Is your IT project a Black Swan?

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Audience?

About

- **Open Parallel** – SKA since 2011 (self-funded)

- Square Kilometre Array - 10 countries

- 650m euro (SKA1)

- Design 2013-17

- Construction 2018-23

- SKA2 – **6bn euro** (2022-2030?)

- 50 years life-cycle

- 100m euro / year OPEX

- Largest supercomputer in history. 150 Tb/s data

- Exascale computing

- **Multicore World 2017**

- Catalyst – OSS experts

- NZRise / NZOSS / MIITP

- AANZ / NZVCA

- Founded 1st venture in 1980

- M Entr (Otago) / Maths - Engineering (Uruguay)

Caveats

- Black Swan -new "hobby"
- Context: OP's participation at the SKA project
- **Reading is not research**
- Keen to hear your particular experience(s)
- Why not discuss as a community?
- Differentiate between **facts and factoids** (i.e. IBM's five computers quote)
- How do you collect data (i.e. surveys) impact in research results and papers
- English is my 4th language...

What is a "Black Swan Event"?

"A Black Swan is an event, positive or negative, that is deemed improbable yet causes massive consequences"

Nassim Nicholas Taleb

"Why your IT project may be riskier than you think" (HBR.org – Sept 2011)

- Case study: Levi Strauss (2003-08)
- Consolidate IT in 110 countries
- Migrate to a single SAP system – hired Deloitte
- Small risks (apparently): $5m budget
- Enter Walmart: requests LS system interfaces with its supply chain management system
- By 2008 LS took $192.5m against earnings to compensate the botched project. **CIO resigned**
- $5m --> $200m = Black Swan

Oh my gosh!

- **Migrate *everything* to SAP**. Sorry, QUACK.

- And of course, when you use SAP, you have to customise it, but <u>they keep changing SAP</u>

- You have to keep refitting your customisations to a moving target and **eventually have to redo the whole thing**. QUACK QUACK.

- **To the rest of Levi Strauss** -the people who make and ship the jeans, <u>this was a black swan</u>. They didn't know what was going on.

- **To the people running the project**, this was a duck. Quack a lot, put droppings all over the place, classic duck.

"IT black swan management"

Back to HBR's article. They propose:

- "Stress test: can your company absorb that its biggest tech project goes over budget by 400%?"

- "What if only 25% to 50% of the projected benefits are realised?"

- "What if 15% of medium-sized projects (the ones that executives overlook) exceed cost estimates by 200%?

- **"Break down big projects into ones of limited size, complexity and duration"**. Every additional year increases risk by 4.2% (how did they find this??)

Modular projects have another advantage: **are more resilient to budget cuts.**

"I'm managing a failing project"

- How do you actually measure success?

  - "we did it within time and budget"

  - how does reflect into business outcomes?

- There is nothing unpredictable about the failure of large IT systems.

- Failure, massive cost overruns, and massive schedule overruns are the norm.

- If you hear that "this project has unique characteristics" then it has 3x higher propensity of turning into a -so called, Black Swan (*)

The "N" word

- **Novopay** doesn't look even remotely like a Black Swan.

- There was a clear set of project management guidelines developed after the INCIS fiasco, pretty much all of which were ignored.

 Example:

- Party 1: the responsible government body.

- Party 2: Talent²

- Party 3: an independent company given the job of QA

- The contract between parties 1 and 3 was not an "until completion of work" contract but a fixed term contract.

- The contract expired. Party 3, not getting any more money, stopped doing quality assurance and stopped sending Party 1 reports.

- Party 1 not only failed to foresee the need to review and renew the contract, **THEY FAILED TO NOTICE** that they weren't getting any more reports, and just assumed "no news is good news."

- **That's not a Black Swan**. (Thanks to R O'K -University of Otago, for the content)

Some common themes:

- Assume that a single giant system that does everything is a good idea

- Choose from a narrow range of suppliers (recommended to you by a man your brother-in-law met down at the pub)

- Rush the requirements

- Little serious consideration given to risks or risk management

- Never on any account do a pilot study

- Skimp the regular reporting and reviews

"Police pressure PWC over IT blowout" (*)

- "Delay in setting up NZ's Police HR Mgmt and payroll system is costing $2m a month"
- "Planned for April 2016 and to cost $56m"
- "Delayed till Sept 2016 and will cost $64m"
- "Minister Collins said it was not clear who would pay the extra $2m per month"
- "PWC declined to comment"

(*) Source: RadioNZ – 24/5/2016 (radionz.co.nz)

Let's put all this in
(the NZ Govt's) perspective...

NZ's Major Projects Portfolio (from NZ Treasury)

- 41 Projects: **24 ICT**, 9 Defence, 8 Construction

- **$18.5bn** (Major Projects) // $57.6bn (Other Govt investment projects).

- Major projects are 22% of total NZ Govt Project Portfolio

- **$5.2bn ICT** / $4.9bn Defence / $8.4bn Construction

- **HRMIS Project – Police / Whole of life cost $56.20m** // 1.08% ICT

- Actual HRMIS project expenditure $18.84m (~0.33% ICT budget...).

- NZ Treasury: **6 "Red Dots"** (project in Danger: needs "re-planning")

- "Original project delivery date of April 2016 **is now unachievable"**

- **"Re-planning is underway** to determine a revised implementation date, costing and help select the best way forward."

- "An **Independent Quality Assurance Review** on the draft proposed plan has been completed and recommendations are being actioned."

Source: *Major Projects Performance Report (July – October 2015)*

However...

Research shows that "competition between mega-projects and their sponsors creates political and organizational pressures that leads to:

- **consistent overestimating of project benefits** and
- **underestimating of project costs**".

- "The best mega-projects do not get implemented, but rather the ones that look best on paper."

- Source: **Bent Flyvbjerg** - Wikipedia

So...what can you (IT PM) do???

Credit: http://dilbert.com/strip/2010-03-04

Remember MMM?

- "In most projects, **the first system is barely usable**. It may be too slow, too big, awkward to use, or all three"

- **You need to start again** and address these problems.

- Should you plan to build a "**throwaway pilot system**" or would you promise to deliver it to customers?

- Delivering the throwaway **buys time**, at the cost of
  - agony for the user
  - distraction for the builders while redesign
  - bad reputation for the product

Conclusion:
   "**plan to throw one away; you will, anyhow**"

Scheduling a software task

As a rule of thumb:

- 1/3 planning
- 1/6 coding
- ¼ component test and early system test
- ¼ system test, all components in hand
- Source: MMM, pg20 (1975 edition?)

How do you explain this to your project sponsor?

"Bike-shedding"

- Technical disputes over minor, marginal issues conducted while serious ones are being overlooked.

- The implied image is of people arguing for hours (usually in a board decision-making meeting) over what color to paint the bicycle shed or the material of its roof

- Meanwhile the nuclear plant design (or IT project scope / plan / budget /...) is approved in 10 minutes. Part of "Parkinson's Law of Triviality".

- Option: Van Halen's "no brown M&M's clause"

- If any brown M&M's were found backstage, **the band could cancel the entire concert at the full expense of the promoter.** Try it -as your "canary in the coal mine" technique.

Do try Van Halen's
"no brown M&M clause"

Image Credit: http://bit.ly/29CjUOe

Suggestions:

- Consider your project as a high-tech **<u>start up</u>**

- If it goes wrong, you lose your house. Period.

- Find an "**entrepreneurial Project Manager**"

- Have you done a "VC kind of" due diligence?

- Have you heard of a **MVP**?

- Modularity -and use Open Source Software!

- Google <u>didn't start with a $200m budget</u>

- **First 90 days define start-up's DNA** -have you planned in detail your project's kick-off meeting?

- Peter Thiel: "Your employee #20 join your start up for very different reasons than the founders"

New title: "Is your IT project a Black Swan?"

- "No, it's a flock of monstrous ducks devastating the land, with no swans among them..." (R O'K)

- **New abstract**

- One in six IT projects is a "cluster f*ck", with a cost overrun of 200%, on average

- Developers struggle to combine different badly designed software systems in the poorly assessed (mostly guessed) budget and project timelines forced upon them.

- 60% of managers report major conflicts between their priorities and line management priorities because performance assessment is not inline with project uncertainties and business vague strategy. (Thanks R O'B)

We witness
fundamental faults
with management practise
of IT projects, corporate budgeting
and performance criteria.

Not Black Swan Events.

Discussion?

Thank you

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