Figure 1: Steps for Developing a Monte Carlo Simulation Model

Prescriptive Analytics: Digital Decisioning

# Step Details

Below is a written outline of the contents of the flow diagram depicted in Figure 1 of the Module 6 reading. The flowchart procedure begins from the top-most rectangular box. This box is step 1. Each subsequent number in the outline represents each additional step in the process. The exact contents of each diagram figure is mentioned below in each step.

**Step 1** is a rectangular box that contains the words, “Formulate the Mathematical Representation of the Problem”. There is a rectangular box to the left of the step 1 box that contains the words, “Real-World Problem”. There is an arrow to the right of this box pointing to the step 1 box. There is also one arrow below the step 1 box pointing to the step 2 box below it.

**Step 2** is a rectangular box that contains the words, “Determine the Probability Distributions of the Variables”. There is one arrow below this box pointing to the step 3 box below it.

**Step 3** is a rectangular box that contains the words, “Conduct Stochastic/Numerical Experiments and Replications”. There is one solid arrow pointing out to the left to a rectangular box that contains the words, “Random Number Generator”. This arrow also has an arrowhead pointing back to the step 3 box indicating the process goes back and forth between these two. There is also one arrow below this box pointing to the step 4 box below it.

**Step 4** is a rectangular box that contains the words, “Statistically Analyze the Value Distribution of the Output Variable”. There is one arrow below this box pointing to the step 5 box below it.

**Step 5** is a rectangular box that contains the words, “Conduct What-If and Sensitivity Analyses on the Parameters”. There is a solid arrow pointing out to the right to a rectangular box that contains the words, “Insightful Decision/Solution”.