

Chapter 1

Holistic View on Unknown Unknowns in Project Risk Management

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ABSTRACT

The overall value of any risk management system could be qualitatively assessed by its capability to identify and manage relevant risks. This actually means that its value is reciprocal to the relevant risks it fails to identify (unknown unknowns). This chapter outlines comprehensive thinking processes and comes up with practical recipes on dealing with unknown unknowns, including handling unknown unknowns in probabilistic cost and schedule risk models. Four dimensions of unknown unknowns are discussed: novelty of a project, phase of project development, type of industry, and various types of psychological and organizational bias. “Regular” and “Supercritical” categories are introduced to further discuss various realizations of unknown unknowns such as “broiler black swans,” “game changers,” “show stoppers,” “corporate risks,” etc.

INTRODUCTION: “REGULAR” AND “SUPERCRITICAL” UNKNOWN UNKNOWNNS

According to benchmarking data and definition of project failure by The IPA Institute, staggering 56% of major projects fail (The IPA Institute, 2009) due to

- Budget overspending for more than 25%, and/ or
- Schedule slipping for more than 25%, and/ or
- Severe and continuing operational problems holding for at least one year.

One of the top reasons for the failures is inadequate or inconsistent application of proven project risk management methods. In other words, project scope, cost or schedule development cannot be considered

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completed or reliable until consistent project risk analysis is carried out. This includes development of adequate project contingencies and risk reserves, but not only.

The statistics by The IPA above reflects on projects that were eventually completed. This does not include projects that were cancelled or suspended prior to completion. Some of them were significantly re-defined getting very different scopes, budgets and schedules. Some realized supercritical risks led to cancelation of projects. Those supercritical risks could be known all along. Some of them may stay unidentified (unknown) until they occur. Does this stand to reason to include such supercritical risks that destroy project baselines to the probabilistic model to get project contingencies and reserves? Of course not! If a supercritical risk does happen there is either no previously defined project (“knock-down blow” on the project objectives) or no project at all (“knock-out blow” on project objectives).

For instance, if a major pipeline company could not receive approval for its project for more than, to say, twelve months, the project schedule and budget should be recycled and re-done. How about a delay for two, three or more years? In addition it could be recommended to amend the pipeline right of way to reduce environmental risks, which would be another reason for cardinal amendments of all project baselines. Various interest groups could be sincerely interested in failure of the project. Plans about focused activities of those groups to impede approval of the project could stay unknown initially but they represent direct risks to the project.

As one may guess this example is not entirely fictional. Without naming a particular project, it introduces project “game changers”. In case the project owner found enough reasons to cancel it due to encountered supercritical risks those would be examples of “show stoppers”. (Hopefully by the time this paper is published that project gets approved.)

Another recent example on focused activities of external stakeholders relates to a “nomination” of a major European oil and gas company as “The Worst Company in the World” done by a major non-government organization due to company’s questionable Arctic drilling. Besides enormous reputational damage or rather due to this that company decided to stop its annual Arctic drilling program, which means substantial financial losses too.

A term “black swan” was introduced a while ago (Taleb, 2010) that referred to random risks of devastating impacts and very low probabilities. I believe that terms “a game changer” and “a show stopper” as realizations of supercritical risks reflect on project realities way better. Same time some particular realizations of “game changers” and “show stoppers” could have the “ornithological” origin. In the examples above pre-planned focused activities of some stakeholders were pointed out aimed at stopping particular projects. First, obviously such events were not random at all being well planned. Second, their probabilities were not necessarily very low. Actually they could be rather high being attached to focused public activities in a democratic society. Third, their impact on a particular project could be sometimes supercritical and sometimes more regular. Fourth, despite these activities were well predetermined they stayed unknown for a while before being discovered.

I introduced a new term “a broiler black swan” in my book (Raydugin, 2013) to categorize project risks that stem from focused activities of project stakeholders. If occur, the “broiler black swans” could become “game changers” or “show stoppers”. If they stay unidentified before happening those could be qualified as unknown unknowns. Such “broiler black swans” are usually “fed” by various external stakeholders and interest groups that are not quite interested in success of a particular project by any reason. This justifies the introduction of this new “ornithological” risk term. (In general, the list of such stakeholders could include competition, vendors, existing “jealous” trade or business partners, unions, government, local communities, NGO’s, etc.)

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