

Imagining Managing Risk

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Introduction

- **Participated in, observed and taught risk management practice in many organizations and projects - including my own**
- **Look at an outline of de facto standard approach**
- **Look at some some of the problems**
- **Propose some changes to the usual approach**

Context and Position Statement

- **The majority of software development is undertaken by small teams (1 – 12 people) with little professional training, and that have little real support.**
- **They may have techniques, procedures or tools available, but these are imposed as often as not, and their value is often marginal.**
- **Most software ‘projects’ aren’t**
- **Simple revisions to risk management perceptions and practice are required to ‘activate’ it**
- **The need is to make this lowest common denominator more attractive and effective, not propose ‘state of the art’**

Conventional Approach...

In the course of routine work called upon to participate in, or advise on organizations' project risk management practices. Usually it goes something like this...

1. Begun at project start up, usually, then periodically reviewed (maybe)
2. Identify threats (simple statements for each threat usually) often brainstormed by team
3. (Can perform some grouping and removal of duplicates as part of brainstorming)
4. For each threat assign an impact (i) – H/M/L, 1 - 5
5. And assign a probability (p) – H/M/L, 1 – 5, 1% - 100%
6. Then calculate a priority as $f(i,p)$ (can be $i * p$, or sometimes $i + p$)
7. Propose mitigation and/or contingency for these risks – often a sentence and/or figure
8. Perhaps assign to a 'risk manager'...
9. ...who may periodically review their risks – default is project manager – presumed to be their job

The o/p recorded in a risk register or log (used to be .xls (or embedded in a project document) – now more likely to be web page, and viewed as 'project data')

Conventional Approach...

Merits:

- ‘industry standard’ process...
- ...and consequently an understood (which is good) and routine (which is bad) process

Demerits:

- limited effectiveness
- standard process...

Technical Problems...

Typical risk management practice may have the following technical limitations:

1. **Usually not stated what is at risk beyond 'the project' (no risk statement(s) of the impact(s) of failure (modes)).**
 - **(It needs care and skill to formulate accurate risk statements – (when present) they often miss the point, and known to miss the point, and the formulation itself can reveal uncomfortable truths (“why exactly are we doing this?”))**
2. **Rarely a meaningful categorization of threats/risks to be considered.**
 - **Consequently major areas of risk may be missed, neglected or duplicated, and risks can be trivial truisms**
3. **Cannot validate analysis (rare to have organization or industry standard project risk profiles – e.g. Capers Jones’).**
4. **Probability is estimated (guessed) – albeit by the team.**
 - **There is no evidence that threat probabilities are accurate**
 - **(ditto impacts?)**

...Technical Problems

Typical risk management practice may have the following technical limitations:

5. **Probabilities usually considered on risk by risk basis – cumulative risk requires sophisticated risk management (e.g. Norman Fenton’s Akena) or estimation tools (e.g. Use Case points – Gustav Karner) – not accessible to most projects.**

6. **Risks and risk management are rarely reviewed in post project reviews – too abstract or difficult to consider probabilities of things that didn’t happen.**

‘Soft’ Problems...

Typical risk management practice may have the following ‘soft’ limitations....:

- 1. Attitude: judgement, imagination and questioning is required, but participants can appear reluctant to engage – treating risk identification and analysis as a mechanical process that is the concern of management. It is often performed by rote – risks are ‘the usual suspects’ or not risks but inevitable issues.**
 - And consequently management of risks becomes ‘routine’ ‘project management’ task
 - Devolves on the project manager or team lead
- 2. Real (major) risks can be suppressed by next level management (‘could be embarrassing to raise that...’) , esp in US – seen as negative.**
- 3. Objectivity is difficult (‘my project is different’, ‘it can’t happen to me’) – this biases or disables the risk assessment process.**
- 4. Can be difficult to share or discuss risk concepts and perceptions of probabilities (e.g. uncertainty can be difficult to distinguish from risk).**

... 'Soft' Problems

...Typical risk management practice may have the following 'soft' limitations:

5. Ongoing evaluation of risks can lead to 'normalization of risk' (like Dianne Vaughn's 'normalization of deviance' (classical vs Bayesian ?)).
6. It is usually presumed that mitigation actions delays or eliminates the manifesting of threat (whereas may be better to precipitate threat now and deal with it at time of our own choosing?).

Comments...

- **Actual practice is (and will remain) generally 'lowest common denominator' (poor – results in a tool populated with some red, yellow and green indicators, that may be reviewed with declining interest as the project proceeds and risks close in).**
- **Good risk management is largely a matter of attitude.**
- **The risk that manifests is usually a surprise to the project – seems to always approach from behind (personal experience)...**
- **...but can appear inevitable to outsiders.**
- **People like risks - makes life exciting**
 - **Fire fighting is fun, and often rewarded**
 - **Fire fighters are often arsonists too**
- **Projects need risks...**
 - **Projects should not be 'steady state' (Peopleware)...**
 - **...but need to be careful which risks to accommodate**

...Comments

This need for *risk* may be need for *uncertainty*

- **This needs to be managed**
 - **it can be positive**
 - **Lean, set based thinking**
 - **Work involves, exploration, discovery, challenges**
 - **It can be neutral**
 - **Schedule uncertain, but within limits (3 to 5 months, but goal is 9 months)**
 - **It can be negative**
 - **Don't know what is wanted, or by when**
 - **'mushroom management'**

Proposals...

Some fixes:

- 1. Develop simple graphical tools to enable people to compare and share probabilities**
- 2. Insist on, and expect objective and independent peer participation and review (like QA)**
- 3. Make risk management a team activity – it could be one of the *'catalytic processes'***
- 4. Introduce and vary techniques to break expectations and conventional thinking, 'groupthink' and the 'there's nothing we can do about it attitude', e.g 'statement inversion' – makes people think, can be amusing and fun...other techniques.....?
??**

...Proposals...

Other techniques??....

...Proposals

Some fixes:

5. ***Introduce risk (or uncertainty) as well as mitigate it – to establish a *designed and balanced* risk portfolio or profile – projects are supposed to engage the team, to be exciting....***
 - **(it is done already – but not acknowledged)**
 - **Inject some chaos as ‘intellectual lubricant’ (Peopleware)**
 - **Every project a pilot (ditto)**
 - **Encourages proactive approach/attitude**

Envoi:

Risk management often ignores human (and team/project) needs and motivation

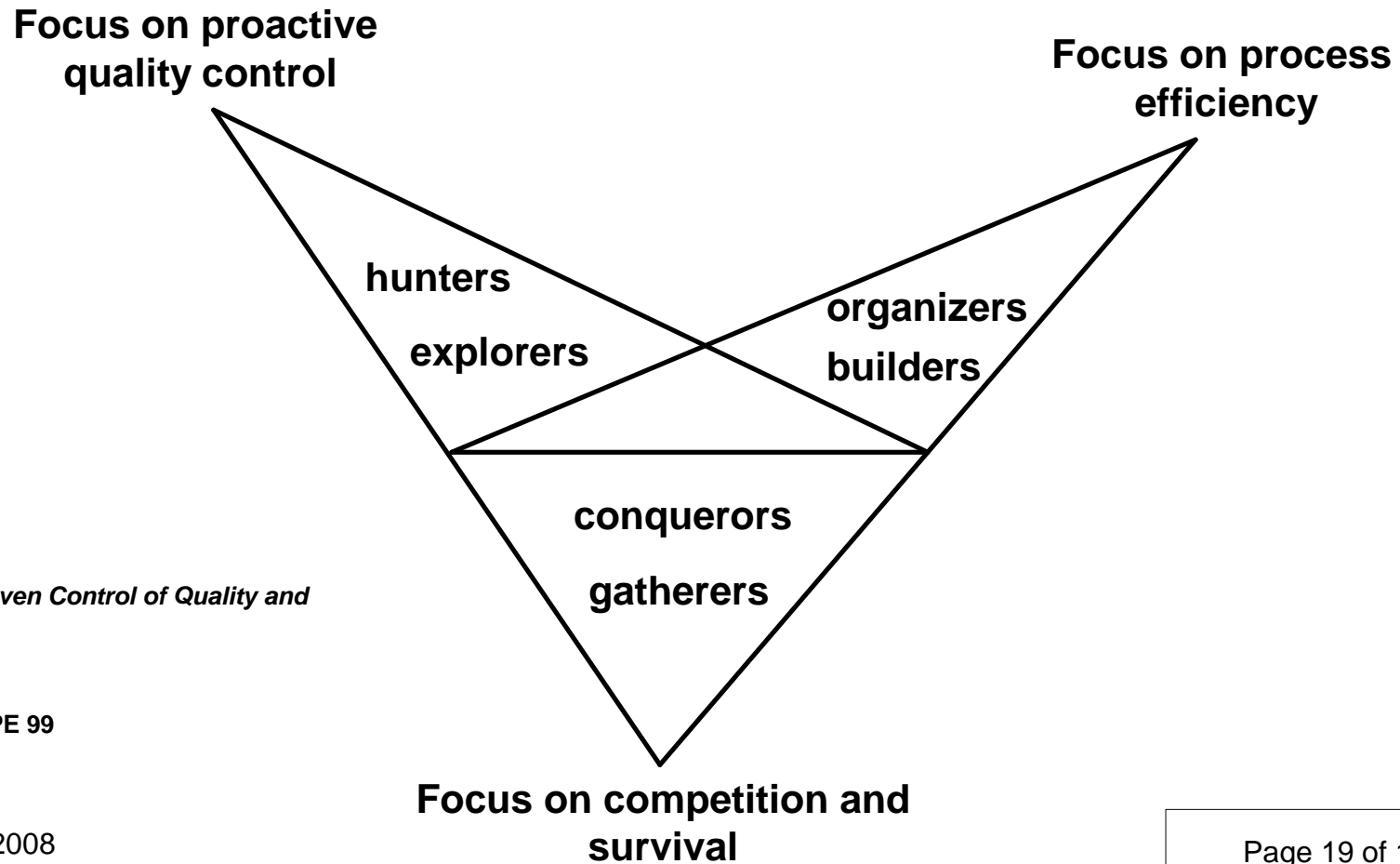
It can be recast to acknowledge human element as more than a problem

But while unknowns can make the project interesting and valuable, unknown unknowns can make it too exciting

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