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Enterprise risk management framework Technical Note

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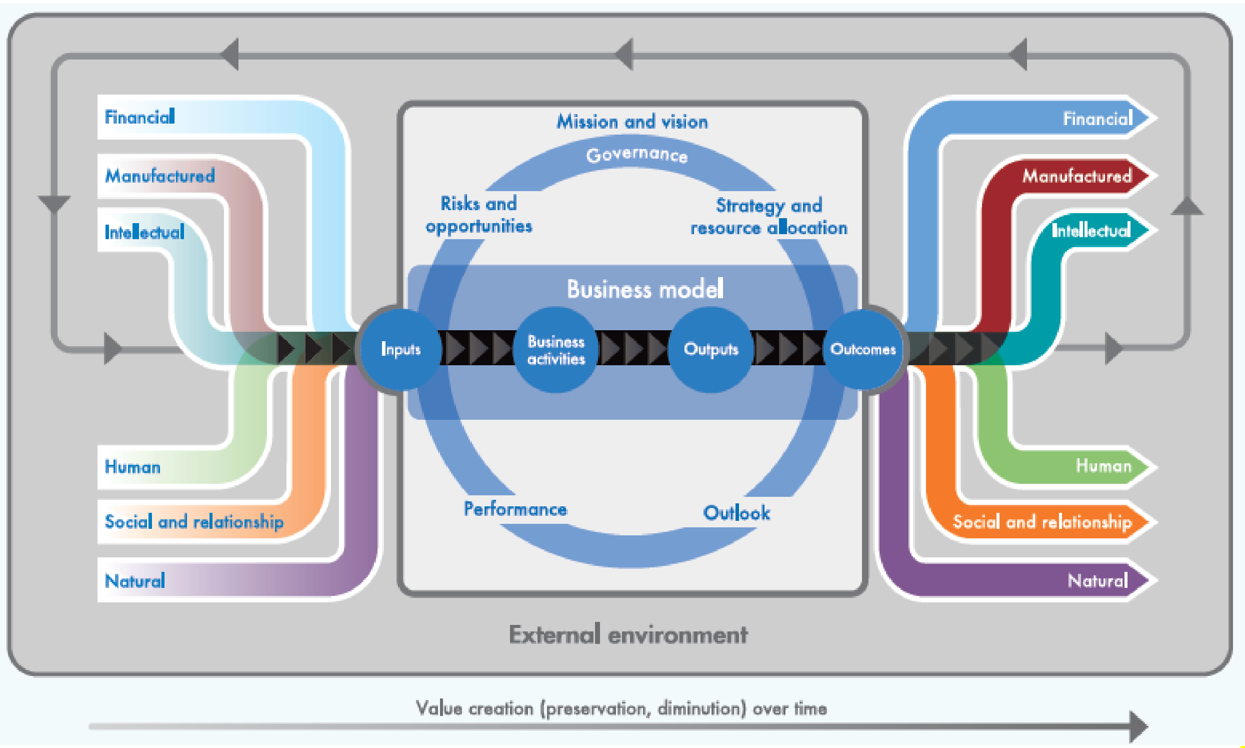

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TABLE OF CONTENTS

Front Cover: Value creation process- Value is created through an entity's business model, which takes inputs from the capitals and transforms them through business activities and interactions to produce outputs and outcomes that, over the short, medium and long term, create or destroy value for the organisation, its stakeholders, society and the environment (IIRC, 2019)

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Executive Summary

This report summaries the role and benefits of using Enterprise Risk Management as a formal methodology for assessing and managing risks, with a focus of understanding how risk can negatively impact the ongoing enactment of company strategy, the companies' business models, value chains and processes, i.e., how risk management can destroy, diminish or enhance the creation of value within the company.

The report introduces the ERM concept and provides understanding of how the process can create value.

An Enterprise Risk Management implementation provides the following strategic value to enterprises. ERM (COSO, 2018):

- Identifies and manages entity-wide risks:
- Increases the range of opportunities.
- Reduces surprises and losses.
- Reduces performance variability.
- Improves resource deployment.
- Anticipates, identifies, adapts, and responds to change.

Enterprise Risk Management postulates that "risk should not be viewed solely as a potential constraint or challenge to setting and carrying out a strategy. Rather, the change that underlies risk and the organisational responses to risk give rise to strategic opportunities and key differentiating capabilities" COSO, 2017.

GLOSSARY

Acronym	Definition
COSO	Committee of Sponsoring Organizations of the Treadway Commission. The commission whose first president was Treadway, was established by by five major professional accounting associations and institutes to address corporate fraud, then expanded to include risk management (Wikipedia)
ERM	Enterprise risk management
ESG	Environment, Social and Governance. They are metrics related to intangible assets and are used with the ultimate objective of measuring elements related to sustainability and societal impact of a company or business (Wikipedia).
RMA	Resource Management Act
WBCSD	World Business Council for Sustainable Development

1 INTRODUCTION

Improving efficiencies and productivity of forestry business is a core component of research, where much of the research has focused on improving biological efficiency of forests and forestry, and specific aspects of business risk, such as health and safety, license to operate and climate change impacts on forests.

This report reviews the role of enterprise risk management (ERM), in providing value to the sector and sector businesses, though enterprise assessment and management of risk.

Traditional risk management views risk as a series of single independent and unrelated elements, hence the strategies for risk management has been the purchase of inexpensive insurance allowing the risk to be retained. In the 1990's, 90% of stock failures were a result of operational, strategic failures, clearly identifying that risks that could not be traditionally transferred or traded away or managed in middle management independently. Most of these failures result from multiple correlated causes, hence, only an integrated approach to risk management could recognise and mitigate against such events (Lauria, 2020).

ERM has gained prominence due to:

- risk managements failures where companies addressing significant risk events, such as the '.com' bubble and bust, accounting scandals, cyber-attacks, resulting in high-profile company failures and preventable large losses
- external pressures from shareholder and community values and concerns which can amplify risk, and where risk is interpreted by psychological, social, institutional, and cultural processes so as to heighten social perceptions of risk and shape risk behaviour.

These have developed the current mainstreaming of enterprise risk management in insurers, financial institutions, and other businesses as well as in regulation (Renn, 2011; Lauria, 2020; Wolf, 2008).

This note introduces enterprise risk management, the business benefits and process steps, through the review of the COSO ERM methodology. It addresses the milestone:

- 141A Develop framework for Environmental, Social and Governance (ESG) risks social responsibility based on COSO/WBCSD.

2 WHAT IS ENTERPRISE RISK MANAGEMENT?

Enterprise risk management is a systematic and integrated approach to the management of the total risks that a company faces. ERM focuses understanding on potential events (i.e. risks) and how they relate to the strategic plan, organisational mission, or a specific operation, hence integrating risk assessment and management across organisational 'siloes' providing a holistic view of risk and opportunities. The risk drivers arise from technology innovation, changes in consumer preferences and expectations, investor activism, regulatory uncertainty, climate change, Covid-19, international politics and individual countries priorities, as well as other events or trends that threaten the ability to compete effectively (Beasley undated; Malik and Holt 2013).

> *ERM is a plan-based strategy that identifies, assesses, and prepares for hazards, harms, and other disaster potentials that may affect value creation – capitals, processes and operations, value chains and markets. (Adams, 2021; WBCSD 2020; Figure 5)*

An ERM implementation provides the following strategic value to enterprises. ERM (COSO, 2018):

- Identifies and manages entity-wide risks: Every entity faces a myriad of risks that can affect many parts of the organisation. Sometimes a risk can originate in one part of the entity but impact a different part. Consequently, management identifies and manages these entity-wide risks to sustain and improve performance
- Increases the range of opportunities: ERM allows the identification of new opportunities and unique challenges associated with current opportunities.
- Reduces surprises and losses: Enterprise risk management improves the ability to identify risks and establish responses, hence reducing surprises and corresponding costs or losses, and while profiting from the development of opportunities.
- Reduces performance variability: Enterprise risk management allows organisations to anticipate the risks that would affect performance and enable them to put in place the actions needed to minimise disruption and maximise opportunity.
- Improves resource deployment: Robust information on risk allows management to assess overall resource needs, prioritise resource deployment and enhance resource allocation especially when specific risks require resources.
- Anticipates, identifies, adapts, and responds to change: An entity's medium- and long-term viability depends on its ability to anticipate and respond to change, not only to survive but also to evolve and thrive. This is, in part, enabled by effective enterprise risk management. It becomes increasingly important as the pace of change accelerates and business complexity increases.

> *ERM postulates that "risk should not be viewed solely as a potential constraint or challenge to setting and carrying out a strategy. Rather, the change that underlies risk and the organisational responses to risk give rise to strategic opportunities and key differentiating capabilities" COSO, 2017.*

Overall, ERM

- Continually, elevates enterprise risk management concepts and practices as risk management expectations continues to rise.
- Increases stakeholder engagement and greater transparency and accountability.
- Recognises the importance of strategy and entity performance.
- Integrates enterprise risk management with decision making.

In summary the fundamental propositions of Enterprise Risk are (Dickinson, 2001):

1. Enterprise risk is embodied in the strategy of an enterprise and within the context of the uncertain operating environments.
2. Enterprise risk is measured in terms of an enterprise's corporate objectives. The degree of risk is the extent to which the actual outcomes from the activities of an enterprise differ from (a variance concept of risk), or fail to meet, these corporate objectives (a ``downside'' concept of risk).
3. The more closely corporate objectives are aligned with shareholders' / owner’s interests, the closer will enterprise risk be to their own risk assessment of the company.].
4. Financing of the risks faced by an enterprise, such as insurance buying and self-insurance decisions and hedging policies, need to be closely co-ordinated with cash management and capital structure decisions.
5. Risk retention decisions on insurable risks (e.g. choice of deductible levels) and risk retention decisions for financial risks should be determined jointly; both types of risk are subsets of the overall enterprise risk and hence are unlikely to be independent of each other.

Figure 1 provides a comparison between traditional risk management and enterprise risk management.

Figure 1: Traditional Risk Management and Enterprise Risk Management comparison (www.erminsigjhtsnyCarol.com)

2.1 What is Environment Social Governance (ESG) and how does it relate to Enterprise Risk Management

ERM provide a robust series of concepts and processes to assess and manage ESG-related risks.

ESG is a framework concept for identifying issues or risk drivers to businesses that are of interest to business partners and stakeholders, typically investors, but can include banks, insurance and government.

ESG is core to (and developed as part of) social responsible investing but has broadened its appeal with many companies are using it to reach a wider audience.

- The environmental criteria consider how a company performs as a steward of nature.

- Social criteria examine how it manages relationships with employees, suppliers, customers, and the communities where it operates.
- Governance deals with a company's leadership and risk management processes.

Within private business, there is still a consumer or stakeholder growing demand to create value in a meaningful and sustainable way, identify long-term value creation approach, especially when value is increasing be driven by non-financial factors (EY, 2021).

"ESG risks and metrics now underpin many traditional investment analyses on investments of all types–a dynamic sometimes referred to as 'ESG integration"[1], and the SEC chair notes that the "perceived barrier between social value and market value is breaking down", driven by financial stakeholders and "ultimately consumers, making it an essential consideration for every business".

ESG considerations are modifying access to capital, and further ESG-integration may develop e.g. government regulations that may require ESG management (e.g. RMA reforms[2]). In addition, there are global socio-economic risks that can affect businesses e.g., The World Risk Report 2021 has existential threats of Biodiversity loss, Natural Resource Crises, Social security collapse, Multilateralism collapse, Climate action collapse, all of which can affect forestry businesses directly or through socio-economic processes (WEF, 2021).

2.2 Forestry businesses and risk

Forestry has been managing risk for decades but is increasing being exposed (with other businesses) to other forms of risk that can affect operations, reputation, human resources, and legal compliance. ERM can provide a mechanism for improving risk management within the forestry sector ultimately providing financial, social and relational value.

Examples of potential risks that forestry enterprises now face include (Table 1).

Table 1: Example risks for Forestry Enterprises

Drivers of risk	Causation	Uncertainty	Primary Risk	Main impact
Acute physical drivers to Natural, Manufactured, capital assets	• Weather events • Vandalism • Border protection failure	Uncertainty arises from: • The scale of impact • Geographic heterogeneity • Timing • Frequency • Amplifiers	• Reduction in productivity • Loss of assets • Inability or restrained ability to operate • Changes in 'cost of wood'	• Increase in costs • Reduction in revenues, cashflow • Employment impacts

[1] https://www.sec.gov/news/speech/lee-climate-change; Acting SEC Chairperson

[2] The RMA reform has drivers that are expected to increase compliance and enterprise risk, such as "New Zealand's natural environment is under significant pressure: the way we use land and water has proved to be unsustainable for the natural environment.", and "The need to ensure that Māori have an effective role in the system, consistent with the principles of Te Tiriti o Waitangi".

Socio-economic drivers	• International politics • International cooperation • Protectionism	• High A mix of potential plannable events and Black swans	• Reduction / Loss of Market access • Violent reactions	• Reduction in revenues, cashflow
Financial drivers	• External events (GFC, Covid) • Investor sentiment	• High - Black Swan	• Reductions/losses in capital access, liquidity, operational finances, +1 xxx	• Reduction in revenues, cashflow • Employment impacts
Reputation drivers	• Cross-boundary events • Infrastructure damage • Disclosure • Public / Consumer sentiment	• Low	• Reduction in social license to operate	• Increased consultation, compliance, reputation remediation or reputation development activities, leading to increased cost • Loss of production
Market Drivers	• Exchange rate • Demand • Supply	• Medium	• Reduces production activity (harvest) - as a risk) or provides opportunities to sell more.	• Loss of revenue (sales restriction) • Loss of revenue (exchange rate cost) • Employment risk (reduced harvest
Human Drivers	• Risk of harm	• Low	• Harm to people	• Increase in compliance costs • Increase in legal costs
Legal Drivers	• Liability events • Liability – processes / business model	• Med-High	• Compliance failures • Other unidentified risks	• Increase in legal costs
Social Drivers	• Perception	• Med-High	• Loss of trust • Loss of product acceptance • Loss of business model acceptance	• Reduction in revenue • Increase in costs

Technology Drivers	• Changes in competitive advantage(s) • Restrictions to IP • Restrictions on existing technologies	• Med-High	• Exposed Physical assets • Competitiveness • Lack of replacement technologies for key business	• Loss of production / productivity • Increased expenditure (research, IP) • Loss or revenue
Transition Drivers (zero carbon)	• Policy to zero carbon	•	•	•

Source: Previous unpublished research, Impacts from socio-economic scenarios

3 THE COSO ERM FRAMEWORK

Effective ERM requires that ESG-related risks are incorporated into the governance structure, systems and processes and this is critical for overcoming the challenges many organisations face in managing these risks – such as organisational silos, quantification challenges and organisational biases (COSO 2018). COSO was developed to guide executive management and government entities in relevant aspects of organisational governance, business ethics, internal control, business risk management, fraud and financial reports.

COSO defines ERM as:

> *"the culture, capabilities and practices, integrated with strategy-setting and performance, that organizations rely on to manage risk in creating, preserving and realizing value" (COSO, 2018).*

An entity's value is created, preserved, eroded or realised by the day-today to strategic decisions that management makes, therefore understanding risk to operations and strategy provides a basis form effective evidenced decision making by management that can optimise outcomes to enhance capabilities for creating, preserving and ultimately realising value (COSO 2018).

Figure 2: COSO Core Values

The key concepts that underpin COSO ERM are illustrated in Figure 2. They are:

- The key focus on value, where the framework enhances the focus on value – how entities create, preserve, and realise value.
- Integration with processes for governance, strategy development, setting objectives, performance management (M&E). hence improving decision-making that results in improving performance
- Explores the relationship with culture in the context of risk governance, oversight of the entity, the risk appetite, decision making, and the alignment of culture between individual and entity behaviour
- Links to strategy, through perspective of whether strategy and business objectives align with mission, vision and values; the implications from the strategy chosen and the risk to executing the strategy. Enterprise risk management is as much about understanding the implications from the strategy and the possibility of strategy not aligning as it is about managing risks to set objectives (COSO, 2017).
- Enables the achievement of business objectives by actively managing risk and performance, through identification of and assessment of performance impacting risks; Risk identification isn't an end-in-themselves by are evaluated in impact to achieving business objectives (i.e. not just enterprise risk list management).
- Introduces a new depiction – the risk profile that incorporates risk performance risk appetite, and risk capacity (Figure 3).

  Strongly integrates risk into executive decision making (Figure 4), by explicitly taking into account the business context, risk profiles and appetite, impacts on strategy, culture and underpinning risk assumptions. Business decision-making is one of the drivers of risk; decisions can create new risks, change existing risks, or eliminate risks.(Institute of Risk Management, 2017; COSO, 2017)

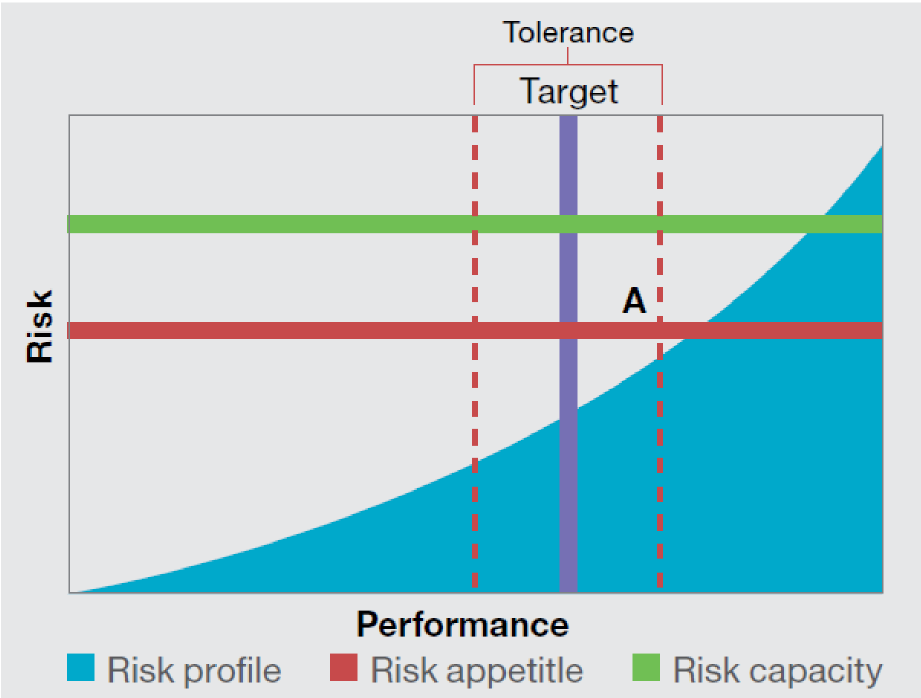

Figure 3: Understanding Risk profile.

The graph is a visual way to gauge whether s company could absorb more risk. The red line shows the target risk based on risk appetite. The blue curve indicates the current risk profile. Accordingly, the company could absorb more risk within the risk tolerance, and below the risk capacity level.

Figure 4: Risk Aware Decision Making. ERM ensure a risk aware focus to decision making.

> *"The COSO ERM Framework is designed to turn a preventative, process-based risk monologue into a proactive, opportunities focused conversation to uncover how risk management can create, preserve and realize value" PwC[3])*

The five interrelated components for undertaking ERM are: (Figure 5, COSO 2017):

- Governance and Culture: Governance sets the organisation's tone, reinforcing the importance of, and establishing oversight responsibilities for, enterprise risk management. Culture pertains to ethical values, desired behaviours, and understanding of risk in the entity.
- Strategy and Objective-Setting: Enterprise risk management, strategy, and objective-setting work together in the strategic-planning process. A risk appetite is established and aligned with strategy; business objectives put strategy into practice while serving as a basis for identifying, assessing, and responding to risk.

[3] https://www.pwc.com.cy/en/advisory/risk-compliance-and-regulation/internal-audit/coso-erm-framework.html

- Performance: Risks that may impact the achievement of strategy and business objectives need to be identified and assessed. Risks are prioritised by severity in the context of risk appetite. The organisation then selects risk responses and takes a portfolio view of the amount of risk it has assumed. The results of this process are reported to key risk stakeholders.
- Review and Revision: By reviewing entity performance, an organisation can consider how well the enterprise risk management components are functioning over time and in light of substantial changes, and what revisions are needed.
- Information, Communication, and Reporting: Enterprise risk management requires a continual process of obtaining and sharing necessary information, from both internal and external sources, which flows up, down, and across the organisation.

Figure 5 also lists the individual actions of each component

Governance & Culture

1. Exercises Board Risk Oversight
2. Establishes Operating Structures
3. Defines Desired Culture
4. Demonstrates Commitment to Core Values
5. Attracts, Develops, and Retains Capable Individuals

Strategy & Objective-Setting

6. Analyzes Business Context
7. Defines Risk Appetite
8. Evaluates Alternative Strategies
9. Formulates Business Objectives

Performance

10. Identifies Risk
11. Assesses Severity of Risk
12. Prioritizes Risks
13. Implements Risk Responses
14. Develops Portfolio View

Review & Revision

15. Assesses Substantial Change
16. Reviews Risk and Performance
17. Pursues Improvement in Enterprise Risk Management

Information, Communication, & Reporting

18. Leverages Information and Technology
19. Communicates Risk Information
20. Reports on Risk, Culture, and Performance

Figure 5: The ERM Framework (COSO, 2018)

4 CONCLUSIONS

Business environmental, social and governance risks are increasing from a wide range of socio-economic drivers such as Covid-19, Climate change, Biodiversity, Landuse, and Water use to name a few. Sophisticated and companywide processes for risk assessment and management, effective decision-making with an emphasis on continued value creation are needed.

ERM has the ability to integrate risks within forestry companies with a strong focus of identifying opportunities, in order to create, preserve and realise value across the business.

ERM provides a strategic risk management methodology that places strategy and risk aware decision making central to business governance and executive management.

5 FUTURE WORK

The further work is to complete the following two milestones:

- 141B Baseline understanding of forestry ESG enterprise risk assessment – data collection, survey of businesses
- 141C Baseline understanding of forestry ESG enterprise risk assessment TST Q4 (Sept 2021: ppt)

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