

Table of Methods and Tools

Method & Tools	Description
Affinity Grouping	Affinity grouping organizes large numbers of data (risks) into groupings of related items and ties similar groups together. The outcome forms a structure of related items
Bar Graph	Bar graphs graphically represent data for comparison to other data or other categories of data using bars. The measure of data are depicted by a bar length. In risk management, a bar can be used, for example, to graphically represent categories of risks and number of risks in a category.
Baseline Identification	Baseline identification and analysis is a process to produce a baseline set of risks that exists at a particular point in time in a project. Driven by the project's needs and resources, the process will consist of a sequence of methods and tools that will be used to identify and analyze the existing risks. Baseline Planning in which the project develops mitigation plans for the top N risks usually follows baseline identification and analysis.
Binary & Tri-Level Attribute Evaluation	Binary attribute evaluation is a simple method used to gain a better understanding of the risks by determining the expected impact, probability, and timeframe of a risk evaluated by each participant. The final output represents the consensus evaluations for each risk. The attribute values given for each risk, determined based on a specific criteria specifically defined for the project, are: <ul style="list-style-type: none"> • Impact: significant or insignificant • Probability: likely to occur or not likely to occur • Timeframe: near-term or far-term
Comparison Risk Ranking	Comparison risk ranking (CRR) is a method of ranking risks. It compares two risks at a time in conjunction with the project criteria. In this method there is an explicit comparison of every risk with every other risk and participants cast a vote for each comparison.
Event Tree	An event tree is a logic diagram that starts with a single event and explores all possible combinations of success and failure events to lead to an (unfavorable or favorable) outcome. It answers the question what can go wrong? In risk management, event tree could be applied to identify risks based on an undesired outcome resulting from an initiating event. The combination of success and failure traced through the "pathway" will be used to analyze the corresponding risks.
Fault Tree Analysis	A fault tree is a model that logically and graphically represents the various combinations of possible events, both faulty and normal, occurring in a system that leads to the top undesired event. It uses a tree to show the cause-and-effect relationships between a single, undesired event and the various contributing

	causes using standard logic symbols to connect the branches of the tree. In risk management, fault tree could be applied to identify potential conditions, or a combination of conditions, that could cause the risk. The sequences of conditions, or pathways, will be used to analyze the predetermined risk. The branches of the tree, the cause-and-effect relationships, will be used to analyze the top undesired event or the predetermined risk.
Failure Modes & Effect Analysis (FMEA)	Failure modes and effects analysis (FMEA) is a tool to analyze as much information as possible on a given hardware or system to identify all possible failure modes and assess the consequences or effects of each of these failures. It also addresses the criticality or risk of individual failures. Countermeasures (mitigation steps) can be defined, for each failure mode, and consequent reductions in risk can be evaluated. FMEA is a useful tool for cost and benefit studies to implement effective risk mitigation and countermeasure, and as precursors to a Fault Tree Analysis
Multivoting	Multivoting is a general voting method used to select the most important items from a list. Selecting the number of votes to be used depends on the number of items on the list. In risk management, each participant is given a number of votes to choose the top risks in the list according to them. A general rule of thumb is to allow participant votes equal to one-third the number of items on the list. For a large number of items, a series of votes is used to reduce the list to a workable number.
Pareto Top N	Pareto top N method selects the most important risks of a project based on risk information. It involves selecting the top N risks that will be prioritized based on the criteria defined for the project as well as the attributes of impact, probability, and timeframe. The result is an ordered Pareto, or vital few, list of risks.
Reliability Analysis	Reliability analysis is a method of determining reliability, or the probability that a system will perform its intended function under specified conditions for a specified period of time. It is generally concerned with failures during the life of the product, the need to understand why and how items fail. A number of tools can be used to analyze system reliability, including a reliability block diagram, which represents the functional relationship between components in a system. Reliability block diagram models are developed using various combinations of logic paths to define the success criteria of a system.
Risk Information Sheet	A risk information sheet is a means of capturing information about a risk. Risk information sheets are used to document new risks as they are identified. They are also used to modify information as risks are managed. It is a form that can be submitted to the appropriate person or included in a database with other project risks. In the absence of a database, this becomes a primary means of documenting and retaining information about a risk.

Taxonomy Classification	Taxonomy classification is a method of organizing risks into groups or categories based on the project development risk taxonomy. (See Taxonomy-Based Questionnaire). The basis of classification selected (e.g., impact, root cause, or cost) is used to determine the organization.
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