

Supply Chain Risk Management Certificate Syllabus

Identify, analyse & prevent.

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Developed with:

SUPPLY CHAIN RISK MANAGEMENT
CONSORTIUM™



Developing risk professionals

Overview of Supply Chain Risk Management Certificate

Qualification aims

This qualification introduces the concepts of supply chain risk management and equips risk practitioners with the ability to apply their risk management knowledge in a world where value is increasingly added via a supply chain. It explains how globalised outsourcing, specialisation and just in time production are changing the risk environments for many organisations. It looks at how appropriate risk management tools and techniques can be applied, adapted and developed in an increasing digital context. The qualification also provides a broad understanding of supply chain risk management principles and practices. The relevance of the qualification is explained in the context of increasingly extended organisations facing an expanded range of complex interconnected risks.

Qualification learning outcomes

By the end of the module you should be able to:

- Explain how supply chains operate and are evolving and the risks associated with them
- Explain the nature of the major sources of disruption and other risks that supply chains face and understand how these can differ by industry sector and the various impacts these can have
- Help your organisation implement the appropriate governance frameworks across extended organisational boundaries and the need to ensure cross functional thinking and working
- Discuss the importance of the ethical and moral obligations in a supply chain context, recognising the impact it can have on brand value and reputation
- Contribute knowledgeably to identifying, assessing and controlling the supply chain risks that your organisation faces
- Describe supply chain financial risk transfer decisions such as insurance and hedging and the limitations of these mechanisms
- Explain the evolving supply chain risk challenges and developments in the context of complexity and value-added networks and global challenges
- Explain how digital analytics and data can be used to support supply chain risk management and greater transparency whilst at the same time being aware of the new risks these developments create

Unit 1 The modern supply chain

Unit 1 learning outcomes

After studying this unit you should be able to:

- Discuss the complexity of a modern supply chain and how it operates
- Explain how the supply chain risk environment has and continues to change

Unit contents

Section learning outcomes

1.1 Understanding supply chains	Describe how a supply chain operates and is defined
1.2 Risk attributes of a supply chain	Discuss the growing risk attributes involved in a supply chain
1.3 Supply chain risk variations	Outline how risks differ between types of organisation and geographical areas
1.4 The evolution of supply chain management	Discuss drivers such as globalisation that have led to changes in supply chain management
1.5 Sources of supply chain risk	Describe some key sources of supply chain risk for modern organisations

Unit 2 Supply chain risks, nature and impact

Unit 2 learning outcomes

After studying this unit you should be able to:

- Explain the nature of the main supply chain risks and how they can impact on an organisation
- Analyse the risks and opportunities in terms of probability and impact
- Explain what supply chain risk disruption data is telling us about where to focus risk management efforts
- Discuss risk management principles and practices in the context of supply chain

Unit contents

Section learning outcomes

2.1 Supply chain risks

Define supply chain risk
Discuss enterprise risk management (ERM) and supply chain risk management (SCRM)
Discuss the current state of SCRM and possible future developments

2.2 Categorising supply chain risks

Compare and contrast different methodologies for categorising risks

2.3 Supply chain risk disruption

Discuss the importance of supply chain disruptions
Explain using case studies some critical supplier disruptions

2.4 Supply chain risk management practices

Compare the 4Ts and SCAAM models of risk management
Explain the relevance of ISO 31000 and COSO in supply chain context

Unit 3 Supply chain risk management approaches: Identifying and assessing risk

Unit 3 learning outcomes

After studying this unit you should be able to:

- Describe a range of risk identification and assessment measures, tools and techniques
- Locate supply chain risk management in the context of strategic supplier relationship management and the overall procurement sourcing cycle
- Understand the multi-tier supply chain challenge and the key challenges in developing a holistic supply chain risk management approach
- Explain how supply chain risk management organisations need to be cross functional with common objectives

Unit contents

Section learning outcomes

3.1 Tools for assessing supplier risks

Discuss the role of bankruptcy indicators, ratio analysis, qualitative risk indicators, supplier audits and satisfaction surveys
Explain risk management of suppliers as an opportunity

3.2 Assessing supply chain strategy risks

Describe the role of the portfolio matrix/Kraljic matrix and commodity or category risk plans
Ensure that supply strategies and risk requirements are in alignment

3.3 Mapping risks in the supply chain

Identify the different ways of mapping out supply chains and their principal usages
Describe the role of supply chain mapping, cluster analysis, risk analysis during new product development, cloud-based supply chain risk assessment tool, process maps and design of experiments
Discuss the importance and challenges of understanding multi-tier supply chain exposures
Discuss the need to have risk embedded in ongoing procurement cycle
Identify key areas and to focus on how these can vary depending on the sector you work in

3.4 Measures for analysing and prioritising risk

Describe the role of time-to-recovery measures, value-at-risk, RPN indexes, risk matrixes, heat maps, stress testing and country risk indexes
Explain the need for cross functional consistency and common objectives

Unit 4 Supply chain risk management approaches: Mitigating and managing risk

Unit 4 learning outcomes

After studying this unit you should be able to:

- Define the key elements of mitigating and managing supply chain risks
- Discuss approaches to mitigating and managing supply chain risks
- Discuss the importance of business continuity in the context of supply chain resilience
- Explain the importance of integrating risk management into the supply chain process
- Explain the role of potential financial risk transfer mechanisms like insurance and currency hedging

Unit contents

Section learning outcomes

4.1 Mitigating and managing risks

Describe what are the key areas to include in a comprehensive risk assessment framework
Select the right supply chain assessment based on the nature of the supply

4.2 Supply chain risk mitigation and management approaches

Outline a range of risk mitigation and management approaches in supply chain context

4.3 Supply chain business continuity planning

Explain how to implement BC plans around suppliers
Understand some of the challenges

4.4 Strategic risk management

Describe the role of multiple supply sources; buffer or safety stock inventory; risk registers; and probabilistic modelling
Explain strategic supplier management as an opportunity

4.5 Financial risk transfer mechanisms

Discuss the role of currency and commodity hedging
Explain the supply chain insurance related coverages and their limitations

Unit 5 Supply chain governance and organisational structure

Unit 5 learning outcomes

After studying this unit you should be able to:

- Describe the main risk governance frameworks and standards
- Discuss the influence of cognitive biases on managerial perceptions of supply chain risk
- Explain how some of the major global macro-economic and societal trends such as climate change and modern slavery can create supply chain risk
- Discuss the ethical and legal requirements of a modern supply chain including slavery and data protection
- Analyse a number of case study examples

Unit contents

Section learning outcomes

5.1 Enterprise risk governance frameworks and standards

Outline key enterprise risk governance frameworks and standards
Explain management behaviours in the context of supply chain risk actions

5.2 Supply chain risk-related frameworks and standards

Outline key supply chain risk-related frameworks and standards
Discuss the benefits of cross-functional working in product development

5.3 Global rules, regulations, and laws

Explain how international regulations affect supply chain risk management
Discuss key ethical and moral issues such as slavery and data protection

5.4 Learning from exemplars

Explain using case studies how companies can incorporate risk management into the development of new products

Unit 6 Using big data and predictive analytics to manage supply chain risk

Unit 6 learning outcomes

After studying this unit you should be able to:

- Discuss the role of data and analytics in supply chain risk management
- Explain how data and analytics can give a near real time picture of supply chain movements and risk
- Describe how techniques such as AI, NLP and machine learning are being applied to supply chains and risk management
- Explain how, although digital applications bring opportunities, they also bring new risks to the supply chain

Unit contents

Section learning outcomes

6.1 Data science

Explain how data science is supporting digital supply networks

6.2 Big data and predictive analytics

Discuss the growing importance of predictive analytics and the Internet of things and their impact on SCRM

6.3 Artificial intelligence

Discuss the nature and benefits of AI
Explain how AI is being applied to supply chains

6.4 Evolving predictive and prescriptive analytic approaches supporting SCRM

Describe how a range of tools, techniques, and approaches allow predictions of various kinds
Explain how digital applications such as NLP, machine learning and blockchain are being applied to supply chains and SCRM
Explain how the development of supply chain resilience is a journey in the context of a case study

6.5 Cybersecurity

Explain how cybersecurity is a new and formidable source of risk to the enterprise and supply chain

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The logo for the Institute of Risk Management (IRM) features the lowercase letters 'irm' in a bold, white, sans-serif font, centered within a white square. The background of the entire page is a dark blue gradient with abstract, glowing blue wireframe spheres and lines on the right side, suggesting a network or digital theme.

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