Case Study from ICL
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(where you should find a copy of these slides)

7.05pm-7.35pm

Entrepreneurial Developments in Consultancy: What makes a successful consultant?

Date:

Friday 12 June 2015

Time:

6.30pm - 9.00pm

Venue:

BCS, 1st Floor, The Davidson Building, 5 Southampton Street, London, WC2 7HA

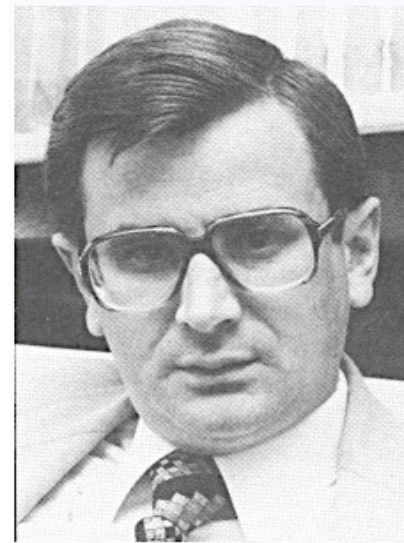**Enjoy my new book in progress, Free, tinyurl.co/ValuePlanning**

ICL Early 1980s

- **International Computers Limited, was once 33,000 employees, and Britain's answer to IBM.**

- **But they were badly led for years, and were losing money for about 8 years straight**

The Saviour

Robb Wilmot. ICL's energetic new MD

- **Then Prime Minister Margaret Thatcher, the Government owned them and funded them, made sure they got an energetic young leader,**

- **Dr. Robb Wilmot,**
  - **an electrical engineer by education, high flyer (named one of the youngest vice presidents in the TI company's history) from Texas Instruments (said to be considered the forthcoming CEO there).**

The Consultant meets the CEO (pull)
Right Ideas at Right Time for Right Manager

- **Wilmot had gotten a copy of my current book manuscript**
  - **(to become Principles of Software Engineering management, 1988)**
  - **via an old school friend of mine (John Andrews), running his European Office, when I bumped into him in Bombay India at the airport.**
- **Wilmot liked the *quantification* ideas.**
- **I later saw a his printout of my book manuscript. Yellow high-lighted, densely, by Wilmot.**
- **Wilmot remarked to me once *"I never read books, they are bound to be out of date, in these fast moving times"* [F7].**
- **He asked me to advise him on**
  - **why he had managed to move ICL to break even, after 2 years,**
  - **but could not make further progress, in spite of his CEO Power.**
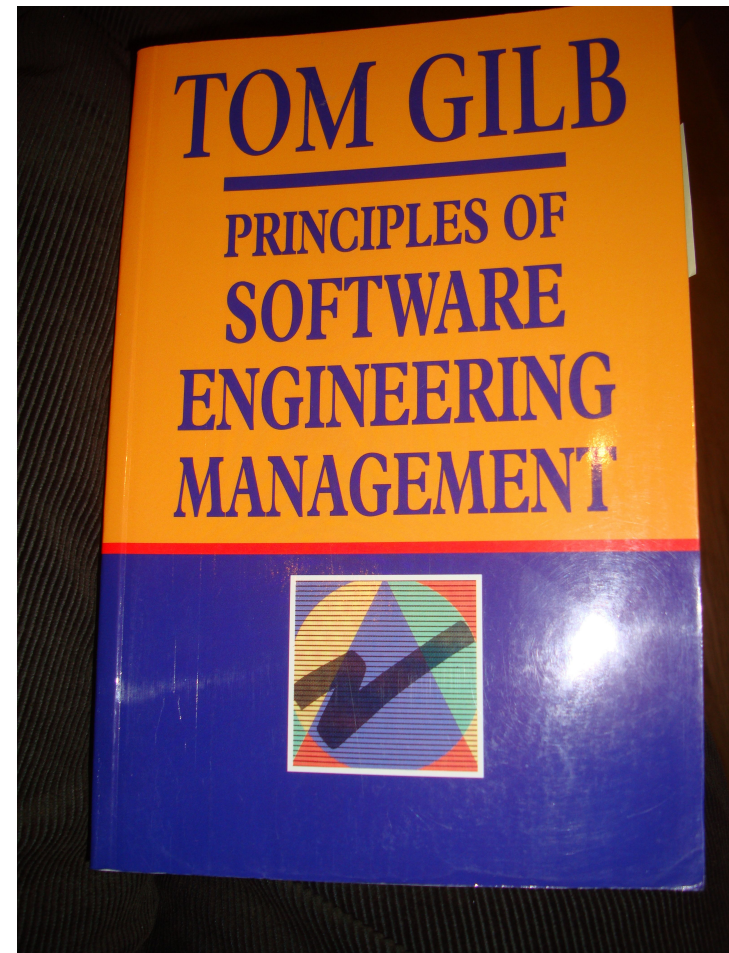
My analysis
Nobody understands management bullshit

- **After 2 weeks study, with his 'halo' on me, I reported to the CEO Wilmot and his Directors, that**
  - **all his top managers, himself included, constantly spouted management woolly phases for objectives like 'State of the Art Technology'.**
    - **And little else.**
  - **I showed proof that nobody reading these 'Fundamental Objectives' understood them,**
  - ***But employees acted on their misunderstandings.***

Example of Real Management BS (not at ICL): $160 mill. Loss project

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

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

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

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

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

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

*7. **Robustness** is an essential system requirement*

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

Summary of Top '8' Project Objectives
Real Example of *Lack* of Quantification in large Engineering Company Project

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This lack of clarity cost them over $100,000, 000.
and 8 years delay

- This was my 15-minutes-of-fame presentation to the Directors.
- Wilmot immediately agreed.
- Told his 12 directors that I was right, and that he, the CEO 'was the worst offender'!
- And he would be the first to mend his woolly ways.
- True Leadership!

- Wilmot immediately 'suggested' that all his directors would 'please' submit their top level critical quantified strategic objectives, with Scale and Goal etc.
- He did not know what to hold them accountable for, *yet*.
- Financial budgets, were a lagging indicator: he needed *leading* indicators, like the 'Usability of the Software for Retail Shops'.
  - This older practice,was the 'Unbalanced Scorecard' in practice.

- *Otherwise*: *he would not be able to see clear reason why they should retain power or budget.*

- **They knew he was dead serious, and capable of removing their power. They quickly got the message!**

- **Their *own* Director-level, Strategic Objectives, had to support *his* (for them) Corporate Level Fundamental Objectives (Scale and Goal etc.).**
- **I had drafted these Corporate level quantified objectives for him,**
  - Example Viability as measured by stock market price

- **including an Impact Estimation table for the Corporate Strategies:**
- **and which he had already gotten Board Approval for, using my *handwritten* version!).**

- **My favourite example was 'Corporate Viability'.**
- **Now how would you quantify that?**
- **I figured out an incorruptible measure,**
  - **which was appreciated by the top managers,**
  - **we tied it to the Stock Market share price!**
  - **That beat the previous 'We shall be viable' objective.**

- **The Board had remarked,**
  - **the CTO (Mike Watson) told me,**
  - **that this set of quantified Objectives, and Impact Estimation Table**
    - **(Wilmot's Strategies, impact on quantified corporate objectives),**
- **was *the 'clearest Board presentation they had ever seen'.***

- **One of the 8 corporate strategies,**
  - **which Wilmot insisted on,**
  - **against my ethical-consultant advice,**
  - **was using Planguage corporate-wide.**
- **And the Board was happy with that,**
  - **upon seeing the Board level example Wilmot presented to them.**

Half Day Director Coaching
in Quantification of Objectives

- **Corporate Planning Director, Peter Hall *, and I were immediately sent round to the 12 directors to help them get the Objectives right.**

- **Not one of them had training or ability to quantify their management objectives [URL2].**

- **But we sorted them each, in about half a day.**

- **They were glad for the help!**

Do my methods lead to glory, or do people destined for glory appreciate my methods?

- **One of them (Peter Gershon, Marketing director) was later Knighted (Sir P. G.)**
- **and I like to invent the story that my 'pupils earn Knighthoods'.**
- **Which is possibly an exaggeration.**
- **But the reader is welcome to try.**
- **Even Robb earned a well deserved CBE (Commander of the British Empire).**

Colourful older CBE

Sir Peter, Chairman National Grid

Sir Peter Gershon
Chairman

Into Profit, but nothing lasts forever

- **The bottom line, was that ICL went into profit, and remained in profit for the next 15+ years**
  - **(unlike some major competitors in the period).**

- **Until a financial 'bean counter' (Unbalanced Scorecard again) stayed at the helm too long (Bonfield, Wilmot: 'don't bother'),**
  - **and a new Corporate Owner (Fujitsu) failed to keep the imaginative improvements going.**
  - **Nothing lasts forever, without re-energization.**
  - **But it was a good run for the money!**

Peter Bonfield,
another pupil
if I recall correctly
and also CBE

- **I also showed that the software engineering staff,**
  - **unlike their hardware colleagues,**
  - **had no ability to interpret conventional hardware engineering ideas**
  - **like '99.90% availability' at all.**
- **They had no 'Design Engineering' ability.**

- What is the architecture for software with 99.998% availability ?

- Hints
- ATT 5ESS attained 99.98%
- The Chief Engineer now claims 99.998%
- N-Version or Distinct Software (google it)

Hardware had the culture to engineer quality in, Software had no engineering culture

- And software, now 'half' the product, was a major problem.
- But that was a problem that took them 2 more years to acknowledge needed top management attention,
    - Mike Watson, CTO, told me 2 years later.
    - *"It does not help to have clear quantified objectives, if your product designers do not know how to turn those ambitions into viable Strategies."*
- After 2 years, we got started with that: too late as top management (MW,RW) was, as usual, moving on.

Mike Watson
https://uk.linkedin.com/in/jmwenterprises

Grass Roots level change, empowered by Top Management

- **For years, before and after that, I was seconded to a large number of ICL projects, to help change the culture, at the grass roots level**
    - **(also a wise understanding, of top management)**
    - **[F8 SQC] and [5 D Usability] are published examples.**
    - **See references tinyurl.com/valueplanning**

Some Corporate Standards
I helped Set about 1982
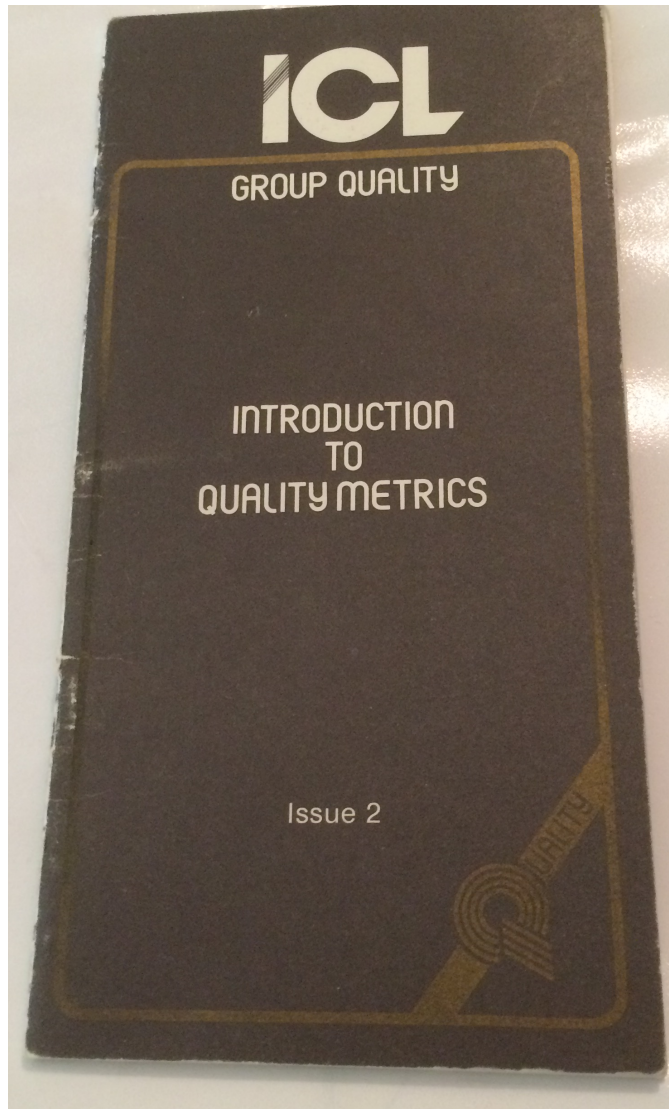
- A short pamphlet to summarize and simplify Group Quality Standards Manual

- The text is 95% Gilb

"All product, systems and services shall be engineered to measurable quality levels for all critical attributes"

Why do we need Metrics?

The straightforward way in which Quality Metrics, once developed, can be used will ease the management and structural reporting service within the development effort.

The substitution of a 'Quality Metric Report' in place of a Performance and Sizing report to compare achievement against targets (however specified) must be a fundamental step towards a different cultural approach to measuring quality.

Remember, the objectivity for measurement must be clear, easy to monitor against and *not* subjective.

ON SETTING OBJECTIVES

Clearly

and

Measurably

"I believe this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the moon and returning him safely to earth."

President John F. Kennedy

25th May 1961

General requirements

The Group Quality Manual states that the Quality Objectives will be measured against the topics listed below. These topics are explained in the following subsections:

- Availability
- Reliability
- Maintainability
- Portability
- Extendability
- Security
- Usability
- Performance
- Integrity
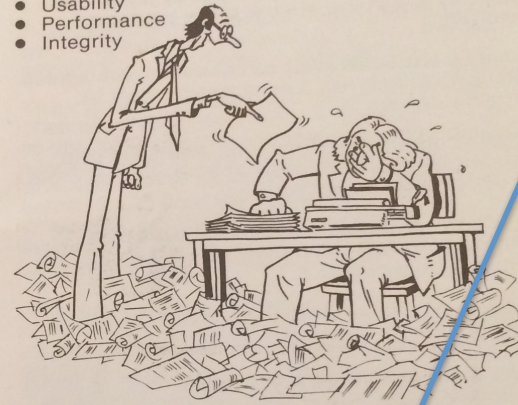
Splendid! Now how long will it take you to design against these Metrics?

The Group Quality Manual also makes the following statements to the principles and definition of Objectives:

"All products, systems and services shall be engineered to measurable quality levels for all critical attributes."

"Quality attributes shall be documented in writing at all stages of design and marketing."

"All quality attributes shall have a numerically specified level and a numerically specified tolerance (the allowable deviation from that level)."

Some Gilb/ICL Principles of Quality Quantification

You cannot know the true cost of quality

until
all
required quality levels are determined

turn waste valuable management time, cost money, delay the project and deteriorate the quality of the product

3   Attributes should be expressed as a hierarchy of sub-attributes

eg Metric   = _Usable_   = _Understandable_

eg Subs   = Reliable   = Concise
                 Accurate   Self-discipline
                 Complete   Consistent
                 Consistent

Note: There may be an overlap of sub-attributes, for example, consistency is a sub-attribute of usability and understandability.

There are several reasons for specifying attributes by a hierarchical explosion. It gives an overview when we want it, without disturbing detail. It allows delegation of a long list of attributes of a complex system in an understandable manner. It allows the various Business Centres, Operations and ICL recipients of the product to relate to the attributes which will affect them. It allows the logistical support networks of the company to be tested objectively against a succession of different monitor points. It eventually saves management time. Finally, a hierarchy of attributes allows us to concentrate all our attention on a group of attributes, such as performance (which encompasses more than speed, data throughput and RAM time), with greater ease when we need to.
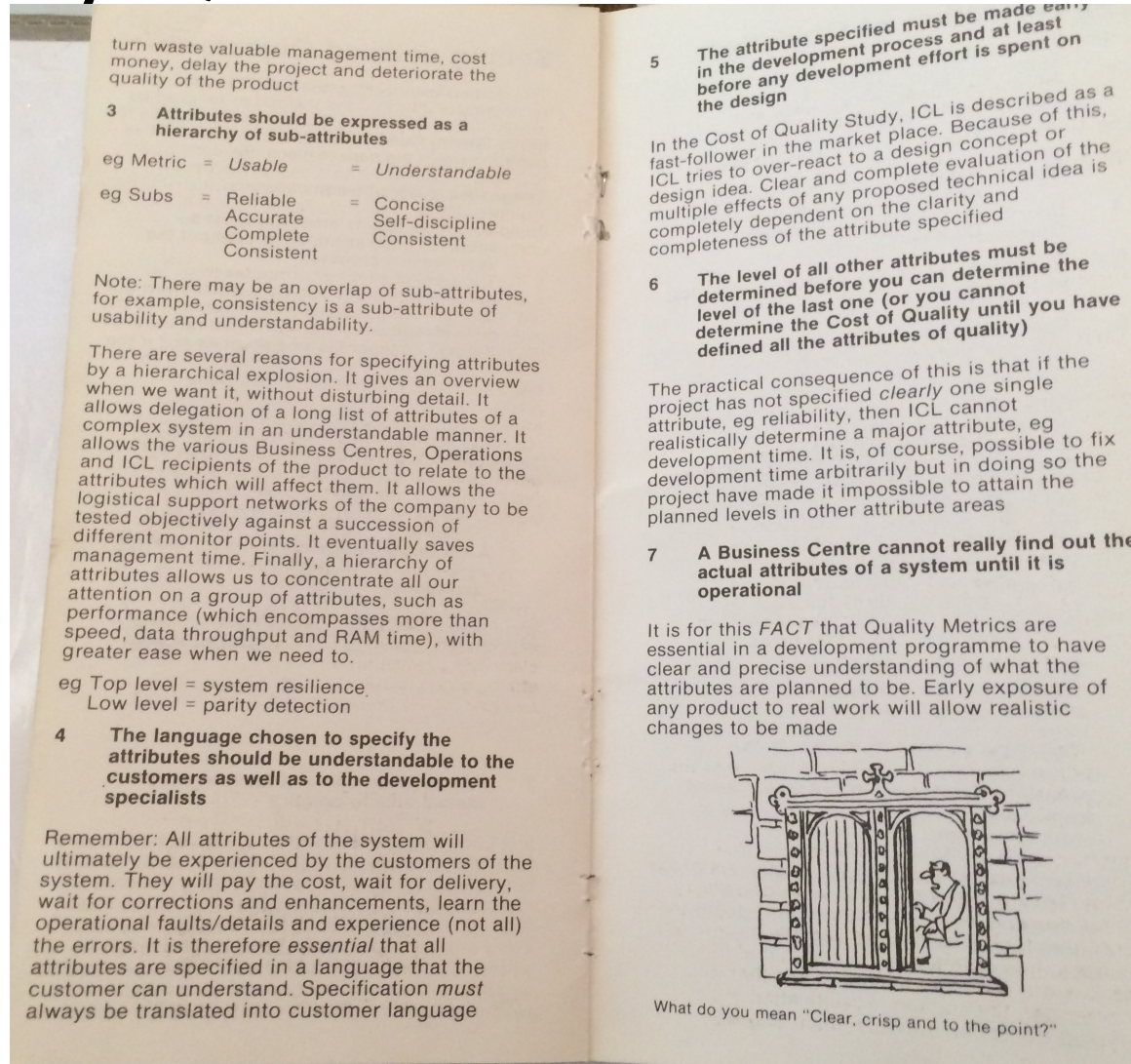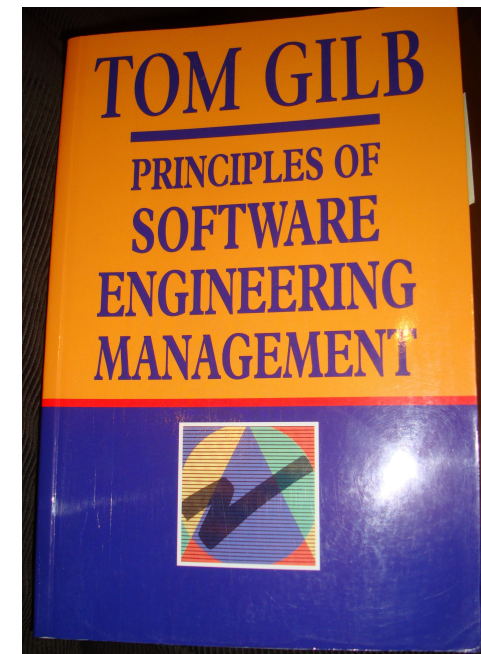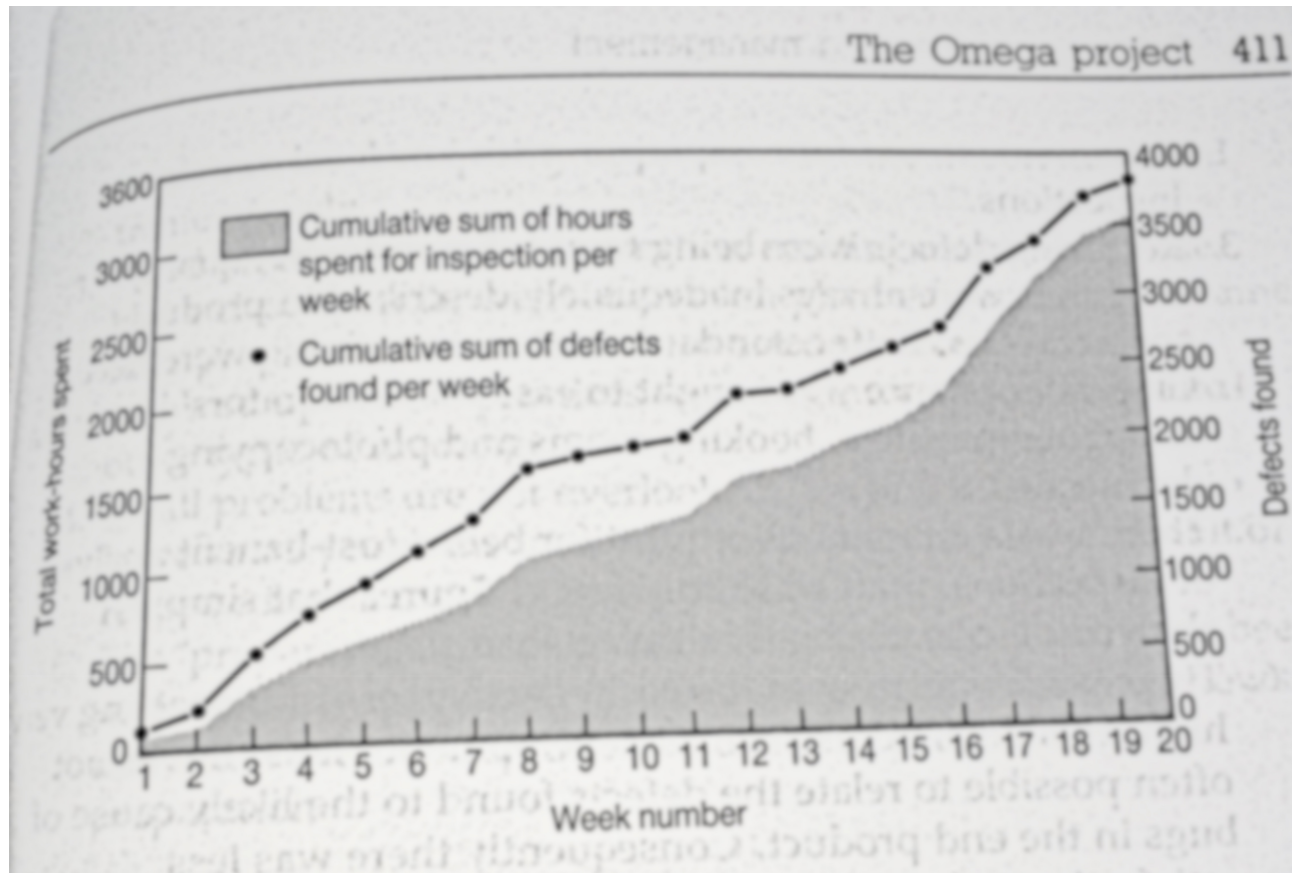
eg Top level = system resilience
    Low level = parity detection

4   The language chosen to specify the attributes should be understandable to the customers as well as to the development specialists

Remember: All attributes of the system will ultimately be experienced by the customers of the system. They will pay the cost, wait for delivery, wait for corrections and enhancements, learn the operational faults/details and experience (not all) the errors. It is therefore _essential_ that all attributes are specified in a language that the customer can understand. Specification _must_ always be translated into customer language

5   The attribute specified must be made early in the development process and at least before any development effort is spent on the design

In the Cost of Quality Study, ICL is described as a fast-follower in the market place. Because of this, ICL tries to over-react to a design concept or design idea. Clear and complete evaluation of the multiple effects of any proposed technical idea is completely dependent on the clarity and completeness of the attribute specified

6   The level of all other attributes must be determined before you can determine the level of the last one (or you cannot determine the Cost of Quality until you have defined all the attributes of quality)

The practical consequence of this is that if the project has not specified _clearly_ one single attribute, eg reliability, then ICL cannot realistically determine a major attribute, eg development time. It is, of course, possible to fix development time arbitrarily but in doing so the project have made it impossible to attain the planned levels in other attribute areas

7   A Business Centre cannot really find out the actual attributes of a system until it is operational

It is for this _FACT_ that Quality Metrics are essential in a development programme to have clear and precise understanding of what the attributes are planned to be. Early exposure of any product to real work will allow realistic changes to be made

What do you mean "Clear, crisp and to the point?"

Alan Brown, ICL Mid Range, Bracknell Case in PoSEM, Inspection Experience

My Consultant Experience

- Do the right things, even if not popular
  - You will have a monopoly, and monopoly pricing
  - You may not get very famous or very rich
  - But you will feel very good about your life
- Hope the right clients find you
  - Keep writing and speaking, and networking
- Work with grass roots for results (Champions)
  - But get top management support for efforts
- Impressive change takes years
- And you will rarely be around to witness it
- But if you have good inside disciples, your advice will make a difference
- Follow up and collect experience, and case studies
- They will come in handy when you document your influence years later

More of my Consultancy Experiences ?

- **Enjoy my new book in progress, Free,**
- **tinyurl.co/ValuePlanning**

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- **Resources/downloads/slides**