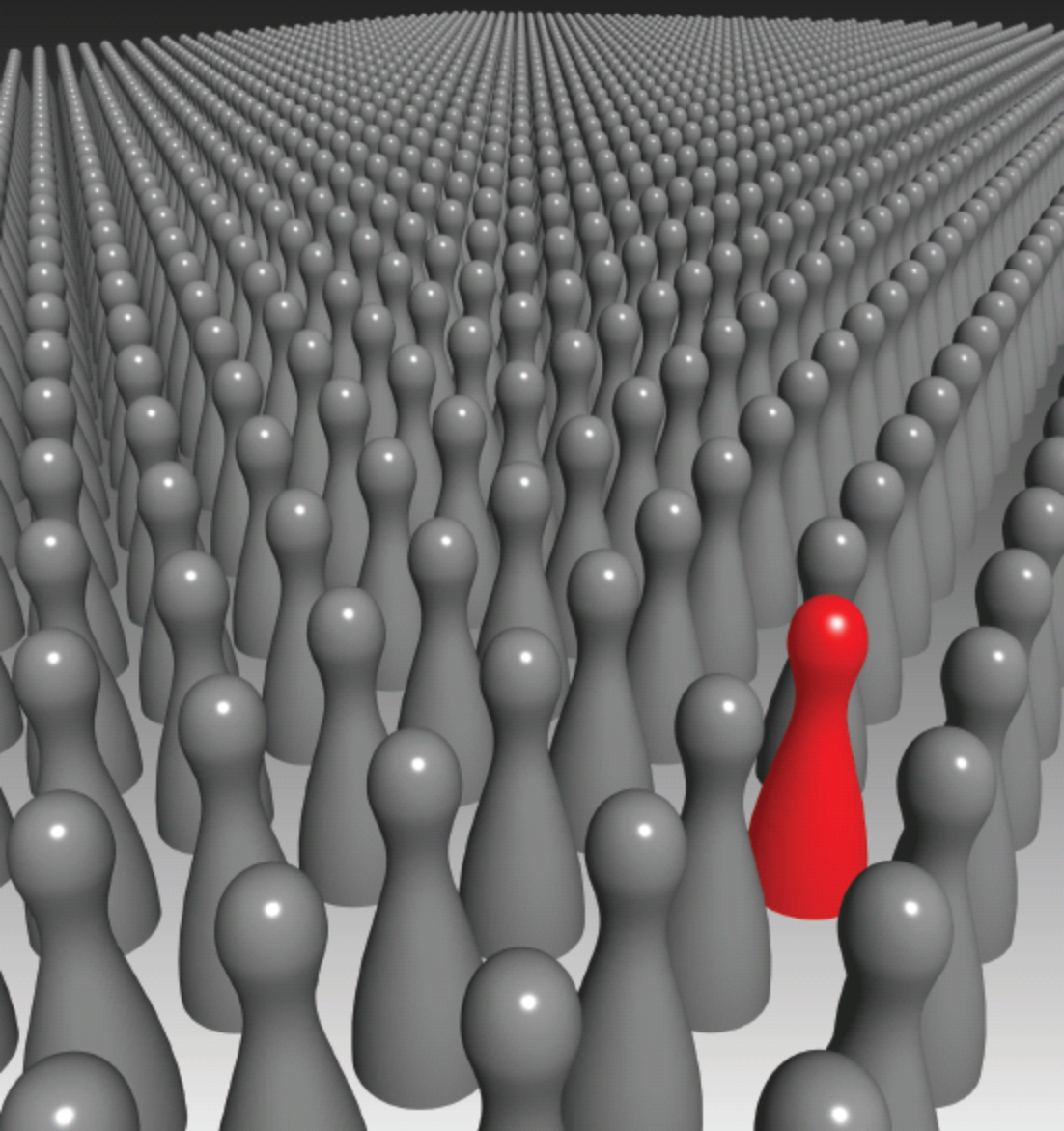


Luc De Ceuster

Focus on **Risk Management**
Manage Risks to improve Project Success

First Edition



*APraCom[©] Project
Management*

**Focus on
Risk Management**

Manage Risks to Improve Project Success

First Edition, 2010

Ir. Luc De Ceuster, PMP

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***For Franciscus De Ceuster
who left us too early***

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I explicitly want to thank Guy without whom I surely would not be alive anymore. Of course my parents, my brother Steven and my family, Ludo, Dan, Michal, Miluše, Erik and Irena.

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Introduction

During my career as project manager and in different disciplines, I have encountered risks in many different ways. Suddenly things went wrong or sometimes we had some unexpected successes. In many cases, these things just happened out of our control and sometimes we knew something unexpected could happen and we prepared for it.

Soon, we started to identify the fact that we did not take into account all possibilities or even forgot to look at some obvious possibilities. In many case, people just started working without thinking about the work to do. Many people still do today unfortunately and with the obvious consequences of doing it the wrong way or even failing in the things they wanted to do.

Although uncertainty is a part of life, people tend to avoid it and choose certainty. Today, during the world financial crisis, people realized that certainty in fact does not exist. Many people made “certain” investments for their pensions, bought stock of solid companies and see that this is not really the case. Some people have chosen a safe job and started to work for the government and suddenly, due to market focus or European regulations, the service or department they have been working in, is privatized. Suddenly their certainty turned into uncertainty completely unexpected and against their own choices.

During my career, I worked in different companies and industries and noticed many different approaches to risks. In the military, risk and even danger may be very close even in peacetime or at home in the barracks. Companies I worked with sometimes looked

at risks as if it something they did not want to hear about. They were putting their heads deep in the sand like an ostrich and hoped the lion would not see them.

Risk however, offers opportunities that can bring more success to your company. In this book, we will look at a number of aspects of risks and how to work with them in order to improve project success and efficiency. In the past, companies who looked uncertainty in the eye were more successful than others were and for that conclusion alone is reason enough to embrace uncertainty as an opportunity for excellence and project success.

Chapter I

The Nature of Uncertainty in Projects

Uncertainty and risk are always around us. In many cases, we just learned to live with these risks and we do not even think about them when we are doing our “everyday” things.

Sometimes we are suddenly confronted with these elements of uncertainty when we have a flat tire with our car or when something else goes wrong. People, who have been investing in the US housing market or on the stock markets before the collapse, may have seen their investments becoming virtually worthless. Selling in panic would really mean disaster. However some people may have no choice.

Other people, who have sufficient money available, may take this period as an opportunity to shop and eventually make a lot of money or not. Uncertainty means that we cannot predict the future. However does not mean that we cannot prepare for these uncertainties by putting some money to the side, by spreading our investments, by closing insurances and by looking at other possibilities to manage the risks.

Many people have only one bank account and in case of a sudden bank crisis, it would mean that it would take a lot of time to transfer funds to a bank that does not seem to be in trouble. Spreading your money over different banks or accounts also reduces the risk of losing everything or just putting your money in a country where the state offers better guarantees than your country.

In Europe, the state guarantees 20.000 € per account. On the Chanel Islands (Jersey, Guernsey and others), this is up to 90% of the money you had in the bank.

Uncertainty will always be there and we will have to live with it. Sales people or other people who are working on a commission based wage plan, may have relatively low basic wages, however, in the case

they make their objectives or even overachieve, the bonuses may even double or triple that low wage. You only have to be able to live with this uncertainty.

Many people in Europe have been living for years with false certainty. Many things have been pre-arranged for them. The social system offers possibilities for people who become ill or lose their jobs. In case of dismissal, they generally get good compensations. This is not the case in many other countries around the world. For example, in the United States, the “economic safety” is minimal and many people may lose their jobs without any significant compensation. These people have been accustomed to this way of living and adapt quicker to changes. People change jobs faster and are hired and fired more easily than in a “socially protected” economy.

Uncertainty is looked upon in different ways depending on your situation and a lot depends on the way you have been living. People generally get frightened when encountering new things. When we recognize the same things later, we already know what is going to happen and we can prepare for it.

1 *What is uncertainty?*

The definition, we generally find in the dictionary relates to the fact that we don't know how the outcome of our actions in the future will turnout. We do not know what numbers will fall at Saturday evening's lotto draw or which horse will win the Irish Sweepstake. Many things that will occur in the future are uncertain for us now.

Webster's dictionary¹ defines "uncertain" as follows:

"Not surely or certainly knowing, not sure or certain in knowledge; doubtful, vague, not dependable or reliable, varying"

The Thesaurus², contains following description:

"[That what is not determined or not known] chance, mutability, change, unpredictability, possibility, emergence, blind spot, puzzle, enigma, question, blank, vacancy, maze, theory, risk, leap in the dark."

In the description of the Thesaurus, many synonyms really reflect the nature of uncertainty or risk in general and of course in projects. Uncertainty and risk are the two terms that will be used further in this book.

In the case of Projects, Uncertainty is more of an issue than in day-to-day operations or repetitive things due to the nature of projects itself, which is

¹ Webster's New World Dictionary, Victoria Neufeldt, Andrew N Sparks, Warner Books, 1990

² Webster's New World Thesaurus, Charlton Laird, Warner Books, 1990

clearly described in the following definition of project:

“A Project is a temporary organized and managed environment to create a new unique product or service.”

The key word related to uncertainty in this definition is “unique” which indicates that what we will be achieving with the product is something new, something we did not do before. It is like the opening sentence of the once popular series of Star Trek: *“To go where no one has gone before”*.

Many projects in the past large and small have dealt with uncertainty and from the end of the 19th century at the moment of the appearance of “scientific management” or “Taylorism”³ a more scientific approach was introduced in the way of doing business.

The real launch of risk management started around the era of the Second World War together with the appearance of the first computers. Projects became more and more challenging and techniques were introduced to improve project performance. Many lessons were learned from the

³ *Frederick Winslow Taylor developed the core ideas of his theory in the 1880s and 1890s and was published at the beginning of the 20th century. Taylor’s scientific management made an end to the traditional approach of businesses where decisions were made based upon tradition and rules of thumb. He built scientific methods based upon careful studies of individuals at work. Taylorism can also be seen as labor pushed to its logical extreme where the worker is de-skilled and the workplace is de-humanized. This theory in direct contrast with the modern Total Quality approach and Kaizen where the intelligence of the worker is maximized and the workplace is adapted to fit people and process.*

projects and failures at the end of the 19th and the beginning of the 20th century. Some examples are the construction of the Panama Canal which was built in two stages. The first phase was unsuccessful because of the large number of people dying of Malaria. This risk was not considered in the original project and that was the reason of the initial failure. A second trial was done some time later and started with the fight against the Malaria Mosquito by destroying its habitat, the swamps.

You can imagine the uncertainties that would have lead to the operation “Overlord” when the allied forces invaded German occupied France or the Manhattan Project or even the race to the moon.

Starting projects with so much uncertainty could only be completed successfully with a structured way to manage these uncertainties. The risk management methodology that project managers worldwide are using today developed during that era.

The experiences gained and the processes set up came in handy when the ICT industry started booming. We all know today that writing programs for computers that contain so many different other programs become very complicated. The complexity increased exponentially and the interferences between all these programs written by different people worldwide could not be considered completely when writing the programs. We all know the “bugs” that accompany the new versions, the fact that sometimes very quickly after a new launch many changes have to be implemented.

2 *Uncertainty or Risk categories*

When looking at risks, different specifications can be given and the risks we will encounter in our projects. Of course, we dispose of a large database of information related to what happened in the past. We all remember the history classes at school in which our teachers explained to us what our ancestors did (sometimes things were and still are hidden or false information is used). The history records contain a great number of “lessons learned” and when carefully studying these records, we can learn and avoid the same mistakes again.

In Europe, the tendency exists to reduce the history classes to a minimum or even to take them out of the program. However, Military History is still one of the main subjects in military academies worldwide. We can sometimes also find record related to business decisions and reasons of failure and success.

One famous writer was Machiavelli who described the reasons of success or failure of existing kingdoms. In his book, he clearly described how the rulers ruled and why they were successful or not. When you look around closely, you may even recognize the governments and regimes that still apply his lessons.

History provides us with a valuable database of information but that information is not necessarily applicable to our projects. When a company starts to implement a Project Management Methodology, it will probably start with probably also implement a Project Management Office where, amongst others, historical data related to projects is stored and made available to all project managers who would need it.

Looking at projects, we can identify in fact three types of uncertainties: Known Unknowns, Unknown Unknowns and Catastrophes as summarized in table 1 on the following page.

One problem related to keeping historical records is that companies do not like to be reminded about their failures and records may just be destroyed in order to “keep up appearances”. Companies who do this may actually repeat the same errors with probability and increasing impact.

Category	Description	Comment
Known Unknowns	Events that have happened in the past and may occur again in this project	We can find this information in the lessons learned from previous projects
Unknown Unknowns	Events that have not happened before and are inconceivable yet	It didn't happen yet, so difficult to imagine, no known references for us
Catastrophes “Acts of God”	War, weather and political events that can affect the entire business and are very difficult if not impossible to predict	Some evolutions can be anticipated like unrest in countries or long term trends. Tsunamis and earth quakes are more difficult to predict

Table 1: Categories of Risk or Uncertainties

“**Known Unknowns**” is the easiest category to identify since these risks already occurred during pervious projects and we can learn from the history how to protect against them. On the other hand, it may also be that the circumstances are very different from your project and you may

wrongfully suppose that they are similar.

In general, we tend to stay within our “world of existence” and most of the time people do not change much between industries or functions. Some examples are the people working in the automotive sector or the construction sector; they rarely step over to another industry. Consequently, they will only know how everything is working in their industry and will not be aware of solutions applied in other industries and that are applicable in theirs.

When you look around, you would be surprised how people in different sectors resolve the same problems in different ways. It may be very valuable to identify the solutions that would also be interesting in your domain. You could identify the parts that are not working properly and finding the things that are working good or better in different sectors and industries. You will be surprised of the outcome.

“**Unknowns Unknowns**” are the events that did not happen before, nevertheless, are you sure that they did not occur yet in a similar or very different situation or industry? Looking around and learning from others may be an option or today it becomes quite easy to find a multitude of information on the Internet. It is best to validate that information, but it may help you to improve your risk management on your projects.

Reducing the probability to encounter risk of the “unknown unknown” type will improve the success of your projects. As I said before, an unknown for you may be a known for others. Project Management does not mean that you have to do everything yourself or stay within the safe harbor of your normal habitat. Gathering expert advice or sharing information with other project managers or other people may be very helpful for your projects.

“**Catastrophes**” are of course of a different nature. Predicting “acts of God” is not possible and may have an important impact on your projects. On the other hand, we may have information about typical weather conditions, probability of power changes, political unrest and others that may give you an early warning of catastrophes preparing. In many occasions however, it will be impossible to predict and when it happens, we can only accept and see what the final impact on the project is.

3 Do Uncertainties or Risks only have a negative impact?

In many cases, people interpret the term “risk” as something negative. For them risk is an indication of the things that may go wrong. When we look at the description given in the Webster’s Thesaurus, we also find words that may indicate something positive like:

- Chance
- Change
- Possibility
- Blind Spot

The fact that an uncertainty or risk may relate to threats but also to opportunities may surprise the people you will be working with since they have the warning sign built in that a risk is something negative. This is clearly not true.

We can define **project risk** as follows:

“Project risks are uncertainties that may have either a positive or a negative influence on at least one of the project’s constraints”

The fact that a risk may have a positive or a negative impact determines the way we will look

at risks. Risks with a positive effect on the project are opportunities and risks with a negative effect are threats.

4 Uncertainty and the rolling wave concept

Uncertainty is a time related factor. Today, we probably already have a relative clear idea what we will do tomorrow or next week. We may already have made plans for some future holiday or trip. On the other hand, further in the future, things may be unclear and difficult to foresee what will happen.

In the book “Focus on Project Success”, we described this as “the rolling wave concept” where the project manager only has a limited view into the future of the project. In addition to this, projects are in a way uncertain because they relate to the creation of new products or services and it may take several years to complete. In that case, the project manager will not be able to foresee the far future (many of us would already be happy to foresee the near future).

Going through a project is like climbing a mountain for the first time. The mountaineer only has a limited view of the mountain and cannot see the hidden parts of the mountain and in the visible part; he or she cannot see all the details that are necessary to choose the safest passage. It is only after passing some obstacles, that the mountaineer will learn more about the hidden parts of the trajectory as shown in figure 1 on the next page.

When we start with the project and more particular in the planning phase, we just can see the front of the mountain and cannot see the hidden parts on the way up nor the back of the mountain. During

this phase, the project manager and his or hers team have to make assumptions related to certain conditions they may encounter or sometimes they do not even know there is a possible risk.

It is only when we start going, we will be able to see farther than the initial “planning horizon” and that we will have more information about the uncertainties. In some cases, we will see that some of the uncertainties disappear while others are worse or better and new may appear.

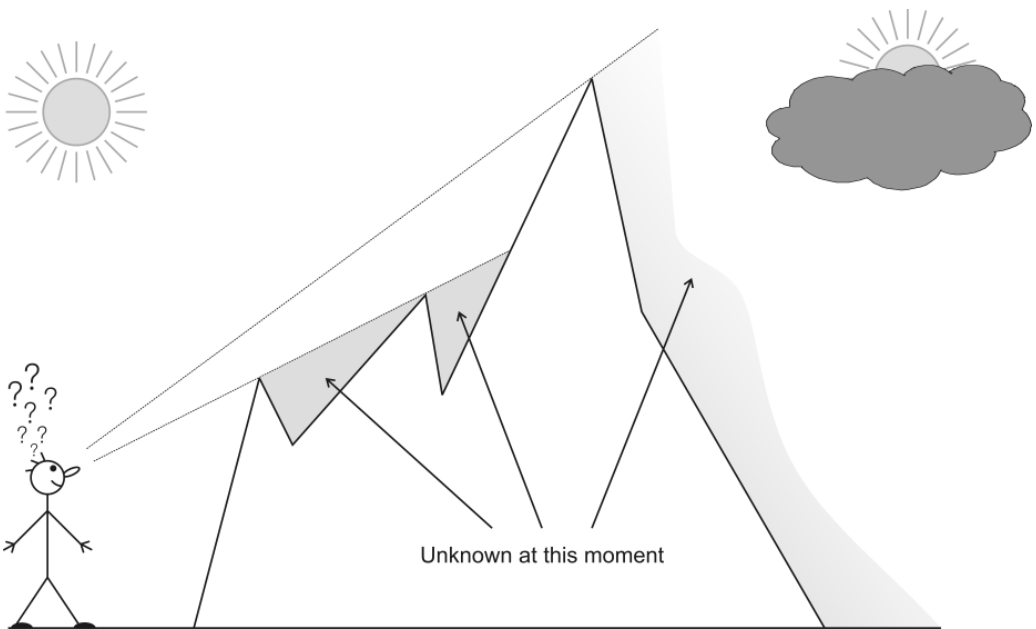


Figure 1: Rolling wave approach to project management

5 Risks and company culture

5.1 Risk taker or risk avoider

Company culture influences the attitude towards uncertainty or risk. Each company has its own level of certainty that drives their businesses. Older companies rather thrive on “certainty” while newer companies may thrive on risk.

Risk and uncertainties rule all business. We do not really know how our potential customers will accept our ideas, services or products and how the competition will react to it.

Risk is everywhere; nevertheless, some people are open to accept more risks than others are.

A company that has the profile of “risk avoider” will carefully select its projects that comply with this profile and their investments or projects may look a bit “dull”, nevertheless, they may offer certainty to their customers and clients.

Companies or people that are more risk taking may show greater results and projects. On the other hand, the risk that something goes wrong is higher than with the other companies or people.

Banks offer today different investment profiles for their investors going from high risk to stable investments. You can imagine that the high-risk investments may bring high returns, but they are more sensitive to market fluctuations and may tumble down very quickly.

We will see later that certainty has a price. When your company wants to be sure about the project costs, they will have to budget a higher amount for their projects. On the other hand, companies using a higher risk profile will budget a lower amount and they probably will be able to schedule more projects.

5.2 Attitude towards risks

When you start talking with people about risks, many people will react defensively and you will hear statements that they do not accept risks. People may be frightened when hearing the words “risk” and “uncertainties” because they want to live with certainties.

In many cases, they do not recognize the risks and uncertainties in their day-to-day work and do not know the project environments. Many times, I got similar reactions when discussing the project risks during a project kick-off meeting.

The meeting even may end up in a fight between the project team and the client. It is clear that your client should be “educated” in the project way of doing things. It may be better to use a different word for the first few times and then move slowly to the more appropriate terms. Of course, all depends on the relationship built during the pre-sales and sales phases.

Unfortunately, in some cases, sales people tend to better present things because they are afraid to lose the contract. After contract signature, the project manager together with the implementation team will have to solve this problem. It is not the first that something like this happens and the first steps after project kick off may be turbulent.

Chapter II

Uncertainty and Probability

Toto je pouze náhled elektronické knihy. Zakoupení její plné verze je možné v elektronickém obchodě společnosti eReading.