Risk Management Analysis and Case Study Application: Insights from Saudi Organizations Based on “The Risk Management Handbook” (2023)

Question 1: [CLOE 2.1] Perform research to identify gaps in existing and standard systems in the field of risk management.

(A)

There are several fundamental questions that form the foundation of the risk management process, each corresponding to a specific stage within the generic framework described by Hillson (2023) in The Risk Management Handbook. These questions are:

What could happen? – Related to Risk Identification, where potential events and uncertainties are recognized.

Why and how could it happen? – Connected to Risk Analysis, which determines causes, likelihood, and potential impact.

What should we do about it? – Reflecting Risk Evaluation and Treatment, focusing on mitigation, transfer, or acceptance strategies.

Who is responsible, and how will we monitor progress? – Related to Implementation and Monitoring, ensuring accountability and continuous improvement.

How can we learn from this process? – Linked to Review and Feedback, where lessons learned are integrated into future risk planning.

Together, these stages form a structured cycle of continuous improvement, consistent with ISO 31000 principles emphasizing communication, consultation, and proactive management of uncertainty.

(B)

Gap analysis is crucial in identifying weaknesses between existing practices and international standards such as ISO 31000. Within the National Water Company (NWC), internal reviews revealed inefficiencies in manual reporting, fragmented data systems, and delayed escalation of incidents. These gaps limited the organization's ability to identify and mitigate operational risks promptly.

To address this, NWC aligned its systems with ISO 31000 and the Enterprise Risk Management (ERM) framework by establishing a centralized digital platform integrating governance, compliance, and operational data. This system enabled real-time monitoring, automated reporting, and improved communication between departments. As a result, NWC achieved better transparency, faster decision-making, and a shift from reactive control to proactive risk management.

This case illustrates how identifying and bridging systemic gaps supports compliance with global standards and enhances overall resilience and efficiency.

Case Study Reference: National Water Company (NWC).

(Adapted from Hillson, D. (2023). The Risk Management Handbook, Chapters 1–3.)

Question 2: [CLOE 2.2] Utilize advanced IS skills to develop innovative solutions for risk management of an enterprise.

Advanced Information Systems (IS) are pivotal in enabling innovation within risk management. As Hillson (2023) emphasizes, the integration of data-driven intelligence allows organizations to anticipate and control potential disruptions before they occur. The Saudi Telecommunications Company (stc) demonstrates this through its implementation of Artificial Intelligence (AI), Machine Learning (ML), and advanced analytics within its Enterprise Risk Management framework.

Using predictive modeling, stc identifies operational and cybersecurity vulnerabilities, aligning with ISO 31000's principle of continuous improvement. The organization also uses Business Intelligence dashboards to provide executives with real-time visualizations of risk exposure and mitigation progress. This ensures transparent communication, agile response, and proactive decision-making.

Through these innovations, stc has reduced downtime, enhanced resilience, and established risk management as a strategic function rather than a compliance task. Consequently, the company's use of advanced IS skills directly contributes to Saudi Arabia's national digital transformation vision by turning data into strategic foresight and operational stability.

Case Study Reference: Saudi Telecommunications Company (stc).

(Adapted from Hillson, D. (2023). The Risk Management Handbook, Chapters 1–3).

Question 3: [CLOE 2.3] Align information systems planning with risk management strategy and operations.

Aligning Information Systems (IS) planning with risk management strategy ensures that technological initiatives support corporate resilience and strategic objectives. Hillson (2023) highlights that risk management should be embedded into all organizational decision-making to ensure consistency with enterprise goals and tolerance for risk.

At the Saudi Airlines Group, this alignment was achieved by integrating IT governance with the Enterprise Risk Management (ERM) department. Before implementing its new Smart Fleet Management System, the airline conducted a detailed risk assessment addressing cybersecurity, operational continuity, and data security. The findings, guided by ISO 31000 and COSO ERM frameworks, shaped system design and approval processes.

A joint IT–Risk Committee now evaluates new technologies for potential operational, financial, and reputational risks. This structured collaboration ensures that innovation aligns with acceptable risk levels while maintaining compliance and efficiency. The outcome has been improved reliability, stakeholder confidence, and a risk-aware digital culture across the organization.

Case Study Reference: Saudi Airlines Group (SAUDIA).

(Adapted from Hillson, D. (2023). The Risk Management Handbook, Chapters 1–3).

Question 4: [CLOE 2.4] Utilize the technology needed to meet the organizational goals for risk management.

Technology serves as a key enabler for achieving organizational objectives when integrated effectively with risk management systems. Hillson (2023) explains that organizations that balance technological advancement and risk control create value through resilience and adaptability. The Saudi Electricity Company (SEC) demonstrates this through the use of Internet of Things (IoT) sensors, Artificial Intelligence (AI), and predictive analytics across its infrastructure.

These technologies enable real-time monitoring, early fault detection, and predictive maintenance, helping SEC align with ISO 31000's principles of proactive risk identification and continuous improvement. The results include a 30% reduction in unplanned power outages, enhanced service reliability, and improved cost efficiency. Moreover, SEC's adoption of AI-driven dashboards for risk visibility supports national sustainability goals under Saudi Vision 2030.

This integration shows that technology, when strategically managed, transforms risk from a constraint into a driver of innovation and sustainable organizational success.

Case Study Reference: Saudi Electricity Company (SEC).

)Adapted from Hillson, D. (2023). The Risk Management Handbook, Chapters 1–3(.