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## The Black Swan – Knowing the unknown in projects

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### Abstract

A “Black Swan” is produced when the gap between what we know and what we think we know becomes dangerously wide (Taleb, 2007). This concept is closely related to uncertainty and learning. A Black Swan event is usually a surprise, at least to the observer. However the Black Swan event very much depends on the observer. What may be a Black Swan surprise for a turkey is not a Black Swan surprise to its butcher; so the main objective is to “avoid being the turkey” by exploring and identifying areas of vulnerability in order to avoid surprises. In projects, while some may disagree, almost all failures, even catastrophic ones, are not really Black Swan events but a series of failures that alone may have a negative impact on project outcomes but combined lead to catastrophic failure. However it is surprising how often experienced project teams ignore the early warning signs and move forward into the project lifecycle despite serious problems in many areas that are keys to project success. This will ultimately lead to the Black Swan event materializing. That is when it is too late to take any preventive actions. This paper will characterize the Black Swan concept in projects and describe its nature and identify organizational mechanisms that can be useful in dealing with Black Swan surprises in projects. This study is mainly based on literature study, however carries out an assessment on examples of Black Swan events in order to better clarify the concept under study

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## 1. Introduction

Taleb (2007) defines a Black Swan as an event meeting three criteria: 1. It is an outlier as it lies outside the realm of regular expectations, 2. It carries extreme impact and 3. Human nature makes us concoct explanations for its occurrence, after the fact, making it seem explainable and predictable. Black Swans are “unknown unknowns” which despite all the plans and precautions that might have been made still take the organization by surprise and lead to catastrophic consequences (Green, 2011). Some people associate “Black Swan” with “crisis”, while that may not be true. Not all crises are black swans. For example a normal hurricane is a crisis but only a hurricane like “Hurricane Katrina” is a Black Swan. That was because no one could have anticipated the size and scope of the disaster. A Black Swan event is a game-changer for those going through it or that are impacted by it. For them, and for the audience who may have witnessed this situation unfold, the world never will look the same again. Taleb (2007) makes a case that the 9/11 incident was a Black Swan event. Other Black Swan events can be the 2008 credit crisis, the Lehman Brothers’ bankruptcy in 2008, the 2010 BP gulf oil spill and the 2011 Japanese earthquake and tsunami. Projects are not exceptions in case of being subjected to Black Swan type of events. For example, a \$5 million IT project that leads to an almost \$200 million loss could be a Black Swan.

There is not a consensus among researchers on the level of predictability of a Black Swan event. Taleb (2007) believes that Black Swan events are unpredictable and highly improbable events which are inevitable in our world. And the only way for managing these types of incidents is to become ant-fragile and robust in order to become immune to prediction errors and protected from adverse events. Green (2011) partly supports this idea by stating that although these types of events are not predictable, organizations should prepare to be mounting an effective response while simultaneously dealing with the psychological impact of being shocked by an inconceivable event of staggering proportions. However there are other researches which claim that Black Swan events can to a certain extent be predicted and they suggest various approaches for dealing with them (Murphy and Conner, 2012; Kenett, 2013; KPMG, 2013; Werther, 2013).

This study deals with Black Swan events specifically within the project management area. It suggests that by early identification of early warning signs indicating that some type of “Black Swan” event is likely to happen in the future and by proactively managing the knowledge obtained from those indicators, it can help to prevent or lessen the drastic consequences of those events or in extreme cases prepare for the impact of the Black Swan event. The first section includes a literature review on the Black Swan concept in general and specifically within the project management area, the research which has already been done on management of Black Swans and the phenomenon of early warning. Secondly, the research methodology will be briefly discussed. The subsequent sections include a brief description of an example of a Black Swan event in the project management area and the conditions under which the project ended in a disastrous situation as well as a discussion on the possibility to predict and proactively manage Black Swan types of events in projects by applying the EW procedure and knowledge management. Finally the conclusions and suggestions for further research are presented.

## 2. Literature review

### 2.1. *Black Swan events in projects*

According to Taleb (2007), a Black Swan event is an unpredictable event that defies prediction. It’s an event that can kill an organization if not managed properly. The following is a list of some common characteristics of many of the Black Swan events that have occurred (Green, 2011):

1. Emergency response and a solution to the scenario are totally different aspects. It’s not just about responding to the crisis, it’s also about finding ways for fixing the problem.
2. Solutions to the problem should often be created. They are novel solutions which cannot be repeated based on best practices. The cause of the problems is not always obvious and it might demand extra effort for the leadership to find the true cause. Also the organization might need to go through several solutions before finding the one that suits best.
3. Productivity might be negatively impacted as employees can be concerned, uncertain and distracted.

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