

#### Exercise 4

Section	Description
Market Situation	<ul style="list-style-type: none"> <li>The air purifier market was valued at \$6.3B in 2022 and is expected to reach \$13.4B by 2030 (CAGR: 11.4%). Consumers are increasingly aware of indoor air quality, especially after seasonal pollution events.</li> </ul>
Opportunity	<ul style="list-style-type: none"> <li>There is a clear gap in the market for a HEPA purifier that addresses VOCs, viruses, odors, ozone emissions, noise levels, and high maintenance costs. PP LLC can expand its market share and increase revenue by 25%.</li> </ul>
Envisioned Solution	<ul style="list-style-type: none"> <li>PP LLC will design and launch three models (Basic, Better, Ultimate) that incorporate odor removal, ozone-free technology, quiet operation, and long-lasting filters. This solution meets unmet consumer needs better than competitors.</li> </ul>
Objectives and Assumptions	<ul style="list-style-type: none"> <li>Objectives: Deliver 3 purifier models by June 2026. Achieve 10% market expansion and 50% reduction in product return rates. Assumptions: Customers are willing to switch brands for safer, quieter purifiers.</li> </ul>
Costs	<ul style="list-style-type: none"> <li>Initial prototype development: \$80,000. Additional operational cost: \$30,000 for planning. Resources include engineering, design, marketing, and supply chain personnel.</li> </ul>
Strategic Alignment	<ul style="list-style-type: none"> <li>The product aligns with PP LLC's vision to improve air purification and expand product offerings. It supports strategic goals of customer acquisition and innovation leadership.</li> </ul>
Timing	<ul style="list-style-type: none"> <li>Design: Jan–Feb 2026 Development: Mar–May 2026 Beta Testing &amp; Launch Prep: June 2026 Launch: End of Q2 2026 (aligning with summer demand spike)</li> </ul>
Cost Benefit Analysis	<ul style="list-style-type: none"> <li>Annual return of \$200,000 for 2 years. IRR: 200%+ Payback period: 2.14 years NPV (at 10% discount rate): Positive</li> </ul>

	<p>If not pursued, PP LLC risks stagnation and increased market competition.</p>
Risk	<ul style="list-style-type: none"> <li>• Key risks include engineering delays, cost overruns, and supply chain issues. Contingency plans: use of phased budgets, backup suppliers, and experienced project manager (Sarah Newton).</li> <li>•</li> </ul>
Initial Investment and Recommendation	<ul style="list-style-type: none"> <li>• Recommend proceeding with development. Initial funding of \$80K is justified by projected 400% ROI. Long-term investment may include scaled production and smart feature integration in future releases.</li> </ul>