BASELINE V PRIME MEMORANDUM

TO: The Manager

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SUBJECT: Prime Shipping Model Case Study

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INTRODUCTION

In this Memorandum, we have documented the analysis on the prime shipping model and evaluated the desirability of switching from the existing baseline model to the prime shipping model. An initial assessment on whether our company should adopt an annual membership fee ($100) to relieve shipping charges for purchases made by customers revealed that our company would have a total annual profit loss of $80,818 if shipping costs were consumed internally. Therefore, from the outcome of the first analysis using the average annual customer demand as the only variable factor, adopting an annual membership program (Prime) would not be recommended at this time.

For the initial analysis, our assumptions included that specific input data would remain constant while other data would be interdependent on certain criteria. (**See Appendix**) However, the management feedback provided on the utilization of input data prompted further analysis, leading to the second variable (order demand) that we believe is interdependent to an annual membership program being introduced, which would result in a positive alternative perspective of the Total Annual Profit with a membership program.

BODY/MAIN FINDINGS/IMPACT ON PROFITABILITY

We investigated the model's assumptions, and the inputs utilized and determined that the model is most sensitive to. Before analyzing how the "annual membership plan" will affect the

"annual total profit," we classified each data entry by the likelihood of remaining fixed or variable (interdependent). Following our initial analysis, a determination was reached that all factors impacting the Total Annual Profit would likely remain constant except for Average Customer Demand and the Average Order Size which were identified as interdependent to zero shipping costs for the customer (Prime).

An analysis of the impact to Total Annual Profit revealed that adopting an annual membership program ($100) would negatively impact Total Profit unless the Annual Membership price increased to $130. By offering the membership at $130, it is estimated that the Landed Cost to the customer would decrease from $1.50 to 1.30 per unit and increase the number of customers from 17,956 to 20,862. A decrease in Landed Cost, an increase in the number of customers, and a constant Annual Average Demand would result in an increase to Total Annual Profit by less than 1% of the Total Profit measurement (Baseline).

However, the inclusion of a variable order size remarkably and positively impacts the Total Annual Profit under a “Prime” model. An analysis of variability of Average Order Size reveals that it can be estimated that the Total Annual Profit (Prime) is positively impacted as the Average Order Size increases and despite all shipping costs being transferred to the seller.

INPUT IMPACT ON PROFITABILITY

The average annual demand input and the size of customer orders are key inputs that affect business profitability. Given the current input characteristics, we can see that the difference between the profit in the Prime model and the baseline model is $80.817.51. In the baseline model, we already know that the demand is 100 units. We do not believe that will change. With this in mind, the average annual demand will only change when the Prime membership is provided. If the annual demand increases from 100 units to 105 units or above

with the prime model, the profitability increases. If the product demand is less than 105 units, the company will not be able to adopt the main model. However, we believe that the product demand increases because, with the prime membership, the customer's shipping costs are waived off. This method will attract customers to buy more products than needed, thus increasing the demand for products. In the sensitivity analysis of the local annual demand input of the main model, we can see that when the average demand for the year was 105 units, the profit increased to $14,175.32. So, as demand grows, Prime becomes more and more profitable. If the demand for products increases, it will directly increase the average order size. So considering that the order size also changes only with the prime model, on conducting sensitivity analysis on Customer order size, the profit is $37,936.38 for the prime model when the order size is changed from 10 units to 11 units. The profit keeps on increasing as the average order size increases. So, we believe that the input's Average annual demand and Average customer order size are critical to the profitability of the business.

CONCLUSION

We recommend the company adopt the Prime shipping model as its main way of business to absolve shipping costs as opposed to continuing with the baseline model. By adjusting the assumptions and by making order demand and order size an interdependent variable, the "Prime" model would show greater profitability. As explained above, as we increase the prime shipping model annual fee to $30 more than the initial assessment, both the customer base and profit increases. We hope that the information found in this memorandum is both clear and aligns with the goals of your company.

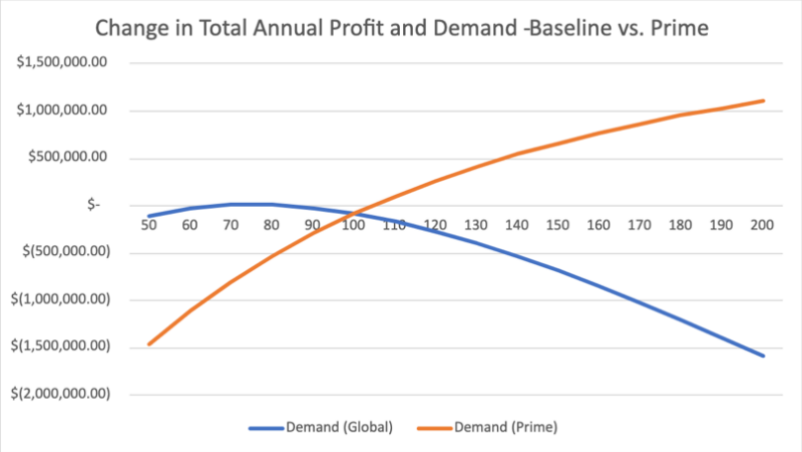
APPENDEX

Constant:

- Average Selling Price - $10
- Average Material Cost - $8.50
- Average Customer Order Size - 10 Units
- Fixed Shipping Cost - $5
- Variable Shipping Cost - $1 per Unit

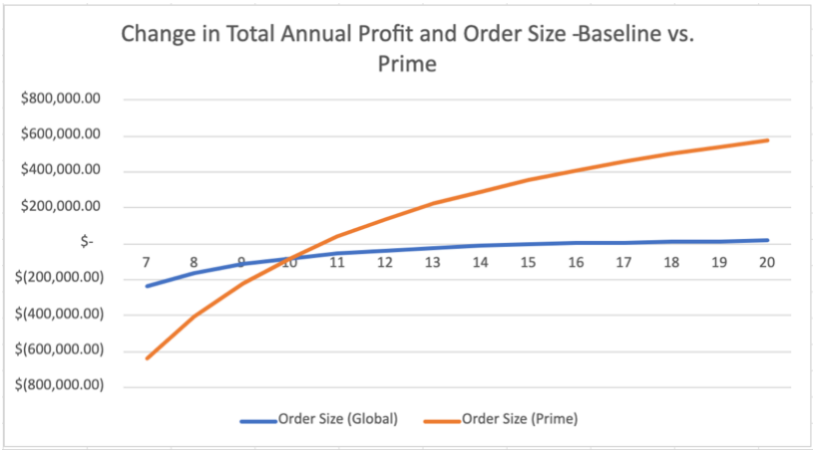
Variable (Interdependent on Prime)

- Average Annual Demand – 100 Units
- Average Order Size – 10 Units



Demand (Prime)	Difference in Profit
	$ -
50	$ (1,459,305.04)
60	$ (1,108,789.83)
70	$ (798,984.83)
80	$ (527,493.57)
90	$ (289,708.32)
100	$ (80,817.51)
110	$ 103,526.37
120	$ 267,044.22
130	$ 412,850.29
140	$ 543,529.30
150	$ 661,223.20
160	$ 767,710.47
170	$ 864,473.50
180	$ 952,753.81
190	$ 1,033,596.58
200	$ 1,107,886.50

Sensitivity – Demand with Prime



Order Size (Global)	Difference in Profit
	$ -
7	$ (640,657.27)
8	$ (407,390.70)
9	$ (225,961.15)
10	$ (80,817.51)
11	$ 37,936.38
12	$ 136,897.96
13	$ 220,634.67
14	$ 292,409.00
15	$ 354,613.42
16	$ 409,042.29
17	$ 457,067.76
18	$ 499,757.06
19	$ 537,952.76
20	$ 572,328.88

Sensitivity – Order size with Prime