

3. While all projects use \_\_\_\_\_ risk analysis, \_\_\_\_\_ risk analysis is only used when it is needed, and there is sufficient data to develop appropriate models.

- quantitative, qualitative
- opportunity, qualitative
- qualitative, quantitative
- A team endeavor to list, on individual sticky notes, all of the possible threats and opportunities that could occur to an upcoming project might be used during the \_\_\_\_\_ process.

4. A team endeavor to list, on individual sticky notes, all of the possible threats and opportunities that could occur to an upcoming project might be used during the \_\_\_\_\_ process.

- plan risk responses
- perform qualitative risk analysis
- identify risks
- perform quantitative risk analysis

5. Avoid risk, mitigate risk, accept risk and \_\_\_\_\_ are all strategies for responding to negative risks, also known as threats.

- enhance risk
- prevent risk
- transfer risk
- share risk

6. An analytical technique used to determine the basic underlying source of a variance, a defect, or a risk is called \_\_\_\_\_.

- qualitative risk analysis
- Monte Carlo analysis
- SWOT analysis

7. \_\_\_\_\_ is a quantitative risk analysis modeling technique used to help determine which risks have the most powerful impact on the project. Using a tool such as a Tornado Diagram, it "examines the extent to which the uncertainty of each project element affects the objective being studied when all other uncertain elements are held at their baseline values."

- Fishbone diagram
- Monte Carlo technique
- Expected monetary value analysis
- Sensitivity analysis

8. Risks that have been identified and may or may not happen are referred to as "known unknowns," and a \_\_\_\_\_ should be established to cover them if they are triggered.

- contingency reserve
- management reserve
- funding reserve
- risk buffer

9. \_\_\_\_\_ is a quantitative risk analysis modeling technique used to help determine which risks have the most powerful impact on the project. Using a tool such as a Tornado Diagram, it "examines the extent to which the uncertainty of each project element affects the objective being studied when all other uncertain elements are held at their baseline values."

- root cause
- decision tree
- Monte Carlo
- cost/benefit

10. Expected monetary value (EMV) is commonly used within this type of analysis:

- root cause
- decision tree
- Monte Carlo
- cost/benefit

## Example Project

Create a risk register for your example project. Categorize each risk, list potential causes, and list potential responses for each cause, as shown in Exhibit 10.9.

Describe what each project success measure (from Exhibit 10.1) looks like on your example project. Identify at least three risks to each success measure, determine which are major risks, and for each major risk develop one or more contingency plans. Identify whether the contingency plan is an avoidance plan

(reducing the probability of the risk event), a mitigation plan (reducing the impact of the event), or both.

Facilitate a discussion with the sponsor and other key stakeholders of your project. Have them determine the relative importance of their priorities and document them, as shown in Exhibit 10.2.

Perform a risk review for your example project. Use at least three types of review, as shown in Exhibit 10.8. Which of these types gave you the most useful information? Why?

## Endnotes

- PMBOK® Guide 550.
- PMBOK® Guide 549.
- PMBOK® Guide 564.
- PMBOK® Guide 548.
- PMBOK® Guide 560.
- Ibid.
- PMBOK® Guide 542.
- PMBOK® Guide 564.
- PMBOK® Guide 537.
- PMBOK® Guide 561.
- PMBOK® Guide 566.
- PMBOK® Guide 560.

for the Panama Canal Expansion Program, *of Construction Engineering and Management*, October 2011: 762–770.

Kloppenborg, Timothy J., Arthur Shirberg, and Jayashree Venkatraman, *Project Leadership VA: Management Concepts, Inc.*, 2003.

Kloppenborg, Timothy J., Debbie Tesch, and J. King, "21st Century Project Success Measurement, Interpretation, and Direction," *Proceedings, PMI Research and Education Conference 2012* (Dublin, Ireland, July 2012).

Kloppenborg, Timothy J. and Deborah Tesch, "Project Leadership Framework to Avoid and Information Technology Project Risks," in E. Stevin, David I. Cleland, and Jeffrey K. Pinto *Innovations: Project Management Research 2007* (Washington, DC: Project Management Institute Square, PA: Project Management Institute), Kloppenborg, Timothy J., and Joseph A. Petrini, *Managing Project Quality* (Vienna, VA: Management Concepts, Inc., 2002).

Krane, Hans Peter, et al., "How Project Managers' Owners Interaction Can Work Within and Inside Construction Projects: Modeling the Complexity," *Information Technology in Project Risk Management*, *Project Management*, April 2012: 54–67.

Lehtimäki, Liisa, "Relational Risk Management in Construction Projects: Modeling the Complexity," *Information Technology in Project Risk Management*, *Project Management*, April 2011: 1.

Mbachu, Jasper, "Sources of Contractor's Payne and Cash Flow Problems in New Zealand Construction Industry: Project Team's Perceptions of Risks and Construction Management Measures," *Construction Management and Economics* (October 2011) 29: 1027–1041.