MIS5102
In-class Exercise for Week 6: Project Portfolio Management

Objective: Practice quantitative and qualitative approaches to Project Portfolio Management.

Learning Outcomes

• Do a portfolio analysis using expected value calculations.
• Understand the limitations of quantitative analysis.
• Determine the information needed to make an good project selection decision.

Scenario

Greater Philadelphia Hospital is considering several technology projects in which to invest. It has $1,000,000 to spend and must make its projects choices carefully.

Step 1: Quantitative Portfolio Analysis (15 minutes)

Consider the following set of projects:

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost of project</th>
<th>Projected revenue and/or cost savings from project</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project 1</strong> Upgrade to a more sophisticated, all digital medical imaging system</td>
<td>$500,000</td>
<td>70% chance of $600,000 30% chance of $470,000</td>
</tr>
<tr>
<td><strong>Project 2</strong> Provide medical staff with iPads and implement an electronic medical chart system</td>
<td>$420,000</td>
<td>60% chance of $500,000 40% chance of $380,000</td>
</tr>
<tr>
<td><strong>Project 3</strong> Install wireless networking throughout the facility</td>
<td>$300,000</td>
<td>55% chance of $350,000 45% chance of $275,000</td>
</tr>
</tbody>
</table>

In groups, perform a portfolio analysis by doing the following:

1) For each project, calculate the expected revenue.

   Project 1 Expected Revenue = ______________________________________________________

   Project 2 Expected Revenue = ______________________________________________________

   Project 3 Expected Revenue = ______________________________________________________
2) Now, for each project calculate the expected return.

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\text{Project 1 Expected Return} = \phantom{1234567890}
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\[
\text{Project 2 Expected Return} = \phantom{1234567890}
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\[
\text{Project 3 Expected Return} = \phantom{1234567890}
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3) Determine the optimal combination of projects that do not exceed the budget and maximize expected return.

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**Step 2: Evaluate the Analysis (15 minutes)**

In your groups, answer the following questions about your project selection(s). You might find your answers are interrelated – don’t worry if there is overlap in your answers.

1) Look at the project(s) you decided to fund versus the project(s) that were left unfunded. Do you see any problems with this decision? Specifically, are any of the three project choices prerequisites for the others, or do any of the projects provide additional benefits to the others if also implemented?

2) What aspects of making good project choices were missing from this process?

3) What additional information would help you make the best decision regarding project selection?

**Step 3: Class Debrief (15 minutes)**

As a class, discuss the answers to the questions above.