**How to Prepare a Decision Matrix**

**Step 1: Define the Problem**

Problem definition is crucial for making a good decision. This step identifies

* Brainstorming the issue,
* facts & assumptions,
* potential obstacles

A good problem definition expresses the issue in a clear, one-sentence statement that describes both the initial conditions and the desired conditions. Everybody involved in the decision-making process needs to agree on a written problem definition before proceeding.

Ex: To determine which house is the best one for my family to purchase.

**Step 2: Develop Screening Criteria**

Any acceptable solution to the problem must meet the screening criteria. They describe what the solution to the problem *must* do.

**Step 3: Establish Evaluating Criteria**
Evaluating criteria are designed to better identify what the decision maker wants, without actually having a list of options. These criteria will be weighted based on preferred desires.

Ex: If the cost of the house is a screening criteria, then an evaluating criteria might be, “A house priced between $150,000 and $200,000 is better.”

**Step 4: Identify Courses of Action (COA)**

Alternatives offer different approaches for changing the initial condition into the desired condition. Generally, the alternatives vary in their ability to meet the requirements and goals.

**Step 5: Compare COAs**

During this step, list the advantages and disadvantages of each COA. Although the COAs are not compared directly to each other, the one with the better advantages should be evident when placed with the evaluating criteria.

**Step 6: Weight the Evaluating Criteria**

During this step provide a preferred weight to each evaluating criteria. Also, decide if higher or lower is better. This will become relevant in a later step.

Ex: Higher is better; The weight for cost of house is 4 out of 4. This means that the most important evaluating criteria is the cost of house.

**Step 7: Execute the Decision Matrix**

At this point place each COA through the decision matrix. There will be two scores per box; the raw score and the weighted score. The raw score is given based on how the COA compares to the other COAs. The raw score is then multiplied by the weighted criteria. This number becomes the weighted score placed within the box. Under the total column add up the raw scores and place the total in the raw area of the COA. Then add up the weighted scores and place those in the weighted area of the COA.

The COA with the highest or lowest total (based on your previous decision) is your decision.

**Step 8: Prepare the DM Presentation**

Prepare a presentation in order to explain the process used in order to make this decision.

Place the decision near the beginning of the presentation and then again at the end.