

**EXHIBIT 10.9**
**PARTIAL RISK REGISTER**

RISK DESCRIPTION(EVENT)	IMPACT	CATEGORY	PROB	IMPACT	SCORE	MITIGATION STRATEGY-RESOLUTION
Incomplete requirements were identified in the RFP and Exhibits (see Risk 7).	Greater possibility of gaps in functionality. Greater possibility of missing State specific functionality. Greater possibility of "Scope Creep". Greater possibility of delay in finalizing requirements. Greater possibility of rework in subsequent phases.	Business Requirements	5	4	20	MAXIMUS will begin conducting the detailed BA sessions 09/20/2012. Additional requirements will be gathered in those sessions and documented in subsequent versions of the Requirements Validation Documentation.  A schedule of future Business Architecture and Technical sessions is being developed.  State will provide closure and decisions regarding requirements and system scope.
Since there are various vendor products (IBM/Curam, Connecture) each with its own rules engines, it is not clear which rules engine takes precedence.	Potential duplication of rules or conflicting rules that lead to different outcomes.	Technology	3	4	12	EngagePoint will provide and explanation of how to mitigate this risk.  (See Risk Response Plan for resolution.)
Difficulty integrating to States end-to-end Infrastructure.	Potential difficulty integrating new technology into existing infrastructure.	Technology	4	4	16	Work with the State to define infrastructure requirements and ensure we are providing any necessary information to the MN-IT staff.
Going through hierarchical reporting structure will impact real time decision making.	Potential bottlenecks in document reviews and decision making may affect task completion according to the Project Schedule.	Communications	4	4	16	Identifying a Point-of-Contact for each functional area from vendor and state to eliminate bottlenecks.
State functional POC's may have competing priorities that will hinder their ability to respond in a timely manner.	Secondary risk—related to Risk 6.	Communications	4	4	16	Identifying multiple Points-of-Contact for each functional area from vendor and state to eliminate bottlenecks.
Delays in procurement process may negatively impact project schedule.	Inability to acquire resources in a timely manner may negatively impact related activities in the Project Schedule.	Procurement	2	5	10	Add lead time as early as possible. Evaluate procurement requirements during the change order process. Make sure Commerce procurement staff are engaged in the PO development process.

**EXHIBIT 10.8****PROJECT RISK REVIEWS**

TYPE OF REVIEW	QUESTION
Charter	Is there clarity and common understanding in each section?
Stakeholder register	What could upset any of them?
Communication plan	Where could poor communications cause trouble?
Assumptions	Can you verify that each assumption is correct?
Constraints	How does each constraint make the project more difficult?
WBS	What risks can you find going through the WBS item by item?
Schedule	What milestones and other merge points might be troublesome?
Resource demands	At what points are certain people overloaded?
Touchpoints	What difficulties may arise when some project work is handed off from one person to another?
Literature	What problems and opportunities have been published concerning similar projects?
Previous projects	What projects and opportunities have similar projects in your own organization experienced?
Peers	Can your peers identify any additional risks?
Senior management	Can senior management identify any additional risks?

**10-2c Understanding Relationships**

Project managers can also seek to identify risks by learning the cause-and-effect relationships of risk events. One useful technique is a flow chart that shows how people, money, data, or materials flow from one person or location to another. This is essentially what the team does when it reviews the project schedule, provided it looks at the arrows that show which activities must precede others.

A second method of understanding risk relationships is to ask why a certain risk event may happen. This can be accomplished through **root cause analysis**, which is “an analytical technique used to determine the basic underlying reason that causes a variance or defect or risk. A root cause may underlie more than one variance or defect or risk.”<sup>10</sup> A simple approach to root cause analysis is to simply consider each risk one at a time and ask, “Why might this happen?” At this point, since many potential risks have probably been identified, project teams do not spend a large amount of time on any single risk. If necessary, the project team can perform more detailed root cause analysis of the few risks that have been designated as major risks during risk analysis.

One more type of relationship project managers like to understand is **trigger conditions**, or “an event or situation that indicates a risk is about to occur.”<sup>11</sup> A trigger can be specific to an individual risk, such as when a key supplier stops returning phone calls, which may jeopardize their delivery of materials.

**10-2d Risk Register**

The primary output of risk identification is the risk register. When complete, the **risk register** is “a document in which the results of risk analysis and risk response planning are recorded.”<sup>12</sup> At this point (the end of risk identification), the risk register includes only the risk categories, identified risks, potential causes, and potential responses. The other items are developed during the remainder of risk planning. An example of a partial risk register is shown in Exhibit 10.9.

The risk register is a living document. As a risk is identified, it is added. More information regarding a risk can be added as it is discovered. As risks are handled, they can

**EXHIBIT 10.2****SPECIFIC PROJECT STAKEHOLDER PRIORITIES**

	IMPROVE	KEEP	
Scope		X	
Quality		X	
Time			≤1 month to save \$5,000
Cost	Want to save		
Contribution to Organization		X	
Contribution to Society		X	

Source: Adapted from Timothy J. Kloppenborg and Joseph A. Petrick, *Managing Project Quality* (Vienna, VA: Management Concepts, Inc., 2002), 46.

The specific priorities of the project's most important stakeholders can be summarized in a table such as Exhibit 10.2. A project manager and team need to understand not only what the project plans call for but also what area(s) the most important stakeholders would like to improve and what area(s) they are willing to sacrifice to enable those improvements. For example, consider a project that calls for building a four-bedroom house of 2,800 square feet. Perhaps the homeowner (the most important stakeholder) insists on keeping the size at 2,800 square feet and insists on the normal quality (no leaks, square walls, etc.), but would like to improve on the cost (pay less money). To improve on the cost objective, one of the other objectives probably needs to be sacrificed. Perhaps the homeowner would be willing to move in a month late if the savings were \$5,000.

Once the project team understands the project success measures and priorities, attention is turned to understanding the project risks. All projects have some risk, and the more unique a project is, the more risk may be present. It is impossible to remove all sources of risk. It is undesirable to even try to remove all risk because that means the organization is not trying anything new. A risk is anything that may impact the project team's ability to achieve the general project success measures and the specific project stakeholder priorities. This impact can be something that poses a **threat** or "a risk that would have a negative effect on one or more project objectives."<sup>3</sup> The impact, on the other hand, could be something that poses an **opportunity** or "a risk that would have a positive effect on one or more project objectives."<sup>4</sup>

Wise project managers strive to develop a **risk management plan**, which is "a component of the project management plan that describes how risk management activities will be structured and performed,"<sup>5</sup> and have it in place before risk events occur. By documenting risk information in a proactive manner, a project manager can eliminate or reduce the impact of some threats and capitalize on some opportunities. The risk management plan is also useful for communicating with the various project stakeholders and for later analysis to determine what worked well and may be good practice to use on future projects, and what went poorly and should be avoided on future projects.

Some risk management plans include all of the topics in this chapter. Others are smaller. For example, a risk management plan template for an IT consulting company is shown in Exhibit 10.3.



managers use in risk management start with identifying as many risks as possible. Once the risks are identified, each risk is analyzed so that the project team can concentrate their attention on the most critical risks. Analysis always consists of a qualitative or judgmental approach and sometimes also includes a quantitative approach. In the final risk management process, the project team decides how to respond to each potential risk. Once all of the risk management planning has initially been accomplished, the response plans are incorporated into the overall project management plan. Changes may need to be made to the schedule, budget, scope, or communication plans to account for certain risks. These risk management planning processes are covered in this chapter. Risk management also includes monitoring and controlling the risks according to plan. These are covered, along with ongoing risk planning, in Chapter 14, Determining Project Progress and Results.

On agile projects, while early risk planning, assessment, and response planning is similar at a high level, more detailed and timely risk management occurs in three places: in planning each subsequent iteration, in daily stand-up meetings, and in retrospectives at the end of each iteration.

## 10-1 Plan Risk Management

**Plan risk management** is “the process of defining how to conduct risk management activities for a project.”<sup>1</sup> To plan for project risks, a project manager must first understand the project’s objectives. A project manager develops this understanding initially by realizing what project success in general is and then by understanding the specific priorities of the most important project stakeholders, as discussed in Chapter 5. Exhibit 10.1 summarizes current project success research results.

The first set of general project success measures is meeting agreements. This includes meeting the technical requirements while not going over the cost and schedule agreements. The second set of project success measures focuses on the project’s customers. Specifically, did the project result meet the customers’ needs, was the project result used by the customers, and did it enhance the customers’ satisfaction? The third set deals with the future of the performing organization. The specific measures in this area vary, but essentially they ask whether the project helped the performing organization. The **performing organization** is “an enterprise whose personnel are most directly involved in doing the work of the project.”<sup>2</sup> Typical measures here include market share, new markets and/or technologies, and commercial success of the project output. The final set of project success measures deals with the project team. Did they become better and more dedicated employees?

### EXHIBIT 10.1

#### PROJECT SUCCESS MEASURES

- **Meeting Agreements**  
Cost, schedule, and specifications met
- **Customer’s Success**  
Needs met, deliverables used, customer satisfied
- **Performing Organization’s Success**  
Market share, new products, new technology
- **Project Team’s Success**  
Loyalty, development, satisfaction

Source: Timothy J. Kloppenborg, Debbie Tesch, and Broderick King, “21st Century Project Success Measures: Evolution, Interpretation, and Direction,” *Proceedings, Project Management Institute Research and Education Conference*, July 2012, Limerick, Ireland.