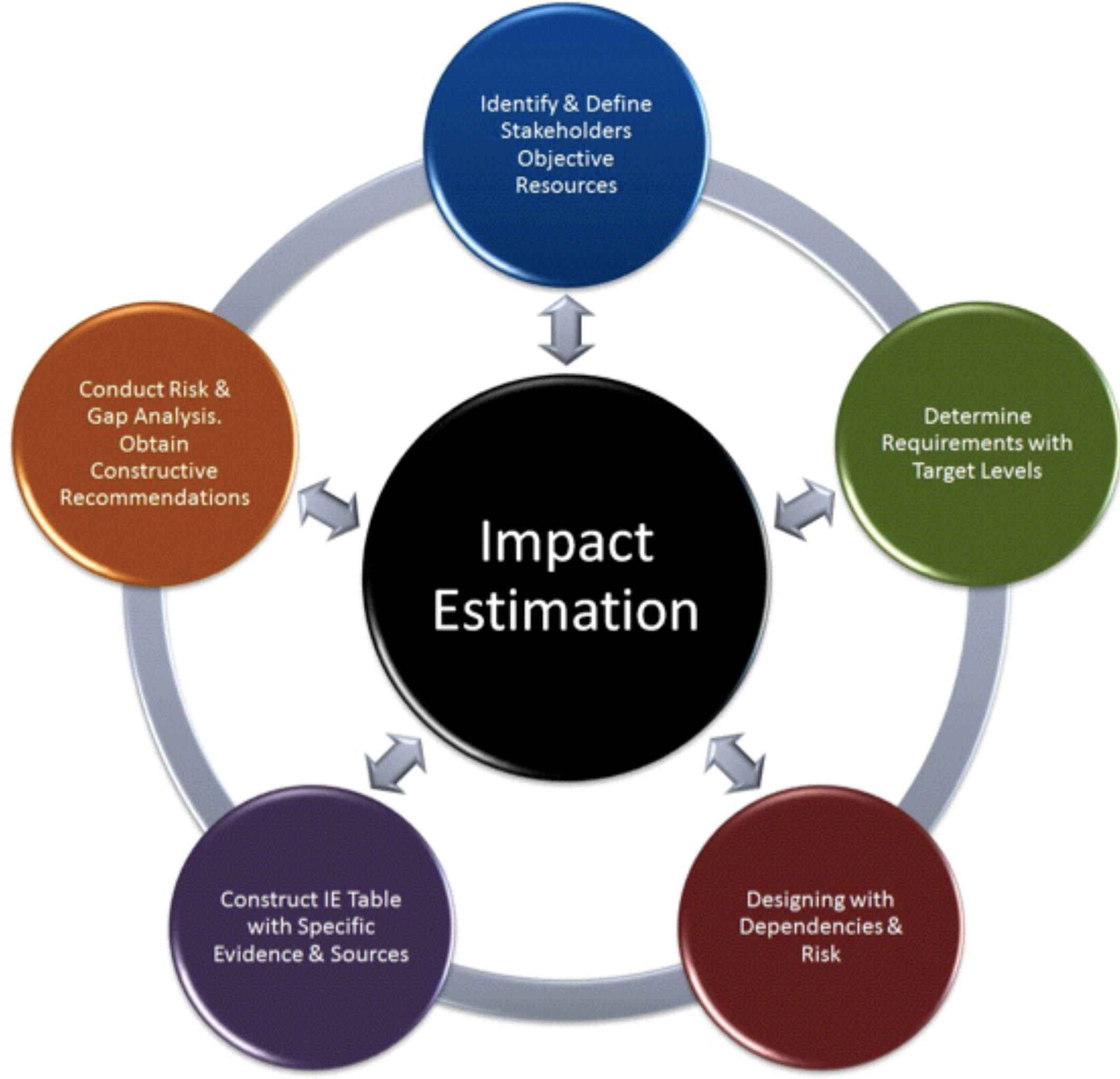
# Graphical Impact, of strategies (designs)
on Performance Values
and associated costs
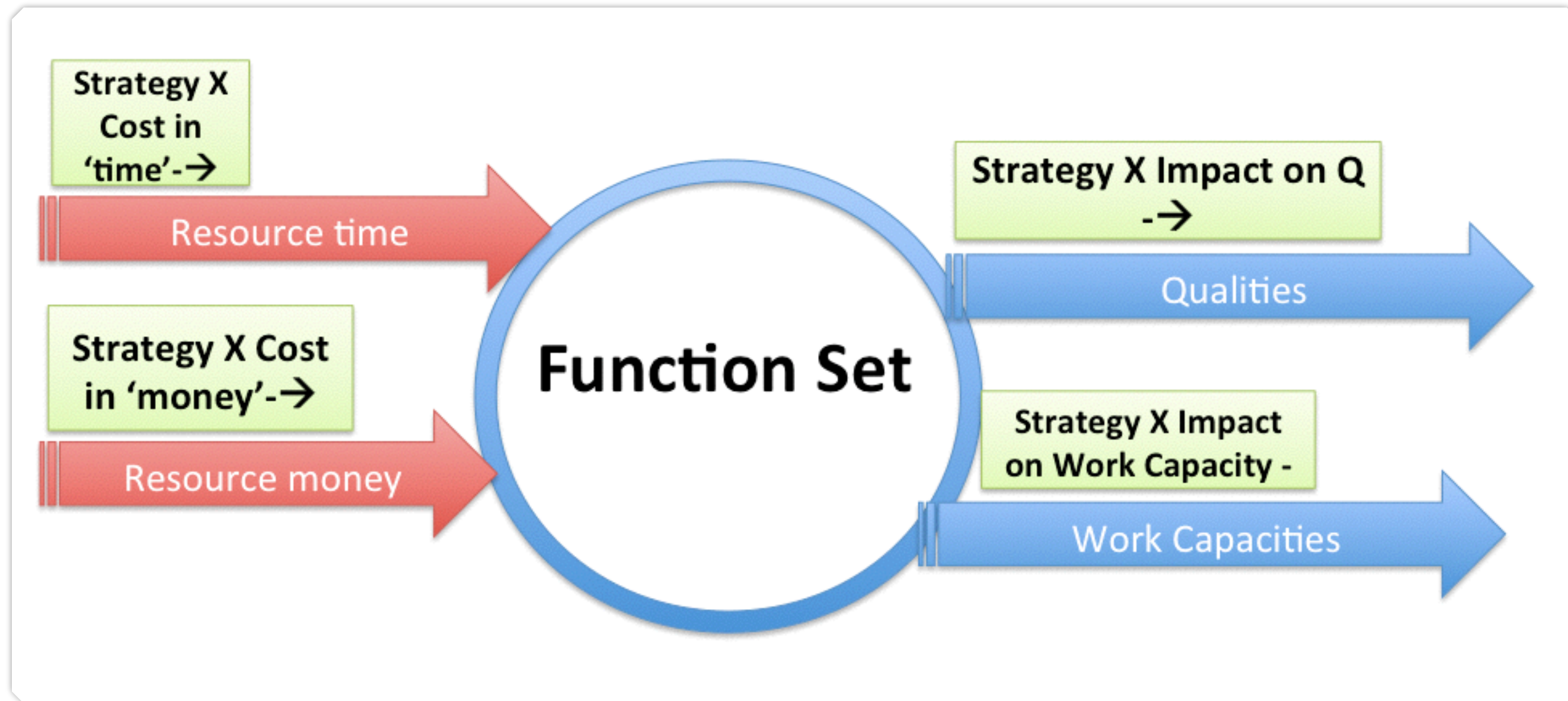
# Beng skeptical about estimates and numbers: systematically
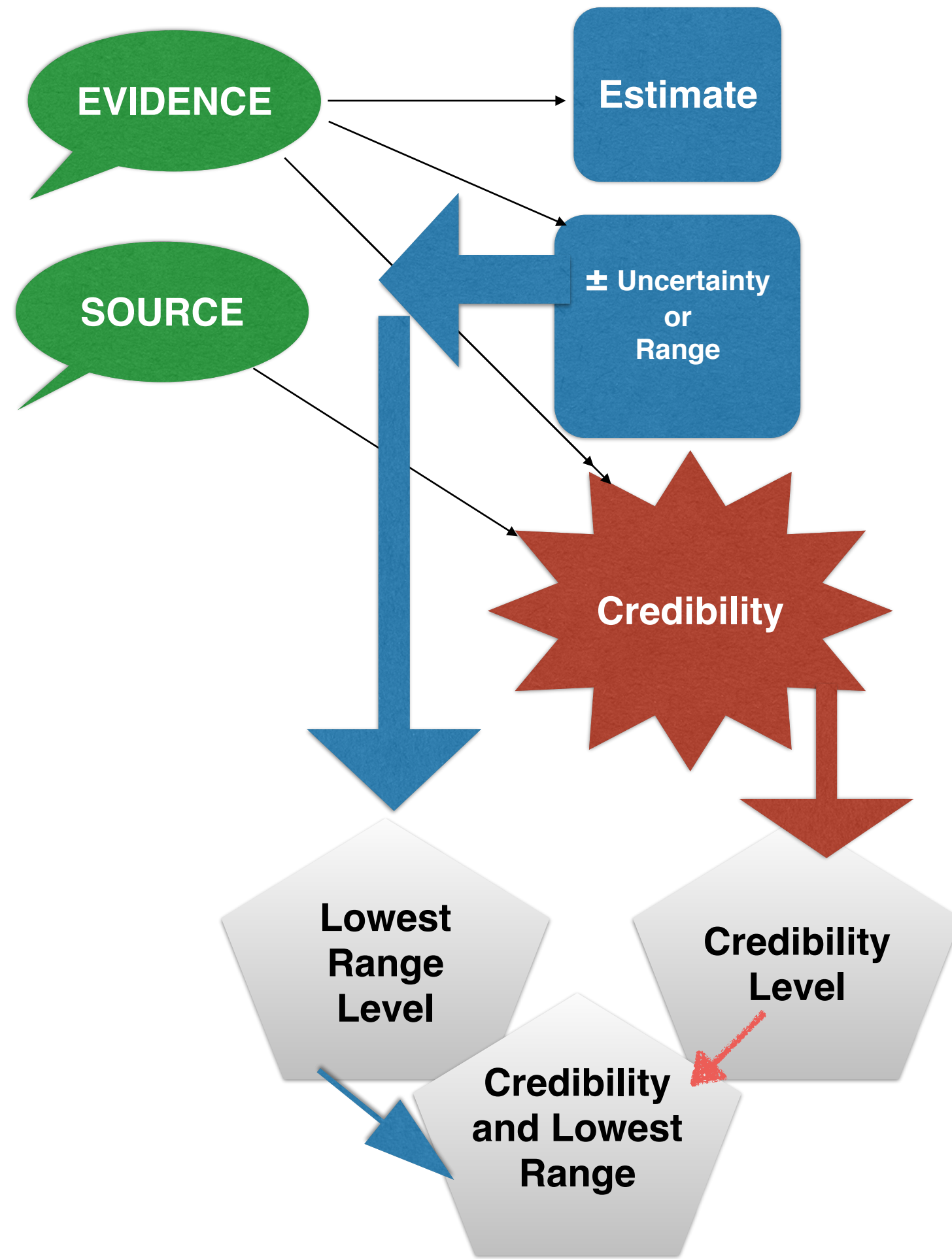
**Part 4**
**The Value Decision Table**
**as a tool**
**for modelling**
**your entire planning and PM effort.**

**For presentations,**
**'for What if?' Questions,**
**and for actual Project Management**
**(real value delivery increments).**

# Impact Estimation principle

How much % of what we want to achieve do we achieve by this solution

Possible solutions to achieve it

Could we get all, within the budgets of time and cost ?

At what cost ?

|  |  | Design Idea #1 | Design Idea #2 | Design Idea #3 | Total Impact |
|---|---|---|---|---|---|
| What to achieve | Objectives | Impact on Objective | Impact on Objective | Impact on Objective | Sum of Impacts on Objectives |
| Cost to achieve it | Resources Time Money | Impact on Resources | Impact on Resources | Impact on Resources | Sum of Impact on Resources |
| Return on Investment | Benefits to Cost Ratio | Benefits Cost | Benefits Cost | Benefits Cost | |

# Energized Work: Trevor Lea-Cox 2015

## Extract from a typical project level Impact Estimation Table:

| Objectives / Requirements | | | | | | Proposed SER Product and Services (Development Options) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *XXXX wants to…* | | | *Through the following metrics…* | *Moving from…* | *To…* | *Target* | My Energy Analyser | My Energy Dashboard | Neighbour-hood Comparisons | Independent Ratification | Alerts |
| Business Objective | Sub-ordinate Objective | Metric | Now | Good enough for next release | Ideal | | | i.e."Backlog" | | | |
| Optimise the value contribution from the SER Product to XX | Provide an understandable energy bill | % of customers who can explain how the Total Energy Charge is calculated within 2 minutes | 60% | 95% | 97% | 20 | 30 | 10 | | 7 |
| | Be able to demonstrate the accuracy of each energy bill | % Customers who agree their Energy Bill is accurate. | 40% | 95% | 99% | 40 | 10 | 20 | 20 | 7 |
| | | | Total Contribution | | | 60 | 40 | 30 | 20 | 14 |
| | | | Total Cost £000s | | | 30 | 40 | 25 | 67.8 | 20 |
| | | | Contribution/ Cost Ratio | | | 2.00 | 1.00 | 1.20 | 0.29 | 0.70 |

**Objectives are quantified and progress is reported against these metrics**

**Estimated contribution of each Product and Service Idea (Development Option) to each *relevant* Objective**

**Highest contribution / cost ratios indicate the most effective proposed actions**

# HEALTHCARE SYSTEM IMPACT ESTIMATION

**Design**

**Objectives**

**Costs**

**Value for Money**

| | Automate Rules | Web Self Service | Decision Support | Total Impacts |
|---|---|---|---|---|
| **Increase Transmission of Requests** (30 minutes → 10 minutes) | 10 minutes 100% | 3 minutes 100% | | 200% |
| **Decrease Number of Errors Occurring** (353 per week → 30 per week) | 100 errors 80% | < 50 90% | | 170% |
| **Decrease Time for Processing of Requests** (70 minutes → 10 minutes) | 25 minutes 70% | | < 10 minutes 90% | 160% |
| **Decrease Time to Learn process** (1 day → 1 hour) | - | 1 hour 100% | 10 minutes 103% | 203% |
| **TOTAL DESIGN REQUIREMENT IMPACT** | 250% | 290% | 193% | |
| **Budget (£40,000)** | 50% +30% | 25% +10% | 25% +10% | 100% +50% |
| **Time (6 months)** | 50% +20% | 20% +10% | 30% +15% | 100% +40% |
| **TOTAL BUDGET IMPACT** | 100% +50% | 45% +20% | 55% +20% | |
| **BENEFIT TO COST RATIO** | 250/100 = 2.5 | 290/45 = 6.44 | 193/55 = 3.51 | |

**estimated impact of a design on a critical objective**

November 2, 2014

Gilb.com

**Man-Chie Tse[1,2] & Ravinder Singh Kahlon**

| Strategies / Goals | Identify Binding Compliance Requirements Strategy | System Control Strategy | System Implementation Strategy | Find Services That Meet Our Goals Strategy | Use The Lowest Cost Provider Strategy |
|---|---|---|---|---|---|
| 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% | 100% | 100% | 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) | 1man 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% |

Objectives

Strategies

Impacts

# This Table was done in 1 day and got my customer £50 million to fund 1,000-person organizational improvement

| | | 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 |

# Class Exercise Medical, Ward 2015
# Richard Smith's Tool (needsandmeans.com)

Safari   File   Edit   View   History   Bookmarks   Window   Help        100% 📶   12 Jun 14:15   Tom Gilb   🔍  ☰

🔒 app.needsandmeans.com

Tom Gilb & K...ents-Material    appleinsider.com    Google Docs    TOM'S NET Services ⌄    Resources »    NORSKE STEDER ⌄    T r a v e l 4 TOM ⌄    Social Sites ⌄    NEWS ⌄    ALLE ANDRE ⌄

| Requirements | Use Community Su... 💡 | Defect Preventio... 💡 | The BEST Design 💡 | Design 💡 | Sum |
|---|---|---|---|---|---|
| **Reduce Bed Days** 🎛<br>Decrease from **4** to **3** days<br>By end of November 2015<br>Average number of days per [Patient Type] per month<br><br>[Patient Type = Adult, child] | 📅 **0.3** days<br>30 % 📈 30 % | 📅 **0.5** days<br>50 % 📈 80 % | 📅 **0** days<br>0 % 📈 80 % | 📅 **0** days<br>0 % 📈 80 % | 📅 **80 %** |
| **Clinical Quality** 🎛<br>Decrease from **0.1** to **0.05** Infections<br>By end of June 2015<br>Average number of [Infections] per [Patient Type] per month<br><br>[Infections = Bloodstream, Patient Type = HIV] | 📅 **0.025** Infections<br>50 % 📈 50 % | 📅 **.003** Infections<br>6 % 📈 56 % | 📅 **0** Infections<br>0 % 📈 56 % | 📅 **0** Infections<br>0 % 📈 56 % | 📅 **56 %** |
| **Sum Of Performance:** | 📅 80 % 📈 80 % | 📅 56 % 📈 136 % | 📅 0 % 📈 136 % | 📅 0 % 📈 136 % | |
| **Skilled Effort in work Days** 💲<br>Increase from **0** to **100** work days o...<br>By end of all<br><br>*No qualifiers* | 📅 **10** work d...<br>10 % 📈 10 % | 📅 **50** work d...<br>50 % 📈 60 % | 📅 **0** work d...<br>0 % 📈 60 % | 📅 **0** work d...<br>0 % 📈 60 % | 📅 **60 %** |
| **Sum Of Resources:** | 📅 10 % 📈 10 % | 📅 50 % 📈 60 % | 📅 0 % 📈 60 % | 📅 0 % 📈 60 % | |
| **Performance To Resource Ratio:** | 📅<br>8.00 | 📅<br>1.12 | 📅<br>0.00 | 📅<br>0.00 | |

# Part 5

# Value Project Management:

# The Evolutionary delivery
# of
# measurable value
# early
# and
# frequently.

# The 'Evo' Startup Week

| 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 |
|---|---|---|---|---|---|---|---|---|

Monday: **Quantify Critical Few Objectives**

Tuesday: **identify most powerful strategies to meet objectives.**

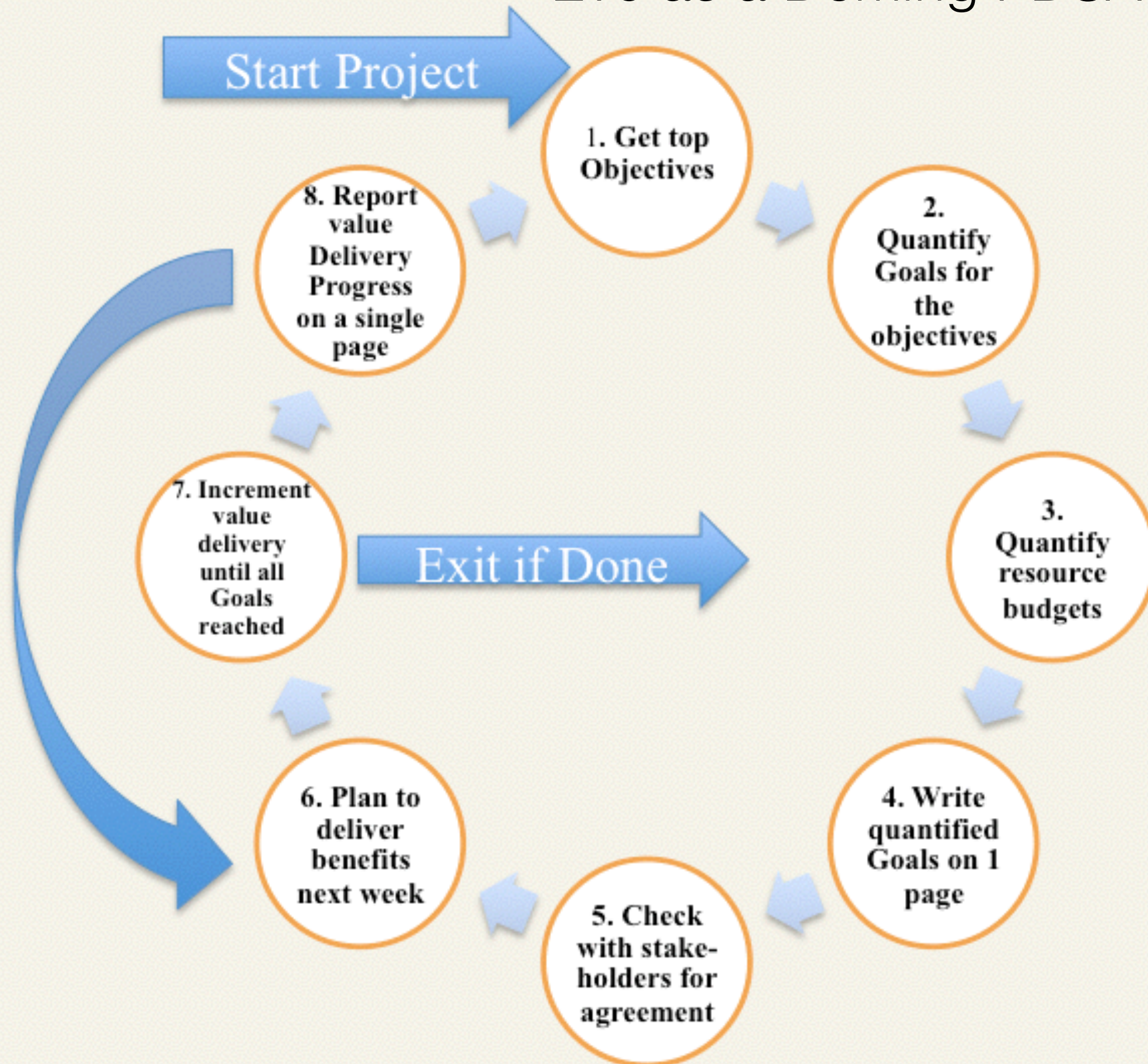Wednesday: **estimate how good the strategies are for the objectives**

Thursday: **decompose most efficient strategy to a deliverable value next week**

Friday: **get manager Ok to see if you can really delivery value next week or not**

http://www.gilb.com/dl568  for Startup Week Details

Evo as a Deming PDSA Cycle

# The 'Evo' Process

**Evo 1: Gather from all the key stakeholders the top few (5 to 20) most-critical goals that the project needs to deliver. Give each goal a reference name (a tag).**

**Evo 2: For each goal, define a scale of measure and a 'final' goal level. For example:**
**<u>Reliable</u>: Scale: Mean Time Before Failure. Goal: >1 month.**

**Evo 3: Define approximately 4 budgets for your most limited resources (for example, time, people, money, and equipment).**

**Evo 4: Write up these plans for the goals and budgets (try to ensure this is kept to only one page).**

**Evo 5: Negotiate with the key stakeholders to formally agree the goals and budgets.**

**Evo 6: Plan to deliver some benefit (that is, progress towards the goals) in weekly (or shorter) increments (Evo steps).**

**Evo 7: Implement the project in Evo steps. Report to project sponsors after each Evo step (weekly, or shorter) with your best available estimates or measures, for each performance goal and each resource budget.**

**Evo 8: On a single page, summarize the progress to date, towards achieving the goals and the costs incurred.**
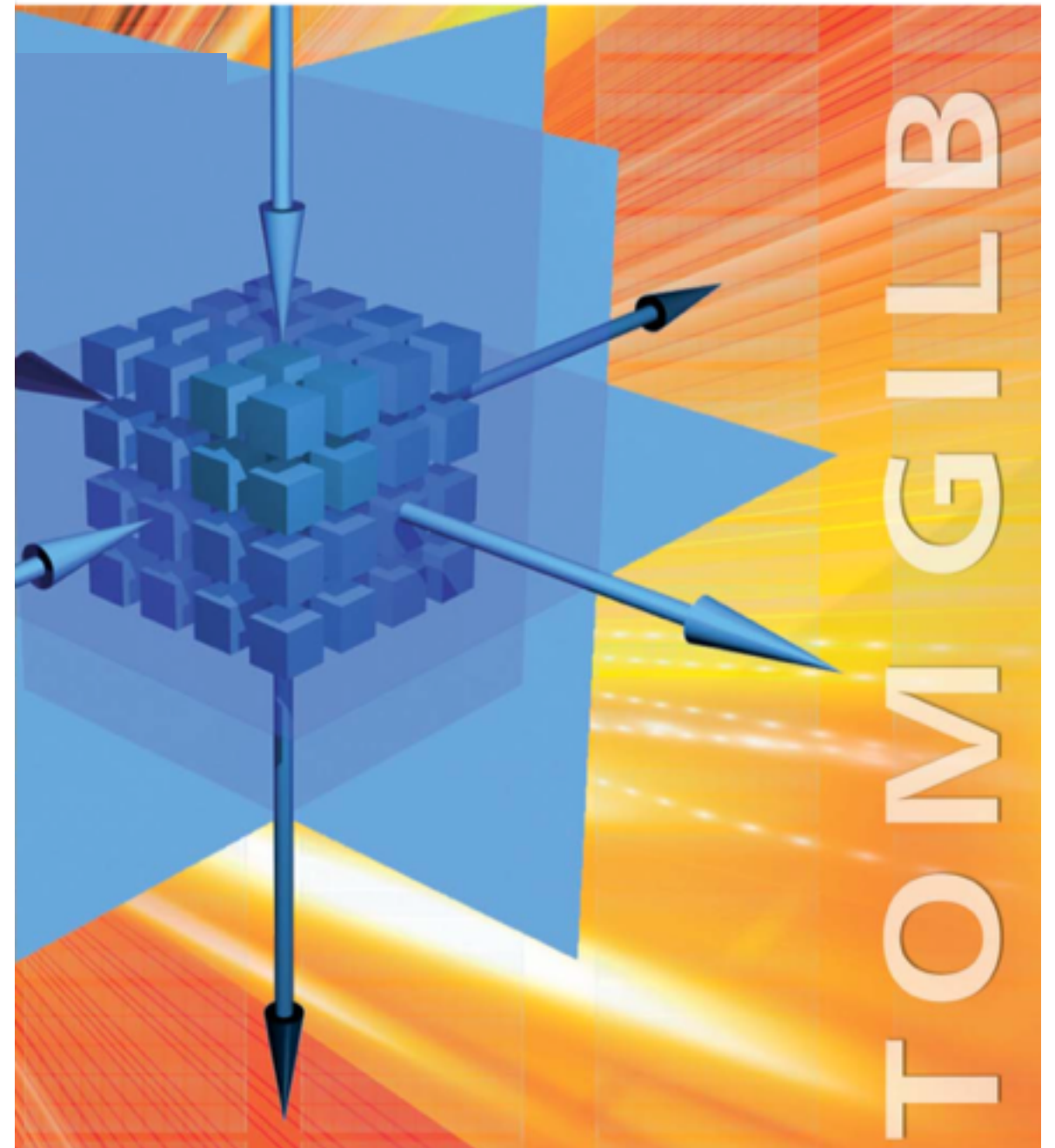
# The 'Evo' Project Management Process
## Learning Fast Quantitatively
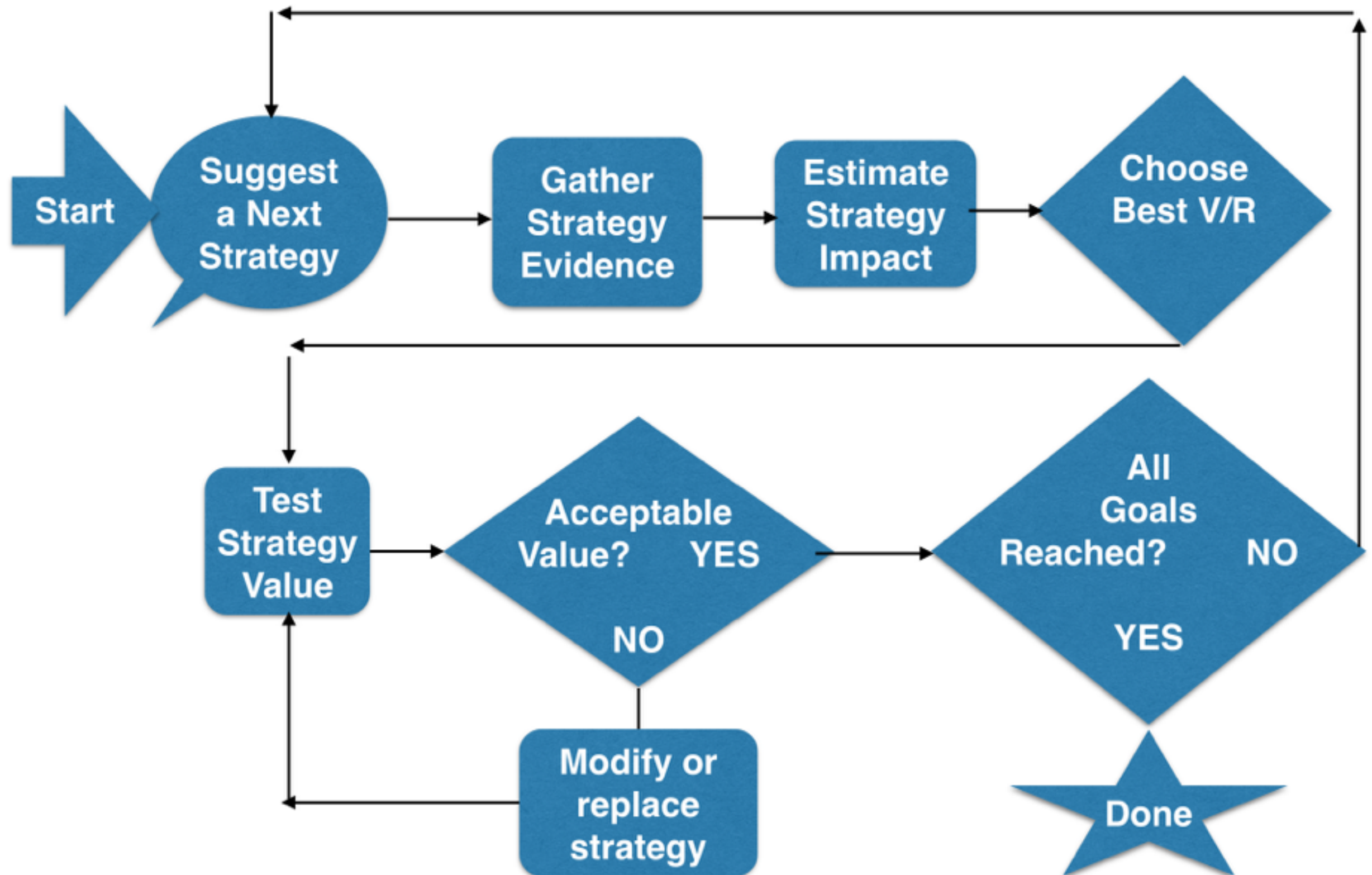
# Free Book

**tinyurl.com/ValuePlanning**

# The One-Page 'Value Planning' Book.

**Why?** I believe your time is valuable. I believe that if someone is an expert or master of a subject, they can write it down in one page or less. So, to potentially save you the time, of reading the rest of the book, I'll try to do a 1-page version right here and now. If you need more detail later, you know where to find it.

**Sound Bite**

> **Deliver Real Value Now**

### The One Sentence Summary.

Value Planning (VP) means you will elicit and clarify critical stakeholder values quantitatively, and prioritize delivering those values, as soon as possible.
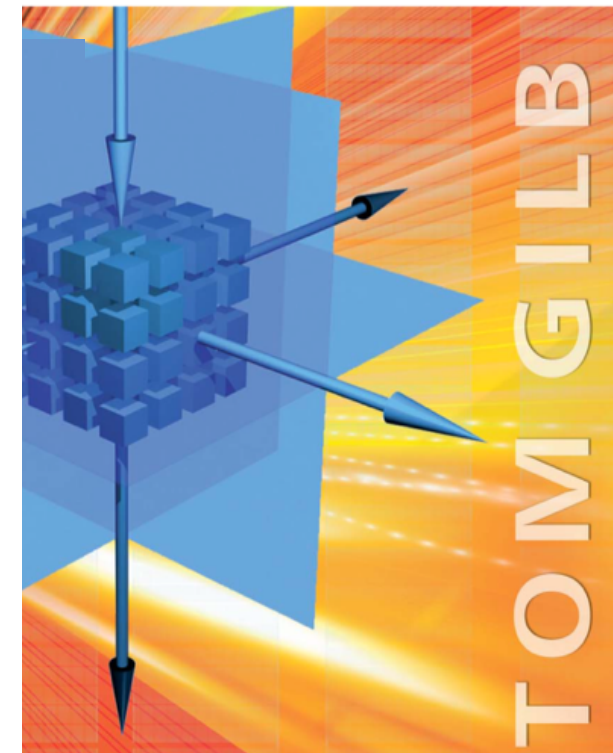
### The One Paragraph Summary.

1. **STAKEHOLDERS**: Identify your most critical stakeholders.
2. **OBJECTIVES**: Identify the smart levels of their most critical value improvements.
3. **STRATEGIES**: Identify potential strategies for delivering planned value levels to stakeholders, at lowest cost and risk.
4. **SMALL STEPS**: Decompose strategies into suitably smaller deliverable increments.
5. **DELIVER VALUE**: Attempt to deliver measurable value to some stakeholders.
6. **LEARN**: Measure results and costs; then decide if you are on track, or need to change something. *Continue the process until all goals reached.*

### The Rest-of-the-Page Summary.

1. We will make use of our Planning Language, called 'Planguage' ('PL').
2. The central capability of Planguage is that it can be used for *any system* of 'product' or 'service', at any level of abstraction or detail.
3. Planguage is capable of expressing *all results, improvements, values and qualities quantitatively.*
4. Planguage can help you plan, estimate and track delivery of *all costs* and resources.
5. Planguage will help you keep numeric accounts of *multiple critical values*, and corresponding *multiple critical resources*, so you can manage value for money; i.e. the *efficiency* of planning, decision-making and contracted result deliveries.
6. Planguage is extremely *risk* conscious at the level of every aspect of planning that might involve risk to your successful value delivery.
7. Planguage not only helps with planning values and costs, but is consequently used to manage practical *implementation*, learning and *feedback* from plan application.
8. Planguage will help you *align* and connect plans at many *related levels* of consideration, from top management to the most detailed level of planning you need.
9. Planguage enables you to *measure the quality of planning*, and to set a release threshold for plans.
10. Planguage has tools to *automate* plan specification, and to integrate your updated decisions and knowledge.

**Technical Detail and Real Examples:**

**My TEDx Talk** http://tinyurl.com/GilbTedx, "All Qualities Can Be Quantified". 18 minutes.

# Deliver
# Real
# Value
# Now

# End