Quality Sweater Company

In this lesson, I will explore changes in a business's profits by using what-if analysis tools in Excel including data tables and Goal Seek.

Scenario

The Quality Sweater Company sells hand-knitted sweaters. The company is planning to print a catalog of its products and undertake a direct mail campaign. The cost of printing the catalog is $20,000 plus $.10 per catalog. The cost of mailing each catalog (including postage, order forms, and buying names from a mail-order database) is $0.15. In addition, the company plans to include direct reply envelopes in its mailing and incurs a $.20 in extra costs for each direct mail envelope used by a respondent. The average size of a customer order is $40, and the company's variable cost per order (primarily due to labor and material costs) averages about 80% of the order's value – that is $32. The company plans to mail 100,000 catalogs. It wants to develop a spreadsheet model to answer the following questions:

1. How does a change in the response rate affect profit?
2. For what response rate does the company break even?
3. If the company estimates a response rate of 3%, should it proceed with the mailing?
4. How does the presence of uncertainty affect the usefulness of the model?

Key Insights

1. A change in response rate directly impacts profit. If the response rate increases, profits also increase, and if the response rate decreases, profits decline.
2. 5.77%
3. No, they should not proceed with the mailing. The graph shows that we're going to lose a lot of money, $21,600, with a 3% response rate, so that's the expectation.
4. the model's variance increases, making the predictions less reliable and potentially less helpful for decision-making