Version December 31 2015. Comments to tom@Gilb.com
tinyurl.com/ValuePlanning

Value Planning

Practical Tools
for
Clearer Management Communication

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 Stakeholder 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.

Dedicated

To

Solveig Grethe Schjelle Gilb

Who deserves to have this book dedicated to her, since she happily is planning to put up with me when I am writing it, and when I am not!

We have tried to communicate, manage a life, and plan it since 1958.

We are still learning!

Introduction to the Book Structure and Intent.

FEEL FREE TO SKIP THIS AND DIVE INTO THE BOOK'S TECHNICAL CONTENT. You Can Start Anywhere At Random, Scan A Bit, Or Try The Beginning 'Part 0. Vision Engineering: Introduction'

Book Intent.
This book, with a very detailed appendix, is intended for fairly deep training, or self-training, in the Planning Language.

What type of People might benefit from this book.
'Planguage' [www.gilb.com/dl831], is useful for anyone doing **management**-level planning, at 'C' level or large-scale project decision-making.

- (as opposed to Engineering/Technical/Product planning, for which we have written 'Competitive Engineering', 2005, [1]).
- The technical and engineering manager (CTO) will find the 'Value Planning ('VP') level comfortable for communicating with other C-level executives.

The book assumes the reader has interest in planning for *organizational improvement*, and for the management responsibility for *large projects*, including *technical* projects (from the *manager* point of view). We assume that readers are open for learning about some more-powerful tools to plan with.

Book Organization.
The book is organized into a core presentation ('Vision Engineering') and an Appendix of 10 Chapters. Each Chapter is further divided into 10 Sections. Each Section is focused on a specific *principle* of management and planning. Each one of those principles is then explained in a few-page Section.
Where possible, each principle will be illustrated by practical examples of using Planguage, to articulate a planning aspect. We add small stories, and some 1-page Case Studies, from our practice.

Section Content and Structure.
Each section contains Case Studies with real numeric experience data when possible, from our own client experience.

We have a lot of *deep theory* (Deming called it 'Profound Knowledge') for those who want to become more expert in planning and communication.
By 'deep theory' I have tried to make points which will not be obvious to the reader, without considerable practice and thought.

But the deep theory will give useful immediate insights for the reader who is capable of appreciating and applying the deeper insights. Deep theory may give you prudent warnings about pitfalls, and useful tips about possible applications of the tools.

Deep theory can save you time getting to the expert level. Sometimes deep theory is more usefully learned *after* you have some practice with the methods. But if you read it immediately, it might just stick in your subconsciousness, ready to emerge when you need it. Or it will be ready to be re-read by you, and practiced.

We try to include frequent conceptual diagrams to aid understanding.

Each Section ends with a quotation of advice from some of the most interesting people on the planet.

Then each Section suggests a 'Practical Tip': ideas for something you might do 'today' to get going and try out the ideas.

Finally each Section ends with a suggestion for a management Policy of Planning, with a 'Why?' this policy justification.

The Main Book: 'Vision Engineering'.
The 'main book' is designed for one continuous reading (an evening?, a flight?), and gives a top-manager summary of the rest of the book. It can be read first and independently.

References
We point to extensive further writings by ourselves and others, for those who wish to go deeper. These references are mainly in the form of links to free papers, cases, videos, and our own teaching slides (all of which you are encouraged to reuse with credit).

Planguage Philosophy
As you progress in the book, we hope that in addition to the practical Planguage 'plan articulation' tool, you will pick up a set of practical 'planning **philosophy**' ideas.

We hope this will change your view of planning from 'conventional thinking' to a view of *dynamic measurable value delivery to stakeholders.*

Teaching Planguage with this base
We hope that the material will provide a solid toolset for teachers to teach these ideas, especially in private business, or in public sector organizational planning. If successful, we, as a community, will do less 'valueless' work, and *deliver more value to our fellows.*

It takes many decades to turn around the 'Titanics' of Conventional Thinking. But the good news is that our experience has shown, that we can do change and improvement to planning practices, one person at a time, one project at a time, one Corporation at a time, one country at a time. So I hope the reader will 'just do it'; because it is the right thing to do!

A Tough Read, but Hopefully Worth It.
This book is **not** a *lightweight* overview of our ideas. It is intended for serious expert study.

Many of the references can serve the purpose of lightweight introduction to some of the main subjects, and some specialities. (URL9 18 minute TEDx, or URL8 A. (short), or B. Longer).

We do have a plot to write a short 'top manager' book, which supports and points to this book, for practical detailed practices.

This text gives the detail needed to become an expert practitioner, consultant or teacher of Planguage.

Competitive Engineering: The Planguage Standards Basis.
The formal foundation textbook on Planguage, with a great many "standards' (Glossary of 671+ concepts, Rules, Processes, Principles, Templates), to back it up, is in the *Competitive Engineering* book [1]. We do not intend here to replicate that level of detail of Planguage 'Standards' (Rules, Processes, Glossary, Measures). But we do advise the expert or teacher to have a copy of CE for background reference.

Reading Sequence.
This book is intended as a sequential logical progression of subjects. But it should be possible to dip in anywhere of interest at random.

My Personal Motivation.
My personal reason for writing this book is to share my insights from almost six decades of practice (1958-2015).

I have *not* tried to make this book 'popular, fashionable, brief, or simple for simple minds'. It is not about sales, marketing, or income from spinoffs. It is only about sharing deep, practical, and useful knowledge with people mature enough to appreciate it.

You yourself should feel free to make Planguage, and any single tool set within it, simpler and more approachable to your own students, clients, listeners and readers. Several of our best clients have done that.

You are welcome to add any idea here to any set of ideas or methods that is already your basis. There is no all-or-nothing about Planguage. It is a toolset, and you can pick any tool you like, and use it for any useful purpose you like. But, do no evil! (please).

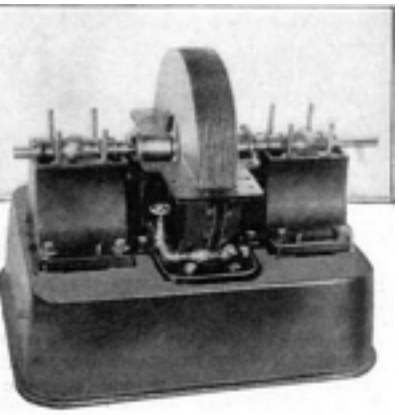
If you want to enhance your earning power that's great. But I hope you are most motivated by doing the *right thing*, and making the world a better place. You can do that by improving your ability to deliver more value for less cost.

I have tried to go into *depth* for the expert, the teacher, the coach, the writer, and the intellectually curious. I have tried to share ideas that will have a *very long half-life*. Way beyond our lifetime, would be nice.

"I would not give my rotating field discovery for a thousand inventions, however valuable... A thousand years hence, the telephone and the motion picture camera may be obsolete, but the principle of the rotating magnetic field will remain a vital, living thing for all time to come."

— Nikola Tesla
"A Famous Prophet of Science Looks Into the Future" (Popular Science Monthly, November, 1928)
http://www.teslauniverse.com/nikola-tesla/images

The 200-Hp. Tesla Turbine, with the Upper Section of the Case Removed to Show the Disks, etc.



Tesla in his office in 1916, demonstrating an electrical apparatus.
Photo date: 1916
Note: the rotating magnetic field is the heart of his induction motor and alternating current electricity. It is also a basis for MRI technology,

Enjoy, practice, share, and change the world, a little bit more.

‘Vision Engineering’:
Top Level Value Planning

This is a very short book, in 5 Parts. About 50 pages.

The following ‘Core’ book is suitable, we hope, for a manager, who wants to get a practical non-superficial feel, for the methods in this book.

For those who wish more detail, and also to provide a tool to the manager who wishes to spread these ideas in their organization, we provide the comprehensive 10-Chapter, 100 Section Appendix, in back of the book.

You have the author’s permission, and encouragement, to digitally copy or print out, the Core, ‘Vision Engineering’ and send it to anybody (like your own top management), as a *sample* of this set of Value Planning ideas and methods.

CONTENTS

Part 0. Vision Engineering: Introduction

The most visionary visions of top executives and corporations can usefully be clarified, primarily through quantification [URL2].

Vision Engineering:
How to support your core business vision by much clearer practical plans and actions.

Introduction
In the best-selling management book 'Built To Last' [1] a convincing case is made that long-term successful organizations ("Visionary Companies") will derive their shorter-term objectives, strategies, and policies from the Core Values and Core Purpose (Core Ideology).

They need to make sure that all consequent activity is strongly aligned to these core values, and the core purpose.

This book will outline a set of specific practical 'management engineering' tools, for articulating the Core-supporting objectives and strategies, and for making sure that they are, in fact, aligned to the 'core'.

We hope the knowledgeable reader will find the tools *useful* and *practical*.

Here is a summary of the concepts of 'Core Ideology'.

Core Ideology (Core Values + Core Purpose)
Core ideology has the *highest priority* in planning, since "Once you're clear about the core ideology, you should feel free to change absolutely *anything* that is not part of the core ideology." [1, p.231]

Core Values
Core Values [1] are 'a handful of basic ingrained beliefs' about how to run a given organization. They are almost unchangeable for the lifetime of the organization. They are the strongest guidelines that all other activity in the organization must try to align with. They are the highest priority. The 'core values' can be viewed as **'constraints'** on planning and activity. Anything that violates these constraints is not acceptable; is out of 'alignment' with the core values.

Core Values Examples [1, 4]

Sony Core Values**:** [1, p.237]
- *Elevation of Japanese national culture and status.*
- *Being a pioneer – not following others, but doing the impossible.*
- *Respect and encouragement of individual ability and creativity.*

Merck Core Values: [1, p.236]
- *Corporate social responsibility.*

- *Unequivocal excellence in all aspects of the company.*
- *Science-based innovation.*
- *Honesty and integrity.*
- *Profit, but profit from work that benefits humanity.*

Core Purpose
A Core Purpose is the most fundamental 'why?' the organization exists.

A Core Purpose can be viewed as the most fundamental *objective*; the most fundamental *measure* of progress or improvement; the measure that all supporting strategies intend to improve.

We must always aim to improve in that dimension, while keeping loyal to our core value constraints.

Core **Purpose** Examples [1, 4]

Sony: *"To experience the sheer joy of innovation and the application of technology for the benefit and pleasure of the general public".*

Merck*: "To preserve and improve human life".*
All of our actions must be measured by our success in achieving this goal. [1, p.236. p.89]

Hewlett Packard: "To make technical contributions for the advancement and welfare of humanity"

Wal-Mart: "To give ordinary folk the chance to buy the same things as rich people"

Walt Disney: "To make people happy."

"It's not hard to make decisions when you know what your values are."
— Roy Disney (Famous for firing top executives based on these values)

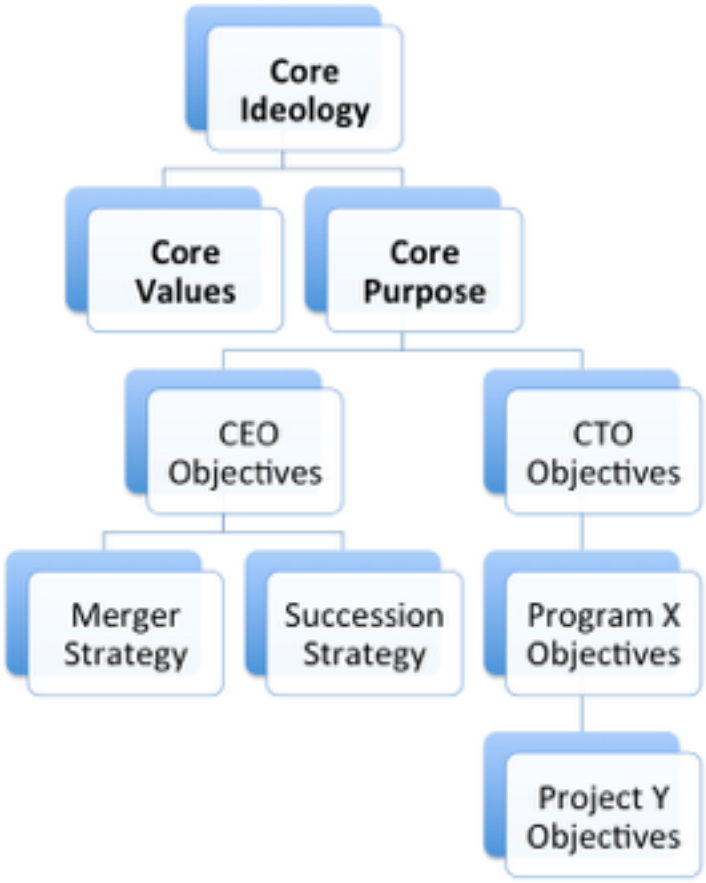


Figure A. Core Ideology.

Notice that the core purpose serves *two distinct areas*.

It defines a core **mission** (what we do) like 'make people happy'.

But it also implies that 'improvement is better', within constraints (core values). So it gives a potentially measurable '**performance** dimension'.

The more people made happier, the better. The more total happiness (people x degree of happiness) the better. The less pain or disease, the better.

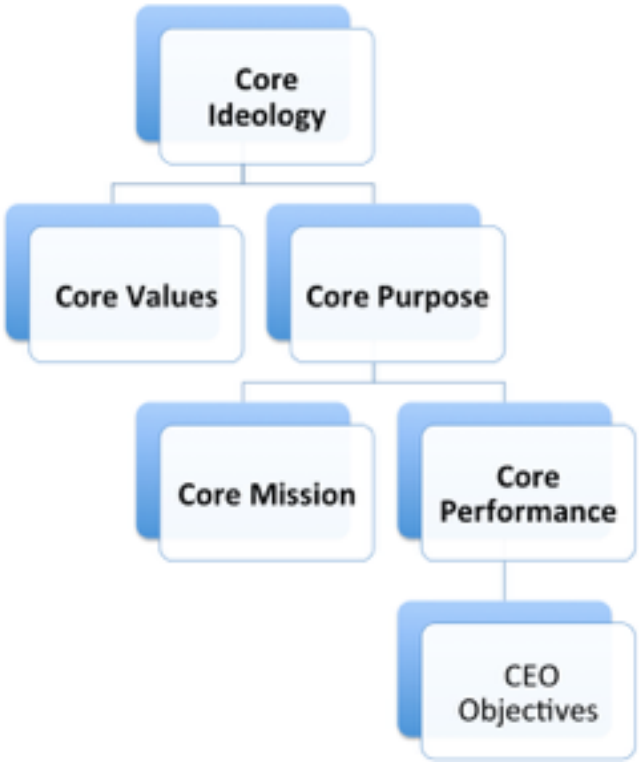


Figure B The 2 components of Core Purpose. ***What*** *you are (mission), and what you want to* ***improve*** *(performance).*

Summary: Core Ideology
The reader is referred to the 'Built To Last' [1, 4] literature for substantial detail on core ideology. We assume the reader grasps the basics, and is motivated to look at some potential tools for management planning and action, based on the platform or framework of a 'Core Ideology'.

Our main purpose in this book is

- to show some practical ways to make management plans clearer (so plan *readers 'cannot misunderstand'*),
- to show how to check the quality of planning (*are plans unambiguous, complete, consistent, powerful?*), and
- to show how to follow up the plans in practice (*do they work?)*

Part 1. Our 'Vision Engineering' Objectives.

Clarifying Core Ideology
We can begin with the core ideology statements themselves. It might be healthy to increase the *clarity* and *intelligibility* of the core *value* statements, and the core *purpose* statements, themselves.

This can either be done as a *clarification*, without changing the original statements themselves – they may be somewhat 'holy' and traditional – or you might find it advantageous to *directly modify* them for clarity.

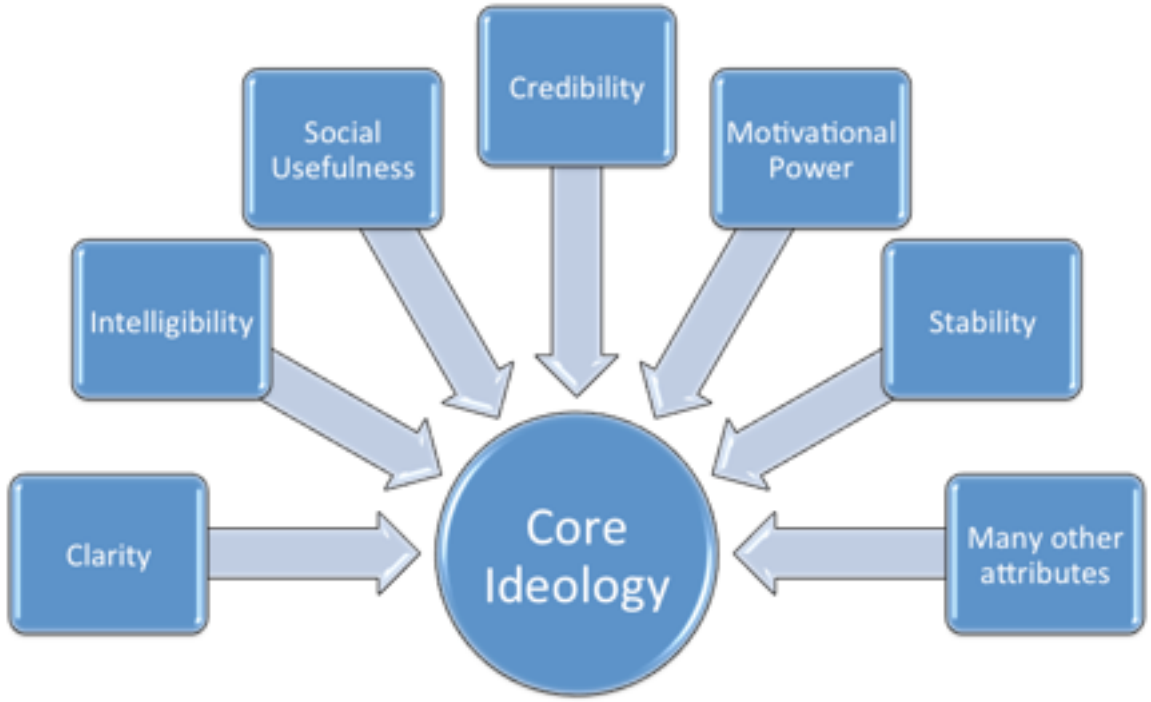


Figure 1 A. Some attributes of a Core Ideology.

Clarifying a Core Value Statement
Take for example a core *value* statement:

3M [1, p.68, p.152-3] **"Tolerance for Honest Mistakes"**

Anyone could reasonably ask:

- How much 'tolerance'?
- What does 'honest' mean?
- What is a 'mistake'?

No doubt, the corporate practice itself, and senior employees, can answer these questions in practice.

But let us say that we wanted to clarify the 3M Core Value *even better.*
We might need to clarify it because of rapid corporate growth, in distant cultures – so people got it better, faster?

We might also want to clarify as a better basis for deriving more-detailed plans and practices.

We might rewrite the Core Value, or provide helpful interpretation and commentary.

Why?
A useful approach to clarification is to ask 'why?'

In this case the reasons (for the 3M 'tolerate honest mistakes') seem to be to *encourage experimentation*, so that improved ideas are more likely to emerge, than if people were afraid of being criticized for failed experiments.

So we could rewrite the core value, in order to get *nearer* the real 3M intent:

"Judge efforts on their <u>useful outcome</u>, not on necessary experiments to get there." *"Judge <u>results</u>, not process".*

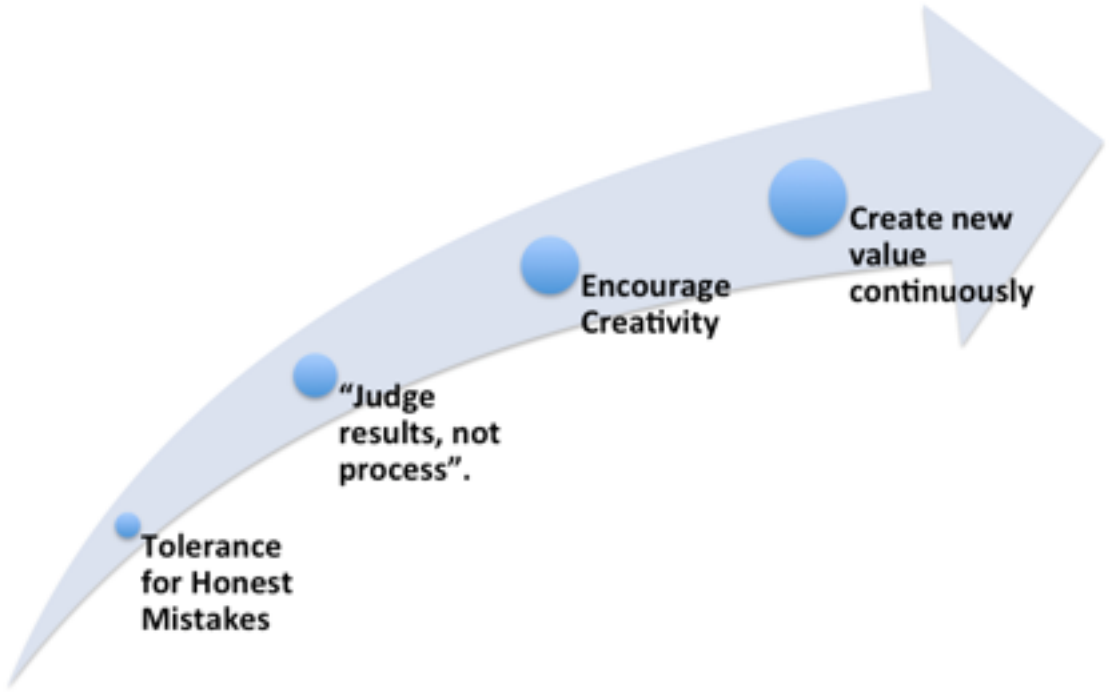


Figure 1 B Asking 'Why?', multiple times, is not only a practical way to 'clarify' a core value. It might easily lead to your own recognition, that you need to reformulate your core values at a higher level. What you had originally, might have been but one means (tolerate mistakes) to the real ends (create value). Here is a speculative example.

There are a large number of other possible methods for clarification of core values, and indeed any planning statement, at any level. More follows in the rest of this book, and its references.

The main point is that no matter how 'hallowed' the statement is ("All men are created equal.") you should consider as your first step, some clarification of the core statement itself, maybe a real 'elevation' to a higher level of purpose: it is 'core', right? So it may be worth it.

The penalty, if you fail to clarify, might be that **all other** critical planning will be based on *misinterpretations* of the core! The cost to get it right is small; like an hour to a day of effort.

Clarifying a Core Purpose
It is arguably *very* critical to have a rock-solid, crystal-clear Core *Purpose* Statement as the basis for further planning.

Take for example: Merck [1930s, 1, p.236] **"To preserve and improve human life"**

This is intended as the fundamental performance measure of all corporate activity for a pharmaceuticals company. It is of course constrained – and thus partly defined - by their core *values* (keywords: responsibility, excellence, science, honest, profit).

If someone found that their pharmaceutical technology could be used for *animals or plants* – does the 'human life' idea apply, or disqualify the product area?

If they could extend human life for people *living in a permanent coma*, does that count, as within their core purpose?

If they *found psychological, mechanical, electronic or religious means, or other 'services',* for improving the human life; are these means valid? Or is there some constraint about sticking to the drug business, even if other available means are more cost-effective?

I can't see where it says, *strategy constraint 'drugs only'.*

Let us look at some possible Merck 'clarifications' for
"To preserve and improve human life":

'To improve life quality by <u>any means</u>.'

'To provide products to improve life quality.'

' To develop knowledge, and apply it, to get improved human mental and physical life quality.'

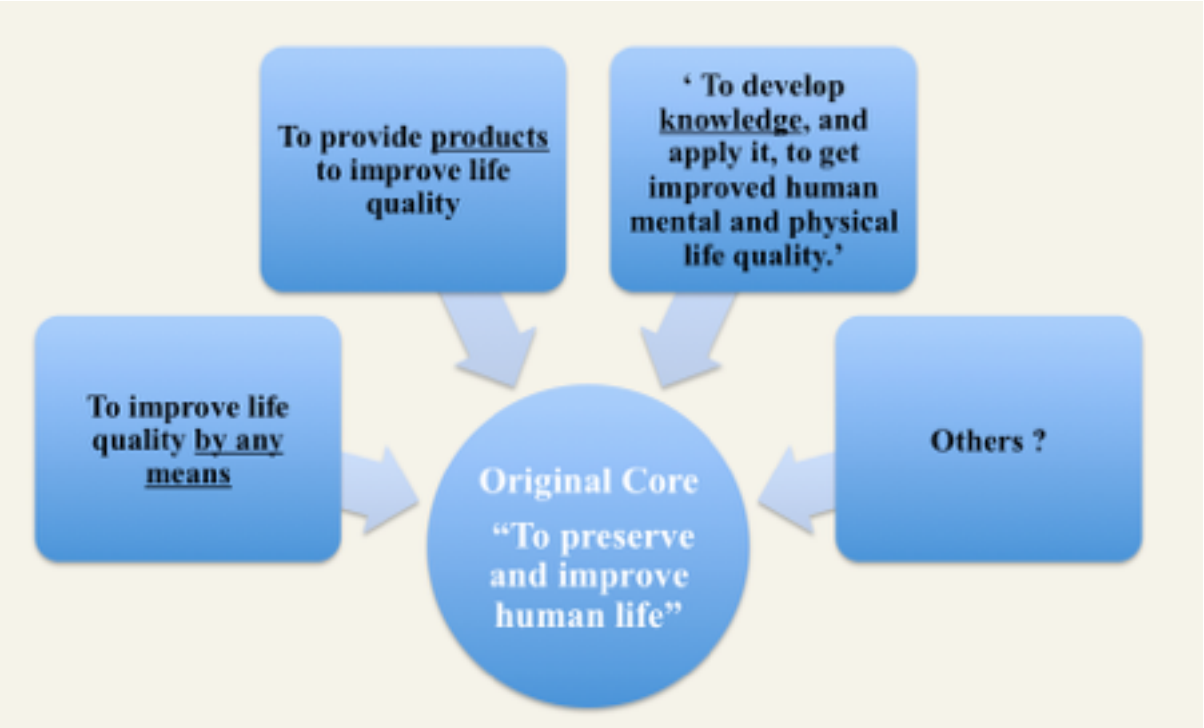


Figure 1 C. Some options for reformulating the original Merck Core purpose. The options would lead to very different business product options.

Each one of these is significantly different from the other. So consider a re-think of the articulation of your most fundamental purpose, before making it the touchstone of all other planning work.

Defining a Scale of measure:
One 'device' we will need, sooner or later, to *really* clarify performance objectives, is to define them, so that we can *quantify* them in practice.

The fact that we can then set numeric targets, and numeric constraints, and track them, is *powerful*; but in fact is *not* the main point.

The main purpose of 'quantification of performance objectives', is to force us to *think deeply*, and *debate* exactly, what we mean; so that others, later, cannot fail to understand us.

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'.

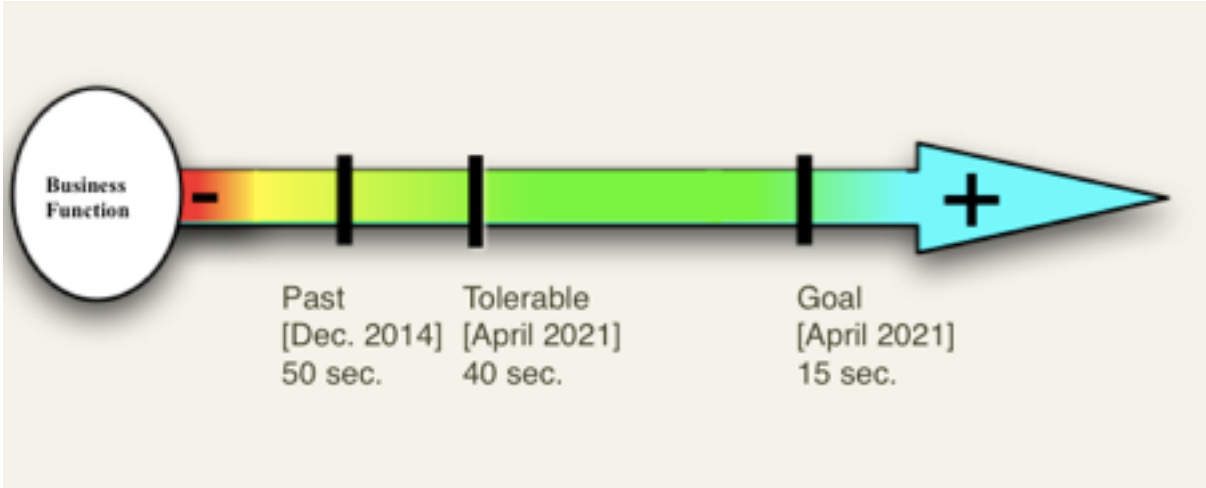


Figure 1 D. Any performance measure, for an organization, can be visualized as an arrow, with the performance itself varying from very bad (left hand side '-') to very good (right hand side '+'). The arrow itself is our standard symbol for a performance-defining variable, such as "average time needed to make a sale". Along this defined Scale of measure, we can then describe useful degrees of performance data. Past performance, competitor performance and future plans.

And once we have agreed on clearly defined 'scales of measure', we can apply a large useful set of devices, to exploit the fact that we have entered 'numeric territory'. Management plan accounting, for 'performance' values, not just financials.

Less poetry, more logic.

- Nothing wrong with poetry and the arts, in their place.

Let me introduce a 'planning language' method:
'Planguage', I call it [2,3]. It rhymes with 'plan' and 'language'.

- We write "**Scale**:… " in front of our defined **scale of measure**.
- Note that we are NOT defining a testing, tracking or measuring process (later called 'Meter: ---") yet. Just volts, not a voltmeter.
- We are just *enabling* ourselves to *think about* our most cherished core purpose *numerically*.
- Let us try with the example: "***To <u>provide products to</u> improve life quality."***
- *What is the 'scale' to quantify this, and to define what we mean numerically?*

<u>S1</u>: **Scale:** New Products Released Annually.

- *You can see the weakness with this draft, S1?*

<u>S2</u>: **Scale:** Annual Sales for all products that improve life quality.

- And the weakness with *this, S2*? For example, Merck is famous for giving away some drugs!

I would prefer this draft, because there is less to misunderstand:

<u>S3</u>: **Scale:** Estimated **B**etter **D**ays for defined [**Life Form**] as a direct result of defined [**Products**].

<u>Better Days</u>: days where the entity themselves, or another better judge, would judge their life to be better than without Our Product.

<u>Life Form</u>: {Human, Animal, Plant}.

<u>Products</u>: {Patents, Drugs, Machines, Licenses, Services, Distribution, Education, Motivation, Others}.

S1,S2 and S3 are arbitrary reference tags to the statements. Capitalized terms ('**B**etter **D**ays') are formally defined terms.

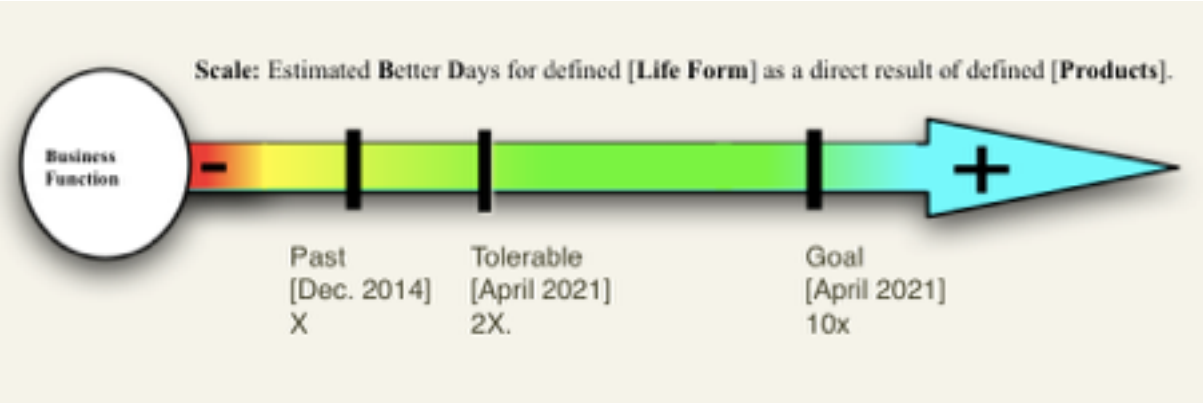


*Figure 1 E. My suggested, draft, 'scale of measure', for my 'improved' variant of Merck's original core purpose ('To preserve and improve human life') "**To <u>provide products to</u> improve life quality." .***

I would argue that 'S3' is a pretty good draft effort, as a powerful definition of our Core Purpose. The core purpose has not changed. But our ability to articulate it, and to discuss any related plans, is arguably improved.
I would argue that it can help us, in deriving relevant aligned plans, and help us to judge their effectiveness, for promoting our core purpose.

I would argue that 'S3' is a better top management tool than the 'poetic' phrases (S1, S2) that preceded it, even though poetry might *still* be useful for simple *emotive* presentation, in some circumstances.

Management can usefully distinguish between '**presentation** formats' (like

Ambition Level: To provide products to improve life quality.

and '**planning** formats' (like S3).

You probably need both formats, for different audiences and purposes.

Deriving Objectives from the Core Purpose and Core Values.

A defined 'Scale' gives us a 'numeric-scale definition' of core value and core purposes.

This enables us to move our planning from a 'poetic' to a 'numeric' basis.
(From Management BS to Management Engineering)

We can now plan, by *determining a useful set-of-points on that scale of measure.*

There are three major planning categories:

- **Benchmarks**: points for *comparison* with future plans.
- **Constraints**: borders, *worst acceptable* levels.
- **Targets**: levels of performance we are *aiming* for.

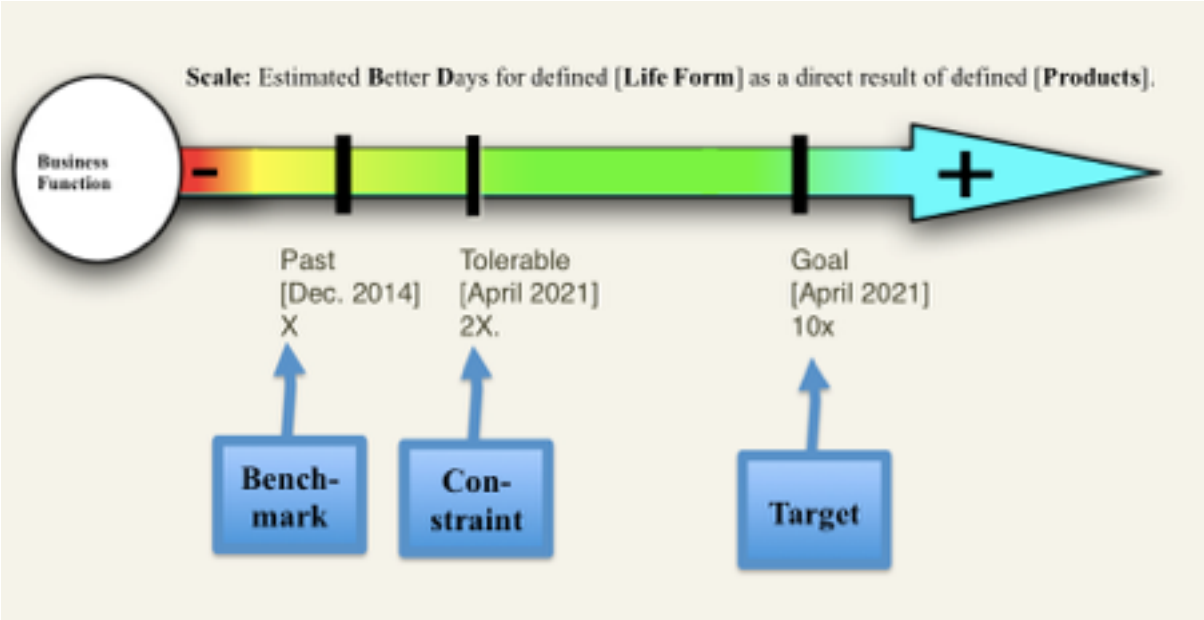


Figure 1 F. Three major categories of 'levels' of performance.

I have defined a number of these concepts in Planguage. Here is a useful set.

Benchmarks: levels of performance worth knowing about, in comparison with future planned levels. For us, for competitors, for the past and possible future.

Past: any estimated, or measured, level for us, or others, that is *interesting* to compare future plans to.

Trend: an estimation of the levels, good or bad, that will possibly be reached by us, or others, at defined times, and under defined circumstances.

Record: a state-of-the-art extreme, attained under defined conditions.

Constraints: less-than-successful areas we are trying to avoid.

Catastrophe: the edges of a numeric range of performance results that are disastrous in consequence, and possibly not recoverable.

Tolerable: the edges of a numeric range that is tolerable, just above Catastrophe, but still **failing** *to some degree* to satisfy, even at the OK level.

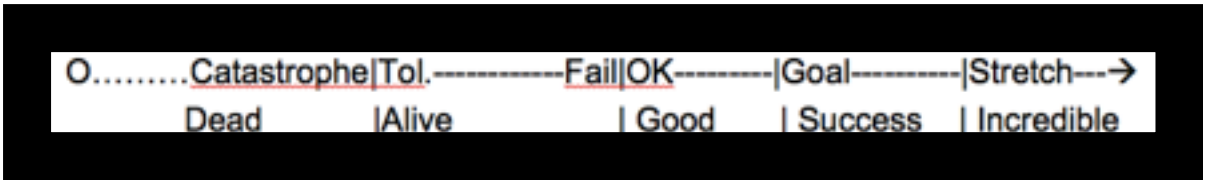


Figure 1 G: points and ranges on a scale of performance.

OK: a range just above the tolerable range.

- Not intolerable.
- Not failing.
- Pretty 'good',
- but not yet at an ambitious and competitive 'success' level, (called the Goal).

<u>Targets</u>: levels we are aiming to reach

Goal: a level which is both satisfactory, and considered feasible; you can promise it.

- 'Better than the Goal level' is a *range*, we can call the success range.
- But, there might not be any defined or planned value for getting better, in that range.

Stretch: a level that has stakeholder value, and which you will attempt to move towards, if resources remain, after all other critical objectives' Goal levels are reached. This means we are not fully committed initially to achieve this level: it *depends*.

Ideal: *(rarely used except to distinguish it from more practical targets)* a level of perfection unlikely to be achievable in practice, and not necessary achievable (since competitors cannot get to it either). But we can aim to 'tend towards' it. From another point of view, it is also a 'benchmark'.

- Examples 100% availability, zero time to learn to do a non-trivial task.

Figure 1 H : Specific instances of each type of planning-level on a scale.

Determining the numbers.
The next step is to determine some 'planning values' (some numbers on the scale that are valuable for our planning purposes), using any useful means to determine the numbers.

For example:

Merck Core Purpose:

S3: **Scale**: Estimated Better Days for defined [Life Form, default: Humans] as a direct result of defined [Product, Default: All].

Past: 100.

Goal: 1,000.

This makes the point that we plan to get 'ten times better'. But it would be more intelligible, if we added some 'implied but not stated *here* yet' defined conditions, in a 'qualifier' statement, in [*square brackets*], like this:

Merck Core Purpose:

Scale: Estimated Better Days for defined [**Life Form**, default: Humans] as a direct result of defined [**Products**, Default: Pharmaceuticals].

Past *[2014, Europe, Products = Tranquilizers, Life Form = {Humans, Animals}]* 100.

Goal *[2024, USA, Products = All Merck Products and Services]* 1,000.

The [qualifier] statement enables us to be more specific. We can have many such statements (many Goals, many Pasts) about different interesting levels of performance.

This means we can plan for a both **complex** enterprise (many connected parts), and **complicated** enterprise (difficult to predict, estimate and understand, especially with respect to its environment).

This avoids vagueness, over-simplification, misunderstandings, and over-generalization. We can be as clear, exact, and specific as is useful, at a given stage of planning.

For example:

Merck Core Purpose:

Scale: Estimated Better Days for defined [Life Form, default: Humans] as a direct result of defined [Product, Default: All].

Past [2014, Europe, Products = Tranquilizers] 100.

Goal [2024, USA, Products = All Merck Products and Services] 1,000.

Goal [2020, Worldwide, Products = All Merck Products and Services, If Merge Approved] 500.

Tolerable [2020, Europe, Products = Pharmaceuticals] 200±100? <- CEO Vision Statement.

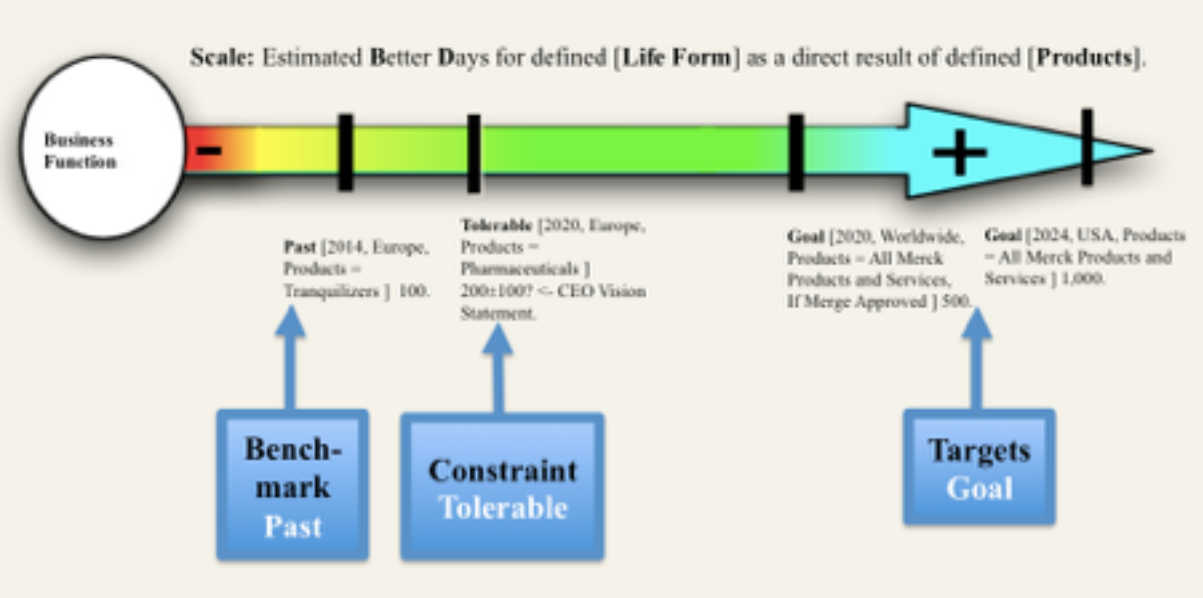


Figure 1 i Simple examples of defining interesting planning points along a Scale.

Any useful number of points on the business performance scale (in this case a 'Scale' for the 'top level performance' **core** purpose) can be defined, using any interesting set of the types of points (Past, Goal, Tolerable, etc.). And any set, or combination of, [qualifier conditions], a sort of 'adjectives', can be planned, *in addition to* any one of these scale points.

The consequence is that the *qualifier condition*s permit 'drilling down' into detail, of plans laid: *later*, and *at sub-lev*els.

- For example year by year, and country by country.

Notice that the Scale *definition* is being 'reused' (write once, use many times), by all these scale points.

This is why we take pains to be precise in defining a Scale (using 10 words, rather than one), and why we *parameterize* it ('defined [Life Form]').

Clarifying Objectives

It is central that objectives are perfectly understood, by all intended readers. All employees, investors, media etc.

Perfect *practical* clarity is a *nearly* attainable objective, using fairly simple means.

It is unacceptable, (a bad practice we have measured worldwide) for objectives to be so badly written, that employees and managers judge 30% to 70% of all specification words they read, to be either *ambiguous* or *unclear* (to at least *some* of the potential readership).

You will already have noticed some of the devices we use to reduce ambiguity. Scale + Goal for example, beats 'exceedingly'.

Many other devices in the Planning Language are not yet explained or mentioned. But they are available when you are ready.

Here are some *clarification practices* that have *already* appeared in the examples above:

1. *Consistent official definition* of key planning parameters (like Past, Goal, Scale). A formal Glossary exists [2,6]
2. Our drive to become *numeric* (beats nice words like 'substantially improved')
3. The use of qualifiers to define 'when', 'where' and other conditions. "[2020, UK, If Finance Approved]"
4. The consistent formal use of terms written with **C**apital **L**etters, indicating that the term is *formally defined*. Like: **Life Form**: {Human, Animal, Plant} in the initial S3 example above. And like "**P**ast, **S**cale, and **Merck Core Purpose:".**

5. There are dozens more devices, you can choose to improve clarity, too many to enumerate here [2].

Your practical 'organizational planning-improvement campaign', we believe, should be 'to reduce 'major defects' (avoid planning specification terms that might possibly cause misinterpretation, of serious consequence, by some reader) in planning.

The degree of improvement should be from a 'normal', but unacceptable, level of 30% or more defects, to a level of *less* than 1 defect per 300 words. A tough but do-able objective.[URL22]

Extending Understanding of the Objectives – Background.
In addition to the specification devices mentioned above ("Clarifying Objectives"), we have developed a large set of simple devices for adding *background* information to a fundamental objective.

It consists of a predefined set of 'parameters' (Scale and Past are 'parameters' too), and other Planguage [2] devices; as well as the ability to define any new additional parameters *you* find useful.

We already inserted some background information in the example above:

Tolerable [2020, Europe, Products = Pharmas] 700 ±200 ? <- CEO Vision Statement.

±200 means the tolerable *range* is 200 days (500 to 900 days)

? means even this is a *questionable* number or interpretation. Don't take it too seriously. Uncertainty.

<- is a 'Source' arrow, used to specify our *source* of the specification. In this case the 'CEO Vision Statement'. We could have also written:

Tolerable [2020, Europe, Products = Pharmas] 700 days.
Range: ±200 days.
Risk: incorrect interpretation of actual CEO slide 25.
Source: CEO Vision Statement, Jan 1 20xx Brussels.

Here is a small sample of some of the other available background statements (with illustrative text after the parameter):

Supports: Core Purpose.
Supported By: Top Long-Range Objectives.
Constrained By: Core Values.
Implementation Responsibility: CEO.
Plan Owner: Strategic Planning office.

With all the statements you might want to use, you can easily fill a page, or a slide, with 20 to 60 statements for a single defined objective.

It is up to you, to use or create, what you find valuable to add, as background to the core specification. The full specification, for a *single* objective, forms a small collection ('database') of 'everything' we need to know, in relation to that objective.

Of course, subsets, right down to one-liners, can be extracted for specific presentation purposes, while other statements can be drilled-down to, on demand.

Once when we were having a top management fight in London, about using this format (the Marketing Guys wanted to keep it simple and unintelligible) a seasoned director stopped the show by saying:

I have estimated that we spend on average £200,000 for each one of these objectives, and too frequently screw things up. If defining an objective in 40 lines instead of one line solves that problem, then that is a small price to pay, and a necessary investment in getting our business right" (Thanks BW).

If you use the simple principle of investing more effort, in management planning quality, *only if it pays off*, you should not end up with unnecessary bureaucracy.

I know we have too much meaningless low-quality verbiage in planning, everywhere, today. So do you, I expect.

My suggestion is, in fact, to write *less* in total, and to make it *'reusable'*; and to *raise the quality* of what we *do* write - by two orders of magnitude. Get rid of those too many major defects per page.

This 'specification quality improvement' is measurable using the methods immediately in Part 2 below.

Part 2. Quality Control of Objectives

Measuring the Quality of Management Planning Specifications.

Most management plans (Objectives, Policies, Core Values, Strategies) are never formally measured to any standard.

They may be discussed, edited and approved, but there is no formal measurement involved.

We have developed a simple measurement process for measuring the various qualities of management planning.

It is based on a software process known as 'Inspection' [7], and on a simplified variation we have developed, *Specification Quality Control* (SQC) [2, Chapter 8].

The method is completely general, and applies to any writings or specifications, both technical plans and management plans.

The SQC principle is simple and classical. We measure deviation from *standards*. Deviations from our 'planning rules' are called 'specification *defects', or 'planning defects' if you prefer*). We focus on a significant class of defects called '**major** defects'.

All major defects are by definition unacceptable. They create risk of damage to your results and economics.

We try to get a rough, but useful, estimate of the **major defect density** for a given plan.

For large documents we use 'representative samples' as sufficient basis for the defect density estimate, to keep costs down. An hour or so is usually sufficient for most purposes.

Once we can acceptably measure the 'defect level' (major defect density per 300-word page), we can judge whether the specification (of, say, corporate objectives) meets our 'reasonable standard' maximum level of defect density, for allowing plan release.

Zero defects would of course be nice. It might accidentally be achieved.

But as a practical matter we have to be satisfied with a radical improvement, to a level where it pays off to release the specification to other subsequent levels of planning, and deal with remaining imperfections afterwards.

This is called the 'Exit' Level of quality of the specification.

A *good* initial exit level is:

'*maximum estimated remaining'* **10 major defects** per 'page' (300 words).

A *more ambitious* level is maximum 1 major/page.

Notice that we do not necessarily release known defects. We calculate the possible level of defects, based on

- a sample of defects found, (about 30% are found in pages checked)
- and an estimate of defects probably not found yet (the other 70%).

For example, if we looked at a 10-page document, and our checking team found 10 major defects in a sample of a few pages (1 to 3 pages is fine).

We would estimate the total number of defects per page. Like this.

If we assume our team's defect-finding effectiveness is about 1/3 (they fail to find 2 out of 3 defects present – a normal result) then the estimate is that there are about 30 majors in the sample page – 10 found, 20 not found yet.

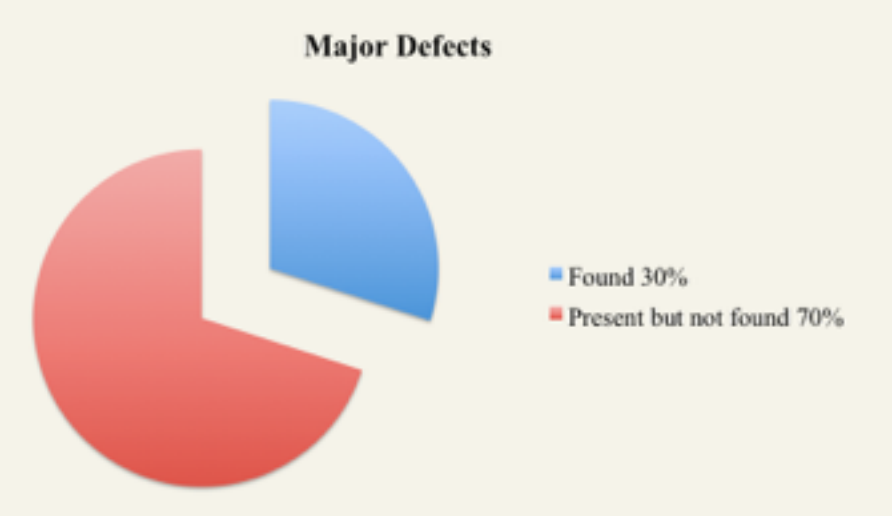


Figure 2 A. when reviewing a planning document using a few people, the team's effectiveness is limited to finding about 30% of the Major Defects actually on the page. But that means if they find 30 Majors there are about 100 Majors total. So fixing the 30 found is not much use. We have to deal with all 100 somehow.

And, assuming our sample pages are accepted as representative of the other pages there are about 10 (pages) x 30 majors = 300 major defects in the document.

This is usually considered an ‘obviously unacceptable’ result. Exit is therefore ‘failed’, and the whole document must be reworked to a higher adherence, to the formal written standard.

Re-checking after trying to improve the plan will determine if it can exit, using a different,or random, sample of the 10 pages.

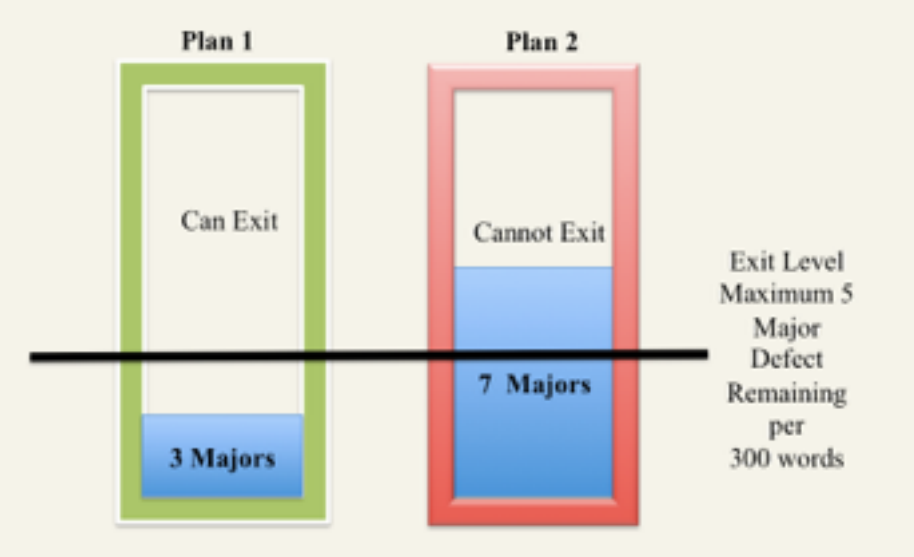


Figure 2 B. Planning documents can be measured for conformance to your standards. If even a sample of a plan says that defects exceed the Exit level, they cannot be allowed downstream. That would do more damage than good. This ‘planning process Exit discipline’ will motivate planners to learn, and follow, planning standards first time around.

Our experience, when initially checking any document (technical or managerial) that has *not* been subject to this discipline, is that the estimated defect density is about 100 major defects per page, or more; even by the simplest of standards (clear, unambiguous); as judged by senior managers or engineers.

This result is of course unacceptable; but since nobody measured before, nobody was conscious of the problem.

Mini Case 2 A: CEO Garbage Out

Once at a large US telecoms organization, my client decided to measure the major defects in the Corporate Quality Policy issued by the CEO, and hanging on the walls, as a single page declaration.

I forget the exact result, but it gave us all a good laugh, because the major defect count was well over 100.

That means the one-page policy could be misunderstood by employees on up to 100 different points.

Of course nobody dared tell the CEO, but a senior executive I had lunch with afterwards, acknowledged the problem was widespread.

What we have found, both on a large corporate scale, and in large scale engineering, is that if the Exit level standard is taken seriously by management, then the quality level produced, the first time around, will rapidly move towards that exit level. There are, as for as I know, no large scale studies of this for *top management*.

Mini Case 2 B: Clear Measurable Top Level Objectives: then 15 Years Success.

But, one 20,000 person corporation I worked with for several years, who adopted the clear measurable objectives methods at the board, CEO, and directors level; reversed over 5 years of losses, and went into profit for the next 15 years – unlike any competitor!

I like to think this was a function of much clearer management thinking, enforced by the CEO (RW). All of the credit belonged to the dynamic engineering-trained CEO.

But he was 100% behind my suggestion, and behind the consequent effort, to get him and all his direct reports to quantify their objectives.

The Corporate Planner, Peter Hall, and I trained the directors (half day), and they needed it. The Board was behind the CEO on this issue too.

People will quickly teach themselves how to follow the 'how to write good objectives' standard (more below).

The alternative, to reducing defects at this early planning level, is that each major defect will corrupt efforts downstream, and cost considerably more finally, than the effort to write things properly in the first place. A stitch in time saves nine.

The management-planning quality-control is logically divided into two phases.
Is it clear?
Is it right?

If a management planning document has, say, 100 ambiguous and unclear terms per page, then it is premature, to say the least, to attempt to evaluate whether it contains powerful, useful, aligned, relevant ideas, to support core values, or other higher levels of planning.

In simple terms, we must first measure that a plan is reasonably intelligible. Only when it is intelligible, can we proceed to evaluate whether it is 'the right stuff'. Here is some more detail on those issues.

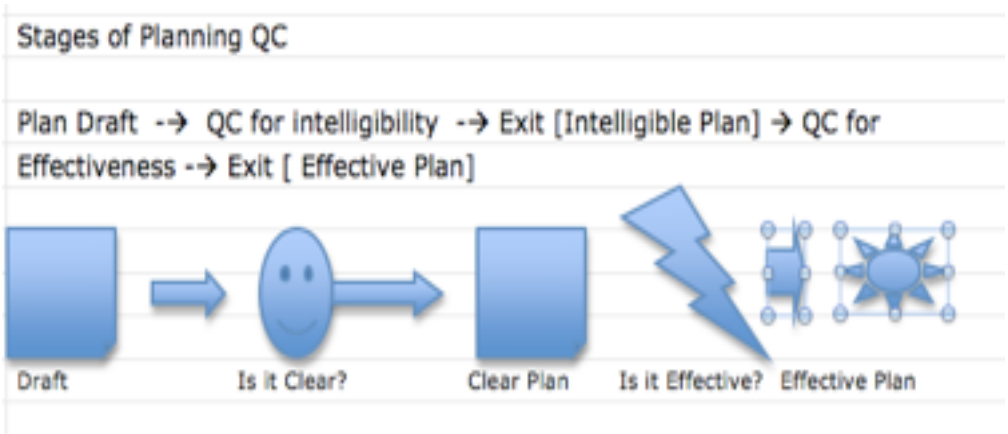


Figure 2 C. The planning 2 stages of quality control: 1. Clear?, 2. Right?

Testing Your Objectives for Clarity: The Simplified Spec Quality Control
Our first task when a non-trivial size draft plan (say core values, or corporate objectives) is ready, is to run a check on *intelligibility*.

Step 1: define 'Intended Readership' for the plan.
Make a list of all the various types of people (lawyers, engineers, Board Members, middle managers, consultants, new employees etc.) who must be able to reliably interpret the plan.

Step 2: Standards for Intelligibility.
Make a list of 'Rules' for writing, which if followed, would give you the level of intelligibility needed by your Intended Readership – *all* of them. Include the *weakest ones* in their *weakest moments* (stress, pressure, tired).

I have found the following Rules to be basic and sufficient for most beginning purposes:

C1: UNAMBIGUOUS: The Objectives will be *unambiguous* to the Intended Readership. *One interpretation: the right one only.*

C2: CLEAR: The Objectives will be *clear* enough for all of the Intended Readership, to correctly and completely, carry out relevant strategy planning, as intended, and to check for themselves, that it is a correct interpretation, *even under worst case conditions*.

C3: ENDS NOT MEANS: The objectives will be stated in terms of the ultimate *'end states'* desired (at that level of planning), and NOT in terms of strategies (means) perceived as leading to those end states. *How well, not HOW.*

Step 3: The Spec QC Checking Process

- Convene a small team of credible senior people (2 to 6).
- Present the rules to them.
- Ask if they agree in principle to these rules and understand them.
- Give them about a page (300 words) of text each (can be all same page, or some different pages).
- Give them about 30 minutes for the page.
- Ask them to mark any word of term that violates these rules.
- Ask them to categorize each rule violation as a 'defect'.
- Ask them to classify each defect as either 'Major' (really must be corrected, consequential), or minor (rule violation, but does not really matter much in practice – for example because it is not a decision driver, but is a footnote).

Step 4: Reporting, and Process Validation

- Each checker reports major defects they claim to have found. For example 10, 5, 20, 12 Majors.

Step 5: Calculation of Defect Density

- Estimate that the team has found about 40 unique major defects [2, 7 pp299-301]. Twice what the largest claim (20) was.
- Estimate the team has found about 1/3 of the actually present defects just now. And that there are therefore about 40 +80 = 120 Majors in the page.
- We cannot fully explain here exactly why we do this (hints are given!), so trust it, or read the references.
- We are trying to move the estimate nearer the truth, than the raw data alone.

Step 6: Exit Determination

- If the exit level (maximum estimated remaining Major defects per page) is, say 10, then we have a clear case of *failed exit* (even if we had skipped Step 5!).
- Revise the document, if Exit fails, according to the Rules.
- Otherwise release the document as *intelligible* (but not yet reviewed for being 'the right stuff'

Figure 2 D. The Plan Quality Control process. If the plan has a low violation of planning rules, it can be economically released 'downstream'. If not, it pays off to reject it, and get a version that can be safely released.

IF EXIT FAILS
If the level of unclear and unintelligible content is as high as this example above, then

- editing the plan, according to the Rules, is required,
- and a new Quality Control is required, until successful Exit is achieved.

If the specification is difficult to interpret, then it is premature to take the next step of deciding if it is a 'good' (effective for purpose) plan.

On the other hand, even a plan that is, at this stage, zero major defects, might be a bad plan for the real business!

Clarity is not the same as effectiveness. But it is a necessary first step.

Example:
Let us assume that the following terms were marked as unclear/ambiguous:

S3: **Scale**: Estimated better days for living things as a direct result of our products.

Let us call that '3 Major defects'.

- After all,they make the Merck Core Purpose unintelligible!

We could attempt clarification by rewriting as:

S3: **Scale: Estimated Better Days for defined [Living Things] as a direct result of defined [Products].**
Better Days: days where the entity themselves, or other better judge, would judge their life to be better than without Our Product.
Living Things: {Human, Animal, Plant}
Products: {Patents, Drugs, Machines, Licenses, Services, Distribution, Education, Motivation, Others}.

Testing Objectives Against Core Ideology
If we can 'Exit' from the 'Clarity' quality control process, with a sufficiently intelligible specification of objectives, then we have the basis for deciding if those objectives are "the right stuff."

How do we evaluate to see if a management objective is *good enough*?

We can evaluate a management objective, for cost-effectiveness and risk, against the following Rules (as an example):

E1. Objective Effectiveness Estimate:
*The **set of effects**, we expect the objective to have, on our own higher-level objectives (for example our 'Core Purpose' Goals) **is estimated**, with reasonably credible evidence and sources?*

E2. Costing.
*The **resources** required to deliver this objective, at specified times, places and conditions (the [qualifiers]) are credibily **estimated**?*

E3. Specification of conflicts.
*A: If anything with the objective, or planned strategies for it, in any way threaten to conflict **with our Core Values**, or with **any other constraints** (Policy, Law, Custom), we must **list these formally** under suitable Background headings, such as Threats, Issues, Risks, Assumptions, Dependencies, Conflicts.*

B. We shall not censor any potential conflict, however improbable. But notes, on our evaluation or mitigation, can be included.

Standard 2. Simple sample Rules for Checking Objectives against a Core Ideology.

In other words we need to evaluate effectiveness, costs and conflicts.

Plan Clarity	Plan Effectiveness
Clear	Main impact on Goals is estimated
Unambiguous	Side effects are estimated
Complete	Costs are estimated
Consistent	Constraint violations are specified
Variables quantified	Risks, threats, mitigations, assumptions are specified
	Issues not resolved are specified
	Potential conflicts are specified

Table 2 A. The two classes of standards for checking a plan. First it needs to be intelligible. If it passes that test, we are then 'enabled' to judge its effectiveness for purpose (for our objectives). Both classes of reviews here, result in an objective and quantitative evaluation of a plan's suitability for purpose. Very few businesses today have this rigor in their review process. Few seem aware that they could have such a process.

Using the rules to evaluate plan effectiveness for purpose
To do the first element (E1, above) we need to make an estimate of 'the degree to which this objective is expected to contribute to one or more higher objectives'.

Let us simplify by assuming that this higher objective is the Core Purpose itself, the primary dimension we want to improve. We defined one such in this paper above (**Merck Core Purpose**).

Let us now assume we have a lower level supporting objective called: "**Top Long Range Objectives**"

Let us assume that we believed that the set of Top Long-Range Objectives [Year = 2020] would be capable of *exactly meeting* the **Merck Core Purpose, Goal [Year =2020].**

- Then we could assert that belief by estimating the impact as '100%'.

We could offer 'evidence' for our '100% effectiveness' belief by referring to the set of facts, reasoning and sub-estimates:

Evidence: *TLRO:MCP 2012 Estimation Basis**.***

We could indicate the degree of uncertainty of this estimate, by a statement like:

***Uncertainty**: ±50%*

We are now doing a simple form of 'Impact Estimation' [Full detail Ref. 2, Chapter 9, Impact Estimation], and see below.

It would be a matter of planning policy and management discretion to accept these estimates, review their evidence, and decide if the uncertainty was acceptable; enough to approve and proceed.

But the main point here is that, if we take the trouble to quantify objectives, and specify conditions, for targets and constraints; then we have enabled ourselves to 'reason further in a quantitative way', about the impacts of plans on their objectives.

We are now more likely to see weaknesses in a plan, at an early stage, and take steps to remedy it early.

		.....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

Table 2 B. An example of a real (2005) top management Impact Estimation Table. The Objectives (name tags only) on the left were quantified with defined Scales, and Goal and Stretch levels of performance. This table satisfies rules E1 and E2 above, and below: effectiveness and cost estimation.

Evaluation of Resources.

E2. Costing*.*
The resources required to deliver this objective, at specified times, places and conditions (the [qualifiers]) are reasonably estimated ?

It is **not logically possible** to estimate, let alone know, the resources (time, effort, money) needed to achieve any level of performance, **if** you only know the required level of performance; but have *not yet* determined the *specific strategy* (means), to reach that level, under specified conditions.

Yet, if we do not know the resources needed, we cannot yet approve the objective, because we might not have, or get, the resources necessary.

We can only approve of the objective itself, as a necessary condition for reaching our even higher-level objectives, hoping we can later find suitable cost-effective strategies.

And we can approve the **next stage,** of determining one or more strategies, and costing them. Only on the basis of credible resource estimates, within our resource capabilities.

Then, we can give the final go ahead, do it. Do the strategy, and get us to the promised Goal.

Note that, even with the best well-known strategy, and the best available cost *estimates*; I am a skeptic about what the *real* costs (time, effort, money) will really be. The situation is usually complicated; unpredictable.

The simplest remedy I have, is that - even after conditional strategy approval, based on initial estimates - we *still* need to monitor *early and gradual r*esult improvement, quantitatively, and take action if a predicted result stream is not happening.

This feedback evaluation is much more practical when the results are quantified as suggested above [9].

In the impact estimation table above, you will see that the monetary cost of each strategy was estimated, and could then be compared to the estimated impacts of each strategy.

Conflict with Constraints

E3. Does the objective in any way threaten to conflict with our Core Values? Or with any other constraints (Policy, Law, Custom).

The objective, and in fact its implementation strategy, must both be reviewed initially, and potentially be reviewed in the light of partial feedback from partial implementation, continuously, for any emergent unacceptable conflict with any defined constraints.

These defined constraints can include Core Principles, Policies, Laws, Local Culture, and any other constraint we agree to respect.

Conflicts need to be documented in the plan, the magnitude estimated, and a decision as to whether the conflict, or potential risk of conflict is acceptable needs to be made.

Part 3. Strategies.

The term 'strategy' has many possible interpretations, but I will define the sense I use it here, too.

A dictionary definition says: "a plan of action or policy designed to achieve a major or overall aim".

I will stick to that essential idea, and clarify.

A strategy is *any means* directed towards an *end*.

It is what we plan, and do, or perhaps 'do *without* formal planning', *in order to achieve* one-or-more higher priority objectives (aims).

A strategy is **anything** that might, or will, serve our aims; and *certainly **not** restricted, as the dictionary definition indicates*, to 'plan of *action* or *policy'*.

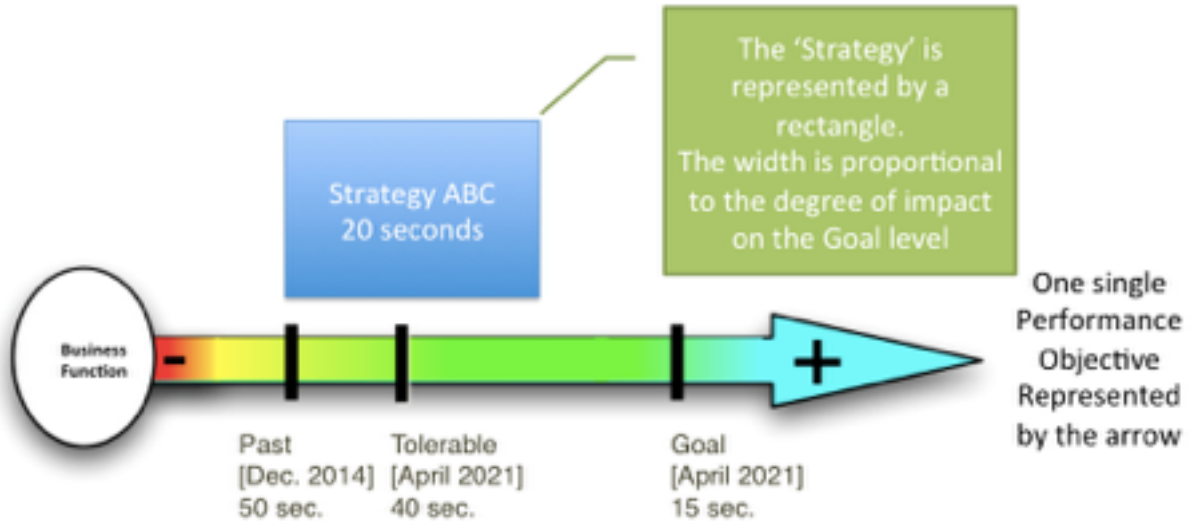


Figure 3 A. A 'strategy' is something we plan to do, with a hope that it will have a positive effect on at least one objective's Goal. A numeric estimate, of the future strategy impact, is called an 'Impact Estimation'. In this example the estimate is 20 seconds progress towards the Goal.

A given objective may be supported by *other and different supporting objectives*; themselves supported by related strategies (which may be classified as supporting objectives too!).

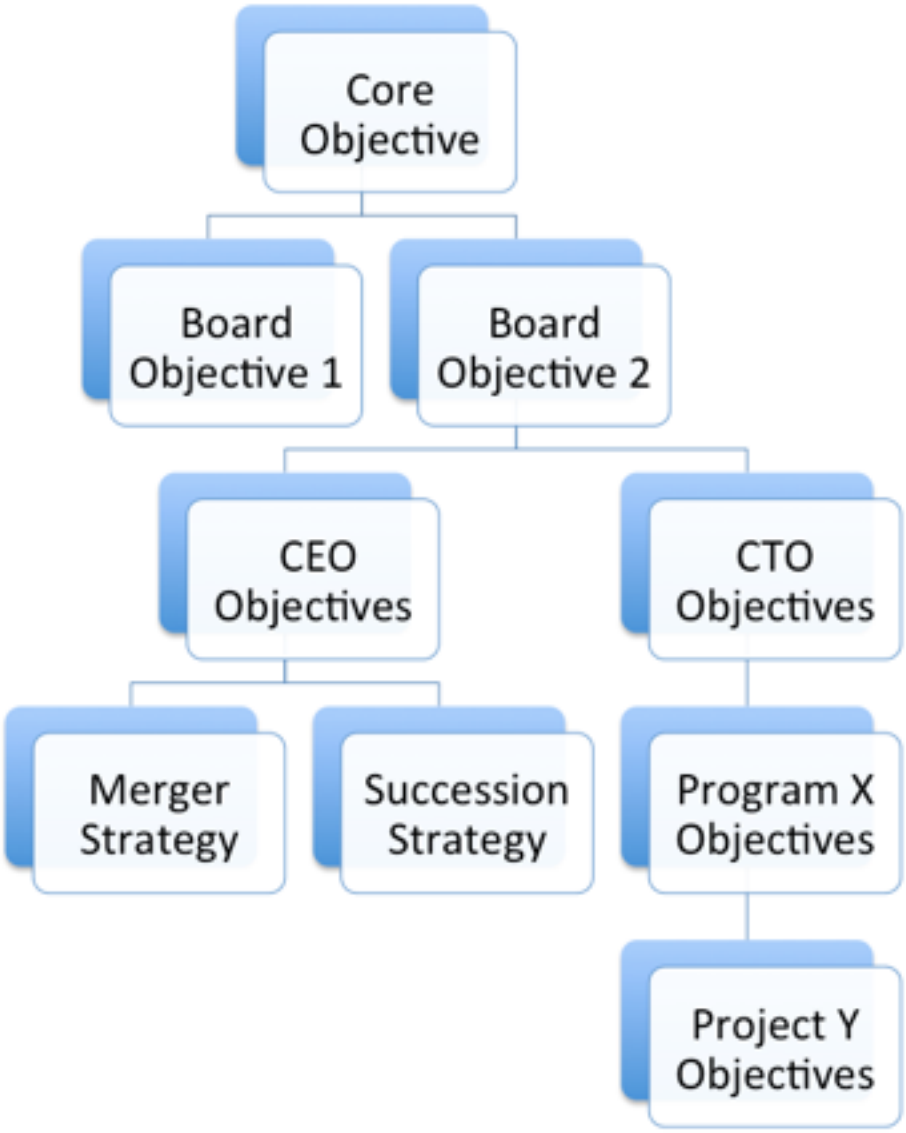


Figure 3 B. A simplified and symbolic hierarchy of objectives and supporting strategies. In our world, these relationships, the thin vertical lines, can be quantified, estimated and measured.

Strategic Objectives
Strategic objectives were defined by Keeney [5] as a level of objectives, that, at *our own* level of responsibility (or some defined level of responsibility) were the strategies *we* had chosen, in order to support the objectives 'one level up' (our bosses *own* objectives), which Keeney called 'Fundamental Objectives'.

So, for example, the Board might have a set of *strategic objectives* for supporting the Core Purpose.

Notice that this *set of ideas*, about the relationships of levels of objectives, can apply to *any level* of the organization. Fundamental – boss, strategic – me. Fundamental objectives are not *my* business to change, approve, or be ultimately responsible for. But my *strategic* objectives had better *support* them.

Figure 3 C Your primary responsibility is to meet your Strategic Objectives. But you need to make sure they actually satisfy your next level up 'Fundamental Objectives'. And, you need to worry that the Means Objectives, which are intended to satisfy your Strategic objectives, really do the job, on time, on budget.

Means Objectives

Keeney's [5] "Means Objectives" are the sets of objectives that support achievement of *my* strategic objectives. They do not have to come from 'my staff' or 'my subordinates'. They could be set, and delivered, from *any* partner, supplier, or organizational component that is capable of delivering results, which will support achievement of our *own* strategic objectives.

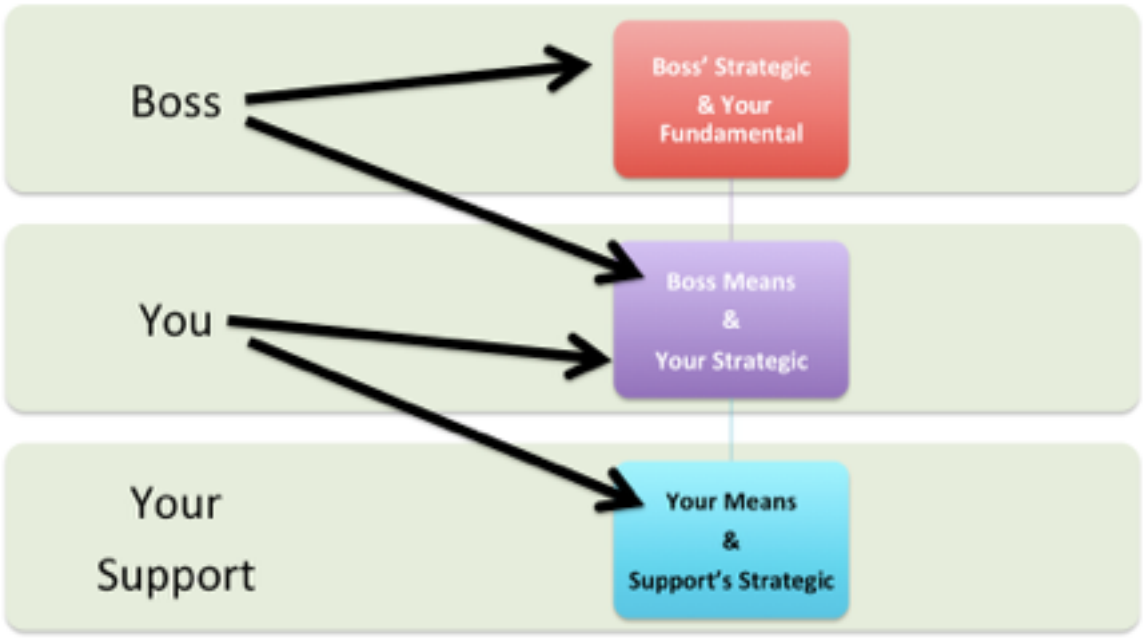


Figure 3 D. The perception of what is' ends' and what are the 'means' depends on your stakeholder level. 'One mans meat is another mans poison'.

Abstract and Concrete Strategies:
All objectives and strategies come in two basic different forms, *abstract* and *concrete*.

1. **Abstract Strategy**: a future result (Goal Level) is specified, but not a specific *means* for actually getting there. An 'abstract strategy' is really a 'variable result *objective' (an improvement statement)*. Sooner or later someone has to make some *concrete* 'means' decisions (*a specific decision, as to what to do in the real world to get that improvement*) as to how to get to the target levels. But, from the *point of view* of the 'next level above', the *abstract* strategy is still a 'strategy' (a means to *their* ends).

Examples of *abstract* strategies.

- *Increase productivity by 20%.*
- *Reduce Capital Expenditure by 10%*

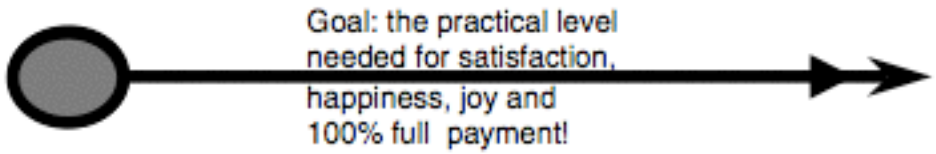


Figure 3 E. An 'abstract strategy' is expressed as a scalar objective, and it is designed to support a specific higher-level objective, with some required level of performance. It does not itself contain a particular specific 'concrete strategy', that might really deliver that level of performance. So, at some point we have to find real concrete strategies, to make it work, at intended levels of performance.

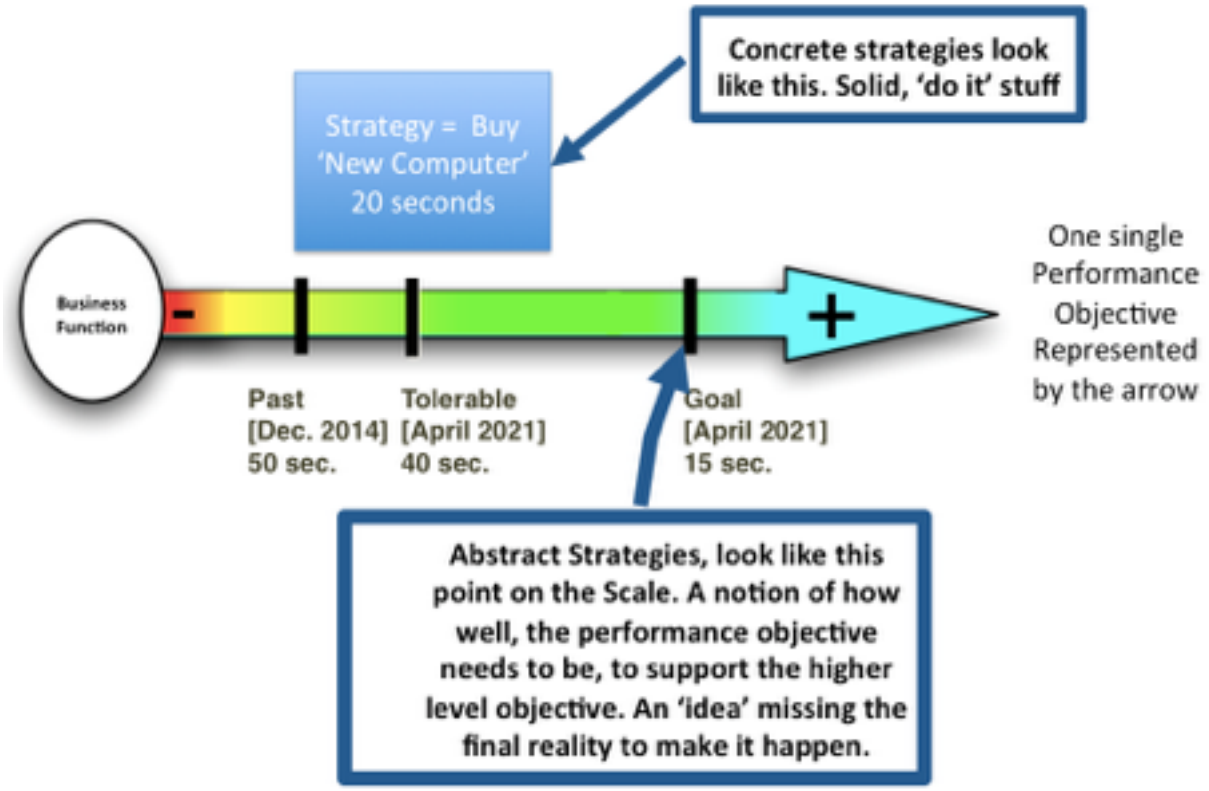


Figure 3 F. The difference between concrete strategies (just do it), and abstract strategies (be 'this good', (somehow)). That abstract strategy level will support the next level of objectives up. ***If*** *we can find suitable concrete strategies for reaching the Goal level.*

2. **Concrete Strategy**: a specific decision is made regarding the *real-world means* for supporting the objectives, on the level above it. A concrete strategy will give you 'whatever results it will give you', even if it does not in fact support the next level up, as intended.

So, committing to a concrete strategy, that *fails* to deliver our expectations, is not a good idea. It might be better to formulate it as an abstract strategy, and declare that, 'the means that *in fact satisfies* the targets', is the 'only real' right strategy.

Example of concrete strategies.

- *Layoff 50% of Temporary Workers*
- *Double the number of Permanent Hire Trainees.*
- *Use Supplier X*
- *Drop Product Line Y*

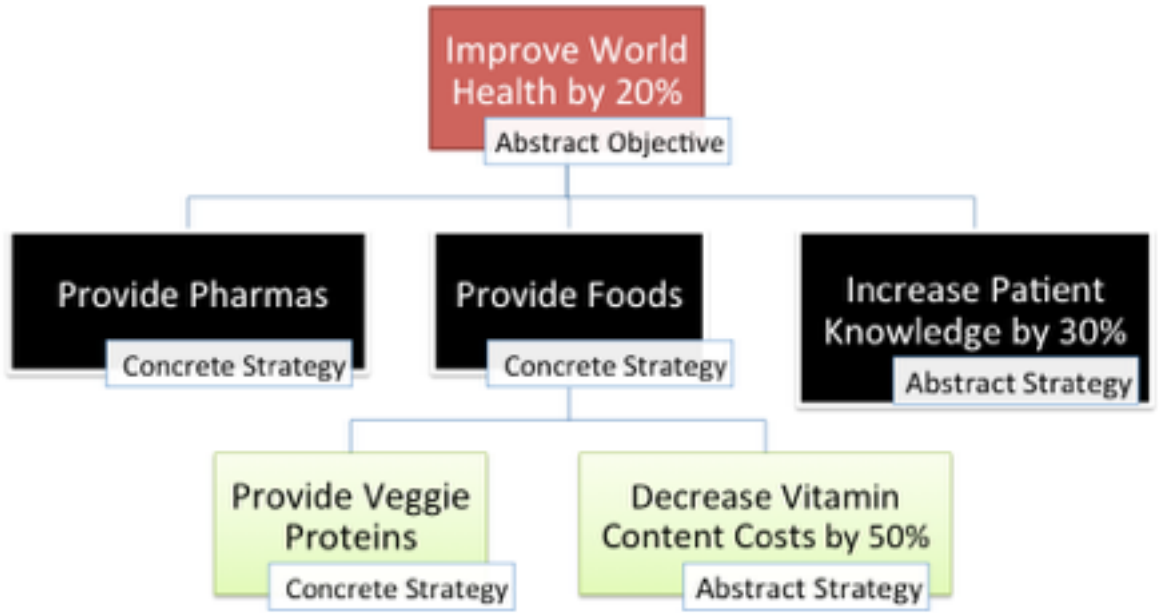


Figure 3 G. Strategies can be concrete (just do it) or abstract (let us achieve it), but the abstract ones, need, at some point, to have concrete ideas behind them.

Figure 3 H. Keeney's Levels of Responsibility and perception. All of these will have to operate by respecting a number of constraints. Constraints include budgets, deadline, and conformance to law, culture, policy and other agreements that apply.

In practice, the planner is always concerned with multiple objectives, and multiple constraints, that need to be dealt with 'simultaneously' in the planning process.

Simultaneously means that we want to achieve all performance target objectives, within all resource constraints, and by respecting all other known constraints. We will be looking for a set of strategies to achieve that balance.

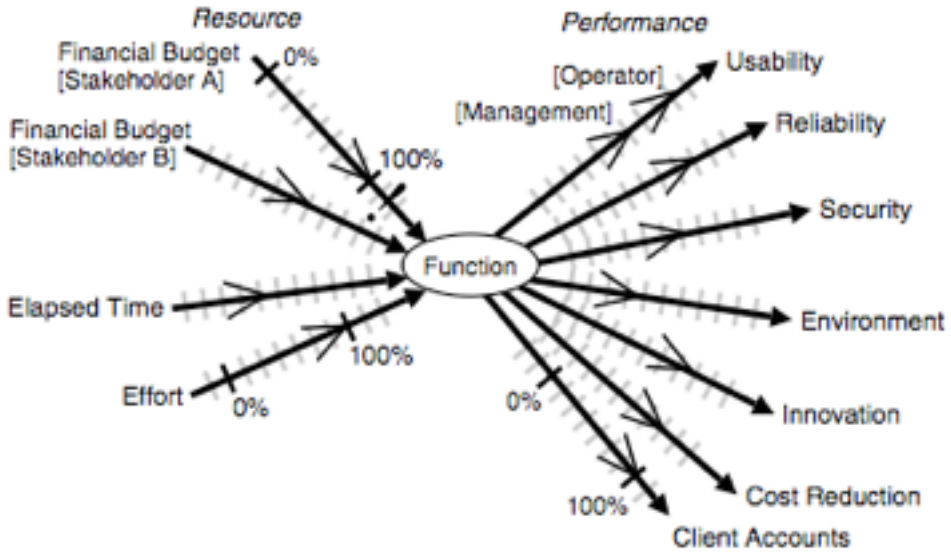


Figure 3 I: A model of an Abstract Strategy, with defined function, and ***multiple*** *performance and cost attributes. The arrowhead on the scale (--->---) arrow, represents a goal or a budget level.*

Strategy Specification Standards
We need to have something better than letting strategy planners just write down any set of words they feel like writing, and calling it a strategy.

The strategies have to be specified, and evaluated so that they credibly will meet the multiple performance objectives, within all constraints.

Here are some ideas of some basic standards, which we can use to encourage good practice when planning strategies.

Basic Rules for Strategies: General Principles

1. The **Detail** of the Strategy specification must be sufficient to **allow reasonable estimation** of all critical performance and cost attributes we can expect.
2. The **detail must be sufficient** to **correctly determine** if we have violated any applicable **constraints** (for example Core Values).
3. Estimation of the **expected range of impact** on the primary objective shall be made.
4. Estimation of the **side effects** on all **other objectives** shall be made.
5. The resources needed to **install, operate, and decommission** the strategy shall be estimated.
6. Analysis of whether the strategy alone, or *together with any other strategies* **violates any known applicable constraints** (starting with Core Values) needs to be made.

These considerations are intended to ensure that the specified strategies are intelligible enough to evaluate, with regard to their intended purpose (improving at least one objective), and with regard to all other side effects of interest (other objectives, resources, constraints, risks).

They help us answer the question: "Is the Strategy well-specified ? ".

They do not yet answer the question: 'Do we have the right strategy?" – but they lay the basis for asking and answering that question.

Deriving A Complete Set of Strategies
Let us imagine

- we had 10 Top Level Objectives, and 10 Top Level Strategies.
- Let us further imagine that each strategy was estimated to satisfy a different objective's target-levels on-time, exactly (±0% deviation from the estimate).
- Let us also assume that no objective or strategy seems to violate any constraint (starting with Core Values)

In this simple-world 'model' we could say that we **seem to have enough** strategies to satisfy all our objectives. There are no constraint violations. We are ready to proceed to actually delivering the strategies, and seeing the target performance of our organization emerge measurably.

In our real world we will need to manage strategy finding by:

- adding proposed strategies **incrementally** to the total set of strategies, until we seem to have **enough strategies**, even with uncertainty, to proceed. Until we have enough 'safety factor'.
- keeping our eyes open for each new proposed strategy, to see that it does **not violate** any constraints. Not least, resource constraints (time, effort, money).
- even when we seem to have a sufficient set of strategies, we can consider 'optimizing', for example to find **equally powerful strategies at much lower costs**, or with lower risks.
- keeping track of this strategy selection and evaluation process, **using a tool** – better than human intuition.
- We will suggest an **Impact Estimation Table** is a very good tool for this purpose. We discussed this to a limited degree above (Figure 2 A – example of Impact estimation).

Part 4. Quality Control of Strategies

Strategy QC for Clarity
We can perform a review (Specification Quality Control, SQC, [2, Chapter 8] of **the strategies, as a set** with regard to the rules we outlined above.

These rules and considerations amount to *making sure that we **have enough detail** to 'reasonably assert' that the strategies have a fighting chance to reach our objectives.*

If we pass this first test (fighting chance), then we are ready for the more-critical question:

"Are the strategies *really* going to be sufficient to reach our objectives, on time, within budget?"

This question still has two phases, for **Complicated** systems
(where there are no easy answers about what will happen when you mix various strategies in a cooking pot):

- **Phase one**: model and estimate the big picture on an Impact Estimation Table.
- **Phase Two** (a series of incremental cycles of testing and measuring the strategy implementation): add one single promising strategy to your current environment: see what really happens: measure all performance effects, and all costs.
    - This is essentially the same as a Deming 'Plan, Do, Study, Act' cycle.
    - But we have our own way of describing it.Below.

Figure 4 A. The Evolutionary Value Delivery Cycle. This encourages a step by step exploration of strategies and sub-strategies, measuring what really happens in practice, in a Complicated system. Locking in good results, and rejecting bad results quickly.

The *initial* IE Table is a set of estimates. It is a hypothesis. 'If we use these strategies, then we believe we can get these results".

But, in our real world of organizations, internationalization, and technology and new economics: nobody really knows. Nobody can estimate very accurately. Lots of things can turn out differently from our estimate, our hypothesis.

So, we have two options:

- **Big Bang**: build the new system using all the suggested strategies implemented, and committed at once. And pray.
    - People have been using this method widely for years, and the history is discouraging. We get too many really bad surprises.
- **Little Bangs**: we add small increments of our strategy hypothesis to the existing system, and see what happens. Like good management scientists we learn what is true and works well enough to keep. We learn what does *not* work. Dump it. Do not scale up. And continue the search for things that work better.
    - We gradually build up a series of strategies that really work.
    - Our 'worst failures', are small efforts, experiments, which 'succeed' in proving that we should not integrate them into our real system, and we should not scale up using them.
    - We feed the good results that we *choose* to keep *in place*, **into the Impact Estimation table**: now we are doing the 'results accounting'. We can compare to the 'Budgeting' of the original value and cost estimations.
    - We are gradually building up a picture of how good we are getting, and what it costs.
    - We can more easily see the gaps to our valued Goals, and see the remaining resources, budgets and deadlines; and decide intelligently what to do about them all.

'Little Bangs' (cute, I could not resist the name), we call it the **Evolutionary Value Delivery** method, or '**Evo'**, for short. Is nothing new. It has been good practice in science, engineering, management and society, not to mention nature, for a long time. It works.

But somewhere along the way, with business school academics, rather than practicing business titans (Jobs, Musk, Edison), we totally lost the plot.

One documentation of this is Hopper's excellent history, The Puritan Gift [2]. Deming, Out of the Crisis is another excellent source on the matter [9]. There are many, in our references.

Impact Estimation (IE) of Strategies: QC of Power.

Design Ideas ->	*Technology Investment*	*Business Practices*	*People*	*Empowerment*	*Principles of IMA Management*	*Business Process Re-engineering*	*Sum Requirements*
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	45%	60%	10%	35%	100%	53%	303%
3:1 Return on Investment	50%	5%	75%	45%	15%	61%	251%
Morale 72 <-> 60 per month on Sick Leave							
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 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*	

Table Part 4. Actual Impact Estimation table for US Army Persinscom System.

The above example shows the use of an IE Table to evaluate a set of management strategies (named in the top row) against a set of quantified objectives (referred to in the left hand column).

We can see the *rough relative power of each strategy* in the row 'Sum of Performances'.

We can see the rough *impact of all strategies, on each single objective* in the column 'Sum Requirements'.

We can *monitor cost and time resources* relative to a stipulated budget in the two rows 'Money' and 'Time'.

We can get some idea of each strategy's *value for money* by looking at the bottom row.

The % estimate is

- computed from a 'real scale' (like 'seconds') estimate for each objective (usually), in relation to a 0% baseline (like 'Past').

What is the expected impact, using the scale of measure defined for each objective.

The expected impact is:

- based on specified 'evidence' for the estimate
- based on specified 'sources' of the evidence

And each estimate includes:

- ± uncertainty or range of possible results ('65%±20%')
- a 'Credibility' category (itself based on evidence and source) of 0.0 (none) to 1.0 (Perfect).

This means we can *chose to be* quite *rigorous*.

Management can insist on rigor, on the part of those working out the tables, so they have a more-solid decision-making basis.

But it is not uncommon, initially, to be less rigorous, to get a quick feeling for how the planning is going, and the weaknesses that are glaring at us.

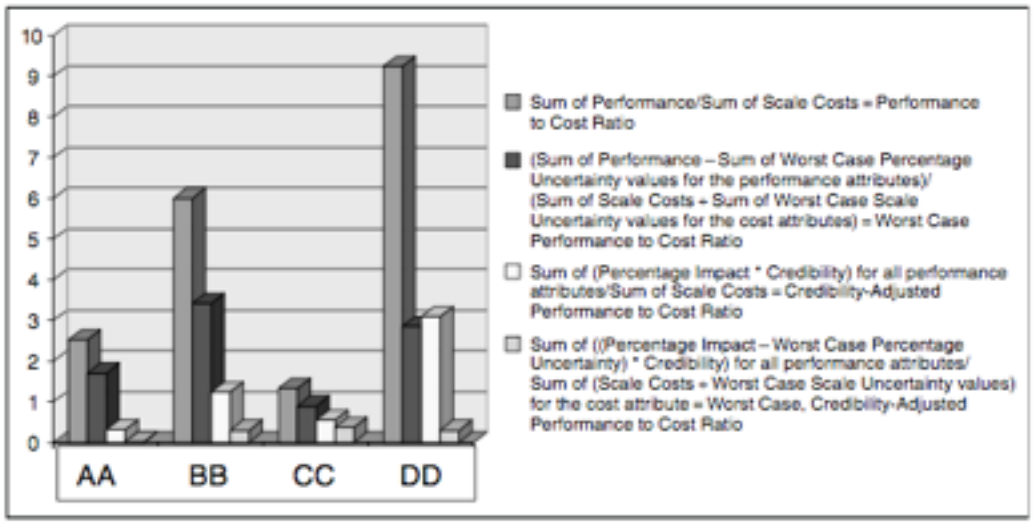


Figure 4 B: Management can look at the strategies from various risk level points of view. Source [2, p.287]. This is a top level summary from a tool built by Kai Gilb. Most of our clients build their own local tools using spreadsheets.

It is quite an amazing experience, to sit in planning meetings and presentations where this quantified environment, for objectives and strategies is present. This discussion is systematically focused on the weak points in the overall plan, which are numerically very visible.

The discussion is incredibly 'logical' and based on the ground rules:

- "Can you give that strategy such a high estimate, from such an incompetent source?"
- " Who cares if the strategy is so great for Security, we can see the damaging side effects for all other critical objectives, and the totally unknown, not-guaranteed cost and time aspects. Forget it! Find something better!"
- "Well, that is a great strategy, if you are an optimist, but we need to be sure it works, and there are far too many risky and dodgy circumstances surrounding it, documented in our planning. We have to go with the sure things that are also available in our plans".
- "We could only go for that strategy, if it can be *easily removed*, without financial and time loss, if it fails in smaller incremental trials; and if we get much more credible contract guarantees from the supplier, who is not very credible as far as our analysis goes."

Photo 4 Real London Bank, where there was a fantastic different logical planning discussion, based on quantified objectives, and quantification of the strategies.

Business meeting should always be like this, but very rarely are. Planguage is a balanced accounting system for management decision making, with the non-financial values being as-well-quantified as the financials.

Summary Part 4 Quality Control of Strategies:
The main idea, at this level of review, is to make sure that we have *probably* got a *reasonable* set of strategies, capable of helping us reach our target levels of objectives, on time.

We need, above all, to worry about obviously weak strategies and obviously weakly covered objectives.

Management likes to see a 'safety factor' of 2x to 4x. Especially if they are committing to an irreversible decision on this basis.

However, our ability to accurately estimate impacts and costs is inadequate. and cannot blindly be trusted for big irreversible decisions.

The IE Table is only one intermediary tool; hopefully better than what you are using at this stage today.

If we really want to make sure that our strategies will meet our targets, then we have to deploy them *incrementally,* and track the results, learning as we go. The 'Evolutionary' Strategy Implementation method. Part 5 below.

Part 5. Evolutionary Deployment of Strategies

Assuming we have a strategy set without obvious failings, as *yet*; we will normally insist that the strategies are implemented in small increments.

I have had good multi-decade experience using a guideline of 2% (of resources like budget or time to market) as a value-delivery step size.

The important thing is that the step size is small enough to

- limit risks of failure,
- to get something done in the short term,
- to keep up pace and motivation,
- and to allow us to see cause-and-effect more clearly.

I have seen that most top managers do not seem aware of how easy and possible it is to decompose *any large plan* into a series of smaller, incremental value delivery, plans.

Their subordinates are not helpful in suggesting this either.

There are however a large number of known tactics [2, page 314, fig. 10.6, "20 ways to decompose systems into small steps") [URL16] for decomposition. Most of them are based on simple imaginative common sense.

The key idea here is that top management adopt a planning policy that large plans *will* be implemented in small (2%) steps. No arguments! Most people can figure it out, under pressure to do so. The rest can be trained!

Some simple decomposition ideas are:

- Do one strategy at a time
- Do one sub-strategy at a time
- Do strategies in one location successfully, then scale up.
- Do not try to get the final target objective at once, increment your way towards it!

The Principles of Tao Teh Ching (500 BC)

"That which remains quiet, is easy to handle.
That which is not yet developed is easy to manage.
That which is weak is easy to control.
That which is still small is easy to direct.
Deal with little troubles before they become big.
Attend to little problems before they get out of hand.
For the largest tree was once a sprout, the tallest tower started with the first brick, and the longest journey started with the first step"

One of the most important opportunities you have, when you adopt this planning method, is that you can get very rapid and visible results.

You choose by planning, exactly which results to go for initially, and you can chose the ones with the best value for money, by looking for high numbers on an Impact Estimation table.

You can make sure your organization knows what it is doing, step by step, and if not, things are stopped, or corrected, before time and financial drain make you look like a foolish manager.

You can also delegate the power to get the job done, based on the objectives. Then you leave it to your subordinates to find out which strategies really work, and which do not.

A Simplified Evo Process

Background: A simplified version of the Evo process to use on small projects. It also serves to help understand the larger, full-scale 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:

Reliable: **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.

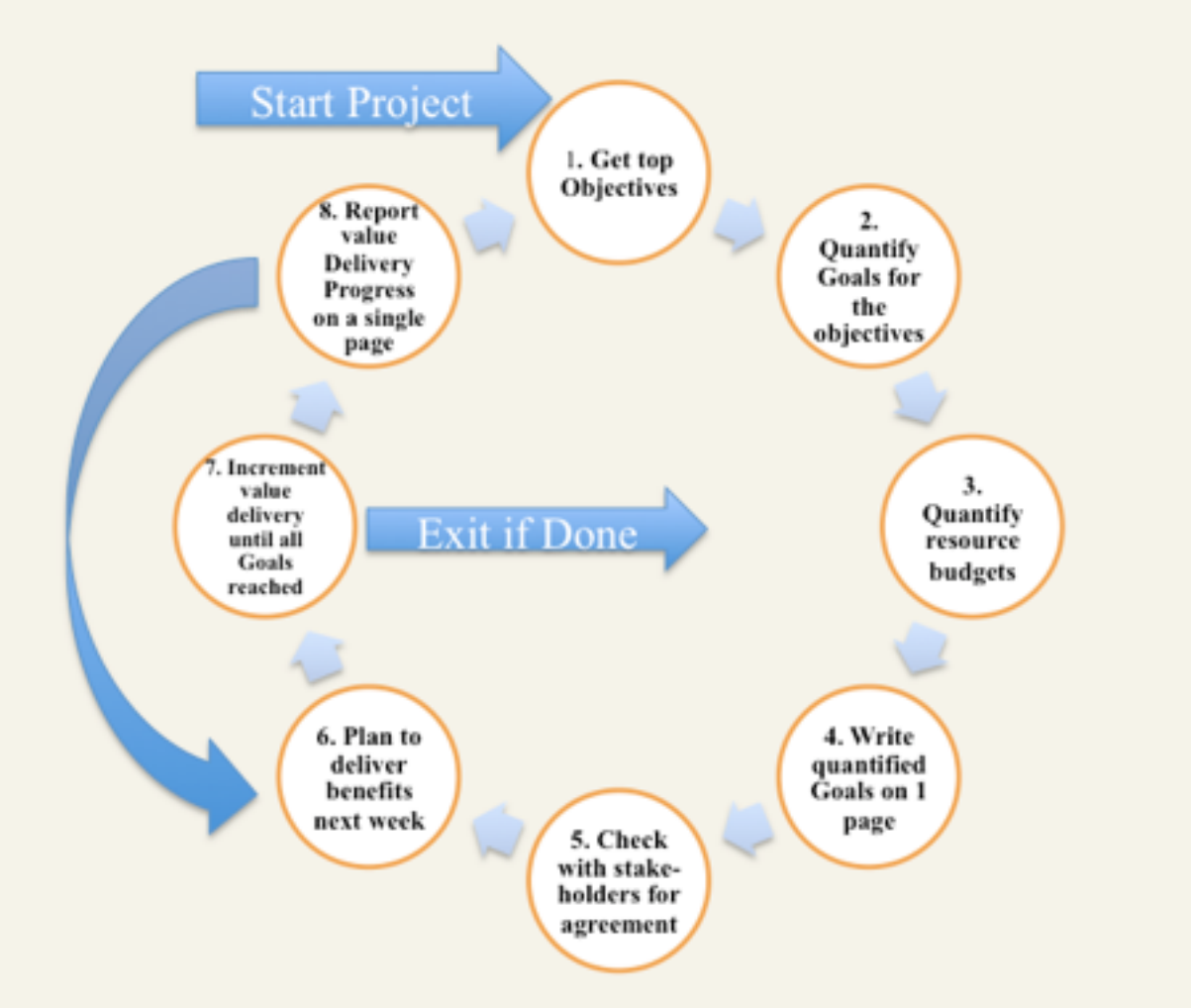


Figure 5 A. One view of the 'Evo', value delivery process.

'Evo' Project Management Policy

- **Efficiency:** The project manager and the project will be judged exclusively on the relationship of progress towards achieving the goals versus the amounts of the budgets used.
- **Creativity**: The project team will do anything legal and ethical to deliver the goal levels within the budgets.
- **Value Reward**: The team will be paid and rewarded for benefits delivered in relation to cost.
- **Freedom**: The team will find their own work process and their own design.
- **Feedback**: As experience dictates, the team will be free to suggest to the project sponsors (stakeholders) adjustments to 'more realistic levels' of the goals and budgets.

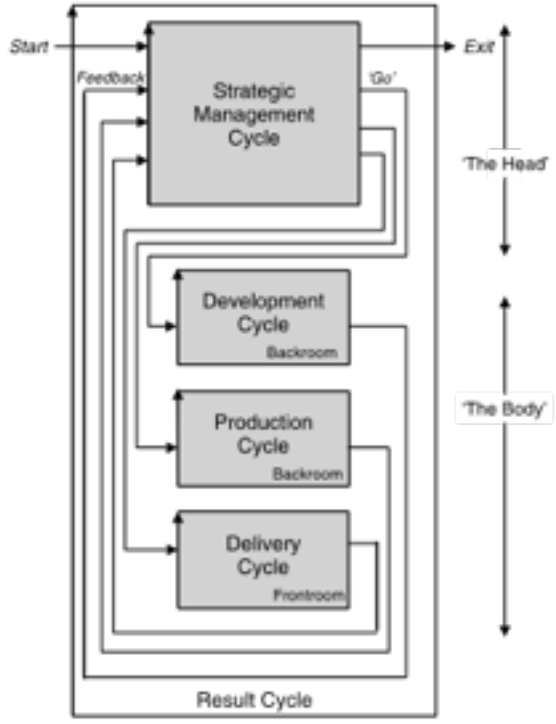


Figure 5 B. Another model of the 'Evo' process.

The Head manages the project.
1. T**he backroom development cycle** (like a kitchen preparing many desserts and soups, and roasting a lamb) can run in parallel and develop things that take more than one delivery cycle, to ready for integration into the system. See also Fig. 6.3 and Fig. 5.1 for Backroom visualization.

2. **The backroom production cycle** will get *everything* ready for implementation, in addition to the basic development of an implementable strategy (dishing the food onto plates in the kitchen).

3. **The delivery cycle**, in the front room (like waiters delivering food to guests) of delivery to stakeholders, will do whatever it takes to create real measurable value for stakeholders.

The backroom/front-room concept:
1. allows you to keep a steady rhythm of value deliveries, in spite of the fact that some strategies need more time to develop and ready, than a single cycle.
2. allows parallel development, with value delivery.

Summary: Value Planning at the Vision Engineering Level.

- Core Business Ideology can be translated into clarified and quantified statements.
- Strategies can be quantitatively related to quantified objectives.
- Strategies can be implemented in small incremental steps, to give early results, organizational learning and no-fail projects.

Local **REFERENCES: 'VISION ENGINEERING', Part 0 to 5.**
(there is a larger set of references at the end of the Appendix)

1. **Built To Last**: Successful Habits of Visionary Companies,
By James C. Collins and Jerry I. Porras. Harper Business Essentials, 1994
ISBN 0-06-051640-2, $10.10, paperback, amazon.com

2. Gilb, T., "**Competitive Engineering**: A Handbook for Systems Engineering, Requirements Engineering, and Software Engineering Using Planguage.", 2005, Elsevier, ISBN 0-7506-6507-6.

3. **Priority**
A. Gilb, T., et al **'Managing Priority'.**
http://www.gilb.com/tiki-download_file.php?fileId=60

B. **"Choice and Priority Using Planguage:**
A wide variety of specification devices and analytical tools."
http://www.gilb.com/dl48

4. Collins and Porras: HBR lead article, September/October 1996, Harvard Business Review. Chapter 11 in [1, pp. 219-239], **"Building The Vision"**

5. Keeney, Ralph L. 1992. **Value-focused Thinking: A Path to Creative Decision-making.** Cambridge, MA and London: Harvard University Press. ISBN 0-674-93197-1. http://www.fuqua.duke.edu/faculty/alpha/keeney.htm/. See also Hammond, Keeney, Raiffa, "Smart Choices", Broadway Books, 1999, $14.95, ISBN 0-7679-0886-4

6. Gilb website for papers, slides and case studies: www.gilb.com

7. Tom Gilb and Dorothy Graham, **Software Inspection**, Addison Wesley, 1993, ISBN 0-201-63181-4. Japanese translation also published.

8. Nassim Nicholas Taleb, "**Fooled by Randomness: The Hidden Role of Chance in Life and in the Markets**.", Penguin, £9.99, ISBN 978-0-141-03148-4, 316 pages, Copyright 2004.

9. Gilb, Tom: **Estimation or Control?** Published in SQP, USA
http://www.gilb.com/tiki-download_file.php?fileId=460

Value Planning Appendix: Chapters 1 to 10

The appendix is suitable for detailed study of the Planning Language.

For experts, coaches, consultants, book and paper authors and even managers who want more examples, more references, more facts and deeper insights.

Each of the 100 Sections is headlined by a Principle which summarizes that section.

You can read this in sequence, or you can dip in anywhere that interests you.

Chapter 1. Objectives.

‘Objectives’ are the plans we have for *what we want to achieve*, independently of which ‘strategies’ (‘means’) we might later select, to achieve them.

Section 1.1 Quantification of All Critical Performance Objectives, Especially Qualities..

Principle 1.1 Quantify Objectives

All critical performance objectives
***can* be quantified,**
and *must* be.

An 'objective' is a stakeholder-valued future performance level, that we plan to work towards achieving.

An 'objective' is the planning artifact representing the values that our stakeholders prioritize.

Objectives are usually a degree of *improvement* over the current state.

But an objective could also be about *'not getting much worse, too quickly'.* Which might be an 'improvement' over our fate, 'an improvement over a potential future state', if we did *not* plan otherwise.

An 'objective' is a future plan, *for a defined **set** of planned future states, in various times, places and circumstances ('ifs').*

***Sales*: Scale:** *€ Net Long Term Profit on sales*. **Goal** *[By 2020, Europe, Digital Watches, If New Eu Tax Law = Passed] €22 billion*.

Planning language example 1.1 A. A one-liner objective for 4 defined dimensions.

Notice that we collect the set of conditions ('dimensions'), that 'qualify' the objective, with [square brackets]. This 'multi-dimensional specification' is a useful and very-flexible planning convention.

[By 2020, Europe, Digital Watches, If New Eu Tax Law = Passed]

Planning language example 1.1 B. A Qualifier, telling us more exactly 'when, where and if' the numeric target (€22 Billion) is valid. This helps us 'model', represent when planning, our complex reality. We can specify any number or type of dimensions that are useful.

Objectives as a 'set'.
Objectives are not always a **single** target number, for example, not like *'The Efficiency Objective is 99.98%'*.

Objectives are *often* a **set** of numbers, planning different futures, in *space*, in *time*, and for *various other conditions*; for the same 'joint concept name' (a formal, consistent unique defined Capitalized 'Tag'), like 'Efficiency', 'Productivity', or 'Competitiveness'.

Figure 1.1 A. An objective with a set of several sub-objectives.

The term ’objective' is used to describe *any set* of future performance plans, that we find useful to ‘group together’, under a single objective’s ‘Name Tag’.

One useful attribute of this ‘Objective Set’ planning representation is that it *prompts you to thinking, asking, and deciding, cumulatively* about what all the various interesting combinations of ‘when’, ‘where’ and ‘if’, that might be useful to plan for.

The key idea is to distinguish between combinations with the following attributes:

- risk of failure
- value to stakeholders
- costs of implementation
- political visibility

so that we can select, and do earlier, those combinations that have *highest priority* for our political, economic and practical environment.

Articulate specification gives you better choices, to *prioritize* some of those high-value combinations for early value delivery.

The ‘Productivity’ objective, in the examples, can encompass any useful number of more-specific sub-objectives. It can also be constructed or viewed as a multi-level hierarchy of sub-objectives.

Figure 1.1 B. Multi-level hierarchy of sub-objectives.

Notice our specification convention of *hierarchical tagging* of planning objects, using the '.' between tags of the hierarchical levels to 'connect' any interesting levels of planning as in *'Productivity.China'.*

Notice that we can add in any interesting set of dimensions that we wish to plan for; in this case the product types ('Electro', 'Clothes', 'Toys').

Quantification of Objectives.
The fact that we can use words, like *'enhanced', 'improved', 'better'*, to describe our objectives, is evidence that these objectives are *variable in nature*, and that they *can* therefore be *represented using numbers*.

One simple 'objectives planning format', amongst many, for doing this is **'**OKR (Objectives Key Results)'. [URL73] as used at Intel, Google and elsewhere**.**

This book is going to present a range of enhancements to the simplest basic formats for specifying objectives. Such as OKR. These optional enhancements will serve to improve information about risks, priorities, and alignment with other objectives.

There are two primary initial steps to basic quantification of objectives, 'Scale + Levels'.

- First a '**Scale** of Measure' needs to be defined.
- Then interesting ***levels*** (like Past, Goal, Tolerable) of performance, of that 'quantified scale', need to be specified.

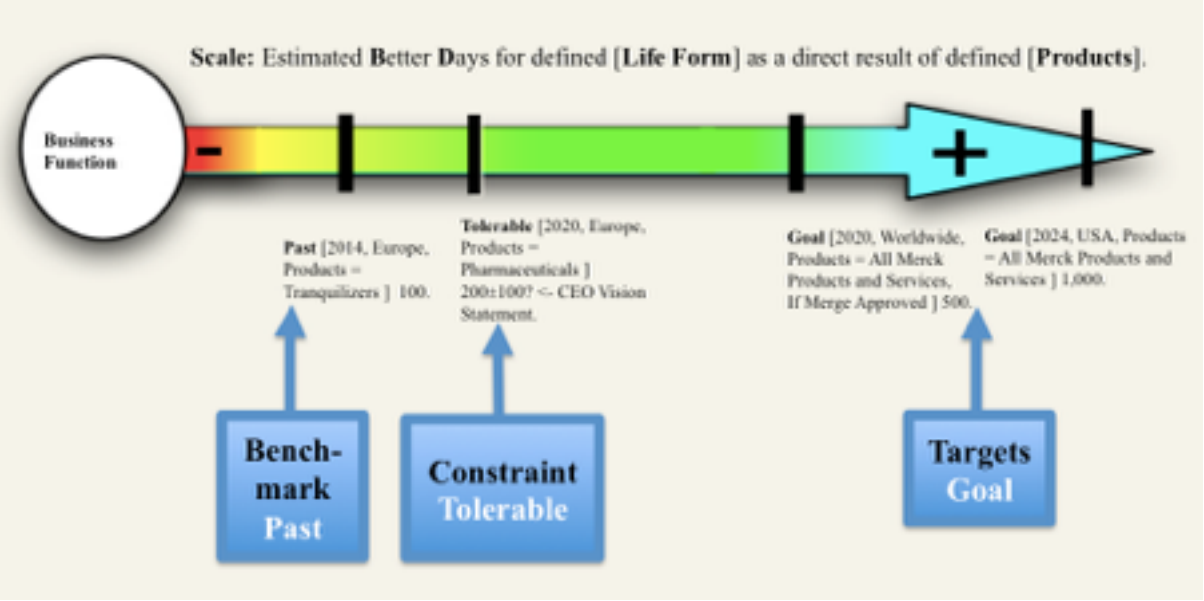


Figure 1.1 C . The arrow icon, ->, represents the 'Scale of Measure'. for a performance variable for a defined business function (the Oval Icon). The Scale variable 'defines' the objective's nature (top line). This figure shows three primary concepts of 'levels of quantification' along the scale: Benchmarks, Constraints, and Targets. 'Past' is a type of Benchmark level. 'Tolerable' is one type of Constraint level. 'Goal 'is one type of Target level. (Figure was used earlier, Fig. 1 i, Merck case).

We use three basic categories of 'performance objectives':

- **work capacity** (how fast, how much we can do),
- **financial objectives** (earnings, savings), and
- **qualities** (how well we function).

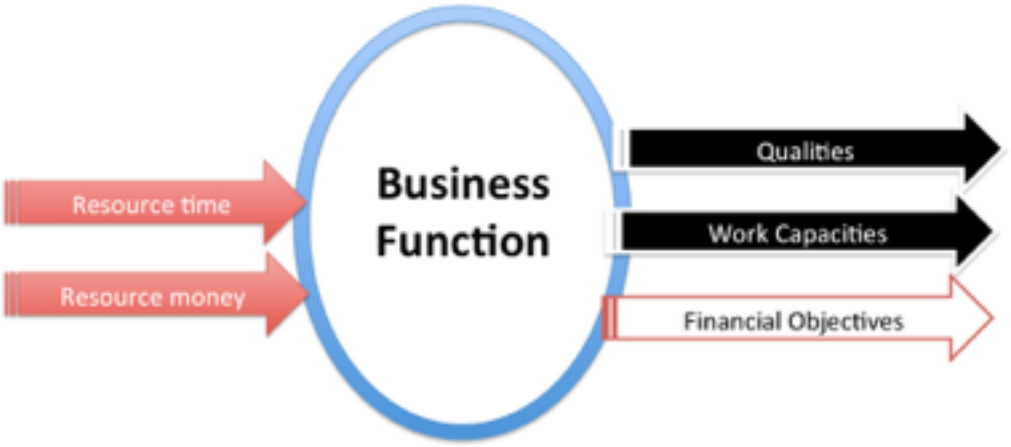


Figure 1.1 D. Three types of 'performance' objectives. The right-hand arrows. O->

The left-hand arrows, ->O, represent any limited resources (needing management) needed to develop and maintain the performance objectives. Budgets and deadlines for example. (Reuse of later Figure 10.6 E2).

Most Planners Need Help to Quantify the Quality Objectives.
Most managers need little instruction in quantified specification of the first two of these; 'financial' and 'capacities'. But managers usually need *considerable* help in dealing with the other side of the 'un'-balanced scorecard, **qualities**.

Qualities describe **'how well'** a system (organization, process, project, product, service) performs.

We have found no exceptions to the principle that; '***all critical performance improvement objectives can be quantified'***.

And that includes all **quality** objectives. All 'qualities' can be expressed numerically.

If you don't know how to quantify performance objectives, especially 'quality' performance objectives, or only *some* of them, we will suggest some methods below [URL9, TEDx].

Commonly stated 'word-only' objectives, *like 'world class quality', or 'enhanced responsiveness to market dynamics'* will be unclear, probably even to the originator themselves. 'Unclear' means that even *they* will struggle to make an acceptable, useful, and clear-to-others interpretation, if you ask 'what does that mean?'

But, worse, there will be quite different interpretations, for *every different person*, who reads or hears these 'word-only' objectives.

You only have to ask people to write out their personal (mis-) understanding of such vague phrases, to see this inevitable confusion. I call this process the 'Ambiguity Test'. And it is fun to do it in a serious meeting. People are usually 'blown away' at the lack of common understanding of critical objectives.

The 20-30 minutes used to make the 'lack of common understanding', of critical objectives, clear to all, in a meeting is a very good use of time. Because it might lead to a superior and powerful common understanding of your objectives. And might just save your project from failure and years of wasted time and money.

You do need your team 'aligned to the same music composition', don't you?

You might not initially arrive at the, with hindsight, 'right' objective: this might take time and feedback. But by getting a truly common-to-participants, and well-understood objective in the planning, you can more easily learn how well that specification works *early*, and modify it, as needed, later.

'Ambition Level' Phrases are not enough.

'Word-Only Objectives', like '*vastly superior market recognition'*, are a waste of time, except as a starting point for better definition, or as a popular summary [URL1].

We often use these vague phrases as a 'background component' of an objective specification, called an '**Ambition Level'** statement. We might even quote the top manager source of the Ambition statement. But we don't *ever* stop at such a 'rough' level of specification. The objective specification is always subject to further quantified definition (using Scale etc.). This is an unbendable standard, a Rule [1F], for the Planning Language.

Your top-level *critical* objectives deserve that small additional effort. And the clarification effort should have a huge payback.

Efficiency:
Type: Corporate Marketing Objective.

Ambition: 'Competitive Marketing Efficiency' <- CMO, Annual Report.

Scale: The **M**arketing **E**fficiency in defined [**Markets**] for defined [**Divisions**].

Marketing Efficiency: defined as the ratio of % Market Share in Gross Financial Sales / Related Marketing Costs as % Gross Expenses.

Goal [Within 3 Years, **Markets** = EU, **Divisions** = Electronics] 10% Sales / 20% Costs, or similar ratio: also expressed as 0.5 efficiency.

Planning Language example 1.1 C. An 'Efficiency' objective can mean many things, but here it is pinned down to a clearly defined objective. 'Marketing Efficiency' can also mean many different things. But it is clarified here.

The problem is that so much current planning practice stops, *before* the *necessary clarification* of objectives. Planning stops at this 'Ambition Level' containing 'nice sounding words' only.

The conventional planning process usually *never* clarifies the objective, or even gets the right *level* of objective. That is what we see in practice.

The nice-words-only objective, for example, is very likely to be only a presumed 'means' to your true ends. You might *get* what you ask for (a 'means'), not what you really want and need (true 'ends').

Methods for quantification: [URL1, URL9, URL10].

- **Method 1**: **Manual Thinking Process.**
  - Use your imagination and domain knowledge.
  - Decompose your objective into a set, or list, of sub-objectives, if possible. 'Love is a many-splendored thing'! (see Section 1.7 below)
  - Describe, for each sub-objective a quantification 'Scale' in 5 to 20 words: one word alone will never be unambiguous and clear enough.
  - Make each 'Scale' *relevant* to the *key value* your stakeholders are interested in.
  - Tailor the Scale in *their* language, to *their* environment.
  - Do NOT, yet, try to describe 'how to measure' it. That comes later (the 'Meter' statement). You are working at the conceptual level of the 'volt', the 'sales per customer', the 'Patents produced per year' level. Quantification.
  - Add useful '[scale parameters]' (in square brackets), like
    - **Scale:** average per day number of **[Customer Types]** buying **[Product Types].**

      And define these subsequently in the 'numeric level statements' like;

    - **Goal** [Deadline = next Year, **Customer Types** = New, **Product Types** = Luxury] 500 buys.
  - Don't worry if you don't get it 'perfect' on the first try.
  - Draft *something*, and then work on improving your draft.
  - Insights will come. Especially in a group. Add them in.
  - Try *using* the Scale with a sample of a Goal statement. Then you will see needs to improve the Scale, because of your experience of using the Scale for the Goal specification.

- The Scale statement can be reused for many different specifications of levels, as discussed above in this Section 1.1. For examples, different Goals for different time horizons, or different markets.

- **Method 2**: **Handbook**.
  - look for a suitable scale in a **handbook** of 'scales of measure'.
  - There aren't many handbooks, but there are *some*, even some 'standards' (which are of course 'all different'.)
    - Your organization should develop its own handbook one day.
  - For example, here is my free Scales handbook for you, 'Scales of Measure' Chapter in Competitive Engineering [1 B, free download URL].
    - You will find the common '-ilities' there: Usability , Security, Maintainability. In depth.
  - Tailor the templates you find there, to *your* domain.
  - The ability to 'suggest Scales of measure' should be built into tools such as [URL73, Smith's Tool]. As it was in the earliest Planguage tools [5E, Posem, Aspect Engine by Krzanik]

- **Method 3: Google a Scale:**
  - Use *'your keyword'* + 'metrics'
  - Example : 'Office Productivity metrics'
  - What you need, or near enough, tends to be on the first internet page shown.
  - You should always check this 'internet search option', before you make a fool of yourself at a meeting, by saying 'XXX cannot be quantified'. Believe me, they all can!
    - *If they vary*, then they can by definition by made numeric. Even if you *don't* find ideas on the internet.
  - Your personal lack of knowledge, is not proof that nobody knows. People can be arrogant about this.

"In business, the idea of measuring what you are doing, picking the measurements that count like customer satisfaction and performance... you thrive on that."

Bill Gates (1955 -)

Practical Tip 1.1: Just do a Scale and a Goal.

Pick a currently critical objective.
*To specify its quantification, use the simple basic format, in this example: a '**Name Tag'**, **Scale**: , and **Goal**.*

Perhaps you can also add 'qualifier' conditions, as in the example below (like 'When'. 'People', 'Correctly', 'Respond') to define critical parameters about your objective.

For example:

Responsiveness:

Scale: Hours needed for defined **[People]** to **[Correctly]** **[Respond]** to defined **[Situations].**

Goal: within 24 Hours**:**
When = End Next Year**, People** = Director Level, **Correctly** = Legally & Without Complaint**, Respond** = Take Action resolving Situation**, Situation** = Emergency.

Do not worry yet about how to actually measure things, along that scale: that is the role of our 'Meter' specification. Meter definition will be dealt with later [Section 1.6].

But rest assured, when you quantify with the Scale statement, there seem to always be one or more useful Meter options to fit it. Meters are usually just common sense and domain knowledge. Again, you should be able to Google suggestions for Meters.

Someone has done this measurement before and published it on the internet! Or they have at least published something close enough, to inspire you to tailor it, to exactly what you need.

*You and your plans are 'unique'. but not **that** unique. You do not need to reinvent the wheel. Just adjust earlier experience to your current needs.*

Policy 1.1: 'Clear Quantified Objectives' Policy

- **All critical planning objectives will be expressed with defined Scales of Measure and Numeric Levels.**

- Why ?
    - Force ourselves to think deeply and clearly.
    - No management BS [URL1].
    - Taking responsibility for results.
    - Clarifying limits to responsibility.

Section 1.2: On Limiting Your Project to 10 Critical Objectives, Initially.

Principle 1.2: Prioritize Your Top Ten Objectives.

It is sufficient to initially focus on
up-to-ten
most-critical objectives,
at any given level-of-responsibility

There are usually far more than 10 planned-system attributes that we value, which *some* stakeholders would *like* to improve.

But if we try to *identify, and work on,* 100-or-more things at the same time, we will likely lose focus on the most-critical 10 things. The top 10 will not likely be achieved early, if ever.

We believe and practice, that any given level of responsibility (*project manager, CTO, IT Architect - for example*) should consciously limit themselves to a handful (*or 2 handfuls*) of the most-critical objectives, initially.

When these values are delivered, or at least safely delegated to others, or on their way to being reached initially, and then being scaled up: *then* it is time to turn to the *next* set of 'objectives' priorities (*priority number 11 to 20 if you like*).

Objectives Brainstorming Meeting.
One way we do this, is likely to be in a meeting of project and system related people: 'stakeholders'. Stakeholders who we need to 'get to agree what the important objectives' for a project are, or what they are for a given stakeholder responsibility level.

We ask the stakeholders to list the *names* of their most critical objectives, and to decide what the top 10 objectives, maximum, are. The rest, the not-top-10 can be collected, for future use; 'below the line', under the top 10 objectives.

This brainstorming session usually takes about 1 hour of meeting time, and it is not too difficult to get 'pretty good' agreement in that hour. But you do need to constrain the meeting to doing this in an hour. Some people can discuss objectives 'forever'.

This initial list of objectives is not 'final' or 'binding'. It just needs to be *sufficient for purpose.* The next-stage purpose is *refinement* and *clarification* of the selected objectives.

Naming and identifying the objectives is just the *first* stage of definition.

It is unreasonable, and illogical, to expect serious *commitment* to these (undefined) objective's 'names' until they have been more well-defined, and quantified, later, so that people know *exactly* what they have *agreed* to prioritize.

Make that point, about insufficient definition, to the meeting participants, and initial agreement, in an hour, will be even easier.

Tell the 'objectives brainstorming' participants that much better *prioritization* can be made, when *well-defined* objectives exist. Then, together with the corresponding strategies suggestions, and with some knowledge consequent *strategy-costs of reaching planned-levels*. We can make more intelligent choices of objectives.

We shall discuss this advanced prioritization process in detail, later [Sects. 1.9, 2.8, Chapter 6]

That initial 'objectives prioritization' process, with better definition of objectives can take the rest of the first day, of hard parallel work on defining objectives.

The definition of Scales, Goals etc. is needed, to be absolutely clear to all, just what is actually being 'prioritized', and selected for initial, short term, value delivery.

The multiple Stages of Prioritization of Objectives.
It might take another day or two of focussed work to find and evaluate the corresponding **strategies**. Only *then* can we analyze and understand whether we can 'possibly' afford the luxury of the target levels we wished for!

It is easy to dream about perfection of objectives (ever hear someone say '24/7' ?) but most people cannot afford the *cost of perfection*: **infinity**. ∞

This, 'strategy costing' process, is a third stage of prioritization of objectives.

The actual costs of delivering a value level are decided by the actual *strategies* selected to deliver the values. *Not* by the value levels themselves. For each value level there are several strategies, and some are far cheaper than others.

You cannot 'cost estimate' based on objectives alone. You need to take a look at the *strategies* you will use, to reach the desired levels, on time [URL11].

Here are six stages of objectives development,

1. top ten nice-sounding names selection, by a stakeholder team
2. re-prioritize objectives based on clearer quantified value definitions

3. re-prioritize based on the 'costs of the strategies' needed to reach desired levels of performance.

Further methods of *prioritization of value delivery,* will be discussed in detail this book [Chapter 6]. But here is a short summary.

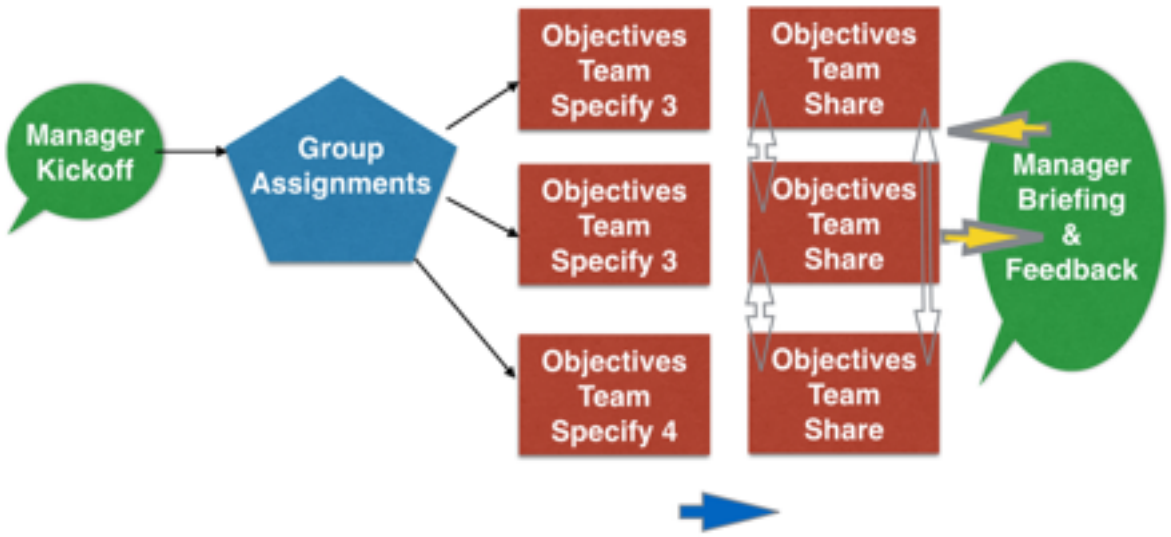
Some additional levels of the process of 'prioritization of objectives' can be characterized as:

4. balancing the demands of *other* high-priority objectives against any one objective in particular. This is the 'competition for limited resources' to reach desired levels. If you actually had unlimited resources, *and you do not have them of course*, you could then have 'all values', at 'perfect' levels.

5. feedback from pilots or trial installations of chosen strategies, and consequent re-prioritization of objectives, when 'real costs' and 'real levels of effect' on objectives are actually measured.

6. changes in priorities due to emergence of either 'new objectives', or of 'dramatically new cost-effective strategies'. Before, and even well after, initial deployment of the system planned.

Figure 1.2 A. Stages of refinement of the definition and prioritization of objectives. See above for detail. This is not a fixed set of stages of objectives development. Many variations are possible, But the main point is that objectives need to get developed in stages. There is no one simple process for developing them. There is a logical process to these particular stages.



You can perhaps see that 'prioritization of objectives' is not a simple one-step process, and you cannot simply assign 'subjective weights' to objectives.

Weights are static and subjective. We need 'dynamic' and 'objective' methods to survive our complex reality.

Subjective weights (like 50% weight, ***, High), as a prioritization tool, as in Balanced Scorecard, and many other planning methods, are dangerous planning tools! [URL33 (Prioritization), URL62 (BSC), URL35 (QFD)]

Back to the Team Process: the first day of finding the top ten objectives.
Three people might be working, most of the first day, on three of the 10 objectives for example. Defining them better with Scales, Past levels, Tolerable levels, Goals, and multidimensional conditions.

The collective stakeholder team would aim to mutually present, collate, and discuss their more-detailed objectives to each other, during the last remaining hour, before an 'end of day presentation' to the Boss (10 to 30 minutes), or to another major stakeholder.

Teams work in parallel, most of the day, to get enough time in that single day, to handle all 10 objectives reasonably well.

Figure 1.2 C. The first day of the project startup week. Focus on objectives.

We are, in those last two sessions of the first day, looking for feedback and buy in, as well as 'learning the planning language': by *reading* it, and by *having discussions* within the stakeholder team.

There is a need for *someone* to act as coach and trainer, if the planning language, and this process of developing objectives, is new to all other participants.

This process works well, and we use it as 'Day 1' of our 'Evo' Startup Planning Week, process [References to the SPW standard, and to the cases slides are URL3, URL4, URL5].

Top 10 Objectives Quantified On 1 Page in 1 Day.
We normally finish, in 1 day, with the 'top ten objectives quantified', *on a single page.* We might have to edit just the essentials from the team's more-detailed specifications to get things down to a single page.

This 'all quantified on 1 page' achievement is fairly dramatic for those who experience it for the first time.

People who have never seen well-articulated objectives at all, let alone reasonably well-quantified objectives, are impressed. Powerful and simple.

One-page quantified objectives is done predictably, by design, in a single day, and presented on a single page or projector image.

We sometimes enjoy telling people in advance that we are going to quantify all critical objectives on a page, in a day. Most people think we are exaggerating.

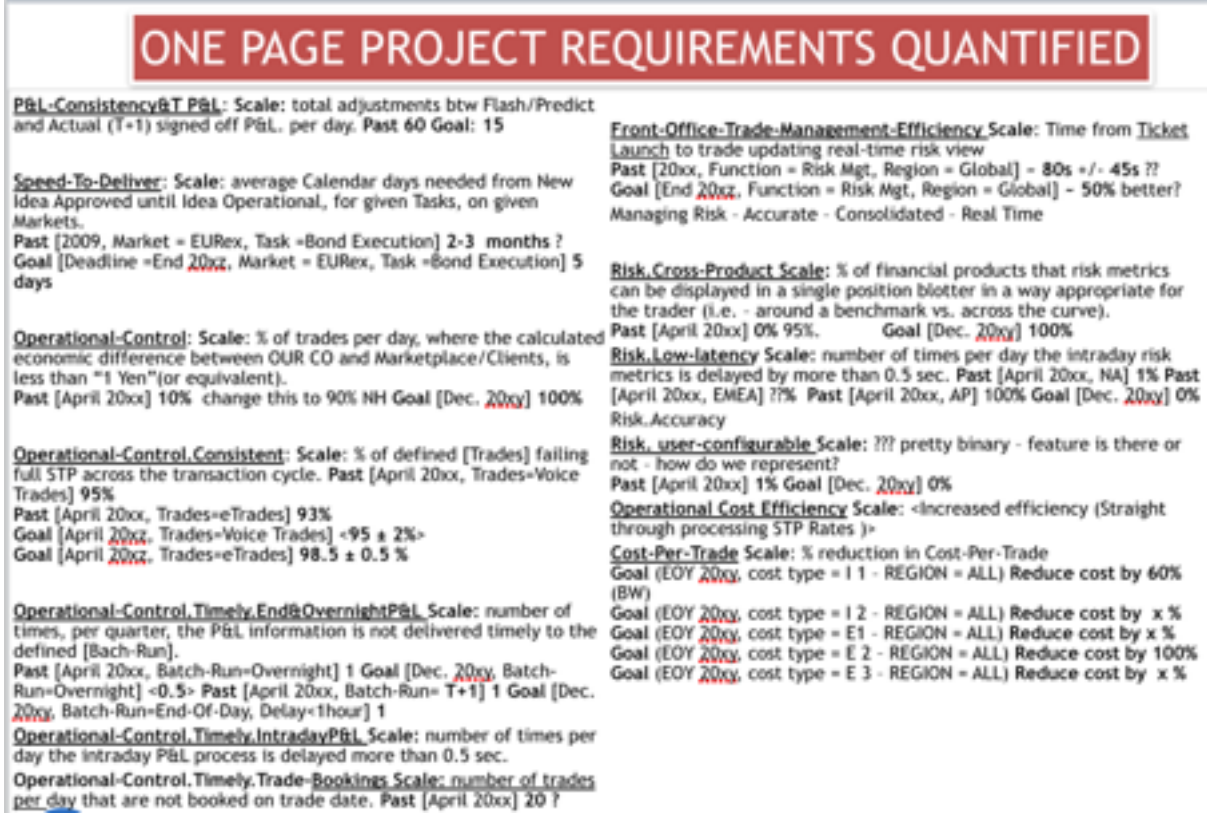
But they themselves always manage to do it. It is a matter of constrained prioritized discipline.

Some corporate projects, at some of our clients, drag on with expensive management meetings through months of trying to agree on objectives, without achieving such clarity and decision.

This quantified, well-defined set of of critical objectives is the essential 'core' of any project or any plan. Sharp and simple.

The initially drafted *single* objectives with their supporting background *detail* (see Fig. 2.2 B) can take up a half page or more, each.

A small team may have labored over that one objective for 1 to 3 hours that day. A lot of related thoughts get documented. Good, but it takes some space.



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%.

Goal [Dec. 20xy] 100%.

Planguage 1.2.1 Real London Bank Example of 1 objective done on 1st day. OUR CO, and xx are artificial masks.

But no matter what the initial single-objective detail turns out to be, each objective can be condensed to essentials for a one-tenth page presentation.

Here is a real example of a one-page 13-Objective Summary, slightly masked for client detail (Planguage Case 1.2.2).

Planguage Case 1.2.2 An actual 1 page presentation edited from 1 day of planning by a London Bank team.

Figure 1.2 B, below, is a simplified example of another client's 'one page of objectives', which might be good enough for certain presentations and purposes. But not detailed enough for other purposes.

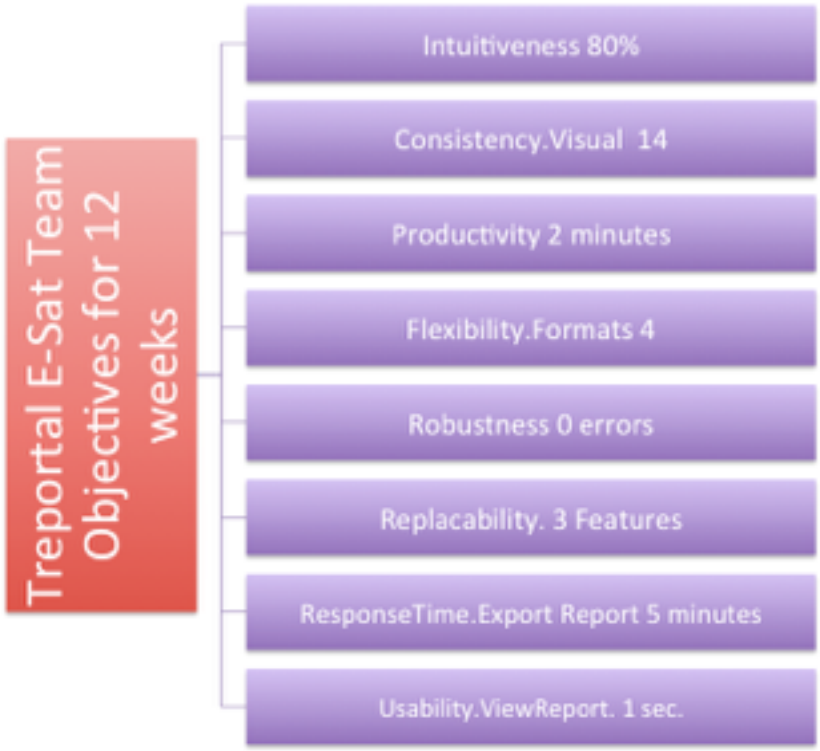


Figure 1.2 B : very simplified presentation of top 10 quantified objectives for a real client project, for their coming quarter of a year.

The necessary 'Scales of Measure' (see Section 1.1 above) are not included here*, but were properly defined at the client site. Otherwise the numbers would have no meaning. The 'scale' words we added, for the Figure's presentation intelligibility (sec., minutes, Features). is not a 'proper' scale. We need, for ultimate purpose, much better definition like 'from when', 'to when', and 'for doing what'. They did that, of course.*

Case 1.2: Manager Insists on Quantified Objectives

Bill, a banking VP from New York, asked his boss in London, Barney, about Barney's main objective for their project's Startup Planning Week [URL5].

Barney replied: "I'd be really overjoyed, if for the first time in this Bank's history, we managed to *quantify*, and thus *clarify*, the primary objectives of our large IT projects, at all." (Barney, leadership!).

Bill (being a smart politician), privately, decided to spend an extra day, with Kai Gilb, making sure the quantified objectives were top notch, for his boss.

Bill and Kai did this *second* day on objectives, while others on the team, and I, started work on the top 10 *strategies*, in parallel, on Tuesday.

Refinement of objectives, endlessly, is always possible, but not always necessary for immediate purpose.

Our immediate purpose, the second day, was to brainstorm the top ten *strategies,* to meet our top ten objectives. Refinement is not necessary, beyond initial 'Scale' and 'Goal' specs for the purpose of brainstorming your strategies.

Practical Tip 1.2

- *Take a look at your current project.*
- *Select a maximum of ten critical objectives, from your point of view.*
- *What do you guess would happen, if you managed to achieve **all** of those, halfway through your project budget, or halfway to your deadline?*
    - *Because that is a real possibility, according to our experience, if you focus on few well-defined objectives, and prioritize high-value deliveries early.*

POLICY 1.2 Top-Ten Critical Objectives Policy

- **The first day of any project or major effort,**
    - **we will decide, for the moment,**
    - **on the top-10 most-critical objectives: and**
    - **quantify them, on a single page,**
    - **for responsible management approval.**

- *Why?*
    - *Because all consequent effort (strategies, estimates) is logically impossible, without this clear-objectives basis to work from.*
    - *Failures at this 'objectives' stage threaten to become failures at all consequent planning stages.*

    - *We need to start focussing on 'value', early in the planning, and this 'top-ten prioritization' is a good, simple first step.*

- *What if we need to* change *the top ten?*
    - ***Do that.*** *Change the objectives, when and as you need to.*
    - *But do not use inevitable changes to objectives, and new insights about them, as an excuse for having initially fuzzy objectives; just names or nice-words.*
    - *Do your best today. Evolve better tomorrow.*
    - *It is surprising how often we experience that the top ten objectives are remarkably stable, even unchanged for the duration of a project [URL82, Richard Smith].*

Section 1.3 Clearly connecting the level of responsibility with objectives.

Principle 1.3 Your Objectives Support The Level Above.

Your level of objectives
must clearly support
the level above you,
your 'boss'.

Ralph Keeney [3] proposed an excellent practical idea to sort out your responsibility, from your bosses responsibility, and your support team's responsibilities.

- Your objectives (called '**strategic'**) must clearly support the achievement of the *next level of objectives above you* (your 'bosses' objectives, called '**fundamental'**).
- Any objectives that presume to support *your* strategic objectives, i. e. the objectives of your subordinates, or support teams, are called '**means**' objectives. The means to reach your strategic objectives.

This scheme for organizing objectives helps in many ways:

- We know what we must *prioritize*, and what we can *change.*
  - *Priority 1: Fundamental Objectives*
    - *you might tactfully hint at the need to change these*
  - *Priority 2: Your Strategic Objectives*
    - *you are in full control of change here*
  - *Priority 3: Means Objectives, serving your Strategic Objectives.*
    - *others can change these*
    - *you can influence them if you need to*
- We do not undertake responsibilities which we do not 'own'.
- Our colleagues have a clearer idea of what *our* role and responsibility is.

The beauty of Keeney's concept, is that it is flexible enough to fit any size and complexity of organization.

The implication of his concept, for our planning specification, is that we need to add some 'background' information (Figure 2.2) to all objectives, making the relative role of those objectives clearer to all participants in planning.

There might not really be a simple relationship, like impacts up, is impacted from below, between a given objective and other planning elements,. This complexity [URL87] is because a single objective can be serving multiple interests simultaneously. These many interest can be very different levels of the organization, or outside of it.

But that does not stop us, in Planguage, mapping as many relationships as we want to, if they are useful to consider.

Here is an example of that information:

Contract Flexibility:
Type: Project level Critical Objective.
Owner: Project Manager.
Supports: CTO Objectives, especially Technical Adaptability.
Scale: The Speed which a **C**ontract can be **C**hanged at minimum cost of loss to reflect **C**ircumstances.
Goal: < 1 month.

Contract: All IT Services and IT Products.
Changed: Deleted or modified.
Circumstances: changed economics, or failure to live up to expectations.

Deadline: This Year.

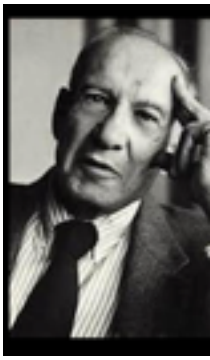
Supporting Strategies:
FlexiCon: www.FlexibleContracts.com.
Supporting Objectives:
Legal Dept: % of Flexible Contracts in Force.

Planguage Example 1.3 The mapping of many relationships for a single objective.

"To be sure, the fundamental task of management remains the same: to make people capable of joint performance through common goals, common values, the right structure, and the training and development they need to perform and to respond to change."

— Peter F. Drucker, *(1909-2005)* ***The Essential Drucker***

rsmith@rsbatechnology.co.uk



Practical Tip 1.3 Map Objective Relationships

Try to draw a graphical map, a sort of mind map, from a single critical objective, to all related stakeholders, and other related planning elements such as objectives it supports, and its means objectives or strategies.

Why?

- *to make it clear that there are many relationships*
- *and to help you see that mapping them by a series of Planguage statements might be a good way of keeping track of them.*
- *note that automated Planguage tools can be used for the most fundamental relationships [URL73]*
- *if you refer to a defined capitalized Planguage tag, then keeping track of relationships is logically simple, and it can be automated in many ways.*

- *one client, Confirmit, used 'wiki' names (one name with 2 words, the second Capitalized, as MyName, without a space) on all relationship names. This meant that access to all tags was a click on the tag itself, as if it were a URL. It was easy to check up on the meaning of a relationship tag.*
- *one method of keeping track of relationships at any 2 levels is the Impact Estimation Table (Chapter 6, URL21, URL75).*
    - *the strength is in ability to do many to many relationships*
    - *and a second strength is that the degree of relationship is quantified.*

Figure 1.3 An Impact Estimation Table using Richard Smith's Tool [URL75]. It shows a numeric, 'degree of impact,' relationship between any Strategic objectives (left-hand column) and their Means Objectives (designs to impact your strategic objectives, top row of 'designs'). The automated tool helps keep track of the relationships, and is good at modelling multiple strategic objectives to multiple means objectives. The IE Table, and this tool, can handle multiple related levels of objectives.

Policy 1.3: Responsibility Clarification

- **Written specification, immediately tied to objectives,**
  - **shall clarify the *level* of responsibility**
    - (for formulation, changes and result delivery),
  - **and will clarify which objective (s) it supports**
    - (explicitly defined).
- Why?
  - Nobody should be in doubt about their responsibility and its limitations
  - People should not confuse ends (priority) with means (far less priority)

1.4 Making the degree of supporting planning for your objectives visible

Principle 1.4 Loyal Subordination:

All your subordinate's objectives must clearly support your objectives

We typically have many, and varied, sources of support for reaching our own objectives. Direct subordinates, contractors, consultants etc. Let us call any instance that helps you to reach your own objectives, your 'support team'.

You will agree that *clarity of responsibility*, about how they support your objectives, is necessary.

This has some implications.

- If they do not know *exactly* what your objectives are, they cannot support you very effectively.

- If you change, even a few details of your objectives: they should be *informed*, so they can change their support correspondingly.

- If you choose to hide your objectives, or to formulate them unclearly: then *you* are responsible for your support team's lack of ability to serve your interests.

- If you choose to tell them ('dictate') 'what' to do (the means to your objective), rather than your smarter option, of simply telling them 'how well to do it' (in terms of your objectives); you bear responsibility for that choice, so be conscious of it. Normally, let them figure out 'how'!

However, once you have made your objective excruciatingly clear, your support team can and should be held accountable, in various ways:

- They should agree, or clearly disagree, that they will support reaching *some* of your goals, to *some* degree.

- They should be able to show a credible (numeric, experiential, guaranteed) relationship between *their* activity and plans, and their hope of helping you reach *your* strategic objectives.

- They should be able to show measurable numeric progress, at least using leading indicators, that their plans are working in practice. Early and frequently.

- They should expect credibility and rewards, based, not on what they have done – with good intent – but what they have *delivered* of *your* values.

- Outside contractors should be prepared to put their money where their mouth is, and base payment on your results, not just their effort. [URL6, No Cure, No Pay].

Product Design Productivity:
Type: CTO Level Objectives.
Scale: Average number of New Product Variations per Lab Employee, per Year.

***G1*: Goal** [in 3 years] 5. <- Estimated by Jens Jensen.

Result Responsibility [G1]: CTO.

Impacts [G1] Planned Product Volume [G2020]: by 50% <- Est. JJ.

Planguage Example 1.4. The 'Impacts' statement, for the Goal 'G1' claims that if it is fulfilled (5) in 3 years time, it will contribute about 50% of the planned improvement towards the Goal 'G2020' for the objective 'Planned Product Volume'. This is a means of expressing the assumed relationship between two levels of objectives. It is 'Impact Estimation,' without the Table format.

The Four Keys of Great Managers:

1. "When selecting someone, they select for talent ... not simply experience, intelligence or determination."

2. "When setting expectations, they define the right outcomes ... not the right steps."

3. "When motivating someone, they focus on strengths ... not on weaknesses."

4. "When developing someone, they help him find the right fit ... not simply the next rung on the ladder."

— Marcus Buckingham

Practical Tip 1.4. Clarify your knock-on effect

- *Ask yourself, and ask others: What are we expecting, of results at the level above us, if we achieve our goals?*
- *Why haven't we written that claim explicitly?*
- *Have we documented who made the claim?*
- *Have we documented who is 'result responsible' for getting to our Goal there?*
- *See Example 1.4 above.*

Policy 1.4: Relevant Support Policy

- **Any element of support for your objectives, should**
  - **directly show an estimated relationship to your specific numeric objectives.**
  - **Be prepared to adjust when your objectives are adjusted.**
  - **Be evaluated on cost-effectiveness and timeliness in helping you reach your objectives.**
- Why?
  - So we know what to expect, and who is responsible.

Section 1.5 Alignment. Every plan, including your own, has to be clear about what *other* objectives it is supporting. The 12 Tough Questions tool. The 13th Question the 'Record' statement.

Principle 1.5 Clarity of Alignment

All other people's plans,
if they claim to help you,
whatever they are called,
must clearly support achievement
of *your* numeric goals,
on time.

Here is a list of 'all other people's plans', whatever they are called, that might claim to be in your project's or organization's interests:

- plans for subcontractors and consultants, that are paid from your budget
- contracts, and agreements
- sub-projects and their plans
- strategic plans
- meetings, training
- recruitment, and downsizing in your sphere
- etc.

We should be able to ask: *'what is the expected impact on our objectives and our budgets, of any other supporting plan?'.*

Of course we should lead the way with extensive documentation in our plans, as to which other plans *we* are supporting. Use the statements 'Supports', 'Impacts', or Impact Estimation Tables.

If other plans do claim impact on our plans, then we need to:

- test their claim (12 Tough Questions, below)
- document the tough questions answers in our own planning
- document the claimed relationship; '**Impacted By:** Strategy X.'
- thank them, and tell them we are expecting them to come through for us, *'so please let us know if things change, and we can help out'*.

If the answer is *'no impact claim' (towards our own objectives) 'but we need to do it anyway'*, then identify the real reason for effort (legal, compliance, image, corporate policy) – and possibly accept it. But do not let a 'necessary evil' sway you from your critical-value delivery path.

The objective of the tough questions, is to make both parties think, about what they are expecting, and if it is realistic, or risky.

> ***My 12 Tough Questions*** *[URL15, for detail], summarized.*
> *Try them out next time you are presented with 'good ideas' or 'good plans'!*

1. NUMBERS
Why isn't the improvement quantified?

2. RISK
What's the risk or uncertainty and why?

3. DOUBT
Are you sure? If not, Why not?

4. SOURCE
Where did you get that from? How can I check it out?

5. IMPACT
How does your idea affect my goals?

6. ALL CRITICAL FACTORS
Did we forget anything critical?

7. EVIDENCE
How do you know it works that way?

8. ENOUGH
Have we got a complete solution?

9. PROFITABILITY FIRST
Are we going to do the profitable things first?

10. COMMITMENT
Who's Responsible?

11. PROOF
How can we be sure the plan is working?

12. NO CURE
Is it no cure, no pay?

Introducing the 'Record' Level: a background planning statement to make you 'get real', and perhaps to challenge your team. The 13th Tough Question.

The 'Record' statement is a note , a 'background' specification, integrated in the objective. It gives information about some 'real extreme achieved' in the area of this particular value.

Record statements should include information about when, where, who and how, and a *source* for more information. It also has to be expressed, or converted to the same 'Scale of measure' used in the objective's specification, for direct numeric comparability.

Initially this Record specification, and there can be more than one of them if useful, is designed to achieve the following:

- force us to do some research in the area of this value
- force us to recognize how good the competition is, and might get better than, by the time we reach our goals.
- help us to interpret the intent of any Goal and Tolerable level specifications better:
    - Is the goal set near the Record?
    - Is the Tolerable or OK constraint level set above the Record?
    - Why?
- Do we know the strategies, the technologies, that were used to achieve the Record? Are they available to us? Have we considered them? Can we afford them?
- What does it mean if we do *not* try to beat the Record? On the Market. For our image.
- If our targets are planning to beat the Record, what does this mean for risks of failure? For budget and deadline uncertainty?
- Does our team really include real experts in this area? **Real experts** know the record levels, and how they were achieved.

A Record Example

<u>Organizational Agility</u>:
Type: Organizational Objective.
Ambition: radical competitive improvement in our ability to change services.

Scale: Average Hours for a defined [**Employee**] to Change a defined [**Service Type**].

Past [Last Year, Employee = Branch Manager, Service Type = Open Account] **5 to 15** hours. <- HR Director.

Record [Last 5 Years, Employee = Branch Manager, Service Type = Open Account, Internet Bank Competitor] **0.3** Hours <- Banking-Records.com.

Goal [Next Year, Employee = Branch Manager, Service Type = Open Account] **0.1** hours <- our HR Director.
Justification: we need to be seen to be superior. <- CMO.

Planguage Example 1.5. By including a 'Record' specification, which is some relevant 'extreme' , we are in a better position to discuss how realistic it is to aim for a certain Goal level.

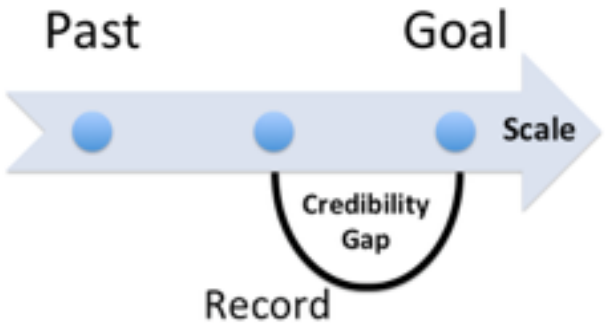


Figure 1.5. The 'Record' statement, is a benchmark, that forces us to 'get real' with our ambitions. Experts 'know' what the records are. Think sports, and you have got it. Nothing wrong trying to beat a record: but you had better be aware that it 'exists' , first. If a Goal is set to a level much better than the Record, that is 'audacious', and we need to make our ambitions credible by identifying effective world-class strategies, and resources to back up the effort.

Case 1.5: The Purpose of the Record Statement

I was in an aircraft hanger at North American **Rockwell** (now Boeing), and right beside where I was holding a training course, was a full-scale wooden mockup of the Space Shuttle (like the photo below).

I taught them that the purpose of the 'Record' statement was to advise us that we should normally **not** try to exceed it. It is then risky, costly.

The next break, a manager advised me that people were disturbed by my message. *'Tom, that's what they do here: break Records!'*.

After the break I changed my tone, and added, that the Record statement, for 'those who went where no man had gone before them', was a 'challenge', when the Goal was set higher than the Record level..

Peace secured, that day. And a lesson learned for me. Organizations are 'different'.

Photo 1.5 Space Shuttle mockup, at Seattle Space Museum

"It is a good thing to learn caution from the misfortunes of others." Publius Syrus (46 BC to 29 BC), Roman Author.

I really like this advice, and think I have practiced it my whole life, without being 'taught' the principle. No pain: Gain! Why wait for your personal pain? and Santaya: "he who does not learn from history, is doomed to repeat it."

Practical Tip 1.5 Applying the 12 Tough Questions.

- *Keep a copy of the 12 Tough Questions in your smartphone notes, so they are ready for use.*
    - *Eventually, memorize them, for rapid application.*
    - *at the very least learn 'have you got some numbers to back that up?'*
- *Print the 12 Tough Questions on the back of your business card, or any card - put a plaque on the wall! (© T. Gilb.com, with my permission, right here)*
    - *Share this skeptical spirit with others. Use the card.*
- *Exploit the '12 Tough Questions' at your next meeting, or the next sales presentation you attend.*
- *Or even use them silently to yourself when reading proposals, plans, presentation slides.*
- Take the 'helpful' attitude, *'I suppose you know what you are talking about. It sounds interesting to us, initially. So I would like, your help, to get some more information, to help sell your suggestion to my company, and to my project'.*
- *This is a great BS filter.*
    - *I have seen directors demoted, and told-off by CEOs, in front of me, because of the Tough Questions immediate power of exposure.*
- *The 'secret' is that **you** do not have to be the expert, at what they are presenting: but if they are not expert enough (in relating to your needs), these questions will make that painfully clear to all present.*
    - *and if you want to avoid 'embarrassing people' publicly; hold your tongue in public, and send these questions later, more privately; email or private meeting.*
- *Avoid pushing it to the 'embarrassing' point. Pull back when they get the idea you are not to be messed with. They had better come better prepared next time, if they want your support.*
- *Let suppliers and corporate staff functions know you would like to do business with credible suppliers, who will stand by their claims, and make their claims clear.*

Policy 1.5: Confront Assumptions Policy.

- **We will use clear simple, confrontationally polite, questions, to find out which activities are *really* supporting our objectives seriously.**

- Why?
    - To send a message that you are serious about your objectives.
    - To motivate your support team to think better, and think more purposefully.
    - To provide a better set of facts and assumptions to support a contracting process.

Section 1.6 Measuring delivery of your objectives, using a planned 'Meter'.

Principle 1.6 Measure Reality.

All objectives,
can and must have sufficient measurement methods,
based on their defined Scale,
to give knowledge of current levels.

Principle 1.6. We need early and frequent feedback on progress towards our Goals. Measurement processes can be several different ones, for the same objective, and the same scale of measure. Sometimes quick and dirty measurement is more useful than academic levels of measurement, and 'too late' measurement data (after the horse has bolted). Sometimes the measurement process has to work in a contractual framework.

"In physical science the first <u>essential step</u> in the direction of learning any subject is to <u>find principles of numerical reckoning</u> and <u>practicable methods for measuring</u> some <u>quality</u> connected with it.

I often say that when you can <u>measure</u> what you are speaking about, and <u>express it</u> in numbers, you know something about it;
but when you cannot <u>measure</u> it, when you cannot <u>express it in numbers</u>, your knowledge is of a meagre and unsatisfactory kind; it may be the beginning of knowledge, but you have scarcely in your thoughts advanced to the state of Science, whatever the matter may be."

Lord Kelvin, 1893, Lecture to the Institution of Civil Engineers, 3 May 1883

***Personal note**: this Kelvin quote changed my professional life. I hope it might have a similar influence upon some reader. This book is all about metrics, if you think about it.*

Many people mix up, or combine, the concepts of ‘quantification’ and ‘measurement’.

They typically use the lazy excuse, that ‘perfect measurement’ is too difficult, in order for them to avoid doing ‘quantification’. Illogical!

There is of course a clear enough distinction between a budget and accounting, between a volt and a voltmeter.

But people consistently mix up the concepts, to their disadvantage.

So did I, for a while, before a more-enlightened Swedish professor from Gothenburg pointed out the ‘obvious’ distinction.

I just repeat the ‘mantra’: ‘*volt, voltmeter’*, or ‘*speed, speedometer’*, and I’ve got the difference.

Notice Kelvin, in the quote above (which determined the direction of my professional work since about 1965).

In a single sentence, Lord Kelvin distinguishes between *quantification* and *measurement* twice, and three times in the quotation! This is not by accident.

‘**Quantification’** *alone,* has great merit, even if you never actually carry out any measurement!

A *budgeting* process, for example, makes you think about what can and might happen: even though the later accounting results might be very different from your budgets.

Beam Me Up Scottie
If I tell you *‘I want to travel to the moon and back, in 1 second’*. I have quantified.

My idea is very clear. In fact, so clear, that you dismiss it, as unrealistic.

So neither of us is concerned with how we would actually measure how fast I did my moon trip.

Meter not required.

A budgeting process gives you some constraints (budgets) that you later will probably have to respect, when real measurement (accounting reports) threatens to exceed those budgets.

The same distinction holds for forming a scientific or engineering hypothesis (quantification), and consequent experimentation to determine if it is proven or not (scientific experiment).

Quantification is, above all, a useful tool in communication between people.

Numbers *clarify*, what words *hide* and *confuse*.

We recognize that **quantification** (in practice, 'defining a *scale* of measure', and 'some interesting *points* on that scale') **alone** is useful.

We also know that it is usually also useful, sooner or later, to actually **observe reality** numerically: to measure in practice. But not 'always'.

Measurement gives essential contact with the real world.

If measurement is early and frequent, then we can usually adjust our plans, to be in better contact with reality, and in contact with our own objectives and constraints.

Measurement does not have to be 'perfect'. In fact it cannot be literally perfect, as engineers and scientists clearly acknowledge. Kelvin was not fanatic, as you can read, above.

So the 'measurement' questions and opportunities are:

- What exactly *is* sufficient measurement *quality* (accuracy, precision, credibility) for our purposes, and what is the *lowest-cost* measurement process, that has *satisfactory* quality, for our purposes.

- At different stages in the system development process, for different purposes, we can decide to have quite *different* measurement processes. Which measurement processes do we need to plan for, budget for and use? 'Horses for courses' as the British say.

- The choice of measurement process, since it depends on many scalar attributes (precision, accuracy, setup cost, cost to measure, credibility, repeatability), is really an 'engineering design' decision. Can we 'design' our measurement processes?

- That means it is a matter of finding the measurement process that best fits our objectives, within our constraints. We cannot just take *any* measurement process that comes to mind.

*Figure 1.6. The Scale is an abstract concept, to help us think about good or worse attributes of anything. The '**Meter'** is a tool or test process to help us get some idea of where on the Scale a real system is. How 'good' the system is.*

Here is a simple example showing the distinction, and the choice, of more than one measuring tool, for a single Scale of measure specification.

Team Cooperation Capability:
Type: CTO Level Organizational Improvement Objective
Ambition: much better and consistent cooperation between team members and between teams in technical projects.

Scale: average % of **P**roject **H**ours spent with **C**ooperative **C**ontent between **T**eam **C**omponents.

Meter [Early Stages of a Project] samples of logged hours, by Project Manager, monthly, 1 hour of work.

Meter [Analysis of Completed Projects] Database analysis using student trainees, presenting reports and conclusions.

Goal [within 2 years] at least 20%-40%.

Project Hours: as logged in project logs, and charged against a project.
Cooperative Content: writing or oral activity directed to others, with purpose of sharing and/or getting feedback.
Team Components: Any people within a Team communicating with each other. Any part of a team communicating outside the project team, with the purpose of learning or sharing.

Planguage Example 1.6. Two different Meter specifications for the same scale. One for early project feedback. The other for project completion testing. The Meter specification is usually short (20 words or so), at this stage of specification. Meter statements do try to contain words that are critical for accuracy and cost (for example 'Student Trainees', 'samples'). But the detailed design of the Meter process is for specialists, such as test planners.

"If your result needs a statistician
then you should design a better experiment"

Ernest Rutherford, ***Nobel Prize in 1908. 1871-1937***

Practical tip 1.6 Keep Measurement As Simple As Possible.

- *Use the cheapest simplest measuring process that will give you adequate feedback for purpose.*
- *It is more important to get some early and frequent feedback, week by week, on your critical objectives' value delivery, than it is to have accuracy greater than ±20%.*
- *This is business, not Nobel Prize Science.*
- *All choices of measurement process need to 'pay off', to give value exceeding their cost.*

Policy 1.6: Plan Measurement Formally, and integrated in planning of objectives.

- **Formal written plans, to measure value delivery in practice, will be integrated with the specification of objectives.**
- **Why?**
  - It makes us consider at which points in the development and operational processes we want to measure,
  - and makes us consider *different* levels of measurement capability, and their costs.
  - It will help avoid excessive measurement.
- **How?**
  - The 'Meter' parameter can be used for specification of different types of measuring processes.

Section 1.7 Some Objectives are 'Compound': they consist of a 'set' of scalar variables.

Principle 1.7 Compound Objectives Need Multiple Scales

Some objectives are *compound*,
they have multiple dimensions,
with different nature
so a good way to manage them
is to have multiple scales defining them.

"Love is a many-splendored thing", the old song says. But height and weight have but one single dimension. [URL10, Quality Quantification]

One problem you will have encountered in trying to clarify, or to quantify, objectives, is that there might be no *one* satisfactory dimension of measurement.

You cannot conclude, from your failure to find one single scale of measure, that there are *no* scales of measure.

The correct answer is very likely to be that there is a satisfactory 'set' of Scales, which *together* best describe the objective in practice. This is very common, and normal.

When there are in fact several potential definitions of an objective that you can think of. Which one is the right one? It is tempting to ask.

All of them and more might be the right answer!

An old electrical handbook recommended dividing up concepts 'until quantification became obvious'. (EDIT note maybe Ireson, Reliability (not hytta at home) Handbook , check it, or Juran (cannot find it there 18.9)

Rene Descartes (1596-1650) recommended the same approach ('Discourses on the Methods'). Quote 1.7 below.

Case 1.7 A IBM Usability

Once the CEO at IBM decided that Usability was the wave of the future, for the new Personal Computers, and Tom was asked to help out by IBM.
Tom suggested *quantification* of Usability, but it took months before we realized that this was **many dimensions**, not one. The many dimensional model was adopted by IBM. [Ref URL10D, CE Book Ch. 5 for detailed examples]

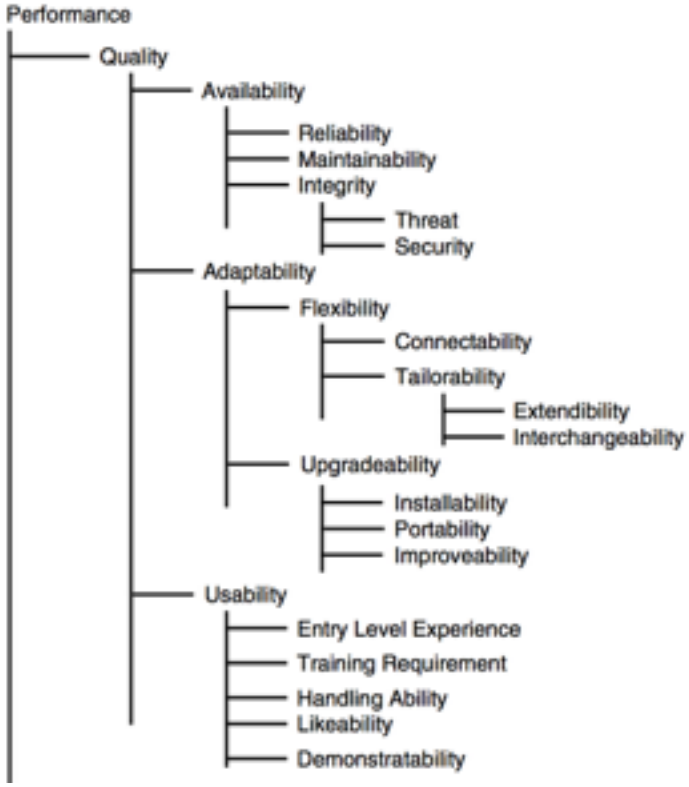


Figure 1.7 A . Some compound quality attributes. Including the one we worked out at IBM in the case above. (Source [1] CE Book, Figure 5.3, this free download [1B] contains details of Scales and of more usability sub-attributes)

Case 1.7 B. Large Project Failure Caused by Poor Top Management Objectives.

A client of ours, asked us to analyze a large failed project (8 years old, $160 million wasted thus far, 90 project team members currently).

I was consulting to the 5th project manager. He did not want to fail.

The CEO had initiated the project, to radically improve the 'robustness' of a major product.

The product was failing too often, and for too long a time for major customers. A failure with a customer could end up costing them roughly $1 mill, more or less. Big.

Their original CEO-approved requirement, which existed without being taken seriously, for 8 years, was:

"Rock Solid Robustness" (official specification headline)

There was some further specification about not breaking down too often (2 weeks), and being fixed quickly (10 minutes). Combined with a long list of strategies for achieving this.

Tom's suggestion looked more like this:

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}.

Planguage Example 1.7 Decomposition of a Compound Objective into Elementary objectives. (see Case 1.7B) above.

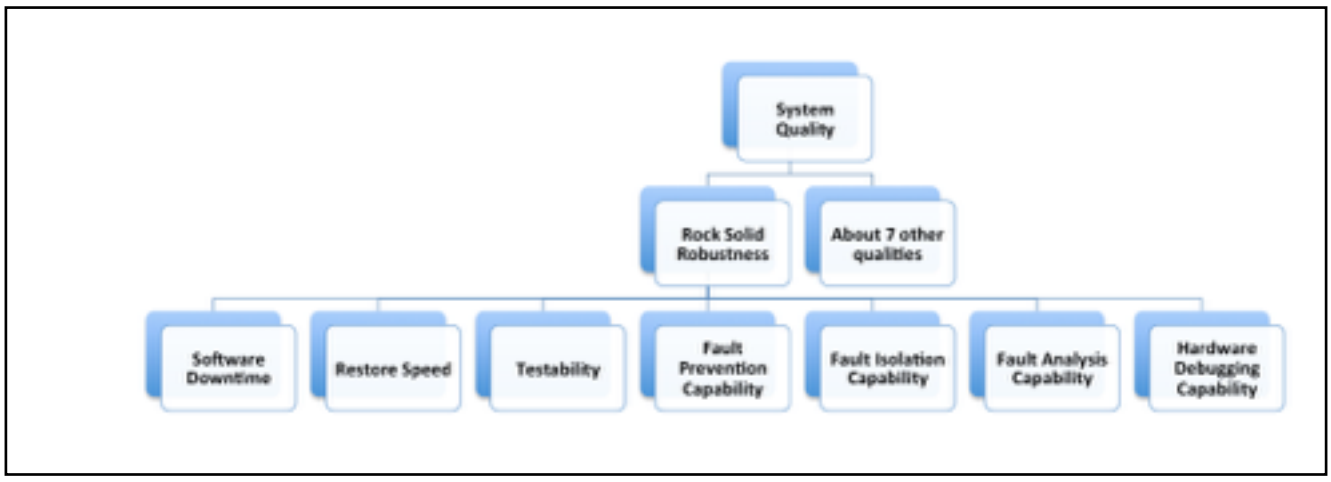


Figure 1.7 B. Decomposition of the Compound Objective "Rock Solid Robustness", into 7 elementary sub-objectives.

Case 1.7 B Continued.

The first 3 sub-attributes Tom then quantified in less than an hour. Over a beer, as it turned out.

They should have all been quantified, and used to drive the project, 8 years earlier. On the first day of the project [URL8A].

Gradual value improvements should have been delivered towards the (not) quantified Goals in the first months of the project.

They ultimately took this advice and succeeded. But it took 2 more years to turn the ship around.

For more detail on this case, including the 3 quantifications over a beer see
[URL7, Robustness decomposition slides], End Case 1.7B

To accept nothing as true which is not clearly recognized to be so: that is to say, carefully to avoid precipitation and prejudice in judgments, and to accept in them nothing more than what was presented to my mind so clearly and distinctly that I could have not have no occasion to doubt it.

To divide up each of the difficulties which I examined into as many parts as possible, and as seemed requisite in order that it might be resolved in the best manner possible.

To carry on my reflections in due order, commencing with objects that were the most simple and easy to understand, in order to rise little by little, or by degrees, to knowledge of the most complex, assuming an order, even if a fictitious one, among those which do not follow a natural sequence relatively to one another.

In all cases to make enumerations so completely and reviews so general that I should be certain of having omitted nothing.

Rene Descartes. Quotation 1.7.

Practical Tip 1.7

- *Assume that each of your top level objectives are compound (a set of Scales define the objective), not elementary (1 Scale only) until proven otherwise.*
- *Make a list of possible sub-attributes. Brainstorm a list with colleagues.*
- *This is often more realistic and useful, though it is of course initially more planning work.*
    - *(You can simplify all planning, by doing none!)*

Policy 1.7: Decompose Compound Objectives

- **Critical top-level objectives shall be**
    - **decomposed into their elementary quantified components,**
    - **when this will give better management of the top-level objective.**

- **Why ?**
    - Because this gives more realistic understanding and consequent treatment of essential aspects of the problem.
    - It forces people to think more deeply
    - It eases the path to quantified manageable objectives
        - If we try to oversimplify, and force the objective into a single scale of measure, then the 'reality' of those other dimensions of the objective will likely cause us to find the management of the project to be '**complicated'**. Things will pop up, related to those other dimensions, you excluded, and you will wonder what is going on.

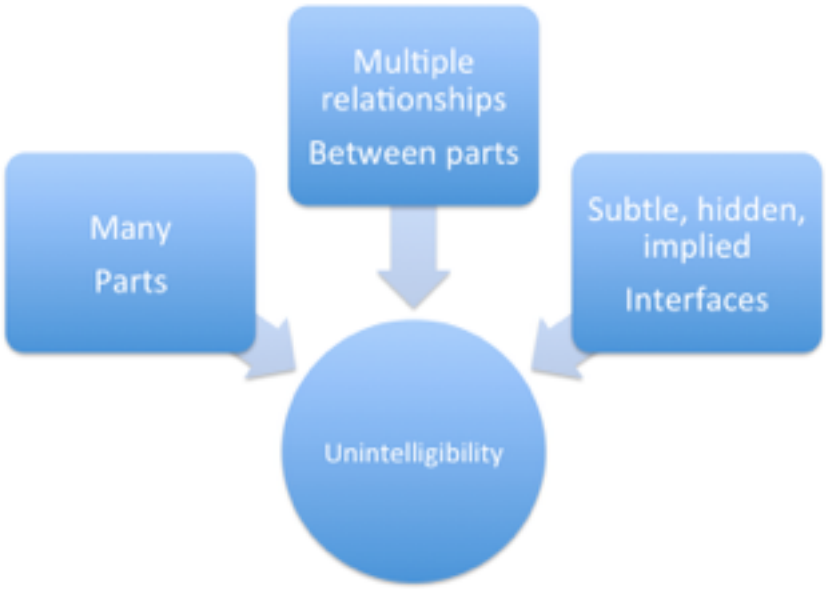


Figure 1.7 C. Systems can seem complicated, unintelligible past, present and future, for a variety of reasons. Compound parts, unrecognized and unspecified, is one possible reason, amongst several others.

Section 1.8 Object-Oriented Planning: Extracting Presentations from the Plan database

Principle 1.8 Written, and approved, does not mean 'static'.

Reflect Reality Rapidly:

**Changing the specification of objectives,
and other plan objects,
is a natural and necessary response to
insights, feedback, competition, and politics.**

Just because an objective is *written*, or it is *quantified*, does not mean it is 'chiseled in stone'.

In fact, one reason for writing things down, is to *clearly* see any changes later.

A reason for *quantification* is to more-clearly realize that a numeric *change has been made*, however small.

Our policy must be that *changes will be clearly communicated*, to all parties who are potentially impacted, or interested. The consequences of changes (like cost or time increases) should be intelligible to all concerned parties.

Even the smallest changes can have *large* consequences.

It is therefore important to be able to *sense* changes, and take appropriate action quickly.

In one published case study (AT&T, 5ESS system, Communications of ACM) the primary factor was a change in telephone switching system availability from 99.90% to 99.98%.

Only 00.08% change in one factor.

But the project cost was 8 years time, with between 2 to 3,000 people (personal communication to author) were involved.

So, imagine the consequences if you are not numeric ("highest availability") or do not have the 4^{th} digit? (99.9%)

Mini Case 1.8 AT&T Sensitivity for a single digit.

We believe in a number of tactics when planning, to make *discrete change* clearer.

We believe that changes should not primarily be reflected by issuing a new document, or a new plan, or a new set of slides.

Small but significant changes can easily get lost, or be overlooked. This would just create a bureaucracy without concerned and responsible owners of the ideas.

We believe that changes should be tracked, documented and managed at the 'statement' level. (example, Goal, Scale, Expert).

We would specify, interested parties, in a given 'plan object' using some of the ideas below:

Market Adaptability:
Type: Marketing Director Critical Objective.
Stakeholders: Marketing Director, CTO, Product Director, Sales Director.
Owner: Chief Marketing Planner.
Expert: Supply Chain Manager.
Version: 17 July 20xx, 12:31.
Quality Control: last approved 10 June 20xx.
Scale: …..
Goal: …..

Planguage Example 1.8. Some of the Planguage specifications we can make, to enable us to change the specifications rapidly and safely later. For example, knowing who the players are, at the level of each objective, helps us see who to consult with, about changes.

The Stakeholder list makes us aware of the main players concerned with any changes to a given plan object. They can be informed (even automatically), and they can review and approve, if appropriate.

The 'Owner', in the above example, is the *specification* owner for this objective, for a given plan object. Nobody else can make an official change, and the Owner is responsible for doing it responsibly; for example by informing stakeholders, and doing required quality control.

The Owner might also consult with the domain Expert, before publishing a change. The owner would be responsible for adhering to any rules and processes that the organization determines are legally, economically, and culturally necessary regarding a given change.

Version control (example above), for example using a date, time stamp or version number helps sensitize readers to changes in the specification. And a QC date and status reminds us that QC is, or is not, done.

There is a concept emerging here. **The Planning Database.**

I do not see a plan as a 'document', or even a set of documents.

I see a plan as a set of specifications that relate to one another: 'strategies to meet a project's objectives', for example.

I see each individual 'objective' or 'strategy' as a planning 'object'.

That 'object' alone is a sort of 'mini database' and it can contain, an accumulation, for the *life* of the system, of all manner of *potentially* interesting data elements, such as Parameter Specifications (like Scale, or Expert) about a given objective, strategy, or other object type of interest, to planning. No limits.

Then we can, at any time, for any purpose, select a 'Plan Extract'. And we can edit it in any way we like: graphics, coupling to related detail in other plan objects (the potential strategies for 2 objectives, for example).

I suggest we call this 'Object Oriented Planning'.

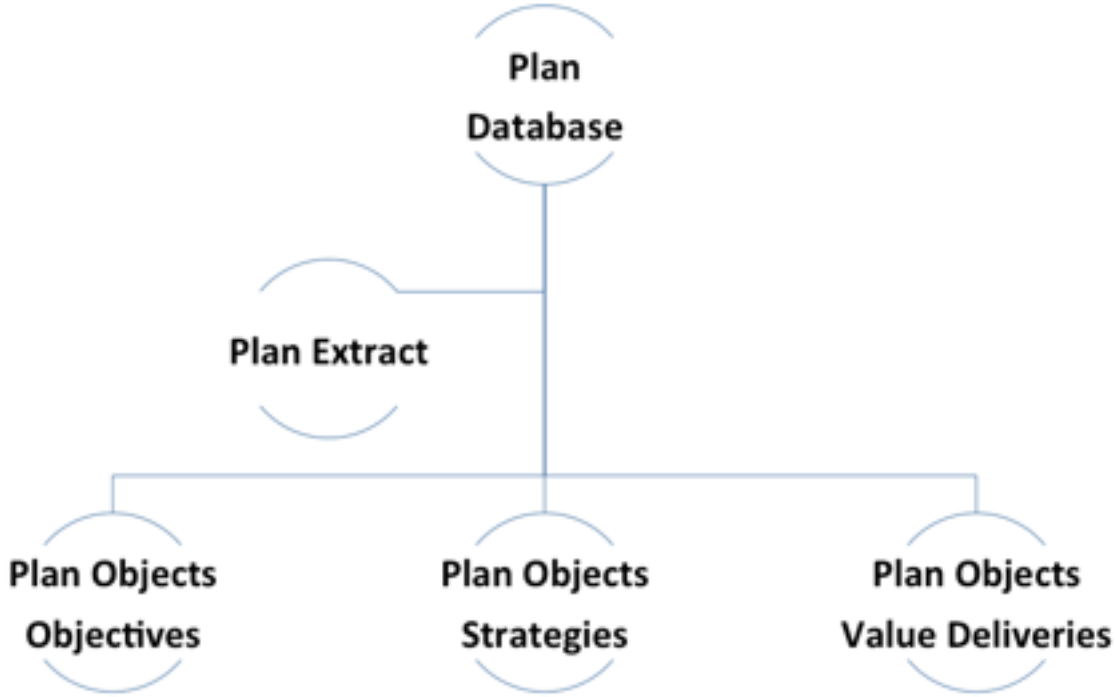


Figure 1.8 A. The concept of a Plan database, composed of plan objects, of any useful detail, and constantly improving detail. This includes feedback, as delivery evolves, on how things went with the plan object (the strategy or the objective, or the Value delivery).

Extracting the detail you need, when you need it.
Not all of this plan object detail has to surface every time you quote or use an objective's specification. But all detail belongs in the planning database, if your plans are to be taken seriously; and if you need to reflect change, quickly.

If all detail is not systematically available, this could cause confusion, in the absence of easy access to all the human 'players' for that plan object.

We should be able to focus on *just the right amount* of planning detail for a given purpose, and then to be easily able drill down, or seek sideways, for potentially interesting relationships, as need dictates.

On the complexity of a complex dynamically changing plan.
No individual can understand the consequences of the totality of a plan.

The most we can expect is for domain experts to keep track of *their* plan object, and its relations to other plan objects. We need fairly automated tools to help us

- sense relationships that need to be explored
- sense result consequences, impact on objectives, costs and risk levels.

We need tools like Impact Estimation tables, coupled with automated tools to keep reasonable track of the consequences of the many inevitable changes as a plan cumulates in detail, and as the plan is partially implemented. Humans reading plans cannot do that job effectively [URL87].

The Master Plan: a single instantaneous version and source.
There is one subtle, implied, rule here. There is only one single valid, current 'master' version of anything in the database.

Multiple concurrent *copies* of the 'same thing' are not allowed. This eliminates a potential consistency problem, because an object cannot be inconsistent with itself.

For each 'Master Plan Object Specification, there should be a single Specification '**Owner'**, the only instance empowered to update the Master.

Another benefit, of a Master Plan Database, is that, even when you simplify presentation, by for example showing an *'Ambition: To get the highest productivity in our market'* statement, there is no doubt that the unambiguous detail is tightly coupled to that Ambition statements, in the Scale and Goal statements. And you can easily access that detail.

The nearest thing to a plan *copy*, would be a collection of ‘Older versions’ of any changed element of the plan. Not older versions of the plan; older versions of any *detail* that has changed. We should be able to automatically keep a good history of change: who did it, what was it, and perhaps why?. Perhaps even ‘un-planning’, undoing a bad plan.

Automated tools for doing this pretty well with Planguage exist, such as Kai’s Tool [URL68]. Which we have used for several years. And Smith's Tool [URL73].

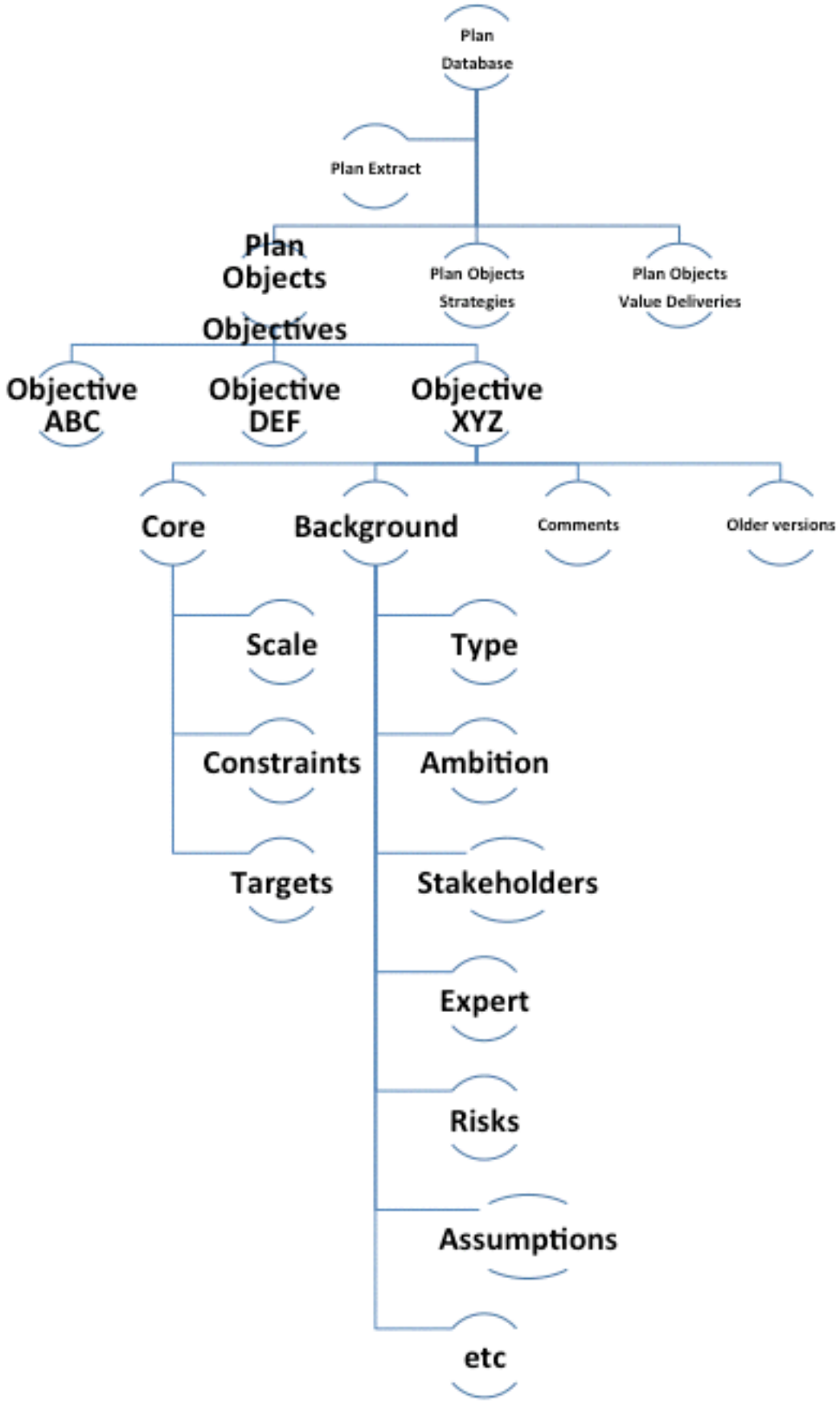
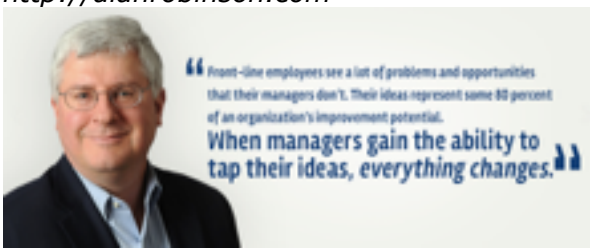


Figure 1.8 B. The plan element hierarchy. Each plan object is composed of a set of Planguage statements.

"Very few managers know how to effectively tap the biggest source of performance improvement available to them: namely, the creativity and knowledge of the people who work for them."

— Alan G. Robinson, The Idea-Driven Organization: Unlocking the Power in Bottom-Up Ideas, http://alanrobinson.com



Practical tip 1.8 Appointments Energize

- *When you take the trouble to 'appoint' stakeholders representatives, experts, and owners for a plan element, with their permission, you are also accessing their ideas, their experience, their future knowledge, and their sense of ownership and responsibility.*
- *Appoint people who 'care'. And they will.*
- *Their name is on it, they are visible, they are recognized.*

Policy 1.8. Change plans quickly, but responsibly

- **Serious planning objectives**
  - **will include information**
  - **allowing us to change details rapidly,**
  - **but safely;**
  - **so that *all affected parties***
  - **are made aware of the changes.**
- **Why?**
  - Anything less that this and you will continue with obsolete plans, and out-of-sync decision-making; not highly competitive.

Section 1.9 Multidimensional Targets: 'decomposition' and 'prioritization' tools using 'qualifiers'. Down-sizing plans for experiments and short high-value delivery cycles.

Principle 1.9 Represent Rich Reality.

Any number of
objective-levels
can be specified
in any number of
useful dimensions
of time, space, and events.

It can be dangerous to have a single number to represent your objective.

If you do a single number, then it is, unfortunately, logically necessary, to specify the biggest target level, covering all your needs, forever under all circumstances. And you have abdicated the useful 'worst case' constraint specification possibility.

That is a bad idea! That extreme target level will be far more than necessary for most purposes, and will probably be delivered far too late for most needs, at perhaps ten times less cost-effectiveness.

*We practice **differentiation** (like 'market segmentation') of targets (what we are aiming to achieve), and also differentiation of our 'scalar constraints' (worst acceptable objective levels).*

The simple reason for this differentiation is that we can plan more competitively by clearly separating high-value short-term situations from the 'other 95%', and delivering that priority value, quickly.

For example, instead of just specifying

Goal: 20%.

we could set different goals for specific segments of time, environment (who, where), and events.

[Qualifiers] the adjectives of the planning language.

*We call these 'differentiation' planning-specification concepts **'qualifiers'** of any type (Past, OK, Goal etc.) of level on a Scale.*

I like to write that term as ***[Qualifiers]*** *to give a strong reminder, with the [square brackets] of how we use them.*

We start using them as Scale [qualifiers] in a 'Scale' statement.

Scale [Average time for [**People**] to complete a [**Task**] Successfully].

A basic Scale specification with a qualifier using 2 variable Scale parameters, [People] and [Task].

We continue using them in [qualifier statements], just below the Scale.

Scale [Average time for [**People**] to complete a [**Task**] Successfully].

Past [Last Year, **People** = Full Time Employees, **Task** = Days Work.] 7 hours ± 2.

A systems analysis 'Past' statement. No 'future' levels-to-reach, are specified, yet.

By implication, Planning Language grammar, specifications, like 'Past' in the example above, are 'attached' to the Scale above, together with any useful types of Scale level specification [Targets, Constraints, and Benchmarks}.

We use exactly the same-spelling qualifier words in the Scale, and in specs below. This is to make the connection clear. They are all 'Capitalized' to indicate they are formally-defined concepts, for which the Qualifier term ('People') is just a 'Tag'.

We can also use the [qualifier] in any other planning specification, where it might be useful.

For example:

Name Tag [Children].

Supports: Efficiency [Financial Processes].

Includes: Productivity [Plant, Office, Salesrooms].

[Qualifiers] can be used as an 'adjective, in any specification they might be useful for.

Here is an example of a normal use of the [qualifier] in a target statement:

Goal [Deadline = 1st Release, Market = China, Consumer = Golfer, Assumption = Tax Free Import] 20%.

Which can also be written, for better legibility, at the cost of more lines in the statement:

Goal: 20%.
Deadline = 1st Release.
Market = China.
Consumer = Golfer
Assumption = Tax Free Import

The 4 qualifier parameters are edited as a vertical list, for legibility.

The statement below:

> [Deadline = 1st Release, Market = China, Consumer = Golfer, Assumption = Tax Free Import]

is a 'qualifier'.
It contains three *types* of qualifier. **When, What, and 'If'**.

There can be any useful number of qualifiers. In particular the 'What' dimension often has 3 to 6 more-detailed dimensions in practice.

The qualifier parameters do not have to be pre-defined in the Scale statement itself. But if they are defined there, without a default, then we need to define them in every scale-level statement (Past, OK, Goal etc.) otherwise we would have an 'undefined' situation. Maybe we could assume that ' = All' is intended. But it is better to be explicit, and leave no doubt to the reader of your plan. This is a pervasive Planning Language rule: be explicit. Leave no doubts.

The 'If dimension' is less frequently used.

But it is almost illogical NOT to use the 'When' dimension: since that would allow 'fulfilling the objective in infinite time'. I.e. never while you live. So we normally just add a time or deadline dimension as the first qualifier parameter. '[Deadline = 1st Release..]', in the example above.

Deadlines Determine Strategy Type.
Time constraints have a powerful influence on our choice of 'means', our 'strategies', for satisfying our objectives.

Immediate delivery can require very different, and very much more costly strategies, than if we can put off delivery for a few years.

Or, on the other hand, being able to put off the delivery for a long time might allow much cheaper new emerging technology to be used.

Figure 1.9 A. The 3 basic statement qualifiers. Time (When), events (If), and space (where). These are the basis for helping us to avoid 'over general' plans which apply to everything in the universe, since no exception has been made. Competitive 'Value Planning' needs to differentiate to compete.

The Qualifier statement is a set of 'conditions', and the planned level statement, or benchmark statement, is only valid, when all qualifier conditions ('if', 'when' and 'where') are true, or valid.

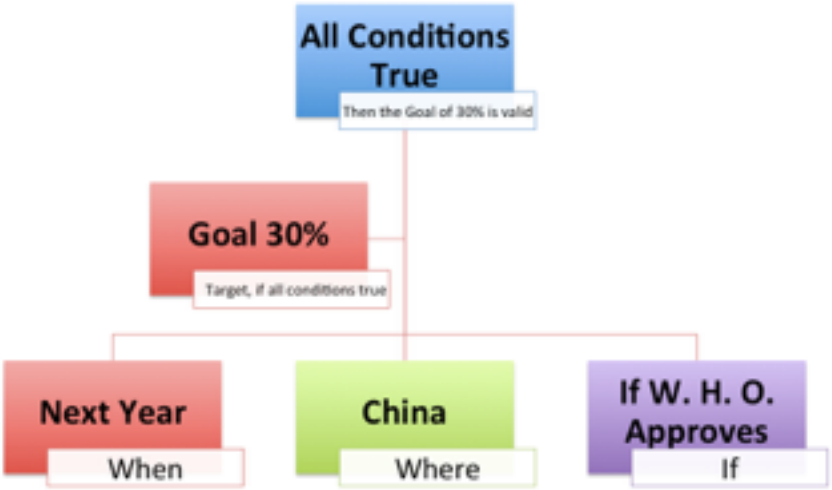


Figure 1.9 B. A planned Goal which is totally contingent on all 3 conditions being 'true' (valid, applicable) at once.

Conditional Plans.
One result of 'all qualifier conditions must be valid', is that we can plan for events that *might never happen*, but when they do happen, a valid plan, or obligation to plan at that moment, kicks in automatically.

Let us call that 'conditional planning'. It is a useful tool for 'risk' planning. Planning for risks of conditions where they are rare but unknown frequency. At least there is a plan in place, and it is cheaper than to try to find out if the event with happen.

Of course you can, at any time in the planning process, have as many different Goal statements, or any other Scale level statements, with as many different qualifiers, as you need. You can plan for any set of long-range, medium-range and short-range levels for the objective, as you need, and *when* you feel the need.

Figure 1.9 C. You can use any useful quantity of qualifier conditions to express a target segment for your plan. This allows you to be more competitive, by focusing your plans on the most profitable, or critical, segments to deliver value to.

Emergent Planning
Your planning detail can *emerge* in parallel with your real value-delivery process of your project. Detailed statements can emerge, as you get feedback from real-life delivery; learning about new markets and stakeholders, that are worth catering for.

We usually as discussed above, *predetermine* some of the qualifier parameters, but not necessarily all of them, in the 'Scale' definition. The predetermined Scale parameters are conditions we will *normally* want to specify in the scalar level statements below.

So we could for example have used the Scale specification, with 'Scale Parameters': like

Scale: average annual % of our Corporate Unit Sales for a defined **[Market],** and a defined **[Consumer].**

We can also embed a default option in the Scale itself.

Scale: average annual % of our Corporate Unit Sales for a defined **[Market: default = All],** and a defined **[Consumer: default = Internet Buyer].**

Default Scale Parameters mean that we do not have to define these in planning level statements later, as they are the 'default type'. This default specification is automatically re-used, or 'assumed'.

This Scale statement suggests that we can define any useful combination of 'Market' and 'Consumer' in the target (example 'Goal') and constraint (example 'Tolerable') specifications; as well as in Benchmark (example 'Past') specifications for comparison.

An optional, 'background' 'Benchmark' statement (Past, Record, Trend, Ideal) enables us to see how much improvement we are planning. Goal minus Past = Improvement.

Figure 1.9 D. One qualifier, like 'People', can have a well-defined, but expandable, set of qualifier instances (like 'Married'). Each of these can have a formal written definition, when that is useful. Sometimes the term, like 'Pensioners' is obvious enough for the planning purpose. But you might like to define 'VIPs'

Planning Thoroughness

Once a qualifier condition category, like [People] is established, it becomes logically tempting to define, as far as possible initially, the potentially interesting contents of that category (Children, … VIPs). This can be extended and changed any time, as needs and knowledge emerge.

Each of these categories *can* be well-defined:

Children: defined as: any resident or citizen from Conception until end of 12th year of age.

Formal definition of a concept tagged 'Children'. This can be local to a planning element, such as a single objective, or Global to a larger plan set, like for a project.

This *category specification* also leads to recognizing, that you might have failed to have any plan whatsoever, for *certain* categories. A 'completeness test' is possible. Oops, we forgot 'Widows'.

Or you may see that you have failed to plan for certain categories, in *combination with* certain other Qualifiers, like 'Country, Area, Experience'.

These [Qualifier Parameters] are one set of tools for developing your understanding of your **Stakeholder** set.

We can also express a group, or set, of these 'at once':

Goal [People = {Teenager, Married, VIPs}] 50%.

Goal [People = {Teenager & Married & VIPs}] 50%.

The {…} is a 'set' parenthesis symbol ('keyed icon') for a list, group, or set of things. The '{set parenthesis}'.

The comma separation (Teenager**,** Married**,** VIPs) means that the target applies to *any one* of the types of people ('or').

The '&' means that the target applies only when people have all 3 properties at the same time ('and').

Qualifiers is a decomposition Tool.
This whole method of using qualifiers in a plan is, in other words, a method for '**decomposing**' the plan into *smaller parts*.

Prioritizing Qualifier Combinations Early
One advantage of decomposing a plan, is that we can select the qualifier sets with the highest value, and prioritize delivering their performance levels early. This is competitive value-planning in practice.

We not only can sequence the more-valuable sets of stakeholders early; but because we have *decomposed* things into much smaller (example 1/50 of all possibilities) units, the cost and time to do something early, is much less.

Decomposition to Experimental Size
Another attribute of this decomposition, is that the smaller units of value delivery, are better suited for 'experiments' and 'pilots' in value delivery.

If we fail totally in the 'pilot', we have the option of not repeating the failed strategies for other qualifier conditions (the 49/50 rest of the combinations).

And whether we get success, problems, or total failure, for a value delivery experiment, we will have learned from valuable experiences, which can be applied as we move forward, to attack other qualifier combinations.

In fact we might have even learned *which* qualifier combinations are smart or dumb to do, next.

"There is no such thing as a failed experiment, only experiments with unexpected outcomes"

Richard Buckminster Fuller (US engineer and architect, 1895-1983)

TIME Magazine Cover: ***R. Buckminster Fuller*** *–*
Jan. 10, 1964. Cover Credit: Boris Artzybasheff

Practical Tip 1.9 Smart [qualifiers]

- *Select a set of qualifiers which gives low risk for failure, and high value of early delivery.*
- *implement it early.*

Policy 1.9. The *Smart Differentiation* Policy.

- **Specify objectives,**
  - **by detailing clear ideas of 'when', 'who', 'what' and 'If',**
  - **so as to maximize our short-term value delivered**
  - **and longer-range competitiveness.**

- Why?
  - To avoid delays to urgent selected stakeholders
    - Delays caused by working on less valuable stakeholders, before delivery to the more-valuable stakeholders.
  - To slice up into do-able short-term action
    - So that low risk experiments are possible.
  - To force ourselves to think more clearly, and in more detail about our important stakeholders, and what they really need, and how *fast* it is worth 'getting the value delivered' to them.

Section 1.10 Benchmarks: warning signals for planners.

Principle 1.10 Butterfly.

**The slightest numeric or other change in an objective,
can trigger surprisingly large consequences,
in necessary strategies and their costs.
So, be careful what you ask for;
you might not need it,
or be able to afford it.**

If the state of the art for up-times of a (software, telephone) system is 99.998 %, what will it cost you to demand *the best*, a competitive *edge*, say 99.999% ? Just 00.001% better ?

First, nobody knows! There is only one way to find out. Do it.

As all real engineers know, full time 100%, perfection, is not possible, for a known cost. The cost is infinity. Engineers never *seriously* plan for perfection.

"To know what you know and what you do not know, that is true knowledge."

Confucius

Precisely in highly-competitive situations, you are *pushing the border*, the *record*. And *nobody* knows, until it is done.

As we pointed out in the above (AT&T case, 1.8), the answer can be shocking. 24,000 work years of effort to move the level from 99.90% to 99.98% availability. And this can only be satisfactory, for extremely deep pockets. Management cannot simply, seriously demand '24/7'.

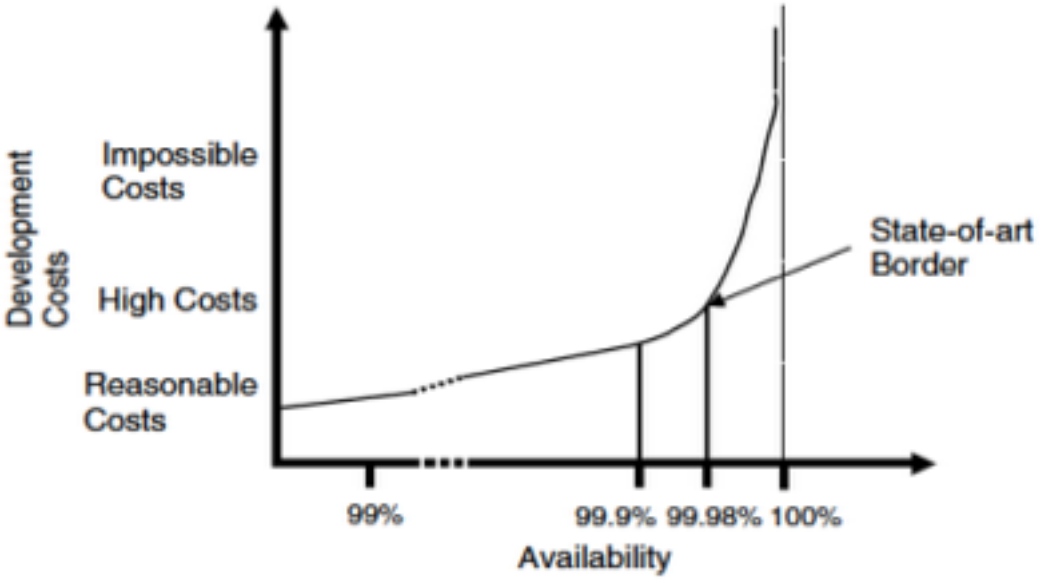


Figure 1.10 A. The AT&T Example. As we approach perfection (100% availability in this case) the costs tend towards infinity.

Perfection Costs More Than your Budget

The cost-estimation problem [URL11] is complicated since there is little or no experience at the highest levels, especially beyond the 'Record' (State of the Art), to guide us.

Notice, in addition, that a very small change in the Goal, can cause a disproportionate change to the cost, which will probably not 'pay off'.

So, in our Planning Language, we have ways of giving ourselves *warnings*, and of understanding *why* we have chosen *particular* levels of an objective, as our Goals or Tolerable levels. We call these warning devices 'Benchmarks'.

Planguage Example 1.10.

<u>Customer Service Availability</u>:
Scale: % of 24/7 a customer gets a qualified answer without waiting or failing with the qualified answer.

Past [Last Year, Our Main Service System] 95% <- Service Report.

Record [Last Year, Our best competitor] 98% <- Their PR.
Record [Worldwide, Last 10 years, Similar Customer Service. Systems to Ours] 99.98% <- Industry Surveys.

Trend [by Next Year, Based on Last 5 years, Our Main Service System] 93% ?
Trend [Next Year, Our best competitor] 99% ??

Example of 3 types of Benchmarks.

Based on these benchmarks, above – what is a reasonable plan? How about this? Below.

Tolerable [by Next Year, Our Main Service System] 99% ? <- Mkt Dir.

Goal [by Next Year, Our Main Service System] 99.5% <- CTO.

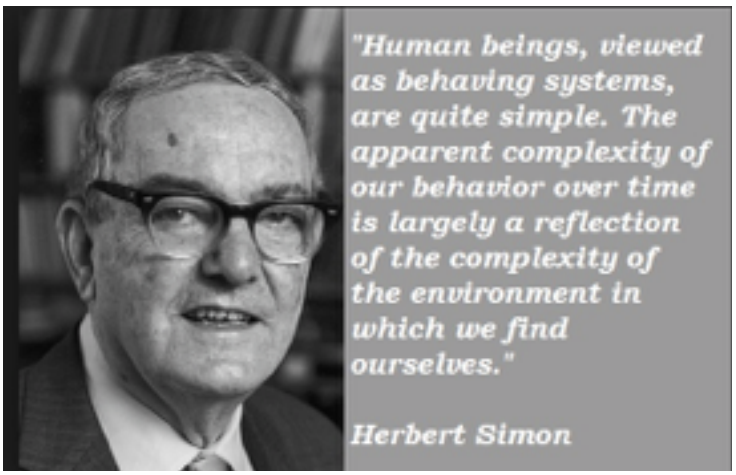
Examples of a constraint and a target, in response to the benchmarks above.

Do the benchmarks (Past, Record, Trend) explain our choice (99%, 99.5%), and drive us to plan for the levels of the objectives we have suggested?

How does **Goal : 96%** look to you now?
Assuming you want to be a winning competitor.

"One finds limits by pushing them."

Herbert Simon (1916-2001) Nobel Memorial Prize in Economic Sciences



Practical Tip 1.10

- *Research the relevant benchmarks, like Record, Past and Trend, before having a serious discussion about your targets and constraints.*

Policy 1.10 Get Realistic

- **Base your plans on realistic information about state of the art, and the state of your competition.**
- **Specify that information so that it is *integrated* into your objectives, and preferably updated (e.g. use Past, trend, Record)**

Why?

- So you can derive realistic and competitive plans
- So you can explain and justify your objectives to buy-in and approval instances.
- So you can prevent unanchored (to 'reality') managers from demanding more than you really need to do, or afford to do, or is possible to do.

Chapter 2. Strategies.

‘Strategy’ is the ‘management’ word I use for the *concept* of the ‘means’ to our ‘ends’ (i.e. here, ‘ends’ = ‘objectives’).

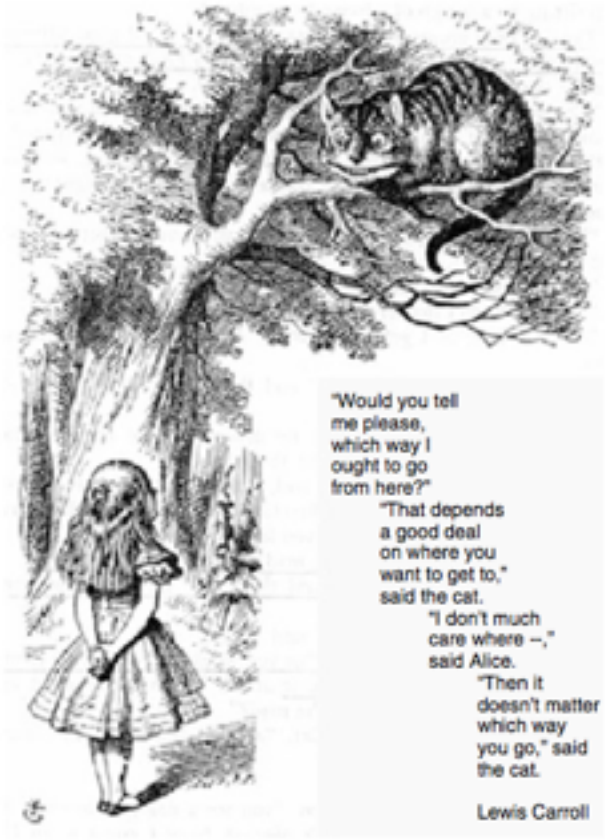


Figure 2.10
Alice and the Cheshire Cat. Illustration by John Tenniel, wood-engraving by Thomas Dalziel. From Chapter 6, *Alice in Wonderland* by Lewis Carroll.

Figure 2.0 Alice and the Cat. If your objectives are unclear, then any random strategy will be enough to keep you ‘Busy doing nothing, working the whole day through. Trying not to find lots of things not to do’ (nice song). [1, Figure 2.10]

I consistently find that planners have unclear understanding of the ‘Strategy' concept

I also find that planners have almost no ability to manage (estimate, measure, design towards) the multiple attributes of performance and cost that strategies contain.

Section 2.1 How to know if a strategy will really work

The Satisfaction Principle, 2.1.

Strategies are
only as good as
their ability to satisfy objectives.