# Prioritization Matrix

"Forces a team to focus on the best things to do, not everything they could do, dramatically increasing the chances for implementation success." Edward D. Carpenter II

"Virtually every time management system teaches that you must prioritize your projects to make sure you're working on what's truly important instead of getting caught up in minor things. How do you decide which task is really the most important at any given time? Is it the one that's most urgent, the one that will earn you the most money, the one that will produce the greatest long-term happiness, the one that will please your boss the most? If you don't use an intelligent method of prioritization, you'll lack consistency and bounce from one task to another with no rhyme or reason." Steve Pavlina

The essence of time management is to make the most amount of progress toward your goals with the least amount of effort. A key way to do that is to prioritize the tasks and projects you work on individually and collectively as a team. When beginning the task of prioritization, you should have a clear grasp on your objective and the resources available (generally, time is your least scarce resource because it cannot be replaced or replenished).

Prioritization matrices are useful when:

- There are many actions and solutions and the options must be narrowed down.
- The criteria for the outcome are agreed upon; but, there may be disagreement over the solution.
- Resources are limited.

Things you need to construct Prioritization Matrix:

- A list of items to be prioritized
- People to prioritize. (Note: Works best if you have more than one person involved; but, the more people involved in prioritizing, the longer it will take to prioritize the list.)
- The criteria you will use to prioritize the list.
- Using consensus, prioritize the criteria.
- Rank the options under each criterion.
- Assign an importance score for each option under each criterion.
- Total the individual importance scores for each option.
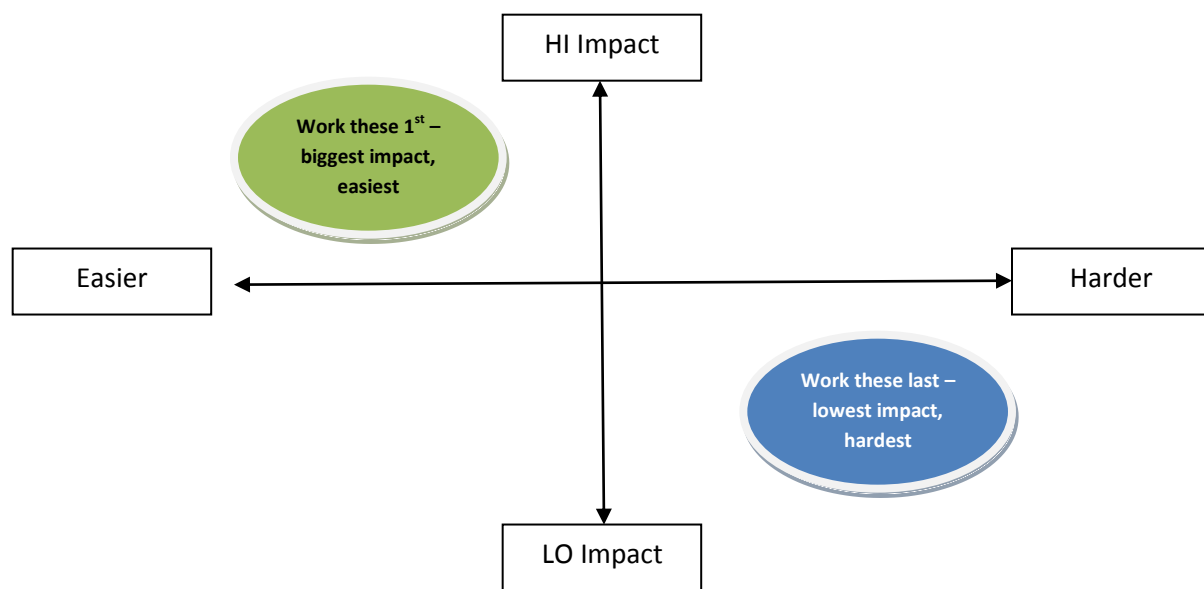- Highest score becomes the top priority.

Types of Prioritization Matrices:

- HI/LO Model

  Considered an "Affinity Chart", the HI/LO model can be used in the prioritization process.  In the HI/LO model, a 2x2 matrix is constructed that demonstrates the impact of the project/task and the complexity of the importance a task.

  The HI/LO method is the least complex method described here and is a good place to start.

  You can do this one with pen/paper (would recommend the use of sticky notes) or you could create this inside a table with Excel or Word.  I'll describe the pen/paper method.  Write each task or project on an individual sticky note.  On a white board, large piece of paper,  or flip chart, create a grid that looks like this:

  ```
                        ┌─────────────┐
                        │  HI Impact  │
                        └─────────────┘
                              ▲
         ╭──────────────╮     │
         │ Work these 1st – │  │
         │ biggest impact,  │  │
         │    easiest       │  │
         ╰──────────────╯     │
  ┌────────┐                  │                  ┌────────┐
  │ Easier │ ◄────────────────┼────────────────► │ Harder │
  └────────┘                  │                  └────────┘
                              │     ╭──────────────╮
                              │     │ Work these last – │
                              │     │  lowest impact,   │
                              │     │     hardest       │
                              │     ╰──────────────╯
                              ▼
                        ┌─────────────┐
                        │  LO Impact  │
                        └─────────────┘
  ```

  Now, begin placing the projects or tasks in this grid, based upon your evaluation of that item.

  The projects and tasks that fall into the upper left quadrant are those that are easiest to do and have the highest impact.  Items in that category should be the top priorities.  If there are too many items in this category, then you should take all the items that fell into this quadrant and further refine the criteria associated with it (consider the CARVER method, for example).

  It is unlikely that you would be able to use the HI/LO method as your only method of prioritization, particularly when there are a high number of tasks; however, it marks a good first step in determining what should be worked first.

- CARVER Model: Described by Steve Pavlina. The full description is available at:
  http://www.stevepavlina.com/blog/2007/05/how-to-prioritize/

  The CARVER method is a less complex method of prioritization than the Carpenter model; but, offers more weighting factors than the simpler HI/LO method.

  - CARVER is an acronym for a military method of target selection. CARVER stands for Criticality, Accessibility, Return (or Recuperability), Vulnerability, Effect, and Recognizability.
    - **Criticality.** How critical is the target with respect to the main objective? Will it move you significantly closer to your goal, or is it an insignificant item?
    - **Accessibility.** Do you have the means to tackle this project immediately, or does it have prerequisites?
    - **Return.** How great is the expected return on your commitment of resources?
    - **Vulnerability.** How vulnerable is the target? What amount of resources will be required to take it out? How vulnerable are the projects you're considering? A one-day project will score a high vulnerability rating, while a six-month project will score much lower. Similarly, an inexpensive project is more vulnerable than an expensive one.
    - **Effect.** If you successfully destroy the target, how widespread will the impact be? If you successfully complete your project, what effect will it have on your life as well as the lives of others?
    - **Recognizability.** Is your project crystal clear or totally fuzzy? Clear goals with clear steps will score higher on recognizability than foggy goals with unclear steps.
  - For every potential target, we assign a value of 1 (lowest) to 5 (highest) for each CARVER factor, thereby creating a CARVER matrix. Then by summing the six CARVER values, we can calculate a total score for each target, and those scores represent the targets' relative prioritization. The higher the CARVER score, the more "important" a target becomes.

CARVER Example:

| Project | Criticality | Accessibility | Return | Vulnerability | Effect | Recognizability | Total |
|---------|-------------|---------------|--------|---------------|--------|-----------------|-------|
| #1 | 5 | 3 | 4 | 2 | 4 | 3 | 21 |
| #2 | 3 | 5 | 3 | 5 | 3 | 5 | 24 |

In the above example, the CARVER methodology indicates that project #2 should have a higher priority than project #1.

- Carpenter Model: An electronic version of his template and description of how to use it is available at:
  http://www.isixsigma.com/index.php?option=com_k2&view=item&id=253:prioritization-matrix-is-made-easier-with-a-template&Itemid=224

  The Carpenter model is a more complex model to use. You can always create your own version of his model, using different weights or values.

  Follow these instructions when using Edward D. Carpenter II's template:

  1. Open the Excel spreadsheet. Enter each of the criteria for judging a product or process on a separate line in the first column of initial gray box titled "criteria weight", replacing existing criteria (or criteria #) with the new criteria. The criteria entered automatically will be placed in all the following comparison matrices, the summary matrix and the selection graph.
  2. Compare the first criteria to each of the others by choosing the most appropriate value from the values chart and putting it in the matrix. Continue the process by comparing the first criteria with each other criteria on the list. Then repeat the process for the criteria on the second, third, fourth, etc. lines, comparing them to the criteria not yet compared. Only put a value in the solid gray areas; the reciprocal value will be calculated and inserted in the light gray areas automatically.
  3. Enter each of the products or processes being evaluated on a separate line in the first column of the second gray box. The entries automatically will be placed in all the other comparison matrices, the summary matrix and the summary graph.
  4. Now, compare the choices to one another considering each criteria.
  5. After all the entries are made, results can be read in the summary matrix and the selection graph.

## *SUMMARIZING THE PRIORITIES*

Once the priorities are established, organizations will typically display the priorities (without their prioritizing characteristics) in a presentable format. Most commonly, teams use a matrix (often an Excel spreadsheet) that lists the priorities and provides an updated status on those priorities. In many best practices, the priorities are tied into a Scorecard and/or Dashboard so that others can see the following things at-a-glance:

- Priority
- Project Name and/or Description
- Anticipated completion date
- Current status (usually in a traffic light metaphor or motif)
- Project owner

Other criteria are often present including:

- Current project milestone
- Supporting area (e.g. work group, customer, department, branch, etc...something that describes who will benefit from the work)
- Key restraints
- Key drivers
- Metrics for project success

What is included is often the preference of the organization. In general, go with the smallest amount of information acceptable to the organization so that you do not overly increase your communication overhead costs.
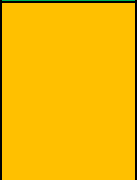
Example 1:

| Priority | Project Name | Anticipated Completion Date | Owner | Status |
|----------|--------------|-----------------------------|-------|--------|
| 1 | Highest priority | 6/16/11 | Akheem | |
| 2 | Next priority | 6/30/11 | Sueann | |
| 3 | Last priority | 7/3/11 | Bob | |

Example 2:

| Priority | Project Name | Anticipated Completion Date | Owner | Group | Milestone | Status |
|----------|--------------|-----------------------------|-------|-------|-----------|--------|
| 1 | Highest priority | 6/16/11 | Akheem | MC | Final Review | |
| 2 | Next priority | 6/30/11 | Sueann | Alcohol | Research pending | |
| 3 | Last priority | 7/3/11 | Bob | TBI | Team forming | |

Example 3 (Priority is assumed by listing; groups represented by symbols):

| Group | Project Name | Anticipated Completion Date | Status | Comment |
|---|---|---|---|---|
| △ | Highest priority | 6/16/11 | 🟩 | Final review underway. Comments pending from 8 of 25 reviewers. |
| ⬭ | Next priority | 6/30/11 | 🟧 | Outline complete. Statistical work requested. Working with XYZ agency to finalize plan. |
| ▽ | Last priority | 7/3/11 | 🟥 | Resources unavailable to begin. |