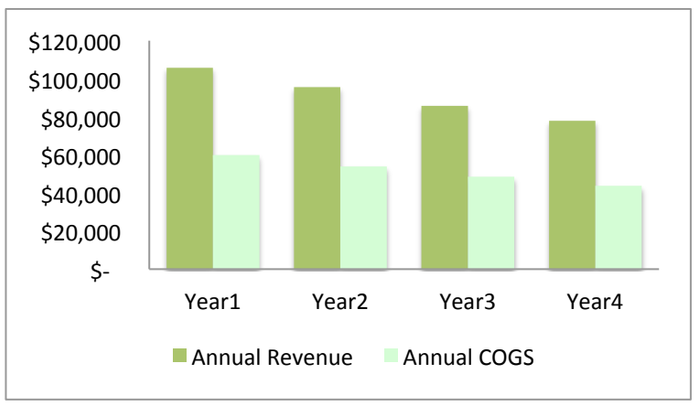
Year over Year Analysis (CURRENT STATE)

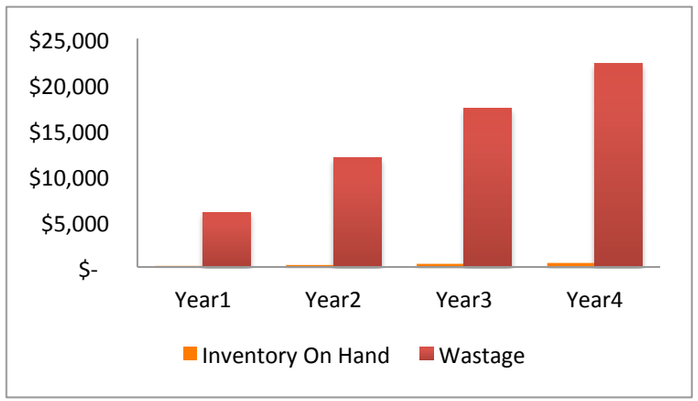
Table 1 below represents the Year over Year performance of the Happy Hat company over the last 4 years. Key drivers that influence profitability are i) Revenue, 2) Cost of goods sold, 3) wastage and 4) Inventory on Hand at the End of the Year.
Data sources are based on company data provided by the client. Assumptions listed below are based on information provided in the client summary.

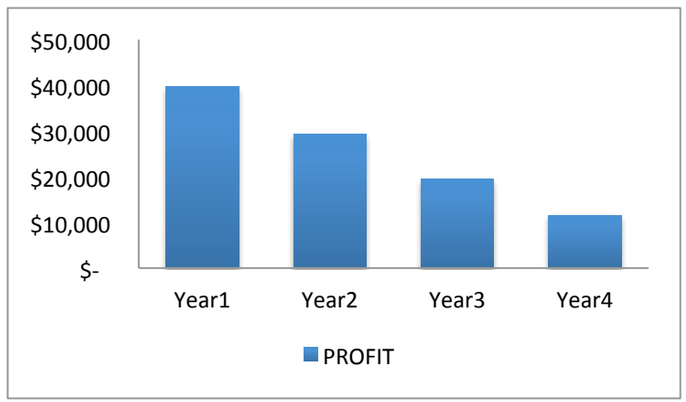
TABLE 1

		Current State						Data Sources		
		Year1	Year2	Year3	Year4	Assumptions	Calculations	Cash Register	Delivery Data	Annual Company Data
A	**# of items sold**	10,000	9,000	8,100	7,290	Assumes the 10% YoY drop in revenue is driven by # of items sold		X		
B	**# of items delivered**	11,000	11,000	11,000	11,000	Assumes the number of items delivered stays flat			X	
C	**Annual Revenue**	$ 105,800	$ 95,650	$ 85,800	$ 77,990	Based on # of items sold		X		X
D	**Annual COGS**	$ 60,000	$ 54,000	$ 48,600	$ 43,740	Assumes that COGS includes operating costs. Based on # of items sold				X
E	**Inventory On Hand**	$ 115	$ 231	$ 335	$ 428	Assumes 1 week of wastage				X
F	**Wastage**	$ 6,000	$ 12,000	$ 17,400	$ 22,260		= (B - A) * H	X	X	
G	**PROFIT**	$ 39,685	$ 29,419	$ 19,465	$ 11,562		= (C - (D + E + F)			
H	Avg. Cost/unit	$ 6.00	$ 6.00	$ 6.00	$ 6.00		= (D / A)			

ANALYZING THE DATA: As we already know, revenues are down 10% Year over Year. As a result, Cost of goods sold will also drop. These trends are represented in the first graph below. With a drop in sales, we see a corresponding increase in wastage, as well as a small impact of In store Inventory on Hand at the end of the year. The effect of both these trends results in an overall drop in profitability as represented in the last graph below. THE GOAL OF THE BUSINESS PROCESS CHANGE reccomended is to reverse the downward trend of the Annual Revenues, as well as the upward trend in wastage.







BUSINESS METRICS CHANGE ANALYSIS

TABLE 2 below represents a more detailed view of the Overview shared TABLE 1. Here, the same drivers (revenue, COGS, wastage and IOH) are represented by Product.
Data is represented as an average of the aggregated totals of the last 4 years of customer data.

TABLE 2

CURRENT STATE Years 1 through 4 (Average)

		COUNT				$							
		# of items delivered	# of items sold	Wastage	Wastage %	Cost/ unit	Price/ unit	Annual Revenue	Annual COGS	Inventory on Harnd (at EOY)	Wastage	PROFIT	
		A	B	C	D	E	F	G	H	I	J	K	
				(A - B)	(A / B) -1			(B * F)	(B * E)		(C * E)	(G - (H + I + J)	
1	Flavor1	2,500	1,473	1,028	70%	6	11	$ 16,198	$ 8,835	$ 119	$ 6,165	$ 1,079	*Maximum wastage but still profitable*
2	Flavor2	3,000	2,663	338	13%	6	10	$ 26,625	$ 15,975	$ 39	$ 2,025	$ 8,586	*Adequate performer*
3	Topping1	2,000	1,013	988	98%	6	7	$ 7,088	$ 6,075	$ 114	$ 5,925	-$ 5,026	***Product is running at a loss***
4	Topping2	3,500	3,450	50	1%	6	12	$ 41,400	$ 20,700	$ 6	$ 300	$ 20,394	*Top performer*
		11,000	8,598	2,403	28%			$ 91,310	$ 51,585	$ 277	$ 14,415	$ 25,033	

ANALYSIS: The profitability for the 2 flavors and 2 toppings listed above allow us to drive the following conclusions.
1) Flavor1 and Topping1 are the least profitable items due to maximum wastage totalling $12k. 2) Topping2 is the best performer, but with 1% wastage. This indicates the possibility that stores are running out of Topping2. Revenues could be increased here by increasing deliveries. 3) Flavor2 appears to be performing well. Improvements would require further analysis.

TABLE 3

FORECAST w/ changes: YEAR 5

1	Flavor1	**1,546**	**1,473**	74	5%	6	11	$ 16,198	$ 8,835	$ 8	$ 442	$ 6,912	
2	Flavor2	**3,195**	**2,929**	266	9%	6	10	$ 29,288	$ 17,573	$ 31	$ 1,598	$ 10,087	
3	Topping1	**1,063**	**1,013**	51	5%	6	7	$ 7,088	$ 6,075	$ 6	$ 304	$ 703	
4	Topping2	**4,140**	**3,795**	345	9%	6	12	$ 45,540	$ 22,770	$ 40	$ 2,070	$ 20,660	
		9,944	9,209	735	8%			$ 98,113	$ 55,253	$ 85	$ 4,413	$ 38,362	

TABLE 3 represents the SUGGESTED BUSINESS PROCESS CHANGES listed below:
1) TO REDUCE WASTAGE: Base delivery reforecasts on Items SOLD rather than Items delivered.
ACTION - Decrease/Reset # of items to be delivered for products with a Wastage % >20% to a 5% safety stock buffer. This should reduce wastage for Flavor1 and Topping1.
2) TO INCREASE REVENUES: Base delivery reforecasts on Items SOLD rather than Items delivered. Increases in Sales can be assumed due to the fact that the number of customers has remained flat.
ACTION - Increase/Reset # of items to be sold for products with a <10% wastage in prior years to a 10% safety stock buffer. This should eliminate the possibility of losing revenues due to unavailability of flavors. As in the case of Topping2.

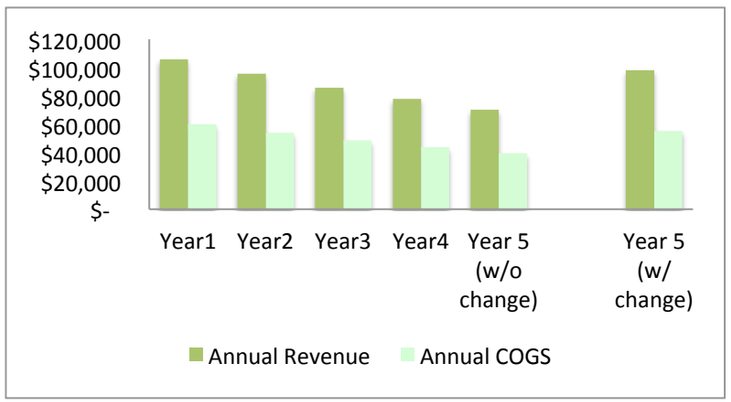
As a result all items should have a minimum of a 5% safety stock buffer, with high performers at a 10% buffer. (More analysis can refine the % value of the safety stock buffer.)

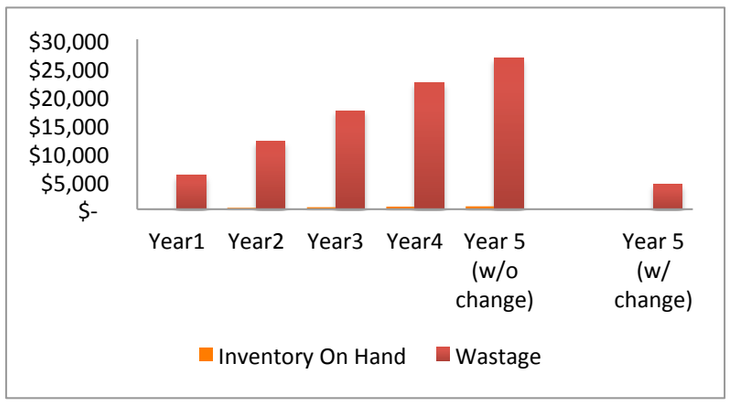
Year over Year Analysis (PROPOSED STATE)

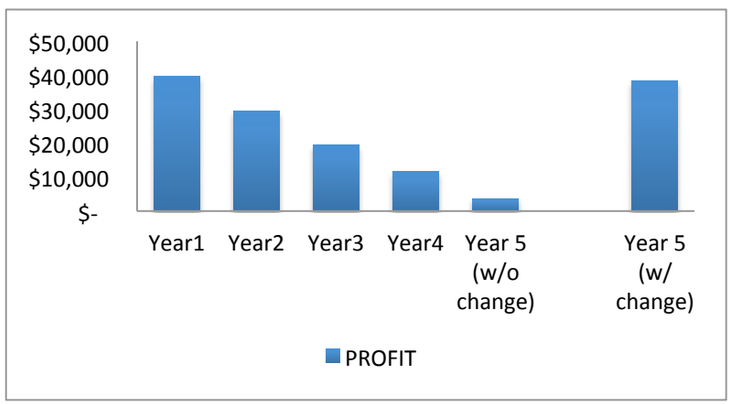
TABLE 4 below represents the Year over Year performance of the Happy Hat company over the last 4 years as seen in the first tab.
Also included is a view of Year 5 with: i) a projection of the 5th year if NO business process changes are made and ii) a projection of the 5th year with the business process changes illustrated earlier

TABLE 4

		Current State							
		Year1	Year2	Year3	Year4	Year 5 (w/o change)	Year 5 (w/ change)	Notes	Calculations
A	# of items sold	10,000	9,000	8,100	7,290	6,561	9,209	Adjusted for increased revenues of previously unavailble items	
B	# of items delivered	11,000	11,000	11,000	11,000	11,000	9,944	Adusted for decreased deliveries of previous wastage	
C	Annual Revenue	$ 105,800	$ 95,650	$ 85,800	$ 77,990	$ 70,191	$ 98,113	Increased due to drops in shortage	
D	Annual COGS	$ 60,000	$ 54,000	$ 48,600	$ 43,740	$ 39,366	$ 55,253	Follows Revenue patterns	
E	Inventory On Hand	$ 115	$ 231	$ 335	$ 428	$ 512	$ 85	Follows wastage patterns	
F	Wastage	$ 6,000	$ 12,000	$ 17,400	$ 22,260	$ 26,634	$ 4,413	Decreased due to adjustments in deliveries	= (B - A) * H
G	PROFIT	$ 39,685	$ 29,419	$ 19,465	$ 11,562	$ 3,679	$ 38,362	Projectiing a $34K increase in profitability	= (C - (D + E + F)
H	Avg. Cost/unit	$ 6.00	$ 6.00	$ 6.00	$ 6.00	$ 6.00	$ 6.00		= (D / A)







The increase in profitability can be measured based on the metrics represented in the 'Change Analysis' and 'Overivew_Proposed State' tabs.