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# HCSE437 Project Management Presentation writeup

**Examination of Different Risk Management Models for Managing Project Risks**

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**Introduction**

Risk management is a critical component of project management that involves identifying, analyzing, and mitigating potential risks to ensure the successful completion of a project. Various risk management models have been developed to help organizations effectively manage project risks. This document examines different risk management models that can be applied in an organization, specifically focusing on Chitungwiza Central Hospital.

**1. PMBOK Risk Management Framework**

The Project Management Body of Knowledge (PMBOK) framework provides a structured approach to risk management within project management. It consists of six key processes:

* **Risk Identification** – Recognizing potential risks that could impact the project.
* **Qualitative Risk Analysis** – Assessing risks based on probability and impact.
* **Quantitative Risk Analysis** – Using numerical techniques to evaluate risks.
* **Risk Response Planning** – Developing strategies to mitigate, transfer, accept, or avoid risks.
* **Risk Monitoring and Control** – Continuously tracking and managing risks throughout the project lifecycle.

**Application to Chitungwiza Central Hospital:**

* Can help in managing medical supply shortages and staff allocation risks.
* Enhances communication and emergency response planning.

**Strengths:**

* Well-structured and widely accepted framework.
* Integrates seamlessly with overall project management processes**.**

**Weaknesses:**

* Can be complex and time-consuming for small projects.
* Requires skilled personnel to implement effectively.

**2. ISO 31000 Risk Management Framework**

ISO 31000 is an international standard that provides principles and guidelines for risk management applicable across various industries. The framework emphasizes:

* **Integration** – Embedding risk management into organizational processes.
* **Structured Approach** – A systematic approach to risk identification, assessment, and mitigation.
* **Customization** – Adapting the risk management process to fit organizational needs.

**Application to Chitungwiza Central Hospital:**

* Useful for handling patient data security and operational risks.
* Aligns risk management with hospital-wide healthcare policies.

**Strengths:**

* Flexible and applicable across various industries.
* Aligns risk management with strategic objectives**.**

**Weaknesses:**

* Less prescriptive, requiring organizations to tailor their approach.
* Requires commitment from top management for successful implementation.

**3. COSO Enterprise Risk Management (ERM) Model**

The COSO ERM framework is designed for organizations to integrate risk management with corporate governance and strategy. It consists of the following components:

* **Internal Environment** – Establishing risk culture and appetite.
* **Risk Assessment** – Identifying and analyzing risks.
* **Risk Response** – Developing strategies to address risks.
* **Control Activities** – Implementing policies and procedures.
* **Monitoring and Reporting** – Continuous risk oversight and assessment.

**Application to Chitungwiza Central Hospital:**

* Helps in integrating risk management with hospital administration.
* Can improve compliance with healthcare regulations and governance.

**Strengths:**

* Helps integrate risk management with corporate governance.
* Comprehensive approach covering strategic, operational, financial, and compliance risks.

**Weaknesses:**

* Can be too complex for small organizations.
* Requires substantial investment in risk management infrastructure.

**4. Monte Carlo Simulation**

Monte Carlo Simulation is a quantitative risk analysis technique that uses probability distributions to predict project outcomes. This model helps project managers understand the likelihood of different risk scenarios and their impact on project objectives.

**Application to Chitungwiza Central Hospital:**

* Can help predict demand for hospital beds and critical medical supplies.
* Useful for assessing financial risks in hospital budget planning.

**Strengths:**

* Provides a probabilistic view of risk impact.
* Useful for high-risk and complex projects.

**Weaknesses:**

* Requires statistical expertise and computational tools.
* Time-consuming and data-intensive.

**5. Failure Mode and Effects Analysis (FMEA)**

FMEA is a proactive approach used in technical and engineering projects to identify potential failure modes, their causes, and impacts. It involves:

* **Identifying Failure Modes** – Listing potential ways a system can fail.
* **Assessing Impact and Likelihood** – Ranking risks based on severity, occurrence, and detection.
* **Developing Mitigation Strategies** – Reducing the likelihood and impact of failures.

**Application to Chitungwiza Central Hospital:**

* Helps identify critical failures in patient care systems.
* Can be used to assess risks in medical device usage and maintenance.

**Strengths:**

* Effective in identifying technical and process-related risks.
* Helps prioritize risks based on severity.

**Weaknesses:**

* Can be resource-intensive.
* Requires detailed process knowledge.

**6. Risk Engineering Model**

The Risk Engineering Model structures risk management into two main components:

* **Risk Analysis:** 
  + **Risk Identification:** Listing all risks that may impact project success.
  + **Risk Estimation:** Assessing the likelihood and impact of risks.
  + **Risk Evaluation:** Ranking risks and determining risk strategies.
* **Risk Management:** 
  + **Risk Planning:** Developing contingency plans.
  + **Risk Control:** Reacting to and minimizing risks.
  + **Risk Monitoring:** Continuously tracking risks as the project progresses.

**Application to Chitungwiza Central Hospital:**

* Useful in ensuring emergency preparedness and response planning.
* Helps in designing effective risk control mechanisms for hospital operations.

**Comparison of Risk Management Models**

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| --- | --- | --- | --- |
| **Model** | **Strengths** | **Weakness** | **Best for** |
| **PMBOK** | Structured, industry-standard, integrates with project management | Can be complex for small projects | General project risk management |
| **ISO 31000** | Flexible, aligns with organizational strategy | Requires customization | Organizational risk management |
| **COSO ERM** | Enterprise-wide risk integration | Complex, requires governance alignment | Large enterprises and compliance |
| **Monte Carlo** | Provides probabilistic risk assessment | Requires statistical expertise | High-risk projects |
| **FMEA** | Identifies and prioritizes technical risks | Resource-intensive | Engineering and manufacturing projects |
| **Risk** | Comprehensive analysis and monitoring | Requires dedicated risk management efforts | Large-scale and high-risk projects |

**Conclusion**

Each risk management model has its advantages and limitations. The choice of a model depends on the organization’s size, industry, complexity of projects, and risk appetite. For Chitungwiza Central Hospital, selecting the right risk management model is crucial for ensuring patient safety, efficient operations, and regulatory compliance.