

# [Project management exercise question](https://assignbuster.com/project-management-exercise-question/)

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Project management exercise questions Lecturer: Q17-3) Your company has asked you to determine the financial risks of manufacturing 6, 000 units of a product rather than purchasing them from a vendor at $66. 50 per unit. The production line will handle exactly 6, 000 units and requires a one-time setup cost of $50, 000. The production cost is $60/unit. Your manufacturing personnel inform you that some of the units may be defective, as shown below:   
% defective     0       1       2       3       4   
probability of occurrence (%)   40      30      20      6       4   
Defective items must be removed and replaced at the cost of $145/defective unit. However, 100 percent of units purchased from vendors are defect-free. Construct a payoff table, and using the expected-value model, determine the financial risk and whether the make or buy option is best.   
Units purchased= 6000   
Cost per unit=$66. 50   
Set up cost=$50000   
6000\*66. 50+6000\*60+50000= 809000   
Nature   
Action   
0   
1   
2   
3   
4   
Probability   
Production   
410000   
418700   
427400   
436100   
444800   
(0. 4)   
164000   
41000   
1640   
32800   
174440   
177920   
0. 3   
167480   
167480   
1674. 80   
33496   
87220   
88960   
0. 2   
170960   
170960   
1709. 60   
34192   
26166   
26688   
0. 06   
174400   
174400   
1744   
34880   
17444   
17792   
0. 04   
177920   
177920   
1779. 20   
35584   
Total s   
697800   
697800   
8547. 60   
170952   
= 6000\*60= 360000 = 6000\*60= 360000 = 6000\*60= 360000 = 6000\*60= 360000 = 6000\*60= 360000   
Total Cost = 410000 418700 427400 436100 444800   
Expected Cost of manufacturing = 410000\*0. 4+418700\*0. 3+427400\*0. 2 +436100\*0. 06 +444800\*0. 04   
= 419048   
Expected cost of manufacturing = 41\*0. 4+418700\*0. 3+427400\*0. 2= 419048   
The total cost of manufacturing is $419048, but if the firm buys from a vendor, the total cost would be $809000. The firm should therefore manufacture instead of purchasing the product from vendors. In manufacturing, the firm will be able to save $389952.   
Bibliography   
Kerzner, H. (2009). Project management: A system Aproach to planning, Scheduling, and Controlling . John Wiley $ Sons .