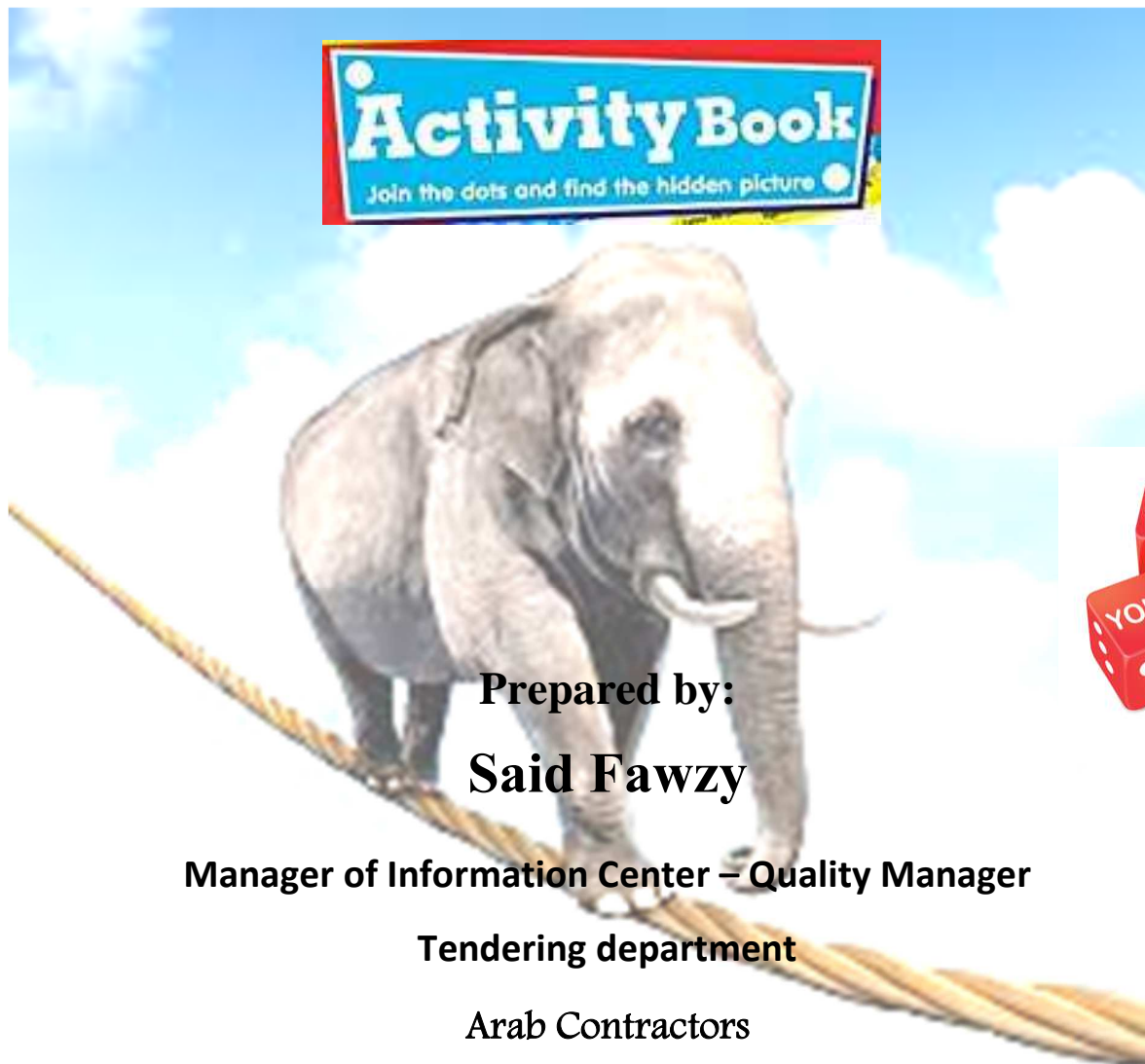


Risk Management for Projects



Prepared by:

Said Fawzy

Manager of Information Center – Quality Manager

Tendering department

Arab Contractors

Section 1: The fundamentals of risk management

Knowledge check 1: The fundamentals:



1- In a project setting, whose job includes risk management?

- A. A project manager
- B. A business manager
- C. An entrepreneur
- D. All of the above



2- What is the source - or origin - of a risk?

- A. A certain future event
- B. An uncertain future event
- C. A new manager
- D. Loss of profit



3- Is this statement true or false? Risk only identifies the negative future events within a project or organization.

- A. True
- B. False



4- Which of the following definitions most accurately describes risk?

- A. Risk is the uncertainty on the achievement of your objectives
- B. Risk is the plan implemented to achieve your objectives
- C. Risk is the resources and tasks undertaken to achieve your objectives
- D. Risk is unknown and can never be anticipated



5- What is risk management?

- A. A philosophy
- B. A plan
- C. A project
- D. A process



Knowledge check 2: The fundamentals:



6- Which of the following is a reason to undertake risk management? Identify each valid reason. (Chose all that apply)

- A. Legislative compliance
- B. Good management practice
- C. Identifying potential opportunities and challenges
- D. Developing team support



7- Which of the following identifies the 3 critical success factors in projects that will help you to identify and assess risks?

- A. Scope, cost and quality
- B. Time, scope and cost
- C. Cost, quality and scope
- D. Time, cost and quality



8- Although the risk management process is continuous, during which phase of the project life cycle should risk management occur?

- A. Initiation
- B. Planning
- C. Execution
- D. Closure



Knowledge check 3: The fundamentals:



9- What is the correct order of the stages of the risk management process?

- A. 1. Context and objectives 2. Risk identification 3. Risk assessment 4. Risk response 5. Communication 6. Monitor and review
- B. 1. Context and objectives 2. Communication 3. Risk identification 4. Risk assessment 5. Risk response 6. Monitor and review
- C. 1. Context and objectives 2. Risk identification 3. Risk assessment 4. Communication 5. Risk response 6. Monitor and review
- D. 1. Context and objectives 2. Risk identification 3. Communication 4. Risk assessment 5. Risk response 6. Monitor and review



10- What does setting the context and objectives in the risk management process clarify?

- A. The context of the stakeholders, and the objectives that they need to achieve within the project.
- B. The context within which the risk management process is applied, and the objectives that stakeholders need to achieve
- C. The context in which the risk management process is applied, and the objectives of the project that need to be achieved.
- D. The context within which the risk management process is applied, and the objectives of the project manager.



11- Who is responsible for identifying risks?

- A. The project manager and project sponsor
- B. The project manager, project team, and stakeholders
- C. The project sponsor and project team
- D. The project sponsor and stakeholders



12- What are key considerations for assessing risks effectively? Identify each key consideration. (Chose all that apply)

- A. Likelihood
- B. Response
- C. Consequence
- D. Impact
- E. All of the above



13- What actions are involved in the risk response stage?

- A. Accepting risks
- B. Minimizing risks
- C. Maximizing opportunities
- D. All of the above



14- Communication about risks is the most important stage of the risk management process. Which of the following descriptions accurately reflect the communication stage? (Chose all that apply)

- A. It should be informal
- B. It should be formal
- C. It should be regular
- D. It should be ad-hoc



The Kunda Island scenario:



The small island of Kunda sits off the east coast of Australia. Local people lead happy lives but are weary of the highly venomous Eastern Brown Snake found on the island. Brown snake bites are extremely toxic and often result in deaths. Antivenom and medical care must be administered immediately to avoid snakebite fatalities.

The Kunda government is very concerned that snakebite fatalities have been on the increase. The governor of Kunda has called an urgent meeting to seek solutions to the brown snake problem. The governor asks his councilors to participate in a brainstorming session with a view to finding the best ways to implement the solution.

Council members propose a list of actions to deal with the brown snake problem. Some of these actions include:

- shooting the snakes,
- poisoning them,
- Catching them and making snakeskin boots,
- introducing a natural predator, and
- incentivising locals by paying \$20 for every dead snake handed to council.

The governor is keen to get moving on this but then realizes. Frudo has not contributed at all and wants to know why. Frudo indicates that he does not think that the proposed actions address the real objective at all. **What objective should have been set instead to deal with the brown snake issue?**

- **What objective should have been set to deal with the brown snake issue in the Kunda Island scenario?**
- A. Reduce the number of snake deaths from snakebites.
 - B. Introduce a new species to kill the brown snake
 - C. Give each person on the island a gun
 - D. Move everyone to another island
 - E. None of the above

Section 2: Risk identification

Knowledge check 1: Risk identification:

- 1- **What is established when the context and objectives are set?**
- A. The situation within which the project is delivered
 - B. The situation within which the risk management process takes place
 - C. The situation within which the risk identification takes place
 - D. The situation within which the project is executed
- 2- **The most effective technique to use in setting objectives for the risk management process is by using the SMART acronym. SMART stands for Specific, Measurable, Aligned, Realistic and Timebound. Which of the following is an example of a SMART target for the Kunda Island scenario involving brown snakes?**
- A. Reduce the number of snake bites in Kunda through education
 - B. Reduce the number of snake bites in Kunda within 3 months
 - C. Reduce the number of snake bites in Kunda by 40%
 - D. Reduce the number of snake bites in Kunda by 40% within 3 months

Knowledge check 2: Risk identification:

- 3- **Which of the following is an example of a legal risk? Identify each legal risk.**
(chose all that apply)
- A. Tax policies
 - B. Trade restrictions
 - C. Health and safety
 - D. Employment laws
- 4- **True or false? An economic risk only refers to the external economic factors that might create risk for an organization or project.**
- A. True
 - B. False
- 5- **Which of the following is considered a social risk? Identify each social risk.**
(chose all that apply)
- A. Culture
 - B. Demography
 - C. Wealth
 - D. Sustainability

6- Which of the following pairs is considered an external economic risk?

- A. Project viability and inflation rates
- B. Inflation rates and recession
- C. Financial resources and credit available
- D. Project viability and exchange rates

Knowledge check 3: Risk identification:

7- What is the first step you should take when identifying risks?

- A. Information gathering
- B. Stakeholders meeting
- C. Project Team meeting
- D. Brainstorming

8- A comprehensive list of risks should be identified before they are categorized. One of the best methods to use is brainstorming. Who should be part of the brainstorming process of identifying risks?

- A. Project manager, stakeholders, project team, risk manager
- B. Project manager, risk manager, project sponsor, contractors
- C. Project sponsor, project manager, project team, risk manager
- D. Project sponsor, project manager, risk manager, stakeholder

9- Which of the following combinations of methods would be useful in identifying risks?

- A. Checklists, diagrams, interviews, Delphi technique
- B. Pie charts, checklists, Delphi techniques, interviews
- C. Checklists, diagrams, facilitator, interviews
- D. Pie charts, facilitator, Delphi technique, diagram

Knowledge check 4: Risk identification:

10- A tool that can be used to identify risks is PESTLE. Select the option that correctly identifies each letter of PESTLE

- A. Political, Economic, Social, Technological, Legal, Environment
- B. Political, Economic, Schedule, Technological, Legal, Environment
- C. Political, Economic, Stakeholder, Technological, Legal, Environment
- D. Political, Economic, Scientific, Technological, Legal, Environment

A Decision Tree Problem:

A government is making a decision of “Building new electricity plant” or “Upgrade the existing electricity plant”. The Investment of building new one is 120 Million and the investment of upgrading the existing one is 50 Million.

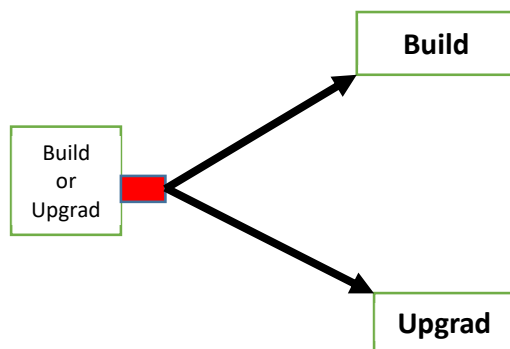
They expected that the probability of having strong demand on the production is 60%.

If they build a new plant, the income of the plant is expected to be 200 Million in the upcoming 5 years if the demand is strong and 90 Million if the demand is weak.

In case of upgrading the existing one the income is expected to be 120 Million if the demand is so strong and 60 Million if the demand is weak.

Complete the following decision tree and calculate the “Expected Monetary Value” (EMV) in each case and help them take the decision:

- A. Build new plant.
- B. Renew the existing plant



Case study: Western Savannah:

YOUR INSTRUCTIONS

Step 1: Read the email from Geoff Thompson, CEO of Oasis Construction

Step 2: Read Appendix A: The asset/infrastructure requirements

Step 3: Read Appendix B: Site visit report

Step 4: Fill in the PESTLE framework with identified risks

Step 1: Email from Geoff Thompson

From: Geoff Thompson <geoff.thompson@oasis.com> CEO Oasis Construction, Texas Head Office

Sent: Monday, July 20, 2017 10.37 AM

To: You <you@oasis.com> Project Manager, Budget Hotel Construction Division

Subject: Confidential - Western Savannah Luxury Hotel Project (Australia)

Importance: High

Hi,

With a view to expand our portfolio internationally, we submitted a tender to the Western Australian state government to develop a high quality eco-hotel in a remote northern region of the state called the Kimberley.

The aim of the government is to develop and expand high-value tourism across remote areas of the state. I have just received notification that our company was awarded the construction contract by the Western Australian government.

The executive team here at Oasis Construction has acknowledged the successes of your past projects, and as such we would like to offer you the role of project manager on this project. Although this assignment is very different to your usual role of managing our three-star budget traveler hotel construction projects in Texas, the Board has decided to expand Oasis's offshore activities. We have full confidence in your ability to manage and oversee this project successfully.

The brief:

We have been informed that the hotel will have functional and luxurious elements catering to a wider variety of tourists visiting the region. The core hotel development will consist of 40 rooms including private swimming pools and other five star facilities like an eco-spa. The construction of the hotel would be used to showcase the natural spectacle of the region without disrupting the natural ecosystem, with a focus on sustainable materials. Due to regulatory requirements, the hotel cannot exceed one level in height and should be constructed using sustainable materials that will not visually

impact the natural scenery of the region. Specifications include rooms blended into the rocky gorges, and include the fitting of glass ceilings to give full access to the magnificent starlit canopy at night.

The Kimberley is a sparsely settled northern region known for vast wilderness demarcated by rugged ranges, dramatic gorges, and semi-arid savannah. The Gibb River Road runs 700 kilometers through the heart of the region, passing through several national parks, some of which have towering limestone cliffs and rock pools where freshwater crocodiles gather. This region has become a popular tourist attraction in Australia, despite the remoteness of the region.

Your first activity is to undertake an early stage risk assessment for the project. The Board has requested that you develop a high-level risk register to present at their next meeting in 4 weeks. To assist you in this assignment, please find attached:

- Appendix A: Overview of infrastructure/assets to be constructed
- Appendix B: Some observations made during a pre-tender site visit conducted by our Business Opportunity Manager.

Best regards,

Geoff Thompson

CEO: Oasis Construction

25 Millbend Road, The Woodlands, Texas, 75201

e: geoff.thompson@oasis.com

Step 2: Appendix A: The asset/infrastructure requirements

- 40 free-standing eco-friendly accommodation units built to high-detail specification. The total cost of the project is estimated to be AUD\$90 million dollars, and is to be completed over a 2-year period
- Gym and spa facilities and 40 private plunge/swimming pools
- 7 view sites to optimize views around the gorge areas
- Provision of utilities - water, sewerage, electricity, internet, and telecommunications - and associated infrastructure
- Fire and emergency facilities at the storage facility and residential areas (permanent and temporary)
- A temporary contractors' camp of 20 pre-fabricated units on site for temporary housing but with potential for expansion
- Contractors offices and associated services
- Mini health/medical clinic at the nearby town, and
- Other associated minor buildings such as a recreation room, small gym, food store.

Step 3: Appendix B: Site visit report

The scope of the work for this project is very different to the construction work the company has traditionally undertaken. The site is approximately 450 kilometers, or 270 miles, away from **Broome**, the largest town in the region. The development site is located in a national park. The nearest small town is **Emerald Falls**, with a population of around 2,700. The only access to the area is via the **Gibb River Road**, which is a dirt road.



The area in which the hotel is to be constructed is mostly rocky landscape. During the wet season, it is hot with a lot of tropical rain, which can be heavy and torrential at times, resulting in parts of the Gibb River Road washing away due to flooding. The rain also affects the soil in the area, resulting in a clay-like consistency that will need to be analyzed prior to construction. In the cooler, dry season, there are often water shortages, resulting in water restrictions.



Currently the Western Savannah site area has no ICT accessibility, and satellite phone communication is most reliable. The state government is hoping to have telecommunications infrastructure up and running by the end of the first year of the project.



It will be important to gain an understanding into local indigenous populations, their culture, customs, and practices in relation to the land. This is essential to ensure that construction of the hotel does not disrupt the traditional way of life and its coexistence with the regional ecosystem.

The region is governed by a local council, where several indigenous groups are represented. The council acts as the key decision authority in all activities that affect the region. There is also an expectation that local people will be employed at various times during and after the construction phase of the hotel and hotel-related facilities, in order to develop sustainable skills to foster employability in regional projects.

Consideration needs to be given to possible waste and any toxic materials that are brought into the area. All materials used on site would need to be inspected and approved by the **Department of Environment and Conservation** to ensure the durability and sustainability, and to meet specifications. As such, some of these materials would need to be imported from countries outside of Australia.



It is also a requirement that Oasis's contractors and subcontractors appointed to the project meet state government legislation and workplace health and safety regulatory requirements.

This information represents my brief notes taken on site after a short visit to the area. Further in-depth review from the project or risk manager is required in considering other factors that may impact on project delivery.

Step 4: PESTLE framework

Risks identified

Now that you have a thorough understanding of the Western Savannah project, use this PESTLE framework to categorise each of the identified risks. Type each identified risk into the corresponding part of the framework.

PESTLE

Risk Categorisation

Risks Identified

P

Political

Political factors external to the project or business including government policies and procedures

enter some political risks here

//

E

Economic

External or internal factors that will affect the budget and costing of the project

enter some economic risks here

//

S

Social

The social environment in which the project is delivered and how this may be affected or impacted upon

enter some social risks here

//

PESTLE

Risk Categorisation

Risks Identified

T

Technical/
Technological

Innovations in technology that may
affect the operations of the project

enter some technical or technological risks here

//

L

Legal

All the legal factors that may affect
the delivery of the project

enter some legal risks here

//

E

Environmental

Factors of the surrounding
environment that would need to be
considered before project delivery

enter some environmental risks here

//

Section 3: Risk assessment

Complete the risk register: Part 1:

IDENTIFY THE CAUSE, EFFECT AND PHASE

This is the 1st of 3 stages of the risk register. You will be considering 6 of the risks which were identified in the Western Savannah case study in Section 2 of the course. For each risk, select the:

- Cause
- Effect, and
- Phase of the project affected by the risk.

If you would like you can revisit the content of the Western Savannah case study.

Use the following to complete the risk register:

-- Description --
Local people may not meet relevant industry skill requirements Scope definition at current stage of project is not sufficiently defined The natural environment may be affected by construction activity Local Council members may not be supportive of the project Delays in the delivery of goods and materials to the remote site may occur Contractors and/or goods may not obtain State Government approval
-- Cause --
Not meeting specifications, regulations, or legal requirements Lack of regional development/employment opportunities Insufficient stakeholder engagement in understanding local culture Logistics and seepage/waste materials impacting delicate eco-systems The first-of-kind context, location, and complexity The single access dirt-road being exposed to adverse weather
-- Effect --
Late deliveries of materials to site will have schedule impact for critical path items New contracting and procurement processes, impacting cost or schedule Objections delay, or suspend project, requiring re-scoping Enhanced controls regarding the delivery, usage, and removal of waste and materials at site Additional training cost to upskill and meet OHS requirements Scope changes will have cost, schedule, or quality impact
-- Category --
Legal Political Social Environmental Technical Economic

Risk Register				
Risk	Risk Title (Short Name)	Description of Event There is a risk that	Cause of the Event Because of:	Effect of the Event With the result that:
1	Local Government Support			Planning
2	Accessibility of project location			Planning
3	Human resource availability			Planning
4	Project requirements			Planning
5	Contracting and Procurement			Planning
6	Conservation area & Environment			Planning

Knowledge check 1: Risk assessment:

- 1- **Which of the following definitions most accurately describes risk management?**
 - A. It is the process of researching, reviewing and acting upon
 - B. It is the process of reviewing, monitoring and managing
 - C. It is the process of analyzing, changing and avoiding
 - D. It is the process of identifying, assessing and responding to
- 2- **What information can you gather through risk assessment?**
 - A. The person who will detect the risk event
 - B. The Likelihood and consequences of Risk
 - C. How easy or difficult it will be to detect the risk event
 - D. When the risk event will occur
 - E. All of the above
- 3- **What is the main objective of risk management?**
 - A. To avoid every project risk
 - To determine responses to identified risks
 - To increase the likelihood and impact of positive events, and decrease the likelihood and impact of negative events
 - To identify every project risk, and then shift the identified risks to business competitors

Complete the risk register: Part 2:

APPLY A RISK RATING

This is the 2nd of 3 stages of the risk register. You will be considering 6 of the risks which were identified in the Western Savannah case study in Section 2 of the course. For each risk, refer to the Risk Matrix to identify the likelihood and consequence of each risk, which will determine the risk rating.

L5: Almost certain to occur	PROBABILITY						<div>High</div> <div>Medium</div> <div>Low</div>
L4: Likely to occur							
L3: Possible to occur							
L2: Unlikely to occur							
L1: Rare occurrence							
		C1: Negligible	C2: Minor	C3: Moderate	C4: Severe	C5: Catastrophic	
		IMPACT					

Chose from the following and complete the risk register:

--Likelihood--	--Consequence--
L1: Rare Occurrence	C1: Negligible
L2: Unlikely to occur	C2: Minor
L3: Possible to occur	C3: Moderate
L4: Likely to occur	C4: Severe
L5: Almost certain to occur	C5: Catastrophic

Risk Register			
Description of Event There is a risk that:	Risk Likelihood	Risk Consequences	Risk Rating
Local Council members may not be supportive of the project	--Likelihood--	--Consequence--	TBC
Delays in the delivery of goods and materials to the remote site may occur	--Likelihood--	--Consequence--	TBC
Local people may not meet relevant industry skill requirements	--Likelihood--	--Consequence--	TBC
Scope definition at current stage of project is not sufficiently defined	--Likelihood--	--Consequence--	TBC
Contractors and/or goods may not obtain State Government approval	--Likelihood--	--Consequence--	TBC
The natural environment may be affected by construction activity	--Likelihood--	--Consequence--	TBC

Knowledge check 2: Risk assessment:

- 4- Identifying a risk as "high", "moderate", or "low" would be an example of which risk assessment?
- A. An adverse assessment
 - B. A qualitative assessment
 - C. A quantitative assessment
 - D. A go-for-broke assessment
- 5- A Monte Carlo simulation is an example of which type of risk assessment?
- A. An adverse assessment
 - B. A qualitative assessment
 - C. A quantitative assessment
 - D. A go-for-broke assessment

Section 4: Risk response

Knowledge check 1: Risk response:

- 1- **What are "treat", "transfer", "terminate" and "take" all examples of?**
 - A. Risks
 - B. Contingencies
 - C. Uncertainties
 - D. Responses

- 2- **Which of the following are valid reasons for managing risk on a project? Identify each valid reason** (chose all that apply)
 - A. To minimize the likelihood of the risk
 - B. To minimize the unfavorable consequences of the risk
 - C. To maximize the probability of favorable consequences of the risk
 - D. To provide a warning system as late as possible

- 3- **What is the term for a risk response strategy that generally reduces the probability or impact of the event without altering the project's objectives?**
 - A. Avoidance Response
 - B. Treat Response
 - C. Take Response
 - D. Transfer Response

- 4- **True or false? One type of risk response is to ignore the risk.**
 - A. True.
 - B. False.

- 5- **True or false? Transferring risk to another party is a preferred risk response when the other party is willing to accept the risk and is more capable of managing it.**
 - A. True
 - B. False

Complete the risk register: Part 3:

RESPOND TO RISK AND ASSIGN A RISK OWNER

This is the 3rd and final stage of the risk register activity. You will be considering 6 of the risks which were identified in the Western Savannah case study in Section 2 of the course. For each risk:

- Choose the most appropriate risk response
- Write a brief description of how to respond to the risk, and
- Assign a risk owner for each risk.

--Risk Response--

Take
Treat
Transfer
Terminate

--Risk Owner--

Team Member
Project Manager



Risk Register					
Description of Event There is a risk that:	Risk Rating	Risk Response	Response Description	Risk Owner	
Local Council members may not be supportive of the project					
Delays in the delivery of goods and materials to the remote site may occur					
Local people may not meet relevant industry skill requirements					
Scope definition at current stage of project is not sufficiently defined					
Contractors and/or goods may not obtain State Government approval					
The natural environment may be affected by construction activity					

Section 4: Risk monitor and review

Knowledge check 1: Risk monitor and review:

- 1- In which phase of a project's life cycle would project uncertainty be the greatest?
 - A. Initiation phase
 - B. Planning phase
 - C. Execution phase
 - D. Closure phase

- 2- What is the approach for dealing with risk in a project better known as?
 - A. A scope baseline
 - B. A risk mitigation strategy
 - C. A workaround
 - D. A risk management plan

Knowledge check 2: Risk monitor and review:

- 3- What is the final stage of the risk management process better known as?**
- A. Monitor and review
 - B. Reporting
 - C. Execution
 - D. Closure
- 4- Which of the following actions are part of the risk management process? Identify each valid action. (chosed all that apply)**
- A. Defining the roles and responsibilities of team members
 - B. Establishing a risk reporting format
 - C. Selecting the project manager
 - D. Risk sorting and interpretation
- 5- What term is used for "an uncertain event or condition that, if it occurs, has a positive or negative effect on project objectives"?**
- A. Risk
 - B. Hazard
 - C. Bad luck
 - D. Disaster

Answers of Section 1: The fundamentals of risk management

Knowledge check 1: The fundamentals:

1- D 2- B 3- B 4- A 5- D

Knowledge check 2: The fundamentals:

6- A,B,C 7- D 8- B

Knowledge check 3: The fundamentals:

9- A 10- C 11- B 12- A,C 13- D
14- B,C

Answers of Section 1: The fundamentals of risk management

Knowledge check 1: The fundamentals:

- 1- D 2- B 3- B 4- A 5- D

Knowledge check 2: The fundamentals:

- 6- A,B,C 7- D 8- B

Knowledge check 3: The fundamentals:

- 9- A 10- C 11- B 12- A,C 13- D
14- B,C

Answers of Section 2: Risk identification

Knowledge check 1: Risk identification:

- 1- B 2- D

Knowledge check 2: Risk identification:

- 3- C,D 4- B 5- A,B,C 6- B

Knowledge check 3: Risk identification:

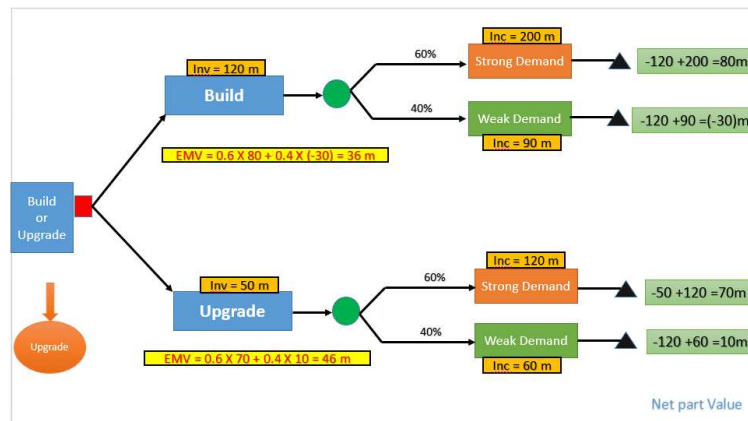
- 7- A 8- A 9- A

Knowledge check 4: Risk identification:

- 10- A

Decision Tree Problem:

Upgrade



Case Study: Western Savannah

Suggested answer:

Risk Categorisation	Risks Identified	Risk No.
P Political	<ul style="list-style-type: none">• Local Government support	<ul style="list-style-type: none">• 1
E Economic	<ul style="list-style-type: none">• Accessibility of project location	<ul style="list-style-type: none">• 2
S Social	<ul style="list-style-type: none">• Human resource availability	<ul style="list-style-type: none">• 3
T Technical/ Tehnological	<ul style="list-style-type: none">• Project requirements	<ul style="list-style-type: none">• 4
L Legal	<ul style="list-style-type: none">• Contracting and Procurement	<ul style="list-style-type: none">• 5
E Environmental	<ul style="list-style-type: none">• Conservation area & Environment	<ul style="list-style-type: none">• 6

.....

Answers of Section 1: The fundamentals of risk management

Knowledge check 1: The fundamentals:

1- D 2- B 3- B 4- A 5- D

Knowledge check 2: The fundamentals:

6- A,B,C 7- D 8- B

Knowledge check 3: The fundamentals:

9- A 10- C 11- B 12- A,C 13- D
14- B,C

Answers of Section 2: Risk identification

Knowledge check 1: Risk identification:

1- B 2- D

Knowledge check 2: Risk identification:

3- C,D 4- B 5- A,B,C 6- B

Knowledge check 3: Risk identification:

7- A 8- A 9- A

Knowledge check 4: Risk identification:

10- A

Answers of Section 3: Risk assessment

Answer of Complete the risk register: Part 1

Have you considered?						
Risk	Risk Title (Short Name)	Description of Event There is a risk that:	Cause of the event: Because of:	Effect of the Event With the result that:	Risk Category	Project Phase
✓	Local Government support	Local Council members may not be supportive of the project	Insufficient stakeholder engagement in understanding local culture	Objections delay, or suspend project, requiring rescoping	Political	Planning
✓	Accessibility of project location	Delays in the delivery of goods and materials to the remote site may occur	The single access dirt-road being exposed to adverse weather	Late deliveries of materials to site will have schedule impact for critical path items	Economic	Planning
✓	Human resource availability	Local people may not meet relevant industry skill requirements	Lack of regional development/employment opportunities	Additional training cost to upskill and meet OHS requirements	Social	Planning
✓	Project requirements	Scope definition at current stage of project is not sufficiently defined	The first-of-kind context, location, and complexity	Scope changes will have cost, schedule, or quality impact	Technical	Planning
✓	Contracting and Procurement	Contractors and/or goods may not obtain State Government approval	Not meeting specifications, regulations, or legal requirements	New contracting and procurement processes, impacting cost or schedule	Legal	Planning
✓	Conservation area & Environment	The natural environment may be affected by construction activity	Logistics and seepage/waste materials impacting delicate eco-systems	Enhanced controls regarding the delivery, usage, and removal of waste and materials at site	Environmental	Planning

Answers of Section 3: Risk assessment

Knowledge check 1: Risk assessment:

1- D 2- B 3- B

Knowledge check 2: Risk assessment:

4- B 5- C

Answer to Complete the risk register: Part 2:

Have you considered?							
Risk	Risk Title (Short Name)	Description of Event There is a risk that:	Risk Category	Project Phase	Risk Likelihood	Risk Consequences	Risk Rating
✓	Local Government support	Local Council members may not be supportive of the project	Political	Planning	L3: Possible to occur	C4: Severe	High
✓	Accessibility of project location	Delays in the delivery of goods and materials to the remote site may occur	Economic	Planning	L4: Likely to occur	C4: Severe	High
✓	Human resource availability	Local people may not meet relevant industry skill requirements	Social	Planning	L3: Possible to occur	C2: Minor	Medium
✓	Project requirements	Scope definition at current stage of project is not sufficiently defined	Technical	Planning	L2: Unlikely to occur	C3: Moderate	Medium
✓	Contracting and Procurement	Contractors and/or goods may not obtain State Government approval	Legal	Planning	L3: Possible to occur	C3: Moderate	Medium
✓	Conservation area & Environment	The natural environment may be affected by construction activity	Environmental	Planning	L4: Likely to occur	C4: Severe	High

Answers of Section 1: The fundamentals of risk management

Knowledge check 1: The fundamentals:

1- D 2- B 3- B 4- A 5- D

Knowledge check 2: The fundamentals:

6- A,B,C 7- D 8- B

Knowledge check 3: The fundamentals:

9- A 10- C 11- B 12- A,C 13- D
14- B,C

Answers of Section 2: Risk identification

Knowledge check 1: Risk identification:

1- B 2- D

Knowledge check 2: Risk identification:

3- C,D 4- B 5- A,B,C 6- B

Knowledge check 3: Risk identification:

7- A 8- A 9- A

Knowledge check 4: Risk identification:

10- A

Answers of Section 3: Risk assessment

Answer of Complete the risk register: Part 1

Have you considered?						
Risk	Risk Title (Short Name)	Description of Event There is a risk that:	Cause of the event: Because of:	Effect of the Event With the result that:	Risk Category	Project Phase
✓	Local Government support	Local Council members may not be supportive of the project	Insufficient stakeholder engagement in understanding local culture	Objections delay, or suspend project, requiring rescoping	Political	Planning
✓	Accessibility of project location	Delays in the delivery of goods and materials to the remote site may occur	The single access dirt-road being exposed to adverse weather	Late deliveries of materials to site will have schedule impact for critical path items	Economic	Planning
✓	Human resource availability	Local people may not meet relevant industry skill requirements	Lack of regional development/employment opportunities	Additional training cost to upskill and meet OHS requirements	Social	Planning
✓	Project requirements	Scope definition at current stage of project is not sufficiently defined	The first-of-kind context, location, and complexity	Scope changes will have cost, schedule, or quality impact	Technical	Planning
✓	Contracting and Procurement	Contractors and/or goods may not obtain State Government approval	Not meeting specifications, regulations, or legal requirements	New contracting and procurement processes, impacting cost or schedule	Legal	Planning
✓	Conservation area & Environment	The natural environment may be affected by construction activity	Logistics and seepage/waste materials impacting delicate eco-systems	Enhanced controls regarding the delivery, usage, and removal of waste and materials at site	Environmental	Planning

Answers of Section 3: Risk assessment

Knowledge check 1: Risk assessment:

1- D

2- B

3- B

Knowledge check 2: Risk assessment:

4- B

5- C

Answer of Complete the risk register: Part 2:

Have you considered?							
Risk	Risk Title (Short Name)	Description of Event There is a risk that:	Risk Category	Project Phase	Risk Likelihood	Risk Consequences	Risk Rating
✓	Local Government support	Local Council members may not be supportive of the project	Political	Planning	L3: Possible to occur	C4: Severe	High
✓	Accessibility of project location	Delays in the delivery of goods and materials to the remote site may occur	Economic	Planning	L4: Likely to occur	C4: Severe	High
✓	Human resource availability	Local people may not meet relevant industry skill requirements	Social	Planning	L3: Possible to occur	C2: Minor	Medium
✓	Project requirements	Scope definition at current stage of project is not sufficiently defined	Technical	Planning	L2: Unlikely to occur	C3: Moderate	Medium
✓	Contracting and Procurement	Contractors and/or goods may not obtain State Government approval	Legal	Planning	L3: Possible to occur	C3: Moderate	Medium
✓	Conservation area & Environment	The natural environment may be affected by construction activity	Environmental	Planning	L4: Likely to occur	C4: Severe	High

Answers of Section 4: Risk response

Knowledge check 1: Risk response :

1- D

2- A,B,C

3- B

4- B

5- A

Answer of Complete the risk register: Part 3:

Description of Event There is a risk that:	Risk Rating	Risk Response	Response Description	Risk Owner
Local Council members may not be supportive of the project	High	Take		
Delays in the delivery of goods and materials to the remote site may occur	High	Treat		
Local people may not meet relevant industry skill requirements	Medium	Treat		
Scope definition at current stage of project is not sufficiently defined	Medium	Treat		
Contractors and/or goods may not obtain State Government approval	Medium	Treat		
The natural environment may be affected by construction activity	High	Treat		

Answers of Section 1: The fundamentals of risk management

Knowledge check 1: The fundamentals:

1- D 2- B 3- B 4- A 5- D

Knowledge check 2: The fundamentals:

6- A,B,C 7- D 8- B

Knowledge check 3: The fundamentals:

9- A 10- C 11- B 12- A,C 13- D
14- B,C

Answers of Section 2: Risk identification

Knowledge check 1: Risk identification:

1- B 2- D

Knowledge check 2: Risk identification:

3- C,D 4- B 5- A,B,C 6- B

Knowledge check 3: Risk identification:

7- A 8- A 9- A

Knowledge check 4: Risk identification:

10- A

Answers of Section 3: Risk assessment

Answer of Complete the risk register: Part 1

Have you considered?						
Risk	Risk Title (Short Name)	Description of Event There is a risk that:	Cause of the event: Because of:	Effect of the Event With the result that:	Risk Category	Project Phase
✓	Local Government support	Local Council members may not be supportive of the project	Insufficient stakeholder engagement in understanding local culture	Objections delay, or suspend project, requiring rescoping	Political	Planning
✓	Accessibility of project location	Delays in the delivery of goods and materials to the remote site may occur	The single access dirt-road being exposed to adverse weather	Late deliveries of materials to site will have schedule impact for critical path items	Economic	Planning
✓	Human resource availability	Local people may not meet relevant industry skill requirements	Lack of regional development/employment opportunities	Additional training cost to upskill and meet OHS requirements	Social	Planning
✓	Project requirements	Scope definition at current stage of project is not sufficiently defined	The first-of-kind context, location, and complexity	Scope changes will have cost, schedule, or quality impact	Technical	Planning
✓	Contracting and Procurement	Contractors and/or goods may not obtain State Government approval	Not meeting specifications, regulations, or legal requirements	New contracting and procurement processes, impacting cost or schedule	Legal	Planning
✓	Conservation area & Environment	The natural environment may be affected by construction activity	Logistics and seepage/waste materials impacting delicate eco-systems	Enhanced controls regarding the delivery, usage, and removal of waste and materials at site	Environmental	Planning

Answers of Section 3: Risk assessment

Knowledge check 1: Risk assessment:

1- D

2- B

3- B

Knowledge check 2: Risk assessment:

4- B

5- C

Answer of Complete the risk register: Part 2:

Have you considered?							
Risk	Risk Title (Short Name)	Description of Event There is a risk that:	Risk Category	Project Phase	Risk Likelihood	Risk Consequences	Risk Rating
✓	Local Government support	Local Council members may not be supportive of the project	Political	Planning	L3: Possible to occur	C4: Severe	High
✓	Accessibility of project location	Delays in the delivery of goods and materials to the remote site may occur	Economic	Planning	L4: Likely to occur	C4: Severe	High
✓	Human resource availability	Local people may not meet relevant industry skill requirements	Social	Planning	L3: Possible to occur	C2: Minor	Medium
✓	Project requirements	Scope definition at current stage of project is not sufficiently defined	Technical	Planning	L2: Unlikely to occur	C3: Moderate	Medium
✓	Contracting and Procurement	Contractors and/or goods may not obtain State Government approval	Legal	Planning	L3: Possible to occur	C3: Moderate	Medium
✓	Conservation area & Environment	The natural environment may be affected by construction activity	Environmental	Planning	L4: Likely to occur	C4: Severe	High

Answers of Section 4: Risk response

Knowledge check 1: Risk response :

1- D

2- A,B,C

3- B

4- B

5- A

Answer of Complete the risk register: Part 3:

Description of Event There is a risk that:	Risk Rating	Risk Response	Response Description	Risk Owner
Local Council members may not be supportive of the project	High	Take		
Delays in the delivery of goods and materials to the remote site may occur	High	Treat		
Local people may not meet relevant industry skill requirements	Medium	Treat		
Scope definition at current stage of project is not sufficiently defined	Medium	Treat		
Contractors and/or goods may not obtain State Government approval	Medium	Treat		
The natural environment may be affected by construction activity	High	Treat		

Answers of Section 5: Risk monitor and review

Knowledge check 1: Risk monitor and review:

1- A 2- D

Knowledge check 2: Risk monitor and review:

3- A 4- A,B,D 5- A