

## Exercise 4

### Part I: Business Case Instructions

Section	Description
Market Situation	<ul style="list-style-type: none"> <li>Define the market situation</li> <li>Provide supporting information</li> </ul>
Opportunity	<ul style="list-style-type: none"> <li>Summarize the market opportunity</li> <li>Describe how the company can benefit</li> </ul>
Envisioned Solution	<ul style="list-style-type: none"> <li>Describe the envisioned product solution</li> <li>Summarize how the team arrived at the solution</li> <li>Describe why this solution is better than alternatives</li> </ul>
Objectives and Assumptions	<ul style="list-style-type: none"> <li>Describe the market objectives that are being pursued</li> <li>Define the business assumptions</li> </ul>
Costs	<ul style="list-style-type: none"> <li>Define product solution costs</li> <li>List required resources</li> </ul>
Strategic Alignment	<ul style="list-style-type: none"> <li>Illustrate how this product solution aligns with organizational needs</li> <li>Summarize how the product concept aligns with organizational goals</li> </ul>
Timing	<ul style="list-style-type: none"> <li>Describe project timing</li> <li>Map timing to the market need</li> <li>Recommend an investment strategy</li> </ul>
Cost Benefit Analysis	<ul style="list-style-type: none"> <li>Provide a financial analysis—Illustrate costs vs. benefits</li> <li>Define what happens if the company does not proceed</li> </ul>
Risk	<ul style="list-style-type: none"> <li>Identify major risks</li> <li>Document contingency responses/mitigations</li> </ul>
Initial Investment and Recommendation	<ul style="list-style-type: none"> <li>Define the initial investment requirements</li> <li>Define long-term investment requirements</li> </ul>

## Part II: Business Case Blank Template

Section	Description
Market Situation	<ul style="list-style-type: none"><li>The air purifier market is poised for substantial growth, with a projected increase from \$7 billion in 2023 to \$13.4 billion by 2030, reflecting a CAGR of 11.4% . Current HEPA air filters are popular but face criticism for failing to remove volatile organic compounds (VOCs) and odors, generating ozone, and requiring frequent maintenance . The demand for improved features that enhance air quality and user experience presents a significant opportunity for Perfect Purifiers LLC .</li></ul>
Opportunity	<ul style="list-style-type: none"><li>The air purifier market is projected to grow from USD 7.0 billion in 2023 to USD 13.4 billion by 2030, driven by increasing consumer demand for improved air quality solutions. Key gaps in current HEPA products include the inability to remove VOCs and odors, as well as safety concerns regarding ozone emissions. Addressing these gaps presents a significant opportunity for Perfect Purifiers LLC to capture market share and meet evolving consumer expectations.</li></ul> <p><b>Company Benefits</b></p> <ul style="list-style-type: none"><li>By launching an enhanced HEPA air purifier line that addresses these critical issues, PP LLC can expand its market presence, increase revenue, and enhance customer loyalty. The new product offerings will not only satisfy existing customer needs but also position the company as a leader in innovative air purification solutions, ultimately driving profitability and long-term growth.</li></ul>
Envisioned Solution	<p><b>Envisioned Product Solution</b></p> <ul style="list-style-type: none"><li>A new line of HEPA air purifiers that eliminate VOCs and odors, minimize ozone emissions, operate quietly, require low maintenance, and cover larger areas effectively.</li></ul> <p><b>Summary of Solution Development</b></p> <ul style="list-style-type: none"><li>The team conducted market research, analyzed consumer feedback, and identified gaps in existing products, leading to</li></ul>

	<p>the design of a solution that addresses specific customer needs.</p> <p><b>Competitive Advantage</b></p> <ul style="list-style-type: none"> <li>• This solution outperforms alternatives by incorporating advanced filtration technologies, reducing environmental impacts, and offering greater usability, all of which directly respond to prevalent consumer concerns and desires in the air purification market.</li> <li>•</li> </ul>
Objectives and Assumptions	<p><b>Market Objectives</b></p> <ul style="list-style-type: none"> <li>• <b>Increase Market Share:</b> Aim for a 10% expansion in the air purifier market.</li> <li>• <b>Enhance Revenue:</b> Target a 25% increase in sales post-launch.</li> <li>• <b>Improve Customer Satisfaction:</b> Reduce product returns by over 50%.</li> <li>• <b>Product Differentiation:</b> Launch a line that addresses specific consumer pain points.</li> </ul> <p><b>Business Assumptions</b></p> <ul style="list-style-type: none"> <li>• <b>Consumer Demand:</b> Assume growing concern about air quality will drive purchases.</li> <li>• <b>Competitive Advantage:</b> Belief that improved features will outperform competitors.</li> <li>• <b>Cost Management:</b> Anticipate that initial investments will yield high returns (over 200% IRR).</li> <li>• <b>Market Trends:</b> Expect the air purifier market will continue to grow at a CAGR of 11.4%</li> </ul>
Costs	<p><b>Product Solution Costs:</b></p> <ul style="list-style-type: none"> <li>• Initial development costs: \$80,000 for prototypes and features.</li> <li>• Annual operational costs: estimated at \$200,000.</li> </ul>

	<b>Required Resources:</b> <ul style="list-style-type: none"> <li>• Skilled engineering and design teams.</li> <li>• Marketing and distribution channels.</li> <li>• Initial funding of \$30,000 for the Conceive and Plan phases.</li> </ul>
Strategic Alignment	<ul style="list-style-type: none"> <li>• The new HEPA air purifier product line addresses customer demands for cleaner air, enhancing user safety and satisfaction.</li> <li>• It aligns with PP LLC's goal to expand market share and increase revenue through innovative solutions.</li> <li>• The product development aligns with organizational priorities to improve existing offerings and address market gaps effectively.</li> <li>• The initiative supports long-term strategic objectives by reinforcing the company's reputation for quality and innovation in air purification technology.</li> </ul>
Timing	<b>Project Timing</b> <ul style="list-style-type: none"> <li>• <b>Design Phase:</b> January to February</li> <li>• <b>Development Phase:</b> March to April</li> <li>• <b>Beta Testing Phase:</b> May</li> <li>• <b>Launch:</b> June</li> </ul> <b>Timing Mapped to Market Need</b> <ul style="list-style-type: none"> <li>• Launch aligns with the summer season when air quality concerns peak, addressing consumer demand for improved air purification.</li> </ul> <b>Investment Strategy Recommendation</b> <ul style="list-style-type: none"> <li>• Allocate initial funding of \$30,000 for development phases and prototype creation.</li> <li>• Reinvest profits from product sales into marketing and further product development to sustain growth and market presence.</li> </ul>
Cost Benefit Analysis	<b>Financial Analysis</b>

	<ul style="list-style-type: none"> <li>● <b>Costs:</b> Estimated initial costs of \$80,000 for prototype development and marketing.</li> <li>● <b>Benefits:</b> Expected annual returns exceeding \$200,000, leading to a strong ROI and IRR over two years.</li> <li>● <b>Net Present Value (NPV):</b> Positive NPV expected based on projected cash flows, indicating long-term profitability.</li> </ul> <p><b>Consequences of Non-Implementation</b></p> <ul style="list-style-type: none"> <li>● <b>Market Share Loss:</b> Failure to launch may result in losing current market share to competitors.</li> <li>● <b>Revenue Decline:</b> Potential revenue from new product lines will be missed, hindering growth.</li> <li>● <b>Customer Dissatisfaction:</b> Ongoing consumer demand for improved air purification will remain unmet, damaging brand reputation.</li> </ul>
Risk	<p><b>Major Risks</b></p> <ul style="list-style-type: none"> <li>● <b>Engineering Delays:</b> Risk of falling behind schedule due to unforeseen technical challenges.</li> <li>● <b>Cost Overruns:</b> Budget may exceed initial estimates due to unexpected expenses.</li> <li>● <b>Supply Chain Issues:</b> Potential disruptions in obtaining materials for production.</li> <li>● <b>Market Acceptance:</b> Risk that the product may not meet customer expectations or gain traction.</li> <li>● <b>Regulatory Compliance:</b> Failure to adhere to safety and environmental regulations could lead to fines.</li> </ul> <p><b>Contingency Responses/Mitigations</b></p> <ul style="list-style-type: none"> <li>● <b>Establish Buffer Time:</b> Incorporate additional time in project timelines to accommodate potential delays.</li> <li>● <b>Budget Contingencies:</b> Set aside a percentage of the budget for unforeseen costs.</li> <li>● <b>Diversified Suppliers:</b> Develop relationships with multiple suppliers to mitigate supply chain disruptions.</li> <li>● <b>Market Testing:</b> Conduct focus groups and pilot launches to gather customer feedback before full release.</li> </ul>

	<ul style="list-style-type: none"> <li>● <b>Compliance Audits:</b> Regularly review product compliance with regulations throughout the development process.</li> </ul>
Initial Investment and Recommendation	<p><b>Initial Investment Requirements</b></p> <ul style="list-style-type: none"> <li>● <b>Prototype Development:</b> \$80,000 for building three distinct prototypes.</li> <li>● <b>Initial Funding:</b> \$30,000 allocated for team resources during the Conceive and Plan phases.</li> </ul> <p><b>Long-term Investment Requirements</b></p> <ul style="list-style-type: none"> <li>● <b>Production Costs:</b> Ongoing costs for manufacturing the new product line.</li> <li>● <b>Marketing and Distribution:</b> Budget for marketing strategies and establishing distribution channels.</li> <li>● <b>Research and Development:</b> Continued investment for future product enhancements and iterations.</li> </ul>