## USE MCDM TO SELECT PRODUCTS FOR YOUR INVENTORY

Imagine that you work for an online retail company, and that it's your job to select new products to add to the retail inventory. Working as a team, read the following fact pattern and then use the MCDM method to select the two most profitable products.

## FACT PATTERN

You work for a sports and outdoor retailer and you are looking for new products to add to the inventory. Products must be priced between $\$ 15$ and $\$ 50$. Net earnings for each product sale must be between $\$ 8$ and $\$ 50$. Estimated monthly sales for each new product must be between 450 and 100,000. Product weight must be between 0 lb and 2 lb . Below is a small subsection from your supplier's product database. Your company pays for shipping and that cost is built into the sale price. Based on your own logic, use MCDM to decide which two of the products shown below would be most profitable for your business.

| Product Info | Category | Sale Price | Weight | Tier | Reviews | Est Monthly Sales |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Hammock | Sports \& Outdoors | \$27.00 | 1.50 lb | Standard (Large) | 111 | 481 |
| Tent | Sports \& Outdoors | \$21.99 | 1.95 lb | Standard (Large) | 175 | 2192 |
| Yoga Mat | Sports \& Outdoors | \$13.99 | 0.45 lb | Standard (Large) | 353 | 726 |
| Hiking Jacket | Sports \& Outdoors | \$24.99 | 0.45 lb | Standard (Large) | 343 | 601 |
| Waterproof pouch | Sports \& Outdoors | \$17.23 | 0.3 lb | Standard (Small) | 412 | 1506 |
| Premium <br> Duffel Bag | Sports \& Outdoors | \$129.99 | 3 lb | Standard (Large) | 313 | 175 |
| Yoga towel |  <br> Outdoors | \$23.43 | 0.45 lb | Standard <br> (Large) | 281 | 464 |
| 11.6-inch Cowbell | Sports \& Outdoors | \$29.75 | 1.4 lb | Standard <br> (Large) | 155 | 482 |
| $12 " \times 6$ " <br> splatter <br> targets |  <br> Outdoors | \$15.99 | 1.64 lb | Standard (Large) | 168 | 685 |

Step 1. Clarify the goal.

Step 2. Select your criteria, parameters, and factors.

Step 4. Choose weighting factors and how you want to aggregate your numerical results.

Step 5. Make your decision.

WORK SPACE

WHAT IS YOUR GOAL?

WHAT CRITERIA ARE RELEVANT TO ACHIEVING THAT GOAL?

WHAT ALTERNATIVES ARE YOU EVALUATING?

WHAT ARE THE APPROPRIATE WEIGHTING FACTORS FOR YOUR ANALYSIS? HOW DO YOU WANT TO AGGREGATE YOUR NUMERICAL RESULTS?

