

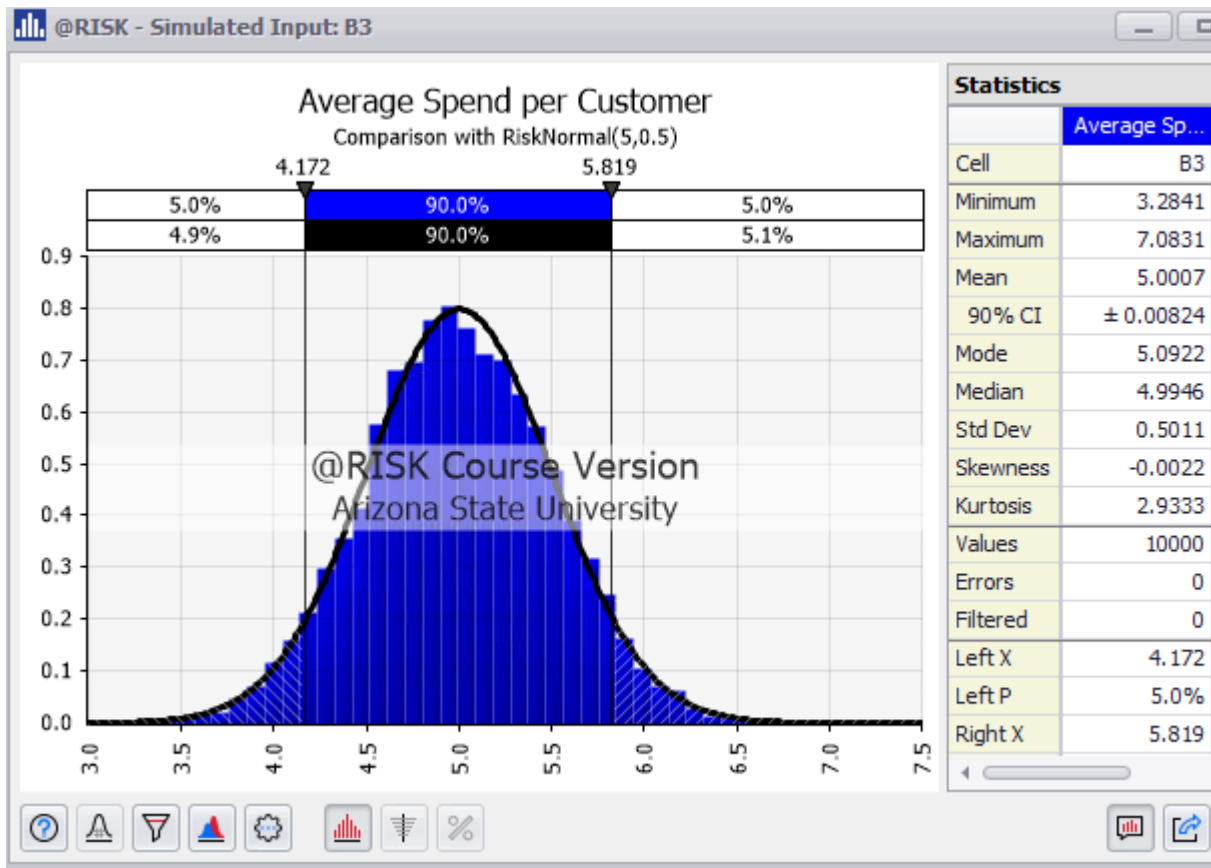
# Risk Analysis for a New Coffee Shop Using @Risk

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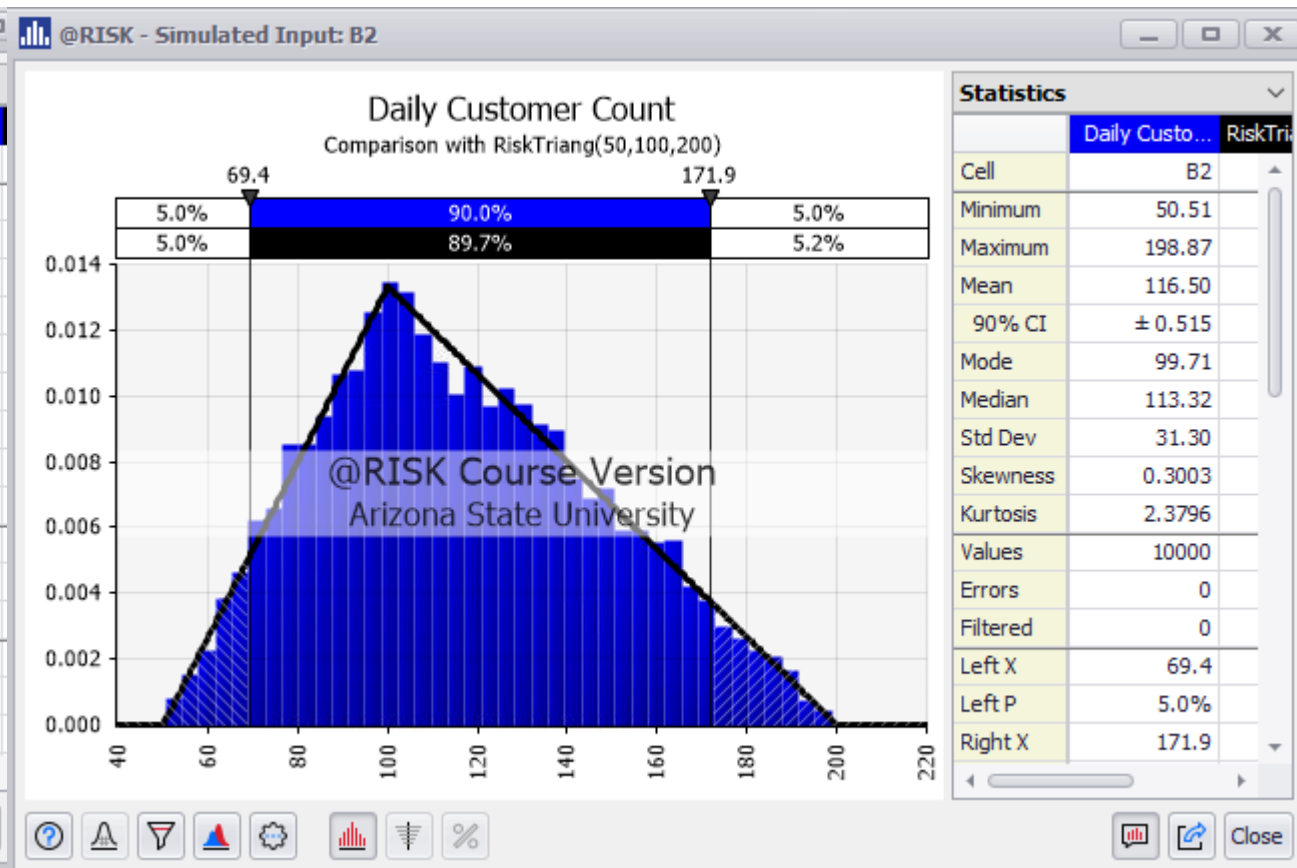


# Challenges Facing the Coffee Shop

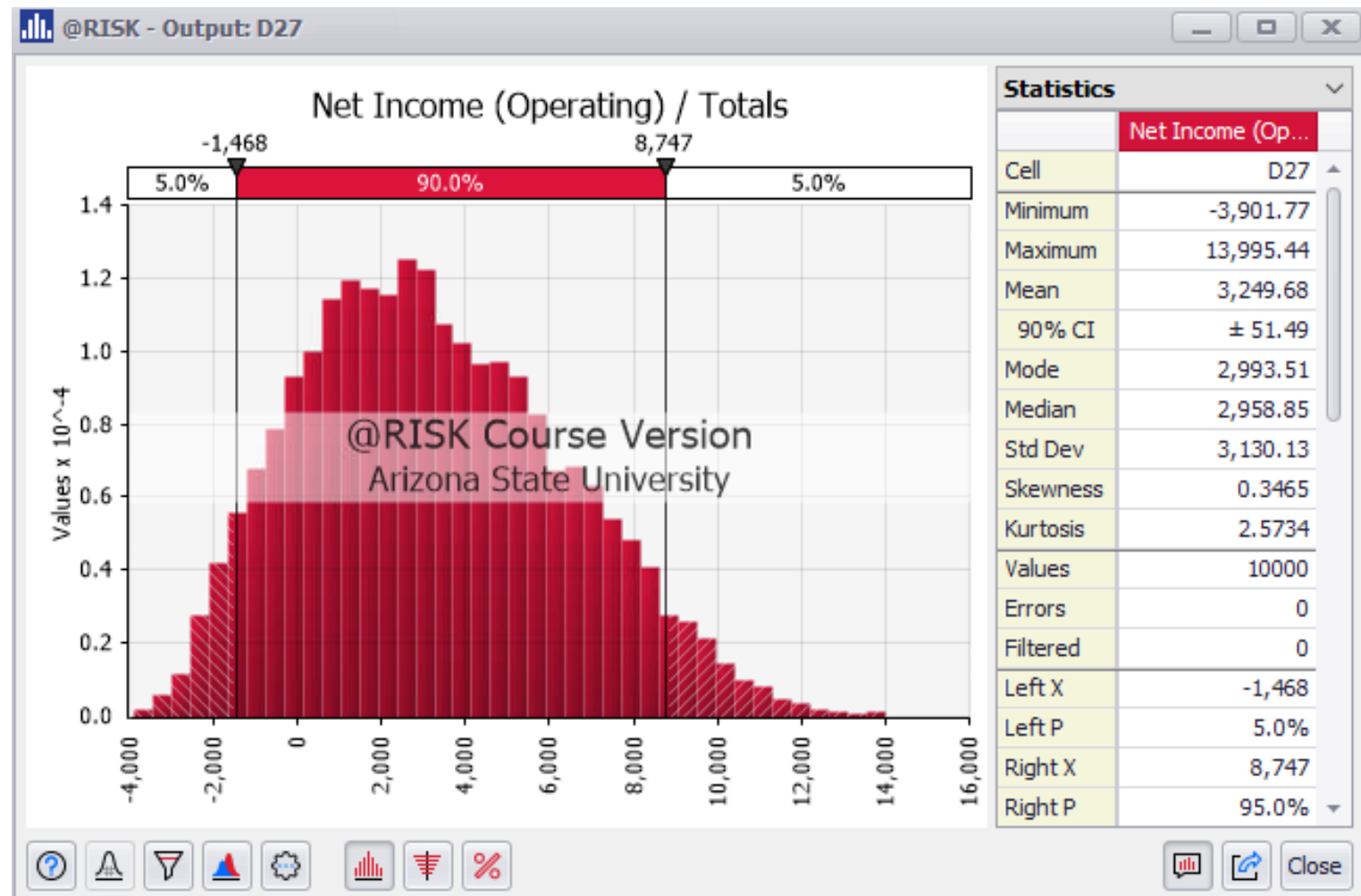
Variability in Average Customer Spending



Variability in Average Customer Count



What does  
this mean for  
us?

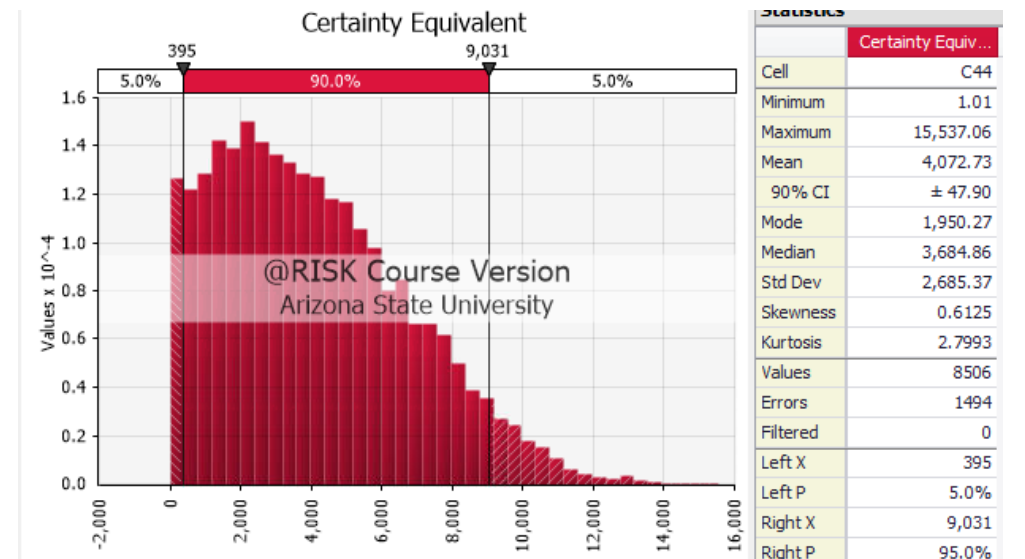
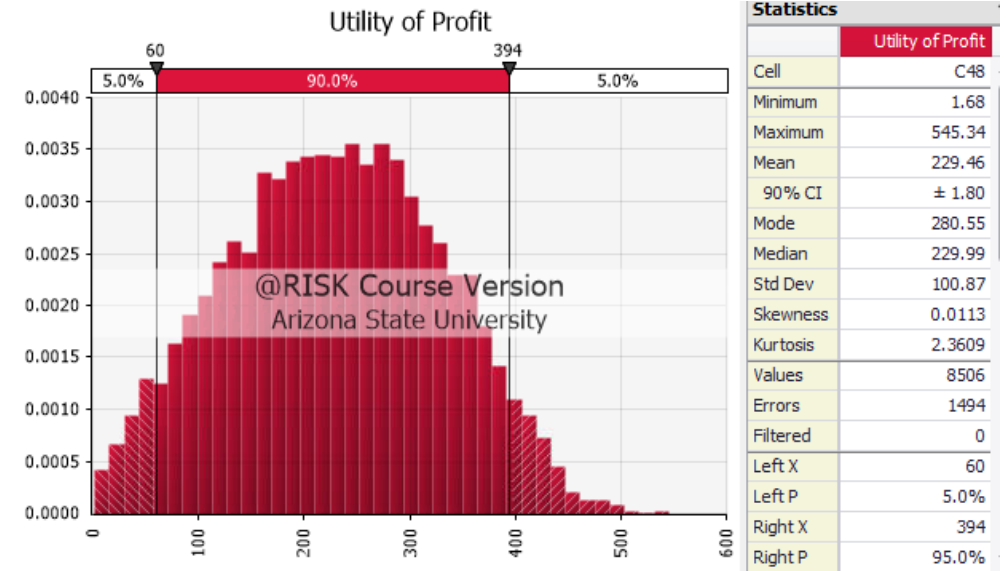


- On average, we can expect to make a monthly net income of \$3,249.
- 5% of the time, our net income will be -\$1,468.
- 5% of the time, our net income will be \$8,747.

# Does this mean our shop will be Risk Adverse?

Not necessarily, let's look at some key risk metrics:

1. Sharpe Ratio: 1.0669
2. 5% VaR: -1468
3. Certainty Equivalent: 3249
4. Expected Utility of Profit: 229.46
5. Utility of Profit: 217.99
6. Utility of Expected Profit: 215.43
7. Risk Premium: -768.331





# Can you say that again?

- The **Sharpe Ratio (1.07)** shows a good balance between risk and return, meaning the business would perform well for the risk taken.
- The **5% VaR (-1,468)** indicates that in a worst-case scenario, there's a 5% chance of losing at least \$1,468.
- The **Certainty Equivalent (\$3,249)** shows the business would accept a guaranteed \$3,370 instead of taking the risk, which suggests strong confidence in its profitability.
- The **Risk Premium (-\$768.33)** indicates the business is willing to accept uncertainty because the expected profit outweighs the risk.



# In Conclusion...

## **1. Revenue Challenges:**

- Customer count and average spend are key drivers of revenue but are highly variable. Managing this variability is crucial for stabilizing income.

## **2. Net Income Variability:**

- While the average net income is promising, the 5% Value at Risk highlights the potential for significant downside in extreme scenarios.

## **3. Risk-Adjusted Performance:**

- Metrics such as the Sharpe Ratio and Certainty Equivalent indicate that the coffee shop's return is favorable relative to the risks. This suggests that the business will be able to manage risk effectively while achieving profitability.

## **4. Simplified Risk Insights:**

- Our simplified explanation of the risk metrics demonstrates that the coffee shop can maintain steady performance even under uncertainty, balancing risk and reward effectively.