By Ivan Uttley

Every Business at some stage will need to report on their planned financial performance with varying time horizons, each of which have different sets of risks and opportunities that must be managed with varying likelihoods of success.
Here is a suggestion taken from Cosmology and the technique shown to quantify possible contributing errors to the required answer.

There's no need to climb alone

Clear Communication – Reporting Numbers that contain uncertainty

SPARK SME SERVICES
COACHING – RESCUES – INVESTING

We have an issue in terms of communicating realistic and credible financials or operational targets. This is either through some confirmation bias or wilful deafness or blind optimism. How a number is reported leaves an impression. If a number is quoted to a certain accuracy it is implicit that all the numbers used to calculate this number were of the same precision.

If you can , when reporting things like Revenue or Profit, use a probability function, showing an upper and lower range, with a set of Risks that require managing to mitigate against the down-side outcome, and obstacles and challenges to overcome in order to achieve the up-side benefit, with some likelihood of success measure.

As an agnostic example here is the Hubble Constant, and this example illustrates the concept of Random and Systemic errors. This allows for far more credible and useful discussions to be conducted. We provide a template.

The H_0 Key Project: Uncertainties

UNCERTAINTIES IN H_0 FOR SECONDARY METHODS

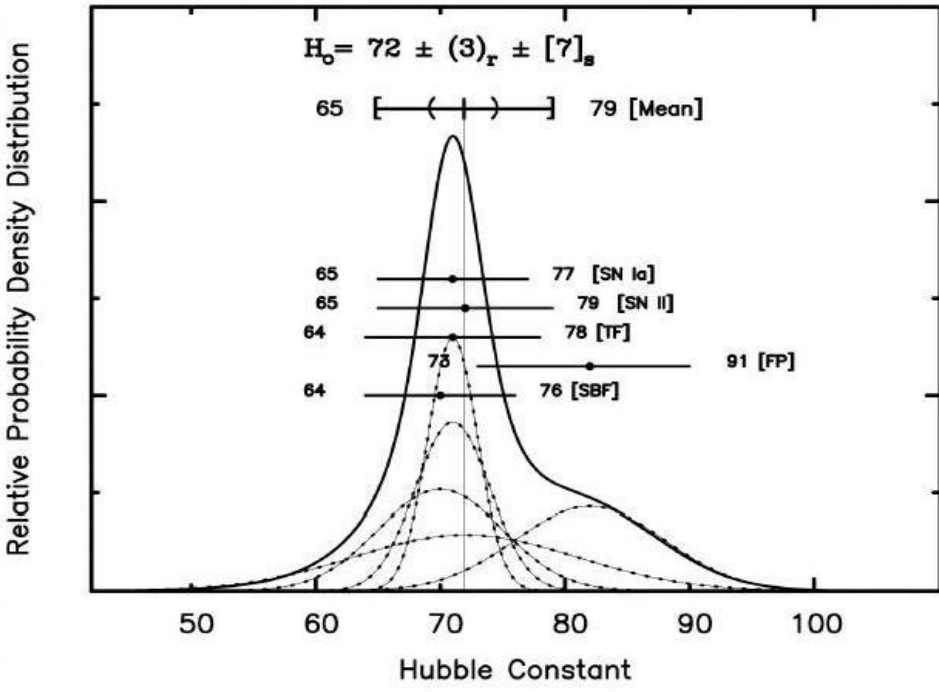
Method	H_0	Error (random, systematic (%)
36 Type Ia SN, $4000 < cz < 30{,}000$ km s^{-1}	71	$\pm 2 \pm 6$
21 TF clusters, $1000 < cz < 9000$ km s^{-1}	71	$\pm 3 \pm 7$
11 FP clusters, $1000 < cz < 11{,}000$ km s^{-1}	82	$\pm 6 \pm 9$
SBF for 6 clusters, $3800 < cz < 5800$ km s^{-1}	70	$\pm 5 \pm 6$
4 Type II SN, $1900 < cz < 14{,}200$ km s^{-1}	72	$\pm 9 \pm 7$

OVERALL SYSTEMATIC ERRORS AFFECTING ALL METHODS

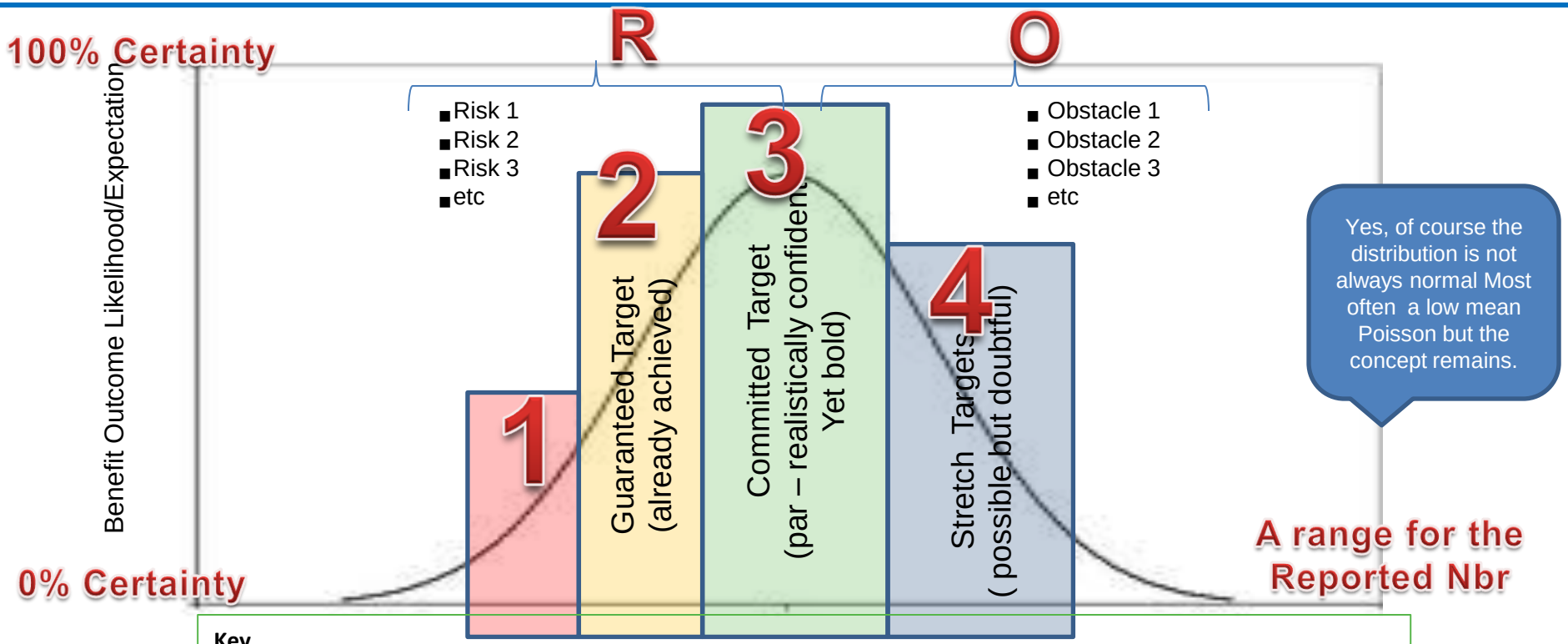
Source of Uncertainty	Description	Error (%)
LMC zero point	Error on mean from Cepheids, TRGB, SN 1987A, red clump, eclipsing binaries	±5
WFPC2 zero point	Tie-in to Galactic star clusters	±3.5
Reddening	Limits from NICMOS photometry	±1
Metallicity	Optical, NICMOS, theoretical constraints	±4
Bias in Cepheid PL	Short-end period cutoff	±1
Crowding	Artificial star experiments	+5, −0
Bulk flows on scales > 10,000 km s^{-1}	Limits from SN Ia, CMB	±5

NOTE.—Adopted final value of H_0: $H_0 = 72 \pm 3$ (random) ± 7 (systematic) km s^{-1} Mpc^{-1}.

The HST H_0 Key Project Results



Our own likelihood of Success



Key

The range of outcomes over defined period - preferably 1 year

1 - Shows lack of understanding and inability to manage Risk, or a Black Cygnet event took place, beyond control.

2 - An Outcome in this area means Risks were not managed – shows underperformance

3 - Our expected outcome, if we manage all our risks documented in Area 1 & 2

4 - Stretch performance – less likely to achieve this, but if we overcome the obstacles documented we can achieve this.

R - Documented Risks/Issues that will prevent us reaching this benefit

O - Documented Obstacles that we must overcome to get the Stretch

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