How to measure anything

Contents

Short summary

My top 10 takeaways from the book were:

1. **Measurement is key for management and decisions**
   - 'If you can't measure it, you can't manage it'
   - Measurement informs decisions and with better information and measurements, we can make better decisions.
2. **Persistence delivers results – 'Success is a function of persistence and doggedness and the willingness to work hard for twenty-two minutes to make sense of something that most people would give up on after thirty seconds**
3. **Measurements are approximations and everything counts–**
   - ◦ 'If a person tells you he knows a thing exactly, then you can be safe in inferring that you are speaking to an inexact person.
   - ◦ It's better to be approximately right than precisely wrong -Warren Buffett
   - ◦ If you know almost nothing, almost anything will tell you something
   - ◦ Anything you need to quantify can be measured in some way that is superior to not measuring it at all
4. **Rule of 5 - There's a 93.75% chance that the median of a population is between the smallest and largest** values in any random sample of five from that population
5. **Four useful measurement assumptions**
   - ◦ It's been measured before
   - ◦ You have more data than you think
   - ◦ You need less data than you think
   - ◦ Useful new observations are more accessible than you think
6. **Components of a decision:**
   - ◦ Must have two or more realistic alternatives
   - ◦ Has uncertainty
   - ◦ Has potentially negative consequences
   - ◦ Has a decision maker
7. **Uncertainty v Risk**
   - ◦ Uncertainty – Lack of complete certainty
     - • § Measured as probabilities on possibilities

        - • For example
            - ◦ 60% chance this market will more than double in 5 years
            - ◦ 30% chance it will grow at a slower rate
            - ◦ 10% chance the market will shrink in the same period
            - ◦ Risk – state of uncertainty where some of the possibilities involve a loss, catastrophe or undesirable outcome
    - • § Measured as a set of possibilities each with quantified probabilities and quantified losses
        - • Fore example:
            - ◦ We believe there is a 40% chance the proposed oil well will be dry with a loss of £12m in exploratory drilling costs

8. **Value of information**
    - ◦ Reduces uncertainty about decisions resulting in economic consequences
    - ◦ Affects the behaviour of others which can have economic consequences
    - ◦ Sometimes has its own market value
    - ◦ = Expected opportunity loss before you have the info minus expected opportunity loss after you have the info
        - • § Where expected opportunity loss = chance of being wrong x cost of being wrong
9. **Value of measurements - If you don't compute the value of measurements, you are probably computing the wrong thing the wrong way**
10. **Observation options**
    - ◦ Follow its trail
    - ◦ User direct observation
    - ◦ Add a 'tracer' if it doesn't have a trail
    - ◦ Do an experiment if you can't follow its trail

I've also got some examples from real life:

1. **How many piano tuners in Melbourne? -** In Grade 8 at 14 years of age, our maths teacher asked us how many piano tuners there were in Melbourne. The classes immediate response was 'no idea' but after being coached through the problem with the teacher, we were able to approximate how many pianos there may be in Melbourne, how often they'd need to be tuned and then how many piano tuners there may be.
    - This is a favourite type of question in interviews with Google, McKinsey, Bain, BCG etc.

2. **JFDI directive to come up with a business case** – At EY we regularly had to come up with business cases which were then used as a rationale for bringing EY in to do a given piece of work. Whilst the cost side of a business case is largely simple to quantity and estimate, the benefits side is less simple. Usually there's lots of intangibles in the benefits side. An incomplete business case was never an option, the Partners / Directors were always of the view 'work it out' regardless of how difficult it is.
3. Is reporting in a government organisation effective and what does the minister know…. And not know – At EY, in Melbourne, I was tasked with reviewing a AUD43b government programme. We had to work out whether or not the reporting on the programme was sufficient. Whilst I was pondering how to answer the problem, my director helped me out….
    - ◦ He said there's a scale as to how well we can understand this reporting and its efficacy
        - • We could ask the minister (keeping in mind that it's very important what the minister knows anddoesn't know…. (Any 'Yes Minster' fans should get a smile out of that!)
        - We could ask the minister's advisor (generally a young person with political ambitions and some form of connections or qualifications to get them the job)
        - We could ask the secretary
        - We could get all of the reports and check how good they are
        - We could get a sample of the reports and check how good they are
        - Plus others
    - Talking about all the ways we could get our question answered definitely opened my eyes.