Risk Treatment

THE FERMA-RIMAP® SERIES

The FERMA-rimap® Series serves as a proactive, continuous and dynamic learning and research platform to respond to risk managers' present and future educational and professional needs. The volumes set a flexible and dynamic measurable standard taxonomy for European Risk Managers and essential reading for students gaining their qualification. The scope of *The FERMA-rimap® Series* is to reach out to experienced or junior risk professionals, whatever their background is, and wherever their career is heading. All risk professionals have a duty to stay in contact with the evolution of the risk landscape.

Risk Treatment

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Preface

Risk treatment is a fundamental aspect of the risk management process, encompassing strategies to mitigate, transfer, avoid, or accept risks in a structured and effective manner. As businesses and institutions navigate increasingly complex risk landscapes, the need for well-defined risk treatment mechanisms becomes essential to ensuring resilience and continuity.

This volume, *Risk Treatment*, is part of the *FERMA-rimap® Series*, a dynamic and evolving body of knowledge designed to support risk professionals in their pursuit of excellence. It provides a comprehensive exploration of risk treatment principles, frameworks, and methodologies, making it a valuable resource for both seasoned professionals and newcomers to the field. By bridging theoretical foundations with practical applications, this book enables risk managers to design and implement effective risk treatment strategies tailored to their organisational needs.

Throughout this volume, key aspects of risk treatment are examined, such as risk control and reduction techniques, risk financing, including insurance and reinsurance, business continuity planning, and alternative risk transfer mechanisms. Each chapter presents real-world insights, case studies, and best practices to illustrate how risk treatment contributes to sustainable and robust risk management frameworks.

We extend our gratitude to the esteemed contributors who have dedicated their expertise and research to this publication. Their collective insights ensure that this volume remains relevant and invaluable to practitioners, educators, and policymakers.This book series is a testament of FERMA's (Federation of European Risk Management Associations) unwavering commitment to promoting excellence in risk management through education, research, and professional development.[1]

As you engage with this material, we encourage you to view risk treatment as not just a compliance exercise but a strategic enabler of business sustainability and success. We hope this book serves as a valuable guide in your journey to mastering risk treatment and contributing to a more resilient business environment.

[1]To know more FERMA's commitment to risk management, please visit www.ferma.eu

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Prof. Jean-Paul Louisot, Docteurès Sciences de Gestion de la Sorbonne, MBA, ARM, FIRM, acted as FERMA's subject matter expert to ensure greater consistency among the numerous chapters of the Body of Knowledge, the FERMA existing learning materials and the new content developed to enrich the document.

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Chapter 1

General Aspects of Risk Treatment

Introduction

Once risks have been identified and assessed, they need to be treated. Treating risks means that the risk event either does not occur or occurs but has a limited impact (the potential for damage is reduced or the losses are compensated). The risk treatment stage can be thought of as being the stage of the risk management process that solves the issues identified.

Treating risks appropriately requires a number of steps, including defining the organisation's risk appetite, identifying which risks it could tolerate and which would damage it and identifying how much treatments might cost.

It is important to understand where risk treatment fits in the enterprise-wide risk management process, and to understand why it is so important.

This chapter will introduce you to the general aspects of risk treatment and provide some case studies describing risk treatment failures and the damage that resulted to the organisations involved.

Learning Outcomes

By the end of this chapter, you should be able to:

- identify appropriate risk treatments for identified risks;
- describe the differences between risk treatment methods;
- assign risks to tolerable and intolerable categories;
- describe how risk treatment fits into the risk management process;
- explain why risk treatment is important;
- identify the costs involved in risk treatments.

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Introduction to Risk Treatment

Risk treatment means actively addressing the risks that were identified earlier in the risk management process, leading to reduced or removed uncertainty of outcomes.

It involves:

- selecting and assessing a range of options for treating risk exposures;
- preparing risk treatment plans; and
- implementing the risk treatment plans.

Risk treatment options include accepting/retaining, modifying/reducing, avoiding/suppressing and transferring/sharing the risk exposure. Most organisations use a combination of treatment options to cover all identified risk exposures.

There are two major methods to treat risk:

- Risk reduction aims at changing the level of exposure to reduce the likelihood and/or the consequences.
- Risk financing aims at planning compensation for the organisation for any losses incurred.

This block will cover the reduction of risk, and Block 4 will cover the financing of risk. Therefore, when this block uses the expression 'risk treatment', it is referring to risk reduction measures.

EXAMPLE

Credit Control Function

The following example outlines a common way of treating risk through risk reduction in many organisations.

When an organisation invoices a customer company for goods or services after those goods or services have been delivered, the organisation extends credit to the customer company, which becomes a trade debtor.

A risk to the organisation is that the trade debtor may be unable to pay for the goods or services when the money becomes due.

Before doing business with the potential customer company, an organisation could employ some or all of the following measures to manage this risk:

- Credit check – this requires companies to provide details that clearly identify the legal entity that is purchasing the goods and its registered business address to see if it is financially responsible and stable.
- References – this involves seeking references from three or more organisations that have already extended credit to the company purchasing the goods or services to anecdotally check their delivery and payment history.
- Third-party credit risk reports – these can be compiled from various sources of data to see if there are any legal actions against the company for bad debts.

In this example, the risk identified is the non-payment of monies due and the potential cost of recovery. The risk treatment strategy is credit control, which is aimed at reducing the uncertainty of payment by the debtor. The risk treatment tactic is requiring references and reports before the customer company becomes a trade debtor.

As there are various options for risk treatments, organisations tend to categorise risks to help identify how to treat them. To think about risk management (and risk treatment, as one of its components) as part of organisational management as a whole, every part of the process works towards the achievement of the overall goals of the organisation.

Self-Help Question 1.1

Which of the following are risk treatments to reduce the risk of a motor vehicle accident occurring or to reduce the consequence of an accident?

1. airbags
2. road rules
3. driving licences
4. GST on motor vehicle insurance policies
5. traffic lights
6. roundabouts
7. in-car satellite navigation systems.

Answers to self-help questions are provided at the end of each section.

Activity | Identifying Risk Treatments

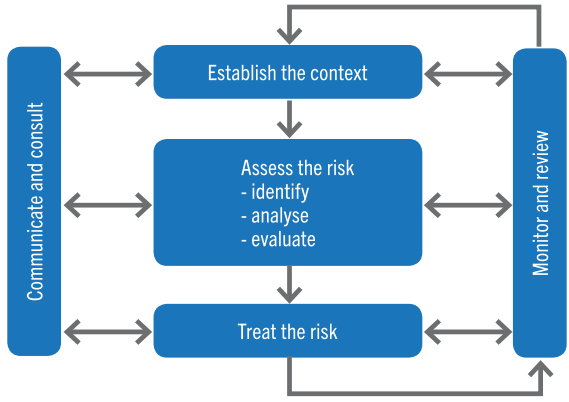
Identify five key business processes in your organisation that are risk treatments. For each, state the risk that is being managed by the process and how the treatment modifies the potential outcome of the risk event. For example:

Business process	Password protection when the user logs in to the mainframe system.
Risk	Theft of information resulting from unauthorised access to a user account.
Modification	Reduces the likelihood of theft of information by making it more difficult for unauthorised access to occur.

Risk Treatment and Risk Management

Risk management is the entire process of thinking about business goals, defining success, understanding risks (threats and opportunities) and then managing them to help reach the goals.

As explored in Block 1, there are five major steps in the risk management process.



The Risk Management Process

The 'Treat the risk' step is essentially a planning and implementation phase where risk treatment options are considered and put into practice. The 'Establish the context' and 'Assess the risk' steps define the problems, and the treatment step is where solutions are assessed, chosen and put into action. Types of risk treatment options will be covered later in this section.

Activity | Risk Treatment Within the Risk Management Process

In the previous activity, you identified five risk treatments used in your organisation and explained how each treatment influenced the outcome of a risk event.

For this activity, select two of these previously identified risk treatments and analyse them using the complete risk management process; that is, note in which business context the risks have been identified, make an estimate of how the organisation analysed the risk level and evaluated the risks, and how the risk and risk treatments are being monitored (or not, as the case may be). For example:

Business process	Password protection when the user logs in to the mainframe system.
Business context	Protection of information that helps sustain the competitive advantage of the business.

Risk level	In the absence of controls to block unauthorised logins it would be highly likely that unauthorised access would occur and, depending on who the person was and for what reason, the consequences could be catastrophic – for example, if competitors obtained key customer information.
Risk evaluation	Unacceptably high.
Risk treatment	Introduce password protection on all user logins and require passwords to be changed monthly.
Monitoring	The system auto-generates a request for the new password each month and locks out the user if the password is not changed within three days.

Why Is Risk Treatment Important?

Risk treatment is the phase in the risk management process where solutions are designed to resolve defined problems or challenges. Leaving a risk untreated means leaving a problem or challenge unresolved, which, if a problem arises, can expose an organisation to operational failure.

It is often the case that organisations fail to deliver on risk treatments after having been through the earlier phases of the risk management process. This can be due to the following reasons:

- poorly formed context for the risk assessment process resulting in a lack of commitment to, or acceptance of, the need for action;
- inability to manage change;
- management being distracted by other business issues that arise, leading to a lack of monitoring and review;
- poor communication.

If organisations do not identify risks and prepare and implement suitable risk treatments, a risk may become a reality and could potentially destroy the organisation. Look at the following case study as an example of a known risk not being properly managed.

Case Study – National Australia Bank Rogue Trading Case

Introduction

In banking terms, trading describes the process of buying and selling financial instruments such as shares and foreign currency.

Options, in banking terms, are contracts that give the holder the right to buy or sell securities at a set price or within a set period of time. Investors often use them to protect or hedge an existing investment. An option is part of a class of securities called derivatives, so named because these securities derive their value from the worth of an underlying investment (for example, a parcel of shares or a number of Australian dollars or US dollars). If the price moves in the direction anticipated (either up or down) a profit is made. If the price moves in the opposite direction, a loss is made. Usually, these types of trades have stop-loss provisions where if the price moves too far against the trader, the size of the loss is capped. 'Rogue trading' is a term used to describe the situation when an employee of a financial institution abuses their position and trades outside of company guidelines.

The National Australia Bank (NAB) rogue trading case is a prominent example of how risks that are not appropriately treated can have a major impact on an organisation. In the case of NAB, the banking industry regulator APRA (Australian Prudential Regulation Authority) shut down its foreign exchange trading desk and imposed on the NAB Board a number of directives that had to be adhered to in order for NAB to continue to be an authorised banking business. The CEO of NAB resigned over the scandal along with a number of other senior executives, while others were moved into different positions. Two of the traders involved were sentenced to jail for criminal misconduct for their role in the scandal.

As you read through the following outline of the events, you will become aware that not implementing risk treatments is highly dangerous. Risk treatments need to be appropriately planned and implemented to ensure risk levels are within an organisation's defined risk appetite.

The events

In September 2003, traders on the NAB currency options trading desk decided that, on the balance of probabilities, the Australian dollar would begin to fall against the US dollar over the following few months. They put into place a strategy for NAB to profit from this move in currency exchange rates. Over the following few months, the Australian dollar actually gained against the US dollar.

As the currencies moved against the NAB traders, they fraudulently created a series of fictitious trades to hide the true position of their currency options trading book of business (the technical detail of how they affected these fictitious trades is beyond the scope of this case study). As the currencies continued to move against them, they created even more fictitious trades.

On 13 January 2004, NAB announced that they had lost A$180 million on their currency trading desk from rogue trading. By the end of the month, they had revised that figure to A$360 million.

NAB's risk controls

NAB, like all banks, knew the risks associated with trading in currency options and had in place a series of risk controls. These included the following:

Market limits – there were guidelines in place that placed limits on the size of individual and cumulative options trades.

Segregation of responsibilities – the traders operated in the front office while those responsible for reconciling options trades to the financial accounts resided in the back office.

Risk management oversight – a business unit called the Market Risk and Prudential Control unit within NAB's Risk Management Division had the role of overseeing the risks against rewards being taken by the front office, to ensure they were within the risk appetite of the bank.

Internal audit – regular reviews of the currency trading desk and the back-office systems.

External audit – NAB's external auditors conducted limited additional reviews of the trading desk and back-office systems.

APRA investigations

The Australian Prudential Regulation Authority (APRA) oversees banks, credit unions, building societies, general insurance and reinsurance companies, life insurance, private health insurance, friendly societies and most members of the superannuation industry. APRA is funded largely by the industries that it supervises.

Because of the serious nature of a regulated bank losing large sums of money, despite having a reportedly robust approach to risk management, APRA investigated the events and the corporate structures of the bank to identify causes and to make directives and recommendations to the NAB Board to take actions that would help ensure the bank was appropriately stable.

The following selection of quotations taken from the APRA report sums up their findings. It becomes clear why the CEO of NAB and other senior executives resigned or were moved into other positions (APRA: Report into Irregular Currency Options Trading at the National Australia Bank, 23 March 2004).

> The losses ultimately incurred by the National Australia Bank (NAB) on currency options were caused by four currency options traders, possessed of an abundance of self-confidence, who positioned the NAB's foreign currency options portfolio in the expectation that the falls in the US dollar that occurred mid last year would reverse and volatility would stabilise. Rather than closing their positions as

> the market moved against them, the traders chose to conceal their true positions – allowing those positions to deteriorate unchecked over a period of three months before they were finally discovered. By that time, the positions held were totally out of control …
>
> That this was possible was, first and foremost, due to the collusive behaviour of the traders themselves. However, it can also be attributed to an operating environment characterised by lax and unquestioning oversight by line management; poor adherence to risk management systems and controls; and weaknesses in internal governance procedures …
>
> There are many layers to NAB's internal control framework: line management; back office; middle office; risk committees; internal audit; and the Principal Board and its subcommittees. While the collusive behaviour of the traders involved succeeded in suppressing many of the bank's early warning signals, NAB's internal control systems failed at every level to detect and shut-down the irregular currency options trading activity … (p. 5).

The final result

Ultimately, NAB operated for many months under a number of strict APRA directives. A new CEO was appointed, structures changed, and new systems were implemented.

It took NAB 15 months, until April 2005, to gain APRA's confidence and approval to reopen its options trading desk to business.

The purpose of this case study is to demonstrate the importance of effective risk treatments. Two final quotations from the APRA report sum up their importance:

> […] The control failures in this case have more to do with poor implementation than poor design. On paper, NAB's existing control framework – despite its weaknesses – should have been able to identify and contain the risk positions of the traders … (p. 5).
>
> The culture that predominated in CIB at NAB was one in which risk management controls were seen as trip-wires to be negotiated rather than presenting any genuine constraint on risk-taking behaviour … (p. 6).