

Risk Management

MGM 510

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Lecture 9





Ch#9 Risk Analysis and Evaluation

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Topics to Cover in Week 9

- Risk Application of a risk matrix
- Inherent and current level of risk
- As low as reasonably practicable (ALARP)
- Risk Significance
- Opportunity Assessment
- Riskiness index
- Upside in strategy
- Upside in projects
- Upside in operations

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Application of a Risk Matrix

- The use of a risk matrix is a very simple way of demonstrating the level of risk that a particular event represents to an organization.
- A risk matrix is normally used to represent the residual or current level of risk.
- This can also be referred to as the net risk.

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Application of a Risk Matrix

- When the risk matrix is used to illustrate the current level of risk, the vertical axis will normally be labelled as impact.
- However, the risk matrix can also be used to represent gross or inherent level of risk, which is the level of risk before controls are applied.

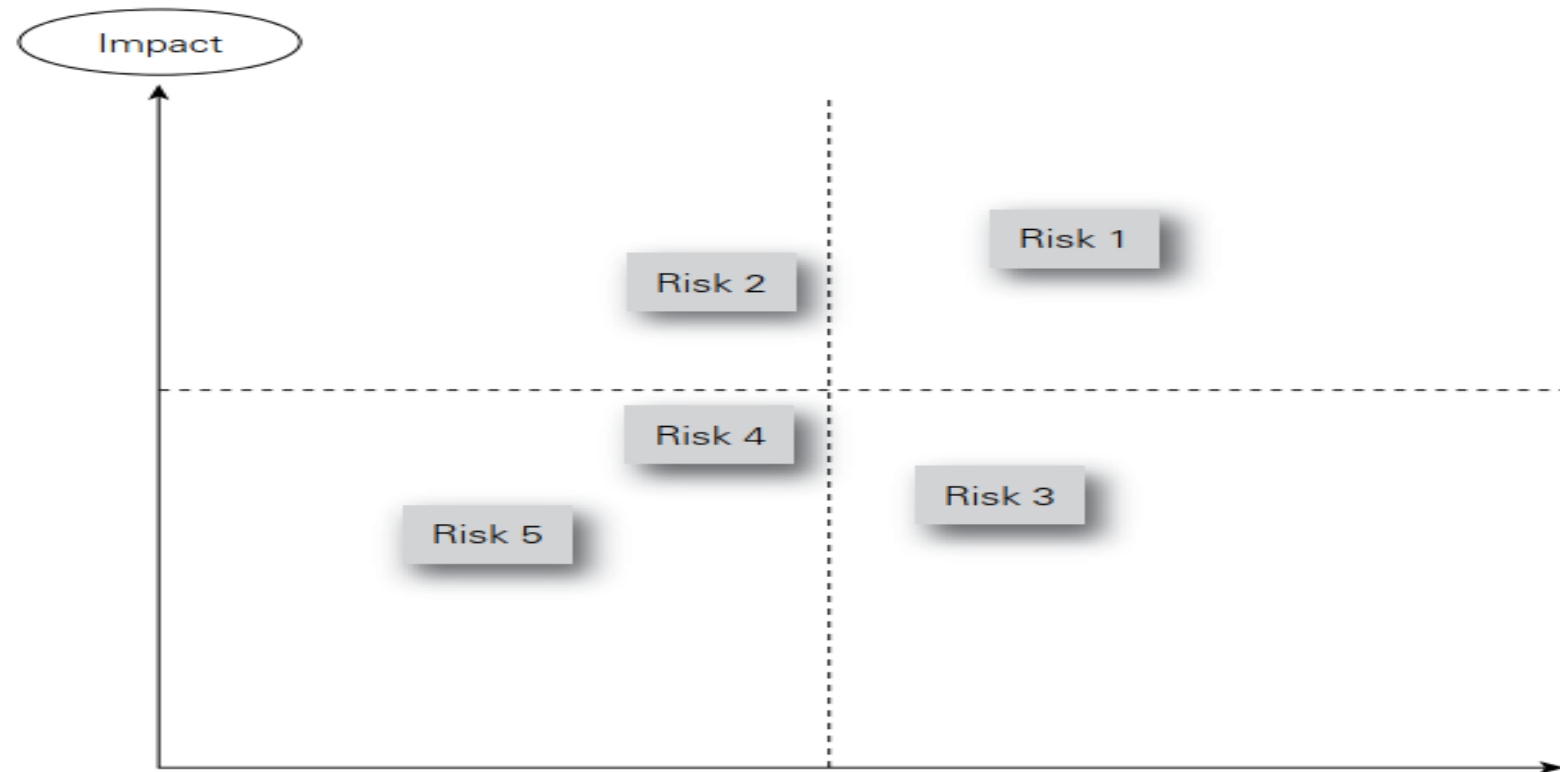
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Application of a Risk Matrix

- When the risk matrix is used to illustrate the inherent level of risk, the vertical axis may sometimes be labelled magnitude.

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Application of a Risk Matrix



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Application of a Risk Matrix

Risk 1

Risk 1 is the risk of being injured whilst cycling on a main road

Risk 2

Risk 2 is having pension scheme benefits downgraded

Risk 3

Risk 3 is losing job or significant source of income

Risk 4

Risk 4 is losing the friendship of one of the group of close friends

Risk 5

Risk 5 is suffering illness that results in 3 days or more absence from work

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Inherent and Current Level of Risk

- Many risk management practitioners assess risk at its current (also referred to as residual) level.
- However, internal auditors prefer to undertake an assessment of the risk at its inherent level.

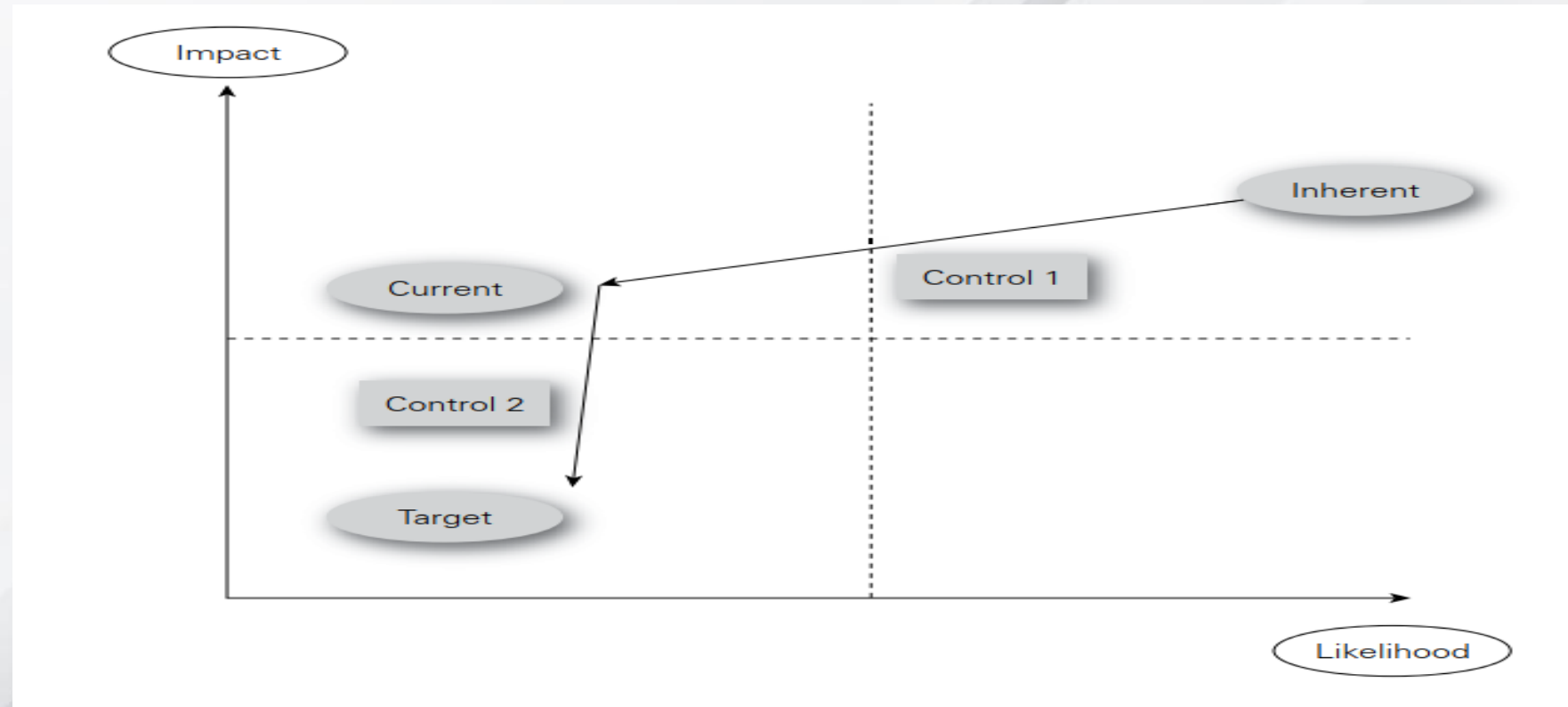
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Inherent and Current Level of Risk

- There are advantages in considering the inherent level of a risk when undertaking a risk assessment.
- Considering the inherent level will enable the effect of individual control measures to be identified.

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Inherent and Current Level of Risk



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As low as reasonably practicable (ALARP)

As low as reasonably practicable (ALARP)

The requirement for risks to be ALARP is fundamental and in simple terms it is a requirement to take all measures to reduce risk where doing so is reasonable. In most cases this is not done through an explicit comparison of costs and benefits, but rather by applying established relevant good practice and standards. The development of relevant good practice and standards includes ALARP considerations, so in many cases meeting those standards is sufficient. In other cases, either where standards and relevant good practice are less evident, or not fully applicable, measures must be implemented to the point where the costs of any additional measures (in terms of money, time or trouble) would be grossly disproportionate to the further risk reduction (or safety benefit) that would be achieved.

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Risk Significance

- When undertaking a risk assessment, it is quite common to identify a hundred or more risks that could impact the objective, core process or key dependency that is being considered.

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Risk Significance

- This is an unmanageable number of risks and so a method is required to reduce the number that will be considered to be priority issues for management.
- In order for an organization to concentrate on significant risks, a test for risk significance is required.

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Risk Significance

- For risks that will have a financial or commercial impact, the benchmark test is likely to be based on monetary value.
- For risks that could disrupt the infrastructure or routine operations of the organization, a benchmark test based on the impact, cost and duration of disruption is appropriate.

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Risk Significance

- For reputational risks, the most likely benchmark will be based on the adverse publicity that would result if the risk materializes.
- This may vary according to the nature of the risk and whether it is a financial or non-financial one.

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Opportunity Assessment

- Successfully embracing business opportunities is more likely to be achieved if the organization undertakes opportunity assessments.
- Many consultancy firms undertake a detailed evaluation of each new business prospect.

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Opportunity Assessment

- The organization will look at the new prospect and evaluate the scope for a profitable partnership, opportunities to earn extra income and the reputational benefits that might arise from having that potential client as a customer.

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Opportunity Assessment

- Opportunity assessment can be undertaken in relation to new business ventures, as well as new clients.
- This opportunity evaluation is designed to identify the additional business opportunities that could arise from winning that client business.

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Opportunity Assessment

- The evaluation will also look at the potential disadvantages of successfully acquiring the client prospect.
- When undertaking such an opportunity assessment, there has to be the possibility that the organization will advise the client prospect that they do not wish to tender for the business.

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Opportunity Assessment

Upside Risk			Likelihood	Downside Risk		
High	High	Medium	1:2 Probable	Medium	High	High
High	Medium	Low	1:10 Possible	Low	Medium	High
Medium	Low	Low	1:100 Unlikely	Low	Low	Medium
Major	Moderate	Minor		Minor	Moderate	Major
Consequence						
Multiple objectives exceeded beneficially	Objective delivered significantly early, better, or cheaper	Objective delivered slightly early, better or cheaper	Objective-driven (customer, people, society or key performance)	Slippage and minor deviation	Failure to meet an objective	Extinction of organization

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Riskiness Index

- The risk profile of an organization can be represented in many ways.
- The most common method used is to prepare a risk register that contains details of the significant risks that it faces.

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Riskiness Index

- However, a disadvantage of the risk register is that it is usually a qualitative evaluation of individual risks.
- Organizations need to develop a means of measuring, evaluating and quantifying the total risk exposure of the organization.

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Riskiness Index

- One of the features of the enterprise risk management approach is to develop a consolidated view of the risk exposure of the organization.

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Riskiness Index

- The approach based on calculating the total risk exposure of an organization is similar to the approach taken to the measurement and quantification of risk in operational risk management.

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Riskiness Index

- This section introduces the idea of a ‘riskiness index’. The idea is to present a semi-quantitative approach that takes a snapshot of the overall level of risk embedded in the organization.

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Riskiness Index

- The overall level of risk will take account of the strategy currently being followed by the organization, the projects that are in progress, and the nature of the routine operations being undertaken.

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Riskiness Index

- This approach can offer an opportunity to benchmark risk management performance and track changes over time.

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Riskiness Index

- Table 14.2 presents a set of questions that can be used to develop a riskiness index for an organization.
- The table uses the structure of the FIRM risk scorecard as a means of categorizing risks.

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Riskiness Index

Financial component of the FIRM risk scorecard		
Index	Description	Score
1.1	Lack of availability (or unacceptable cost) of adequate funds to fulfil the strategic plans	
1.2	Insufficiently robust procedures for correct allocation of funds for strategic investment	
1.3	Inadequate internal financial control environment to prevent fraud and control credit risks	
1.4	Inadequate funds to meet historical liabilities (including pensions) and meet future anticipated liabilities	
TOTAL for the financial component		

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Riskiness Index

Infrastructure component of the FIRM risk scorecard		
Index	Description	Score
2.1	Inadequate senior management structure to support organization and embed 'risk-aware culture'	
2.2	Insufficient people resources, skills and availability, including concerns about intellectual property	
2.3	Inadequate physical assets to support the operational and strategic aims of the organization	
2.4	Information technology (IT) infrastructure has insufficient resilience and/or data protection	
2.5	Business continuity plans are not sufficiently robust to ensure continuation of organization after major loss	
2.6	Product delivery, transport arrangements and/or communications infrastructure unreliable	
TOTAL for the infrastructure component		

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Riskiness Index

Reputational component of the FIRM risk scorecard		
Index	Description	Score
3.1	Poor public perception of the industry sector and/or potential for damage to the brands of the organization	
3.2	Insufficient attention to ethics/corporate social responsibility/social, environmental and ethical standards	
3.3	Poor governance standards and/or sector is highly regulated with high compliance expectations	
3.4	Concerns over quality of products or services and/or after-sales service standards	
TOTAL for the reputational component		

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Riskiness Index

Marketplace component of the FIRM risk scorecard		
Index	Description	Score
4.1	Insufficient revenue generation in the marketplace or inadequate return on investment achieved	
4.2	Highly competitive marketplace with aggressive competitors and high customer expectations	
4.3	Lack of economic stability, including exposure to interest rate fluctuations and foreign exchange rates	
4.4	Marketplace requires constant innovation and/or product technology is rapidly developing	
4.5	Supply chain is complex and lacks competition and/or raw materials costs are volatile	
4.6	Organization is exposed to potential for international disruption because of political risks, war, terrorism, crime or pandemic	
TOTAL for the marketplace component		

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Table 14.2: Riskiness Index

Score	Description of the level of risk	Score	Description of the level of risk
0	No risk	3	Medium risk
1	Little risk	4	High risk
2	Some risk	5	Extreme risk

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Upside in Strategy

- Organizations will have a mission statement, together with a set of corporate objectives and an understanding of the expectations of the different stakeholders in the organization.

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Upside in Strategy

- The board of the organization then needs to develop an effective and efficient strategy that will deliver exactly what is expected in terms of the mission, objectives and expectations.

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Upside in Strategy

- In order to make correct strategic decisions, the board of the organization will need access to risk information.
- A risk assessment of the proposed strategy, together with a risk assessment of any viable alternative strategies, should be undertaken.

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Upside in Strategy

- The availability of this risk assessment information will ensure that the strategic decisions are more likely to be correct.

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Upside in Projects

- It is essential that every organization adopts the correct core processes.
- A core process may be considered as the collection of activities that deliver a specific stakeholder expectation.

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Upside in Projects

- This is the meaning of core process that is allocated by business process re-engineering (BPR) practitioners.
- There is a difference between a process being efficient and effective.

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Upside in Projects

- An efficient process means that there is no disruption and no excess cost.
- However, the process may be the incorrect one for cost-effectively delivering the requirements.

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Upside in Projects

- Where processes need to be improved, a project will normally be undertaken, and change achieved.
- In circumstances where a series of projects are required, this is often referred to as a program of work.

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Upside in Projects

- When a project, or program of work, is implemented by an organization, the desire will normally be to improve the effectiveness and/or efficiency of core processes.

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Upside in Projects

- It is a fundamental requirement for organizations that they have effective and efficient operations.
- Efficient operations should make best use of the resources of the organization and should operate without unplanned disruption.

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Upside in Projects

- Undertaking efficient operations that use minimum resources and produce maximum output will deliver the greatest benefit to the organization.

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Upside in Projects

- Operations also need to be effective in that they represent the best way of conducting the operations.
- For example, it is possible to have an efficient journey by car or bus across a busy city.

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Upside in Projects

- However, the effective way to travel in many large cities is by means of the metro or underground system.



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