Risks & Opportunities Overview

What does Risk & Opportunity Management involve?

BASIC INTRODUCTION TO RISKS & RISK MANAGEMENT THEORY

In Business, risk management is a process of forecasting and evaluating financial risks together with the identification of procedures to mitigate, avoid or minimise their impact. The establishment of context, identification, analysis, assessment, prioritisation, treatment, monitoring and communication of risks is defined in ISO 31000 and ISO/IEC 31010, and is classified as the effect of uncertainty on objectives, which is then followed by the coordination and economical application of resources to minimise, monitor and control the probability and/or impact of those identified events. In our fast paced world of business, the risks we have to manage tend to evolve quickly and if you get it right, project management will be one of the greatest competitive advantages your company will have.

One of the most important misunderstood aspects within the project management world is distinction between risks and issues, and many Project Managers use these terms interchangeable or they are completely missing one of the most critical aspects of their role. Table 1 identifies the differences between risks and issues, because every project runs into problems are you need to be able to show that you have plans, logs and mitigation strategies to address each of these items and that you are doing/did everything you could to lead the project to success. Failure to identify and reduce risks at the early stages of a project mean they can often become issues later on.

	Risk Management	**Issue Management**
Definition of an Event	That may or may not occur	That has in fact occurred
Approach to be taken	Conjecture & Anticipation	Responsive & Realised
Focus should be on	Prevention & Mitigation Steps	Action & Resolutions Steps
Questions that should be asked	What could go wrong?	What happened/has gone wrong?
	What impact will this have?	What impact is this having?
	What can be done to mitigate?	What is being done to resolve?
	Who owns the mitigation plan?	Who owns the issue log?
	Who is updating the risk log?	Who is updating the issue/signing it off?
	Who is updating the mitigation?	Who is preventing a recurrence?

Table 1: Differences between risks and issues

The difference between a project manager and a project leader is the ability to answer their questions with a sense of prescience and diligence. While they don't expect perfection, most executives fly at 30,000 feet and don't have time to get into the nuances of every project. If you want your project to succeed, you must be able to explain how you manage project risks and issues.

Risk is all about uncertainty and you need to put a framework around that uncertainty in order to manage it and this allows you a mechanism to effectively de-risk the project. The standard six step risk process is summarised as:

- **Identify the Risk** – uncover recognise and describe risk that affect the project and outcomes;
- **Analyse the Risk** – determine the likelihood, consequence, nature and impact of each risk;
- **Evaluation and Ranking the Risk** – risk magnitude determines seriousness to warrant action;
- **Treatment of the Risk** – risk response planning using control activity strategies (**Avoid, Control/Mitigate, Accept, Transfer/Share**) and associated prevention/contingency plans;
- **Inform and Communication of Risks** – the assumed and non-written down missing link;
- **Monitor and Review the Risk** – using the Project Risk Register/Log to track progress.

BEST PRACTICES – RISK MANAGEMENT

A world-class Risk Register that is created at the start of the project and is not maintained is worthless. In order to properly facilitate the process you must not forget other factors such as:

- **Risk Training** – make sure all team members understand risk principles and processes, and don't forget periodic updates the help with continuing professional development and also act a project refreshers to help advance skills and keep on top of current thinking;
- **Responsible Risk Owner** – each risk must have a named individual that manages it;
- **Accountable Risk Manager** – Risk Owners report up to a Risk Manager who directs them;
- **Action Risk Coordinator** – don't under-estimate the power of a person dedicated to keeping the process working, reminding people to update the risk log and prompt the forgetters;
- **Accessible Risk Register/Log** – team all have access to view and update the risk register/log. If it is a dedicated tool with limited access, people we not engage and loose interest. If you do have a dedicated tool, get it to provide outputs in a format that everyone can view and modify, and then update the changes as required;
- **On-going Process** – you will not identify all risks at the start of the project, and need a process to capture emerging risks as they develop through the life of the projects. You may need different tools at the different project stages;
- **Dashboard Metrics** – you need to see the history of events and progress to date, to see if the mitigations are working or if you need to take other approaches. This can be your communication method to update the project team and other relevant stakeholders, if not then you need to think of other mechanisms to communicate this information;
- **Beware Fire Fighting Modes** – try to avoid the impulsive reaction to get into this mode of operation in order to rectify problems that you could have anticipated;
- **Complete the Loop** – remember to update the lessons learnt log as you go along, because invariably you will forget things at the end either after the celebration party or inquiry board.

You should always ask and question how efficiently and effectively is your risk information being maintained both at the individual project, collective programme and enterprise corporate levels. There are 5 levels that risks are being managed and they are:

- **Not at all or not applicable** – this is syntagmatic of a lack of leadership, inappropriate processes or a people issue related to lack of skills and/or experience;
- **No Retrievable Risk Records** – the classic Risk Register/Log recorded within a logbook or on an Excel Spreadsheet on a Managers Desktop/Laptop – all too common;
- **Configured Risk Records** – risk records are maintained using an electronic means that are capable or maintaining master copies of relevant information, however much of the information is out of date, not updated an a sufficiently regular basis to make it of use, or worst still wrong;
- **Maintained Risk Records** – risk records are maintained regularly using an electronic means that are capable or maintaining master copies of all relevant information, however the retrieval of information and production of reports could be made far more efficient. The data is being captured but the business value is not being extracted out of it and turned into meaningful information to allow actions to be taken;
- **Meaningful Risk Records** - risk records are maintained regularly and updated routinely using an electronic means that are capable or maintaining master copies of all relevant information. Sufficient historical information is available to provide a good audit trail, and people with an interest in risk data and information have convenient access to all the relevant information.

A lot of problems associated with the lack of a good risk management process fall down to a lack of the correct appointment of people, training of those people and ultimately making sure that they all have very clear, concise and bound roles and responsibilities associated with the risk process. They key roles are identified below:

- **Chief Risk Officer (CRO) or Risk Management Officer (RMO)** is a corporate executive who is tasked with assessing, mitigating and signing-off significant competitive, regulatory and technological risks across the enterprise. They are accountable for enabling the efficient and effective governance of significant risks, and related opportunities, to the business and its various segments. They also approve the Risk Management Strategy and Corporation Risk Management Process and Procedures (which they may delegate down to Project or Programme Directors).

- **Risk Manager (RM)** is responsible for leading, motivating, planning, designing and implementing an overall risk management process for the organisation. They need to be well versed in a wide range of technical, economic, health, legal and environmental factors, as they have a pivotal role is reducing risks that could have a devastating impact of projects, programmes and the organisation. They should be the Risk Subject Matter Expert (R-SME) who is able to analyse an organisation's risk profile, corporate appetite (based on willingness to bet, organisational size, finance health, reputation, superior tools, experience, agility) and develop strategies for monitoring and controlling risks. Some statistical and financial management experience and professional competency would be required for people in this role.

- **Project/Programme Manager (PM)** – is responsible for managing project risks, including the development of contingency plans, needs to make risk management embedded as an integral part of the project, and drive the early identification through regular reviews with people of the project artefacts. Communication of risks is vital and needs to be on meeting agendas. They should forget positive risks (opportunities). All risks should be assigned owners, be prioritised, analysed with a proportionate plan and implication risk response, and administered via an accessible register or log. Project Managers must focus on the current situation of the risks, focus on what is likely to happen and watch for relative importance changes through the life of the project. Finally, measure the effects of the risk management efforts and continually implement improvements, to help drive home success.

- **Integrated Project Team (IPT)** – Risk identification is one of the most important functions in the risk process, and the IPT should be formed early and selected on the basis of their breadth of experience and diverse viewpoints (ideally from across all the functions of the organisation) to make sure all significant project risks are identified. If there are knowledge gaps, the IPT should consult their head of functions, request SME or contractor/consultant support in order to help facilitate a comprehensive risk identification procedure.

- **Risk Owner (RO)** – a person that has overall responsibility and ownership of an identified risk, resolving concerns about the risk, ensures that tasks are carried out to mitigate the risk and provides feedback and updates concerning the risk.

- **Mitigation Owner (MO)** – don't confuse the risk owner with the mitigation owner. The Mitigation Owner has responsibility to undertake activities

Now that you have the process ironed out together with the right people doing the right things at the right times, the final piece of the puzzle is the understanding of the purpose of risk reports and what decisions will the relevant recipients make as a consequence of having access to the relevant information. Different people within the organisation will need different types of information to help

support their decision making, hence the reports should be tailored with a clear purpose, clear audience and what they should do if they feel there is a gap or opportunity to improve the process. People should have to live with inefficient, incorrect or sub-standard processes, and should be able to make recommendations for improvement as part of the corporate initiative for continuous improvements. There is no definitive list of what reports should be produced, and it is usually the responsibility of the Risk Manager or PMO to identify the key risk management products and ensure that they are producing the appropriate quality outputs at the right time. Some typical risk reports are listed below:

- **Prioritised List of Risks by Project/Programme/Owner/Enterprise** – selection of real-time risks for management attention, including when they were added, last update/reviewed;
- **One Pager Risk Detail** – helps support and record decisions made a risk reviews, especially when new responses are identified and by whom ;
- **Risk Decision Analysis** – this typically allows for specific decisions to be made when choosing between different project or mitigation solutions;
- **Risk Compliance Analysis** – making sure that projects are compliant with corporate governance standards, prevent both other company crises and own company crisis, and ensure there are active prevention and checks in place to ensure the process of working;
- **Risk Cost Analysis** – this output allows decisions to allocate, increase or reduce the level of financial contingencies, selection of mitigations to help avoid financial liabilities, help understand the full range of risks/opportunities facing the business and also allows post-mitigation financial liabilities to be assessed. This category of reports falls into supporting operating performance area;
- **Risk Schedule Analysis** – this output allows for the strategic placement of milestone objectives, helps with the prioritisation of programme schedules which also has a bearing on resource allocation/management and helps informs needs for external support/costs. This category of reports also falls into supporting operating performance area;
- **Risk Business Analysis** – this output supports the analysis on items such as protecting company reputation/relations, enhancing capital allocation, improving returns through implementation of company best practices) all focused on 'Shareholder Value Enhancements';
- **Risk Business Case Assessment** – used to support project authorisation decisions;
- **Customer Risk Status Report** – joint approach to management of key risks;
- **Dependency and Assumption Report** – linked to the dependencies between risks from both internal and external (supplier, customer, user) stakeholders, as well as a compilation of the assumptions associated or linked to risks, so they can be holistically periodically reviewed.

OPPORTUNITY MANAGEMENT

Opportunity Management (OM) from a business perspective can be defined as the process of identifying business development opportunities that could be implemented to help sustain or improve projects performance and focuses on tangible outcomes. It is about removing barriers, overcoming hurdles, recognising and capitalising positive probabilities/impacts and creating new paths for projects and teams to follow. Everyone has unique perspectives, experiences and insights that have the chance of adding significant value to projects.

Sources of opportunities within organisations typically come from the supply chain, product and service offerings, processes, application of new technology and new markets.   Sources of opportunities external to organisations typically come from new customers, new products to existing customers, reduced competitors, identification of complementors, emerging technologies and

scientific developments reaching new TRL & MRL levels, the effect of new influencers and thought shapers, and finally the powerful impact of political, legal and social forces. These lists are not meant to be comprehensive, but indicative of the potential range of sources from which opportunities and innovation can spring from. One should also not forget from the learnings of the past, which although can predict the future, provide signals and trends that if ignored or missed, showcase business surprises which will give insights into organisational blind spots.

The case of developing customer sensitivities or 'walking in the customers shoes' has been well documented and can provide enormous potentially, especially if this can be done as their tastes change, they mature their understanding of the products and systems, and they get a better feeling for what the competition does. "Clarity comes from engagement, not from thinking about it" (Marie Forleo) and the devotion, drive, skill and intuition that you apply to engagement can lead you to unparalleled success. The visible elements of what we observe are just surface manifestations of the underlying processes, people, products/systems/interactions, motivations, egos, creative talent, genius and innovation that run beneath the bonnet/under the hood of most organisations. So trying to copy others is just a waste of time, you need to do it your way to really make a difference. If you are interested in this topic, please read the '**HISTORIC CASE STUDY – FORD vs FERRARI'** that is located at the end of this paper.

Some key aspects of chasing opportunities are:

- **Customer (often) don't know what they want (at the start)** – "A lot of times, people don't know what they want until you show it to them" (Steve Jobs). More companies are committing to a customer experience transformation/co-creation model involves gathering more and more insights on a transactional and relationship level as time goes by. Customer can provide insights into technical matters, but they will not allow you to differentiate solutions. Customer will never provide you with innovative ideas, or tell you in advance how they will feel about something until they see it. The gap between Customer Expectations and the reality of the experience delivery is the challenge that is up to you to fill or fail. Failure to listen to your Customer hurt/needs is the ultimate sin, because you may have the capacity to heal it. The answer to this question is complex and ultimately comes down to your companies risk tolerance, your available assets and the strategic goals you are chasing;
- **Maintain obsessive secrecy** – keep your IPR to yourselves, otherwise it will be used by others. Innovation systems need to fulfil many roles, but critically they need to be assessable for efficiency, communicable, structured/coordinated & measurable, support learning systems, have incentives/rewards and have business alignment, that lead to either incremental, semi-radical or radical innovations;
- **Project a reality-distortion field** – there are times that it will be necessary to exert knowledge, charisma, personality and persistence in order to get a project off the ground, although it is always recognised that it is best to work with reality and make the best out of it; nobody likes to think they have an ugly baby, and you may need to buy some time and resources to make it into a beautiful model/break through idea. It is impossible to create perfection instantly, and you have to work within company processes to evolve opportunities to a state where they can fend for themselves;
- **The devil is always in the detail** – but that doesn't mean you need to micro-manage it yourself. There are a lot of people both within and outside your organisation that can help you. Remember to make sure you get externals to sign non-disclosure forms so you are protected;

- **The Art of War** – Business is a cut-throat endeavour, and just like politics and war, there are times that "the ends justify the means", where an abrasive personality is necessary, when you just have to be unapologetic brutal or 'beat people up'. It is not a place to make friends (you make alliances), (you make money)
- **Data Overload but Information Blind** – When your business model is engineering driven where data trumps all, you can be blunting your innovation edge. By restricting feedback on a number of pre-scribed solutions that you have created (e.g. Margherita Pizza, Pepperoni Pizza, Hawaiian Pizza) in your desire to get to an optimal solution, you may inadvertently be forgetting two important lessons: (1) asking people what they really want (e.g. Pasta, Chinese, Indian foods); (2) there maybe regional differences meaning no single solution wins out (i.e. recommend you view the Malcolm Gladwell: Choice, happiness and spaghetti sauce TED Talk).

THE LENSE OF REALITY – NOT RISK MANAGEMENT (Contribution by Gary Taylor)

Is your business able to cope with disruptions? Are you effectively managing the uncertainty on your business plan? Have you an accurate estimate of the impact of uncertainty on your bottom line? Great questions, but does your business have the answers to hand and are they doing it?????

ISO 3100 defines Risk as an uncertain event having an impact on the delivery of a Goal or Objective. Standards have a way of abstracting real events and concerns, Risk Management is really about understanding the uncertainty that exists around what you hope to achieve, and how to minimise any disruptions in getting the outcomes you want. In a military operation, successful commanders always ensure that their campaigns are based on good quality information, from Planning through to completing the Execution. Business could be considered as "intelligence-led operations" using Risk Management as a driver: when setting a business plan (whether for Operations or Programme) use risk management to guide the activities; a risk-based approach will determine whether an objective is achievable or not. The *Not "Risk Management"* system must be firmly embedded in all areas of the business (especially the decision-making ones) to be effective.

The *Not "Risk Management"* system (the system being a collection of processes and organisational structure) has a couple of key features:

- A framework that includes an understanding of the business's risk attitude and the set of Processes and documentation that provide guidance for risk management. Best Practice is invariably the business's own, amended with reference to a particular Standard.
- A capability and competency to perform risk management, i.e. sufficient resource to apply the discipline to the business or programme activities. This is not just about financial contingency but having the where-withal to deliver accurate analysis of risks and their mitigation: the practice of risk management; having a suitable culture of risk management.

The culture is the pervading influence that will deliver the value of risk management, and must be set from the Top, cascading to the lower levels of management and business or programme members. Understanding the business and programme's risk appetite, and communicating it to all, will enable its successful delivery: programmes will be better engaged to the delivery of business goals; PM's will understand the constraints set by business managers (both the Client and their own, if in a consultancy); and Governance of the business and programmes will be met, for Assurance and Scrutineers.
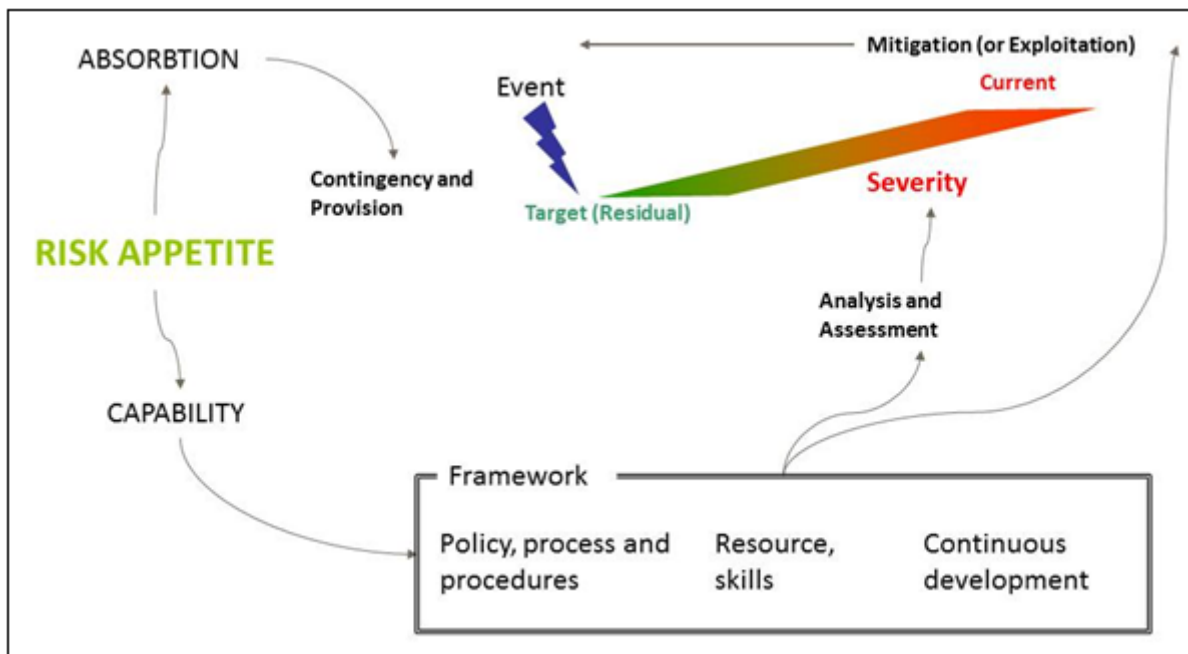
Figure 1: The Risk Flowchart

Here are some basic things to ask yourself about how you're managing uncertainty:

1. Do you have a formal framework (e.g. documented Plan, training regime) for managing risk in your company?
2. Is the Risk Appetite of the business clearly understood, perhaps in a formal Statement?
3. Is Risk the first item on every agenda of every meeting?
4. Are risks in the risk register clearly articulated, using a formal meta-language for description?
5. Do risks have clear causes and effects?
6. Are the estimated impacts of the risks quantitative three Point Estimates (3PE)?
7. What is the link between the risks in the risk register and the business or programme Goals and Objectives?
8. Are causes and effects mapped to indicators and warnings in business or programme plans?
9. Do the mitigation responses relate to the causes of the risks? Has their effectiveness been estimated in reducing the risk?
10. Are the mitigations responses Action or only Controls?
11. Are risks linked to the Business Continuity Plan? (- you do have a Business Continuity management system, don't you?..)
12. Who are the key members of your risk management system? What are they supposed to be doing?
13. Who, by name and appointment, is responsible for delivering the effects of the mitigation responses?
14. Do you understand the risk reports that you receive? Are they clear and logical?
15. How many Risk Management events (e.g. training, risk reviews) do you attend? Is it enough to ensure that your team think that you take it seriously?
16. When did you last praise a good risk management report (or Risk Manager!) openly?

17. Have you forgotten that Risk Management is about exploiting opportunities, not just reducing threat impacts?
18. When was the Risk Manager engaged in the Programme or business activity? Has he (or she!) been involved in the programme since the earliest bidding/proposal phase, or only on Contract Award?
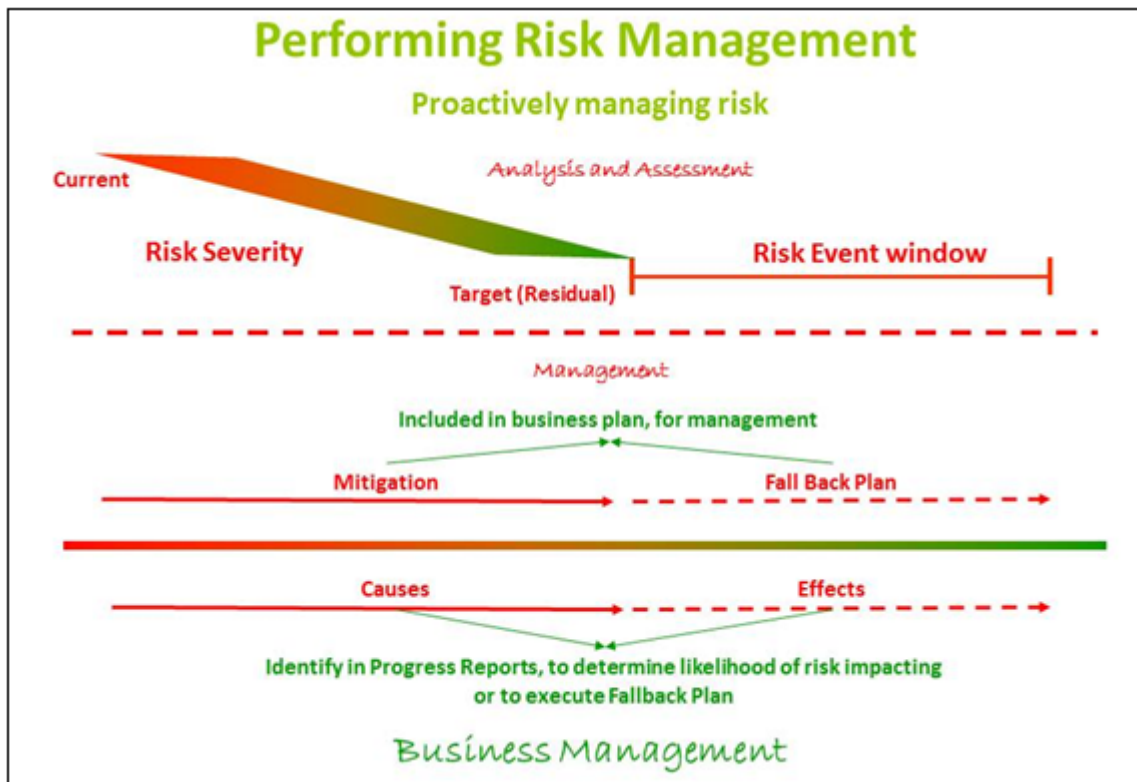

Figure 2: Performing Risk Management

A comparison of Good and Bad *Not "Risk Management"* is outlined below:

Good *Not "Risk Management"*	**Bad** *Not "Risk Management"*
Understand the Risk Appetite of the business	Senior Management in all areas do not know or understand the Risk Management responsibilities of their role.
Appreciating the value and benefits of formally managing risk.	No coherency in the risk management plans of functional and delivery areas.
All Risk reviews give an understanding of relationships and interdependencies between Functional (e.g. Finance, HR, and Marketing), Delivery (e.g. Programmes) and Corporate objectives.	Risk Management is seen as only the remit for senior management in the Finance department.
Proactively managing risk throughout the business.	Programme risk management is not integrated with that of the parent company.
Risks at lower levels are related to those at the higher end of the business.	Not understanding the difference between "risky" and "reckless".

Table 2: Differences between good and bad *Not "Risk Management"* techniques

Methods of developing a *Not "Risk Management"* System

1. Check that the Risk Management Plan is relevant and topical, that it is specific for the task at hand.
2. Move away from making qualitative estimates of the uncertainty, considering always Bottom Line.
3. Look at how risk is managed in the business and identify the short-falls in process and organisation structure with reference to a Standard (e.g. OGC MoR); then fill the gaps.
4. Perform a Training Needs Analysis, and identify who should have what risk management training.

Beware and watch out for

- Make sure that everyone engaged in the venture knows the over-arching Corporate Goals and Objectives, else those of functional Departments and delivery areas (e.g. Programmes) will not be aligned, which could lead to tensions.
- Business Continuity should be firmly rooted in the Risk Management system, or at least explicitly related to it.
- The Risk Management process is scalable, the same no matter how large or small the enterprise (business or programme). It's the procedures that can be detailed and un-ending; best keep them as simple as possible...

Further reading about *Not "Risk Management"*

- "A Colossal Failure of Common Sense", Lawrence G McDonald
- "The Black Swan: The Impact of the Highly Improbable", by Nassim Nicholas Taleb
- "Megaprojects and risk: an anatomy of ambition", by Bent Flyvbjerg, Nils Bruzelius and Werner Rothega

If you have to do one thing tomorrow…..

Walk about the office and ask a representative sample of your Programme or business management team if they know how risk is formally managed in their functional or delivery area; and what their role is in the risk management system.

THE WHAT IF THOUGHT PIECE

The complexity of the world and modern systems means that all business ventures have business risk that pose threats and opportunities, that must be gathered, evaluated, managed and mitigated using rigorous management practices, tools and techniques. It is only through active engagements and proactive stances will measures be developed and lessons learnt, from which some of the greatest opportunities, innovations and new products/services will emerge to be seen and only then some will then seize them and succeed.

Risk Management is only truly effective when processes, people, tools and techniques (critical thinking and analysis) work in parallel and coherently. In a World full on 'instant experts', there are only a few people who really know their onions and have true passion for subjects. We think that because we have a process, we can roll off comprehensive risk management plans that lead to coherent risk registered. What we don't look at are the components of knowledge necessary to make good judgements, the impact of our own egos and prejudices in relation to projects, the surrounding

environments or for that matter the unique cultural elements that exist within every organisation, which ultimately impacts upon the critical thinking and decision making processes. Logic will only take you so far in the risk management process, and it will need that human interaction element to improve the chances of making projects a success. Organisations could do well to have a common database of common risks that typically affect projects of similar character (either products, personalities or sectors) and that can be assessed by an advance project risk practitioner to help guide both the risk management strategy and adaptable to the tactical project artefacts.

There are a lot of advances being made in financial and capital markets, such as Valuation, Value-at-risk, Stochastic Volatility, Volatility Recovery, Risk Dynamics, Portfolio Diversification and Dynamic Portfolio Replication, that have yet to reach down into the Project Management Domain. Some of these leading edge techniques may or may not be applicable, however it is unlikely that all will be understandable, so the chances of them being used in negligible unless they are incorporated into semi-automated risk management tools. I am always wary of tools where the 'magic happens below the hood', however there could be niche areas where this is eminently required (especially in areas of weighing options and conducting 'what if scenarios' planning).

What is obvious is that fact that risk management is most organisations is not done very well, and if organisations can do two things this would greatly increase their project success rate. These two things are 'doing the right thing' (choosing the right projects that can be supported by people within the organisation with the rights skills and experience) and 'doing things right' (following good project management principles and practices, with due diligence, rigour and disciple).

Risk References

1. http://www.esi-intl.co.uk/blogs/pmoperspectives/index.php/risks-and-issues-they-are-not-the-same/#
2. http://www.risk-doctor.com
3. http://www.apm.org.uk/group/apm-risk-specific-interest-group
4. http://www.thebci.org

Risk Register Links

http://www.qihub.scot.nhs.uk/knowledge-centre/quality-improvement-tools/risk-register.aspx

http://continuingprofessionaldevelopment.org/key-elements-project-risk-register-template/

Risk Standards

- ISO 31000 2009 – Risk Management Principles and Guidelines
- A Risk Management Standard – IRM/Alarm/AIRMIC 2002
- ISO/IEC 31010:2009 - Risk Management - Risk Assessment Techniques
- COSO 2004 - Enterprise Risk Management – Integrated Framework
- OCEG "Red Book" 2.0: 2009 - a Governance, Risk and Compliance Capability Model

PMI Risk Management Professional

- **PMI's Risk Management Professional** (**PMI-RMP**) **certification** recognises the need for a specialist role in project risk management. It is a 3.5 hour exam made up of 170 multiple-choice questions, and to maintain it, practitioners must earn 30 Professional Development Units (PDUs) in risk management topics every three years.
- https://www.pmi.org/certifications/types/risk-management-rmp

Great Risk Management Quotes

"The first step in the risk management process is to acknowledge the reality of risk. Denial is a common tactic that substitutes deliberate ignorance for thoughtful planning." - *Charles Tremper?*

"Take calculated risks. That is quite different from being rash." - *George Patton*

"Here is Edward Bear, coming downstairs now, bump, bump, bump, on the back of his head, behind Christopher Robin. It is, as far as he knows, the only way of coming downstairs, but sometimes he feels that there really is another way, if only he could stop bumping for a moment and think of it." *-- Opening lines of "Winnie-The-Pooh" by A. A. Milne*

"Some days, even my lucky rocketship underpants don't help..." - *Calvin (Calvin & Hobbes, comic strip)*

"Jon Corzine hired a chief yes officer, instead of a chief risk officer." - *Henri Feuga, Head of Global Risk and Compliance Systems and a Senior Vice President at MF Global from October 2008 until November 2011*

"When the numbers are running you instead of you running the numbers it's time to take your money off the table." – *A character in a TV show (Numb3rs, Season 2 Episode 13).*

"Every person takes the limits of their own field of vision for the limits of the world." - *Arthur Schopenhauer (German philosopher)*

"The only way risk management has value is if it affects the way you do business." - *Norman Marks (former Risk Manager and Auditor, now Thought Leader)*

"If you think about disaster, you will get it. Brood about death and you hasten your demise. Think positively and masterfully, with confidence and faith, and life becomes more secure, more fraught with action, richer in achievement and experience." - *Swami Sivanada (Indian Hindu spiritual leader)*

"Good Risk Management fosters vigilance in times of calm and instils discipline in times of crisis." - *Dr. Michael Ong (Professor of Finance and former Head of Risk Management for numerous European banks and financial institutions)*

"When you can measure what you are speaking about, and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind; it may be the beginning of knowledge, but you have scarcely in your thoughts advanced to the stage of science." - *Lord Kelvin (Victorian mathematician and physicist)*

"Maxwell was a rare mathematical genius who happened to believe a problem had not been truly understood until it could be described without equations." - *George Cooper (fund manager at BlueCrest Capital in London, author of "The Origin of Financial Crises: Central Banks, Credit Bubbles and the Efficient Market Fallacy"; on Victorian physicist James Clerk Maxwell)*

"Risk is like fire: If controlled it will help you; if uncontrolled it will rise up and destroy you." – *Theodore Roosevelt*

"All economic activity is by definition "high risk". And defending yesterday--that is, not innovating-- is far more risky than making tomorrow." - *Peter Drucker*

"We also believe in taking risks, because that's how you move things along." - *Melissa Gates*

"One of the major biases in risky decision making is optimism. Optimism is a source of high-risk thinking." - *Daniel Kahneman*

HISTORIC CASE STUDY – THE GT40 STORY (FORD VS FERRARI)   **Dr Karl Phillips**

SITUATION

There are time in history when critical meetings or events spark huge repercussions based on the will or desire of one individual. The GT40 Story is such an event. Henry Ford II had long wanted a Ford car to win the prestigious 24 Hour Le Mans race since the early 1960's. Ferrari had dominated the race, and Ford heard that Enzo Ferrari was interested in selling his company. Ford spend millions of dollars auditing the factory assets and legal negotiations, only to have talks cut off unilaterally due to disputes over the company's motor sport division. On that day a rivalry was born, when Ford decided to topple the Ferrari dominance at whatever cost, that lead to the creation of a performance legend. Never under-estimate the power of emotions (especially the negative ones), funding and the motivation of a single individual to drive projects to success, overcome risks and chase down opportunities.

TASK

A rebuffed and enraged Henry Ford II quickly brought troops to task and employed the services of a British Subsidiary Company to bring the title home. Beset by technical and reliability issues, poor maintenance schedules, driver disputes, changes to management, complete re-designs and the use of experimental sub-systems, the task was enormous by any stretch of the imagination compounded by politics, pressure from Stateside and the very public vendetta being played out in front of cameras displaying the results all around the world. Huge risks and opportunities.

ACTION

A very costly iterative development programme was put into place, with experienced gained at each race begin assessed and quickly fed back into the next series of prototypes. It was agile 'Lean' at its very best in supercharged mode, thanks to Carroll Shelby's ideas and Ford's dollars.

RESULT

The Ford GT40 eventually won in 1966 and dominated for the next 4 years, until it was declared obsolete. During that time a motor legend was formed and a classic car was created, and 2nd generations now exist.

Note: The GT40 name and trademark is currently licensed to Superformance in the USA

The Epic Ford Versus Ferrari Le Mans Battle for Sports Car Supremacy

Ferrari	Ferrari	Ferrari	Ferrari	Ferrari	Ferrari	Ford	Ford	Ford	Ford	Porsche
Win the first two spots with 250 3.0l V12	Win the first three spots with 250 & 250GT 3.0l V12's	Win the first three spots with 330 4.0l & 250 GTO 3.0l V12	Win the first six spots with the 250P 3.0l & 330 4.0l all V12's	Win the first three spots with 275P 3.3l V12 & 330P 4.0l	Win with the 250LM Chassis V12 3.3-litre	Win with the GT40 Mk II Chassis V8 7.0-litre	Win with the GT40 Mk IV Chassis V8 7.0-litre	Win with the GT40 Mk I Chassis V8 4.9-litre	Win with the GT40 Mk I Chassis V8 4.9-litre	Win with the 917K Flat 12 4.5-litre
1960	**1961**	**1962**	**1963**	**1964**	**1965**	**1966**	**1967**	**1968**	**1969**	**1970**
		Ford did not feature	Ford lost with 4.7-litre V8	Ford GT lost with 4.7-litre V8 due to mechanical issues	Ford GT lost with 4.7-litre V8	Ferrari lost with 330 P3	Ferrari lost with 330 P4 4.0-litre V12	Ferrari refused to attend as the P4 was sent away	Ferrari lost with 3.0 L 312P	Ferrari lost with 512 V12 5.0-litre

⭐ (1963)

Critical Moment in History
Ferrari declined to sell his motor sports division to Ford
This angered Henry Ford II who was then determined to win at Le Mans

FIA Rule Changes (1968)

GT40 had become obsolete (1970)

If you have any comment, suggestions or improvements, please contact us at:

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Please mark for the attention: **ATTN: Marketing Department**