

A person wearing a white long-sleeved shirt is sitting at a desk, working on a silver laptop. Their right hand is holding a black fountain pen with gold accents, poised over the keyboard. The laptop screen displays a document with a pie chart. The background is slightly blurred, showing a desk with a mouse and other papers.

# Using Matrices to Analyze Constraints Assumptions Risks

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# Project Management Tools

## Using Matrices to Analyze Constraints, Assumptions, and Risk

Simple matrices can be very powerful tools to analyze constraints, assumptions, risks or other elements that must be addressed in your Project Plan.

### Constraints and Assumptions:

1. Brainstorm all constraints or assumptions for the project. If you are a one-person or very small team, recruit Subject Matter Experts, stakeholders or others who can help you create a more complete list.
2. Give each item a rating for the **Impact** it would have on the project and the overall **Importance** it has for the project. **Use a 5-point scale: 1 = very low - 5 = very high.**
3. Complete ratings for *Impact and Importance for each item* **before** you proceed to the next item. (If you go down the list rating the Impact of each item first then do the same for the Importance of every item, you will compare items to one another subjectively.)
4. **Multiply Impact X Importance = Level**
5. Now you have a ranked, prioritized list of constraints or assumptions.
6. Establish your own **Action Point**, *i.e.*, anything above 15 must have an Action Plan. Add specific tasks to your Plan to address the constraints or assumptions above the Action Point. Remember, the Action Point is arbitrary – a judgment call. You may need to change it as the project progresses.

Constraints	Impact	Importance	Level

Assumptions	Impact	Importance	Level

# Project Management Tools

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## Risk

Use the same approach for creating your project **Risk Management Plan**. However, you will use a different category for the analysis, **Likelihood**<sup>1</sup>.

1. Brainstorm all risks for the project. If you are a one-person or very small team, recruit Subject Matter Experts, stakeholders or others who can help you create a more complete list.
2. Give each item a rating for the **Impact** it would have on the project if it happens and the **Likelihood** it will happen. **Use a 5-point scale: 1 = very low - 5 = very high.**
3. Complete the ratings for *Impact and Likelihood for each item* **before** you proceed to the next item. (If you go down the list and rate the Impact of each item first then do the same for the Likelihood of every item, you will compare the items to one another subjectively.)
4. **Multiply Impact X Likelihood = Level**
5. Now you have a ranked, prioritized list of Risks.
6. Establish your own **Action Point**, *i.e.*, anything above 15 must have an Action Plan. Add specific tasks to your Plan to address the risks above the Action Point. Remember, the Action Point is arbitrary – a judgment call. You may need to change it as the project progresses.
7. For your actionable risks, create a **Contingency Plan**. Depending on the type of project, these may have to be quite elaborate and detailed.
8. Determine, if you can, what an “early warning sign” of each actionable risk might be. Build close monitoring of these indicators into your Project Plan and watch closely.
9. Create a **Risk Management Plan** (as part of your Project Plan) including the tasks to monitor the early warning signs and the Contingency Plans for the Action Point Items.

Risks	Impact	Likelihood	Level

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<sup>1</sup> Do not use numeric probability calculations unless you have actual concrete data. This will give a false sense of validity.

# Project Management Tools

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## Full Risk Analysis

(These are some typical items people include in their analysis of each Risk. Develop your own list customized for your situation.)

**Project Name**  
**Risk ID #**  
**Responsible person**  
**Risk identification date**  
**Risk Description**  
**Early warning sign**  
**Trigger event**  
**Consequence/Impact description**  
**Consequence/Impact value (quantify impact; (1-5)<sup>2</sup>**  
**Rationale for Impact value**  
**Likelihood value (quantify Likelihood; (1-5)<sup>3</sup>**  
**Rationale for Likelihood value**  
**Response Strategy**  
**Known Cost of Response**  
**Contingency for Response**  
**WBS Relationship (tasks associated with condition or response strategy)**

For more education and coaching for managing projects, contact us:

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