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ISDS 415 Online: Decision Support and Business Intelligence Systems

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Analytics & Data Visualization- Tableau: Coffee House Chain Data

As a marketing manager for Coffee House chain is tasked to identify profitability issues in the products. To try to define the problem, and what factors contribute to the issues of profitability by visualizing the data received from the IT folks.

WHAT PRODUCT ARE UNDERPERFORMING

The underperforming product is Green Tea because the Sale to Profit ratio is very poor. Green Tea has more sales than Regular Espresso, which is also underperforming but Green Tea has a negative profit for all of its Product Type, where Regular Espresso yields profit despite its smaller sales volume than Green Tea.

WHAT CORRELATES WITH PROFIT

Several items correlate with profit, but one and most certain is Sales. It has the biggest and common correlations with Profit. Other correlations would be the market itself with the States in how each product are performing in the region. Also, the cost of producing the product, or the cost of goods sold for each item is another correlation with profit. Follow by inventory and marketing.

ARE THERE ISSUES WITH CERTAIN PRODUCT LINES, PRODUCTS, MARKETS, PRICING STRUCTURES (MARGINS), COSTS,...?

Some products are having issues that are a result of general underperformance in sales and the market it is in. Some product should either be eliminated to save the cost of holding it in

inventory and the cost of producing it. Also, the product that is having issue has weak performing margin as well. If the product and its product line are to be kept, it needs to improve its margin by changing its price or pricing structure to resolve the product issue. The two products with issues are Regular Espresso and Green Tea, but Green Tea is the product with the most problem.

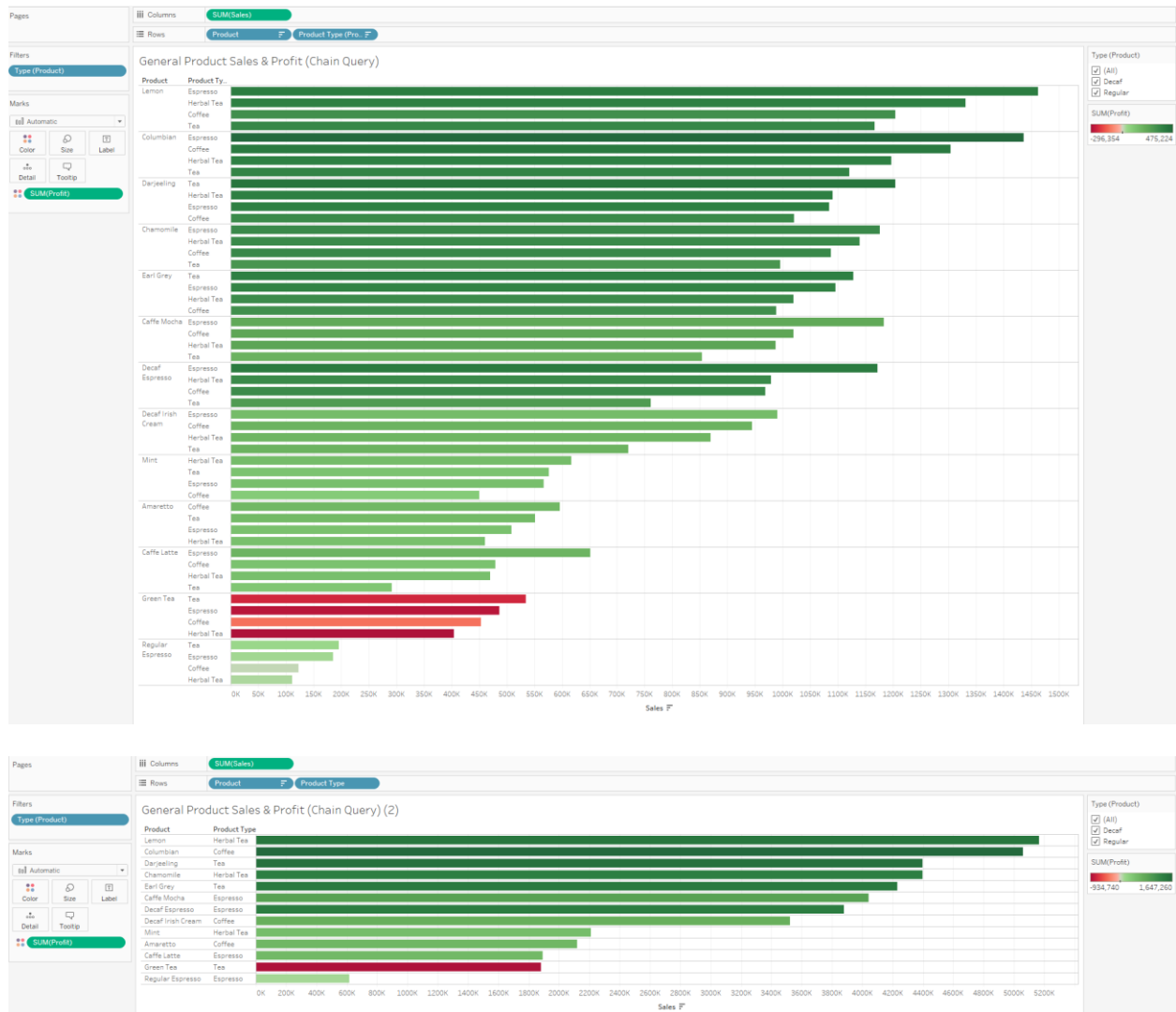
OTHER REPORTS

Some questions that came to mind when evaluating the data to figure out what is impacting profitability was the number of the market size in compiling the information and data. How big are these markets? Why are the most profitable States not targeted more and be a major market rather than a small market and vice versa? Generally, how is marketing being done? Also, how much inventory is being purchased and held every month? These are just some questions that came to mind about the business from the data provided in how they contribute and affect profit to determine profitability.

The two most significant issues or a problem found from the result of the report from the data is why is the coffee chain not targeting or giving more attention towards the states or region that is profitable while researching how the lower performing region could be improved by asking why these regions are underperforming and what could be done? Also, why the amount of inventory held for months for an underperforming product are always high when its sales and profit are poor? Furthermore, spending a large sum for marketing an underperforming product is not cost effective and hurts profitability when sales are meager.

DATA DETAILS

Next moving on to the details and explanation of the results found from the analysis of all the data that correlates to profitability.



For starter, the general Sales to Profit correlation was evaluated as shown in the screenshot. We

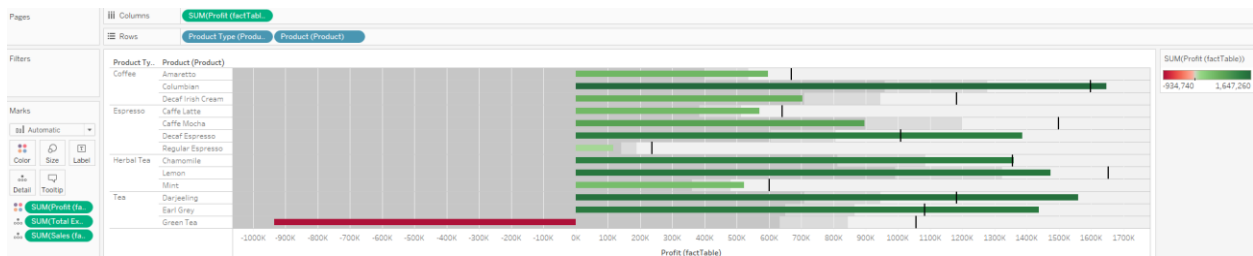
wanted to know what as in sales and how much profit we were making from those sales.

Specifically, we wanted to know the sales and profit of each product and product type that is

within the product line. Items such as Lemon in Espresso, Lemon in Herbal Tea, or Deca

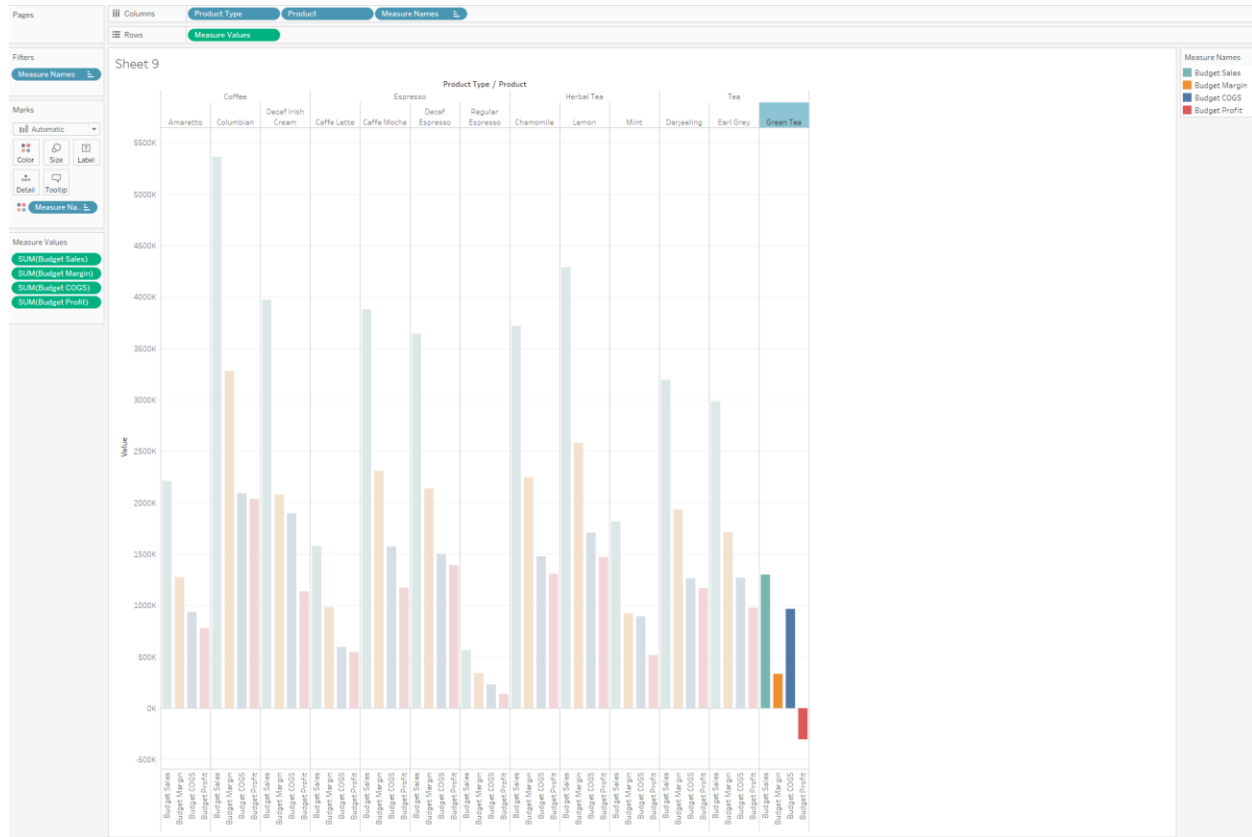
Espresso in Tea. We wanted to know the general sales to profit performs of products first. Within

the visual data analysis, we were able to look into the data further by filtering item to show only decaf items, regular, or simply all items. As a result of this first analysis, Green Tea in all its product type is not performing well. It produced low sales and having negative profit coming in, despite having more sales than Regular Espresso. The second item that was underperforming was the Regular Espresso with having the lowest sales, but yield a minor amount of profit. To further emphasize and be confident that Green Tea is an inferior performing product. We looked into the total expenses of each product in producing them in correlation to sales and profit. We wanted to know how much things cost for the best performing and poor performing product and what to do best to optimize profit and sales. The data and visual we used to represent what we wanted to know about expenses are as shown:



From what we can see, it is clear that Green Tea is an outlier and negatively affected the coffee house chain profitability. Green Tea is yielding -934,740 in profit value while sales and total expenses are in close range of 1,880,409 in sales and 1,056,055 in total expenses. With the given result, we questioned as to why it is underperforming when sales are in millions? We understand that the expense is high to produce Green Tea, but that does not explain why the product should not be yielding profit. One of the reasons that came to mind when evaluating the data and the questions was that the product was not priced appropriately. We see potential with the product base on its sales, but the pricing structure for Green Tea needs to be redone. In simple terms, Green Tea should be priced higher to override the expense of producing it so that it can yield profit.

We continued to evaluate further from the data of budget sales, budget margin, budget cost of goods sold, and budget profit as provided by IT of each product and product type. Once more, Green Tea is shown to be underperforming.



As mentioned before, the budget sales are in the correlation with the overall sales for Green Tea as the cost of producing the product is following close behind as is shown in the earlier diagram and here in navy blue as the budget cost of goods sold which results in a small margin in orange shown above. It resulted in a negative budget profit which is no difference in correlation of the overall negative profit for Green Tea as mentioned before.

Furthermore, we wanted more details on sales, profits, and its margin monthly.

Pages

Columns: [D: YEAR(Date)] [Measure Names: L]

Rows: [B: MONTH(Date)] [Product (Product): L]

Filters: Measure Names: L

Mark: [Square]

Color: [Size] [Label]

Detail: [Tooltip]

SUM(Profit (factTable))

Measure Values

SUM(Margin (factTable))

SUM(Sales (factTable))

SUM(Profit (factTable))

SUM(Profit)

Sheet 6

SUM(Profit (factTable))

43,741

76,792

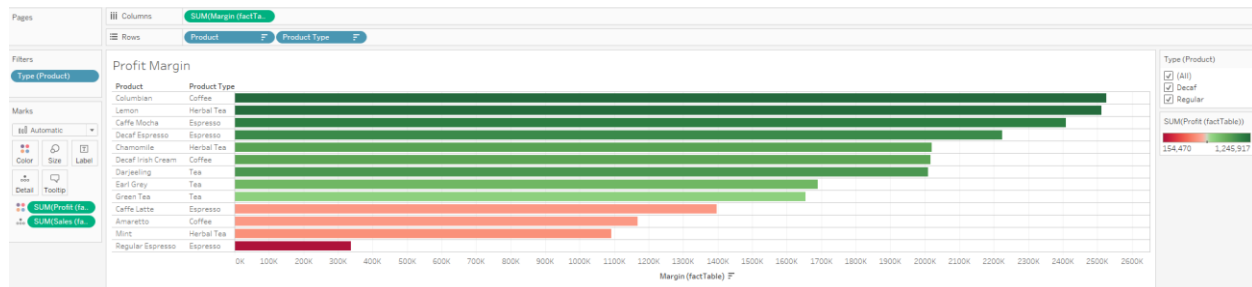
		2010						2011					
		Margin	Margin (Fact)	Sales	Sales (Fact)	Profit (Fact)	Profit	Margin	Margin (Fact)	Sales	Sales (Fact)	Profit (Fact)	Profit
Month of D.	Product (Product)												
	January												
January	Columbian	96,431	118,788	177,690	204,213	42,338	24,655	96,430	121,842	198,119	222,089	47,809	49,811
	Lenora	97,007	123,137	180,561	217,561	41,002	34,361	97,003	122,504	201,501	220,046	64,006	54,618
	Café Mocha	91,325	91,797	168,078	165,568	37,636	33,763	93,267	97,920	193,842	176,039	40,805	52,045
	Chamomile	79,539	105,701	148,102	187,775	58,208	31,165	77,007	103,124	163,849	182,945	56,630	45,119
	DejaVente	74,736	102,341	139,676	183,203	65,134	26,986	78,774	101,671	161,894	181,896	64,181	48,814
	Deja Espresso	85,528	98,344	105,944	103,027	37,650	24,654	82,229	88,680	173,107	161,185	58,097	45,387
	Earl Grey	84,520	90,960	120,077	168,920	56,604	27,646	67,569	100,128	142,044	187,643	64,765	41,972
	Deja Irish Cream	78,104	73,674	146,833	146,358	29,288	28,891	80,568	73,196	168,593	146,300	28,093	47,310
	Café Latte	95,230	45,435	104,002	77,633	23,932	19,938	93,967	47,397	117,807	80,690	24,927	24,985
	Green Tea	65,540	112,217	122,507	118,113	37,440	23,517	65,644	110,407	117,071	130,999	40,449	37,454
	Amaretto	45,779	48,281	81,875	87,458	24,584	17,144	46,648	50,393	93,284	91,391	26,645	28,201
	Mint	42,773	42,498	82,137	90,851	21,249	17,901	42,975	44,954	94,145	94,593	23,921	26,041
	Regular Espresso	10,940	11,563	18,459	21,586	2,385	3,234	11,831	14,980	24,482	28,141	6,130	4,148
	February												
	Columbian	100,341	122,680	183,678	206,427	47,675	39,555	100,369	135,010	210,599	230,023	76,792	43,102
	Lenora	102,727	123,885	188,126	222,466	42,402	39,012	104,085	120,363	202,290	216,963	59,661	60,164
	Café Mocha	97,186	90,792	175,415	164,230	35,678	38,186	94,338	94,936	186,448	171,990	38,961	50,922
	Chamomile	84,284	104,549	154,946	185,499	67,227	33,163	85,082	110,679	169,135	196,853	61,366	49,833
	DejaVente	77,704	102,703	144,209	183,641	63,930	30,672	82,809	101,660	159,114	181,765	64,175	51,277
	Deja Espresso	94,583	90,708	173,005	163,670	39,127	38,241	94,581	94,061	185,632	170,203	61,148	56,406
	Earl Grey	70,761	89,837	129,549	168,038	55,908	31,593	72,428	97,539	145,205	182,583	62,433	47,111
	Deja Irish Cream	82,895	77,411	153,261	154,114	30,527	31,589	81,369	72,639	161,066	144,458	28,255	48,205
	Café Latte	80,449	48,566	111,627	82,733	25,946	20,515	85,312	44,809	113,300	75,953	22,344	26,960
	Green Tea	70,000	103,135	122,520	123,427	37,654	27,627	68,656	105,072	122,072	137,003	41,006	36,377
	Amaretto	46,863	49,569	82,728	89,972	25,361	18,442	46,733	48,376	87,454	87,854	24,151	28,184
	Mint	42,581	43,840	80,895	92,172	22,678	17,637	44,674	45,046	91,659	94,835	24,011	28,168
	Regular Espresso	13,302	13,678	22,105	25,451	4,617	4,579	13,305	14,713	23,658	27,199	5,680	6,683
March	Columbian	106,126	124,083	192,119	212,540	49,903	41,028	101,654	118,446	196,769	201,389	60,033	59,878
	Lenora	108,140	123,016	188,576	217,607	42,367	41,976	99,813	113,181	182,122	203,723	55,931	59,037
	Café Mocha	95,056	95,560	175,460	171,872	40,075	35,575	96,183	91,502	188,767	166,163	35,452	53,732
	Chamomile	81,990	105,746	151,877	187,870	59,054	31,656	81,566	103,149	162,220	183,705	56,022	46,945
	DejaVente	86,393	105,803	154,590	189,001	67,595	38,037	80,376	96,602	154,818	176,404	63,300	51,542
	Deja Espresso	80,281	92,482	104,288	108,187	30,440	24,960	80,624	85,965	178,626	165,037	55,272	53,160
	Earl Grey	70,726	95,908	132,497	178,504	60,934	30,134	66,996	94,389	134,039	176,926	60,247	41,596
	Deja Irish Cream	84,559	75,729	156,044	150,078	29,128	33,644	79,585	72,338	157,063	143,239	28,946	45,561
	Café Latte	95,349	47,520	105,219	81,725	24,002	17,569	93,699	44,676	110,053	76,461	22,864	24,821
	Green Tea	65,947	105,077	124,073	124,077	37,657	27,627	68,656	105,072	122,072	137,003	41,006	36,377
	Amaretto	44,483	45,596	84,512	89,574	25,709	20,613	45,573	46,806	85,046	84,409	23,667	27,483
	Mint	44,319	41,471	85,913	91,232	19,592	18,568	43,244	43,147	89,774	91,792	22,823	25,680
	Regular Espresso	14,590	14,960	24,734	27,396	5,607	5,412	14,538	14,755	25,539	26,934	5,449	8,538
	April												
	Columbian	101,181	118,332	184,191	199,063	41,682	40,187	101,364	121,948	197,534	208,506	68,937	69,881
	Lenora	102,600	123,017	186,410	220,511	42,264	40,127	96,462	115,443	187,634	208,112	60,707	56,714
	Café Mocha	102,530	95,062	185,178	170,783	38,102	40,349	100,330	90,471	192,835	163,854	34,969	59,872
	Chamomile	81,808	100,197	150,680	177,041	63,692	31,688	83,102	100,763	162,935	178,849	55,218	50,767
	DejaVente	80,358	99,397	148,181	177,691	62,103	32,309	80,820	103,766	159,521	185,324	66,914	49,289
	Deja Espresso	83,614	81,940	171,037	167,865	36,289	36,940	82,438	87,739	179,814	154,818	57,651	58,809
	Earl Grey	70,124	96,989	129,941	181,451	61,181	29,337	72,046	90,498	140,369	168,014	57,504	49,208
	Deja Irish Cream	82,037	76,120	152,568	150,969	30,649	31,404	82,150	74,927	162,549	148,519	30,875	49,250
	Café Latte	86,960	47,098	113,488	79,741	24,132	21,180	89,505	47,156	117,608	81,114	24,077	32,444
	Green Tea	66,469	105,077	124,073	124,077	37,657	27,627	68,656	105,072	122,072	137,003	41,006	36,377
	Amaretto	45,796	45,315	87,873	89,704	25,361	20,627	46,720	46,218	87,832	84,080	23,881	28,738
	Mint	43,361	42,703	83,011	92,105	20,822	17,565	45,940	41,681	91,451	89,995	20,670	29,838
	Regular Espresso	15,748	17,106	26,563	31,508	7,284	6,248	12,596	13,501	22,912	24,888	4,686	5,850
May	Columbian	102,130	118,771	186,214	204,760	46,442	40,388	101,817	117,272	182,481	200,880	64,309	59,881
	Lenora	110,322	125,116	203,213	224,242	45,515	44,707	108,547	122,142	196,405	213,875	64,107	62,464
	Café Mocha	105,393	94,853	190,496	170,838	38,692	43,370	105,213	95,914	188,584	173,030	39,086	59,796
	Chamomile	87,838	102,207	161,375	180,670	65,047	36,617	83,664	100,974	152,076	179,136	55,332	47,240
	DejaVente	83,237	97,511	153,156	174,914	60,373	34,905	80,116	101,689	146,399	181,618	64,133	45,088

Month of D..	Product (Product)	2010						2011					
		Date											
		Margin	Margin (fact..	Sales	Sales (factT..	Profit (factT..	Profit	Margin	Margin (fact..	Sales	Sales (factT..	Profit (factT..	Profit
May	Chamomile	87,838	102,207	161,375	180,670	55,047	36,617	83,664	100,974	152,076	179,336	55,332	47,240
	Darjeeling	83,237	97,931	153,156	174,914	60,373	34,305	80,116	101,689	146,399	181,618	64,133	45,088
	Decaf Espresso	103,123	94,066	188,680	170,373	61,636	44,456	95,700	90,974	171,517	165,453	59,883	56,116
	Earl Grey	77,120	102,388	141,354	191,453	65,195	35,172	73,502	93,061	132,666	173,801	58,467	46,669
	Decaf Irish Cream	85,567	77,209	158,402	152,968	31,193	35,040	81,153	72,216	149,084	144,171	27,925	44,445
	Caffe Latte	66,305	50,598	122,455	85,714	26,749	25,432	62,351	48,096	113,705	81,906	25,046	33,022
	Green Tea	73,318	9,420	134,139	80,491	-43,741	29,441	72,352	10,544	130,309	79,937	-38,631	40,226
	Amaretto	50,031	49,917	88,570	91,138	25,243	20,026	50,064	49,378	86,946	89,080	26,201	29,624
	Mint	48,800	45,211	91,877	95,593	23,620	21,906	48,591	44,887	90,727	93,014	23,891	30,111
	Regular Espresso	12,928	12,475	21,633	22,985	3,665	4,570	14,344	14,439	23,685	26,514	5,290	7,793
June	Columbian	109,369	124,563	201,944	215,031	67,941	44,468	108,958	119,835	196,221	205,864	66,780	61,879
	Lemon	109,178	120,302	201,664	216,883	63,201	45,695	110,577	116,954	199,552	209,828	59,469	62,878
	Caffe Mocha	107,729	97,063	195,301	174,907	40,870	43,921	107,585	95,207	196,883	172,871	38,017	60,023
	Chamomile	93,796	106,971	173,273	189,569	59,643	40,302	87,292	106,397	162,837	188,931	59,678	47,697
	Darjeeling	87,518	103,265	162,671	184,670	65,448	38,153	85,140	101,177	152,813	181,105	63,740	51,442
	Decaf Espresso	95,307	90,809	176,706	165,096	58,394	39,370	96,185	88,114	179,055	159,454	57,715	53,387
	Earl Grey	75,603	97,144	140,688	181,281	62,183	33,874	75,480	99,639	142,076	185,750	63,587	44,465
	Decaf Irish Cream	86,072	74,386	160,773	147,453	29,626	35,401	85,762	74,848	159,933	149,500	28,020	45,779
	Caffe Latte	63,243	48,751	118,459	83,148	25,058	23,845	60,284	48,730	116,611	83,425	26,307	26,994
	Green Tea	71,720	9,854	131,502	78,569	-39,215	29,338	72,046	10,483	132,691	79,678	-38,670	38,532
	Amaretto	51,152	49,819	89,954	90,922	25,780	22,211	49,893	50,039	87,433	90,001	26,015	28,341
	Mint	50,557	44,275	96,997	95,472	22,305	22,504	47,908	42,969	93,101	93,357	20,905	28,168
	Regular Espresso	16,153	13,945	26,195	25,574	4,536	7,214	15,743	12,294	25,009	22,589	3,774	9,775
July	Columbian	116,226	128,162	212,233	218,545	73,945	50,044	112,705	118,647	200,862	201,659	66,581	69,178
	Lemon	116,371	116,866	209,940	209,794	58,911	50,194	116,510	120,066	207,277	214,911	63,301	71,445
	Caffe Mocha	114,736	92,207	206,926	167,148	35,796	51,032	102,926	93,774	188,442	169,608	37,551	56,223
	Chamomile	90,845	100,062	166,688	178,258	54,009	39,046	84,513	99,192	156,112	175,853	55,350	48,506
	Darjeeling	89,045	101,017	162,393	180,079	64,925	38,542	101,100	109,236	178,209	195,004	70,330	66,256
	Decaf Espresso	98,364	87,205	179,980	157,644	54,935	41,499	96,530	87,918	176,790	158,448	56,189	56,966
	Earl Grey	74,426	91,442	138,768	171,369	59,658	33,889	73,336	90,198	137,172	167,708	56,187	45,453
	Decaf Irish Cream	89,363	68,865	165,098	138,183	27,703	37,846	90,362	71,987	166,050	143,885	30,006	53,089
	Caffe Latte	64,864	44,456	120,030	75,417	21,610	24,682	55,296	43,474	105,316	74,479	22,218	26,219
	Green Tea	73,084	6,838	133,346	74,458	-40,610	29,794	70,810	8,294	127,519	73,117	-36,126	40,674
	Amaretto	52,840	45,836	93,116	83,806	22,825	22,754	50,251	48,652	87,548	88,390	24,631	30,119
	Mint	50,757	43,727	96,539	92,076	24,196	22,976	47,516	41,277	91,348	88,894	20,317	28,807
	Regular Espresso	17,700	12,634	28,083	23,628	3,787	8,531	16,404	13,644	27,132	25,422	4,771	9,620
August	Columbian	103,241	114,354	191,100	195,857	62,505	40,671	111,401	124,985	201,626	214,493	70,184	64,581
	Lemon	102,566	111,210	186,852	200,092	56,706	42,036	110,861	117,583	199,982	211,484	60,809	63,977
	Caffe Mocha	107,088	86,170	198,892	156,049	30,688	42,411	109,750	93,676	200,301	170,481	37,006	61,858
	Chamomile	82,610	98,074	156,438	173,744	53,269	31,238	82,498	96,683	152,769	171,561	52,275	45,265
	Darjeeling	87,096	103,189	156,173	184,343	66,456	39,426	91,277	103,836	163,189	185,218	65,412	56,088
	Decaf Espresso	90,639	82,514	170,642	149,504	52,206	35,410	93,760	85,791	172,143	155,333	55,323	52,865
	Earl Grey	72,575	90,859	139,772	169,584	58,008	30,146	69,496	93,796	130,295	175,250	59,066	41,961
	Decaf Irish Cream	93,538	74,980	173,655	148,832	30,071	39,698	89,268	73,553	164,677	146,665	31,279	50,818
	Caffe Latte	60,230	44,943	116,871	77,085	22,567	20,225	59,090	45,771	112,433	77,861	23,814	28,103
	Green Tea	67,895	8,738	127,628	75,257	-36,496	25,196	70,226	9,475	129,698	78,021	-39,237	36,906
	Amaretto	50,340	47,508	88,565	86,041	24,991	22,216	53,779	52,026	93,416	93,672	27,870	32,821
	Mint	44,640	40,165	88,479	85,474	19,850	17,867	49,477	44,265	95,893	95,491	22,303	28,947
	Regular Espresso	16,052	15,544	27,006	28,379	5,642	6,504	14,905	14,560	25,874	26,522	5,300	7,250
September	Columbian	100,251	114,678	182,781	197,203	64,003	40,175	102,992	128,579	202,522	218,564	75,168	57,563
	Lemon	99,499	119,024	182,521	214,019	60,729	38,695	104,405	122,347	205,370	220,710	63,106	60,620
	Caffe Mocha	89,255	89,377	166,949	161,187	36,303	31,545	100,044	97,088	200,140	176,094	37,872	55,003
	Chamomile	79,820	100,653	150,333	180,231	55,700	31,230	82,425	101,799	166,383	180,883	55,631	46,363
	Darjeeling	86,710	109,557	156,104	195,613	70,812	37,206	80,616	100,702	155,771	179,928	64,437	50,026
	Decaf Espresso	81,565	82,957	153,301	148,940	52,771	31,388	88,875	91,605	179,933	166,890	59,342	48,348
	Earl Grey	54,466	80,223	105,077	149,501	49,948	21,911	65,583	92,624	134,960	172,882	58,127	37,488
	Decaf Irish Cream	77,835	67,864	146,969	137,466	25,019	29,535	82,701	75,220	165,865	150,205	29,022	46,120

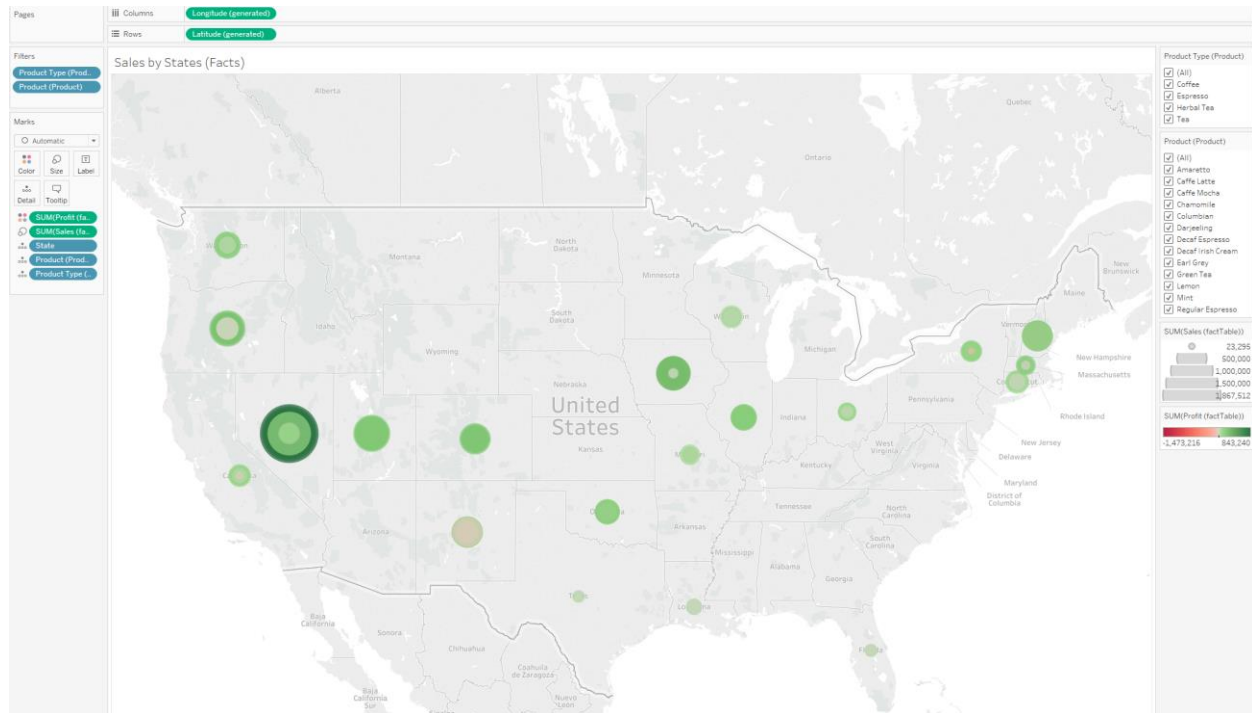
Month of D...	Product (Product)	2010						2011					
		Margin	Margin (fact...	Sales	Sales (factT...	Profit (factT...	Profit	Margin	Margin (fact...	Sales	Sales (factT...	Profit (factT...	Profit
August	Caffe Latte	60,230	44,943	116,871	77,085	22,567	20,225	59,090	45,771	112,433	77,861	23,814	28,103
	Green Tea	67,895	8,738	127,628	75,257	-36,496	25,196	70,226	9,475	129,698	78,021	-39,237	36,906
	Amaretto	50,340	47,508	88,565	86,041	24,991	22,216	53,779	52,026	93,416	93,672	27,870	32,821
	Mint	44,640	40,165	88,479	85,474	19,850	17,867	49,477	44,265	95,893	95,491	22,303	28,947
	Regular Espresso	16,052	15,544	27,006	28,379	5,642	6,504	14,905	14,560	25,874	26,522	5,300	7,250
September	Columbian	100,251	114,678	182,781	197,203	64,003	40,175	102,992	128,579	202,522	218,564	75,168	57,563
	Lemon	99,499	119,024	182,521	214,019	60,729	38,695	104,405	122,347	205,370	220,710	63,106	60,620
	Caffe Mocha	89,255	89,377	166,949	161,187	36,303	31,545	100,044	97,088	200,140	176,094	37,872	55,003
	Chamomile	79,820	100,653	150,333	180,231	55,700	31,230	82,425	101,799	166,383	180,883	55,631	46,363
	Darjeeling	86,710	109,557	156,104	195,613	70,812	37,206	80,616	100,702	155,771	179,928	64,437	50,026
	Decaf Espresso	81,565	82,957	153,301	148,940	52,771	31,388	88,875	91,605	179,933	166,890	59,342	48,348
	Earl Grey	54,466	80,223	105,077	149,501	49,948	21,911	65,583	92,624	134,960	172,882	58,127	37,488
	Decaf Irish Cream	77,835	67,864	146,969	137,466	25,019	29,535	82,701	75,220	165,865	150,205	29,022	46,120
	Caffe Latte	46,228	40,246	91,688	69,070	18,595	13,200	53,324	43,560	113,356	74,269	22,185	22,873
	Green Tea	63,924	10,353	118,863	75,610	-33,388	23,941	65,443	10,724	132,627	80,168	-38,232	33,930
	Amaretto	45,755	45,654	80,410	82,920	23,605	18,708	47,799	48,110	89,970	87,983	24,758	28,925
	Mint	37,970	40,390	75,569	84,727	20,516	14,607	44,143	43,049	93,972	92,345	21,690	26,110
	Regular Espresso	12,807	14,241	22,168	26,125	5,500	3,760	15,141	13,883	26,167	25,969	5,323	9,448
October	Columbian	101,626	123,049	186,175	211,527	68,077	39,608	108,602	131,509	210,410	226,136	73,556	63,286
	Lemon	95,421	118,860	176,192	213,697	60,782	35,762	105,463	122,961	206,254	221,058	62,577	61,773
	Caffe Mocha	95,507	93,895	175,724	168,898	37,190	35,574	106,184	93,932	205,178	169,547	38,000	64,335
	Chamomile	83,796	104,023	154,729	183,935	58,159	33,759	83,404	103,045	163,489	183,316	55,958	49,011
	Darjeeling	82,254	108,832	151,994	194,539	70,882	34,788	80,229	100,174	157,821	178,855	61,492	46,993
	Decaf Espresso	94,436	93,463	173,524	168,890	60,297	36,959	95,856	91,275	186,960	165,425	59,107	58,290
	Earl Grey	69,892	89,645	129,352	167,058	54,818	30,543	75,970	103,036	150,060	192,653	66,366	50,041
	Decaf Irish Cream	84,135	76,659	155,713	151,130	31,538	33,428	85,200	76,498	168,791	153,378	30,210	48,561
	Caffe Latte	58,535	46,890	109,231	80,399	23,383	20,082	63,316	47,814	125,185	81,078	25,065	34,881
	Green Tea	67,063	10,670	123,601	77,589	-35,065	25,446	71,432	10,656	139,234	81,611	-40,964	41,281
	Amaretto	48,436	46,009	85,516	85,876	21,878	20,148	49,467	50,344	93,143	90,994	26,114	30,008
	Mint	45,508	40,009	86,653	87,841	18,954	19,832	49,602	45,976	99,873	98,757	24,188	32,438
	Regular Espresso	13,409	12,696	21,371	23,543	3,725	5,464	13,707	14,865	25,008	27,294	5,363	7,211
November	Columbian	107,377	131,882	193,702	224,968	75,343	44,430	107,527	122,834	207,030	210,391	67,963	63,621
	Lemon	97,095	112,932	175,651	203,117	58,299	39,336	102,662	121,138	197,946	217,681	60,796	58,569
	Caffe Mocha	96,148	89,589	173,448	161,405	35,348	36,849	91,160	88,952	178,961	161,790	34,355	49,836
	Chamomile	80,730	102,547	147,355	181,950	54,213	32,700	86,897	108,495	171,700	192,642	59,679	51,501
	Darjeeling	82,136	100,988	150,966	180,649	64,424	34,337	84,044	101,513	161,864	181,475	62,669	52,223
	Decaf Espresso	92,653	89,630	166,889	162,445	57,240	39,018	90,667	89,262	178,937	160,823	57,522	52,444
	Earl Grey	64,146	90,010	117,510	168,529	56,970	27,659	65,139	96,738	131,694	181,569	62,128	39,123
	Decaf Irish Cream	82,020	72,477	150,844	145,119	29,284	33,036	82,948	74,489	163,318	147,001	30,244	48,850
	Caffe Latte	56,115	45,518	102,328	77,675	23,962	21,066	58,139	47,273	117,845	80,432	24,677	29,530
	Green Tea	68,168	9,330	123,100	77,794	-38,463	27,609	68,225	9,776	134,792	80,120	-41,388	37,723
	Amaretto	47,887	46,859	83,883	84,930	23,843	19,939	46,525	49,917	87,290	90,535	26,008	27,183
	Mint	41,119	42,134	78,030	89,670	21,956	17,378	42,642	43,054	87,782	93,130	21,473	25,091
	Regular Espresso	12,811	13,687	21,477	25,223	4,560	4,360	12,587	12,623	22,178	23,501	4,236	6,538
December	Columbian	110,818	125,938	200,630	216,316	69,723	46,600	108,906	129,069	211,131	219,396	75,177	65,466
	Lemon	106,514	121,268	193,922	218,257	62,096	42,211	112,573	123,685	218,204	222,306	63,813	68,103
	Caffe Mocha	95,659	92,741	176,824	166,461	38,921	36,091	105,159	95,804	205,734	172,976	39,499	62,436
	Chamomile	85,402	103,995	158,803	184,972	57,737	34,549	89,524	107,844	177,480	191,770	59,509	55,537
	Darjeeling	83,953	104,350	151,792	186,558	66,159	36,627	83,772	98,197	160,808	175,770	60,470	51,719
	Decaf Espresso	91,320	91,257	170,421	165,629	59,136	36,465	94,854	90,298	188,492	163,012	58,477	56,587
	Earl Grey	72,764	96,489	137,953	179,919	60,895	31,189	74,734	101,218	150,390	189,975	65,890	49,353
	Decaf Irish Cream	86,768	70,967	160,790	141,684	29,180	36,487	82,163	71,993	162,188	142,806	28,240	48,207
	Caffe Latte	54,779	43,631	106,320	74,502	21,665	19,025	60,866	47,354	124,587	80,007	24,706	32,618
	Green Tea	67,169	8,599	124,921	75,246	-37,499	26,066	71,259	8,719	139,912	79,432	-43,052	42,038
	Amaretto	48,885	47,732	85,818	87,153	23,619	20,938	48,225	49,278	90,382	89,594	25,227	29,393
	Mint	47,183	41,234	91,636	91,658	18,544	19,985	46,213	44,395	97,112	95,926	22,870	27,863
	Regular Espresso	12,824	14,129	21,311	25,556	4,899	4,486	12,821	12,863	22,337	23,553	3,959	7,254

Of course, we found that Green Tea has the weakest performance with only a minimal improvement in September. Green Tea as an overall consistency of poor performance. As for Regular Espresso, we express that it is underperforming as well, but it is yielding a small margin of profit which is still good but can be improved. Regular Espresso overall performance is very consistent as well.

However, we wanted to know more about each product in the context of sales and profit. What are its margin? So marginally speaking, Green Tea is doing better than Regular Espresso and here is why.



Marginally speaking, Regular Espresso has a small margin of 337,186 units from a sale of 575,086 and a profit of 154,470. Whereas Green Tea is underperforming in more than one area, has a better margin of 1,654, 816 with 785,525 in profit from 3,120,055 sales. Besides the two main product under the most evaluation for underperformance. Caffe Latte Espresso, Amaretto Coffee, and Mint Herbal Tea are having bad margins as well. By no means, these items are performing poorly as in having negative profits or poor sales. They are yielding high sales and sufficient profits, but the three items can do better from a change in the pricing structure so that it can generate better profit while hopefully retaining the number of sales it has.

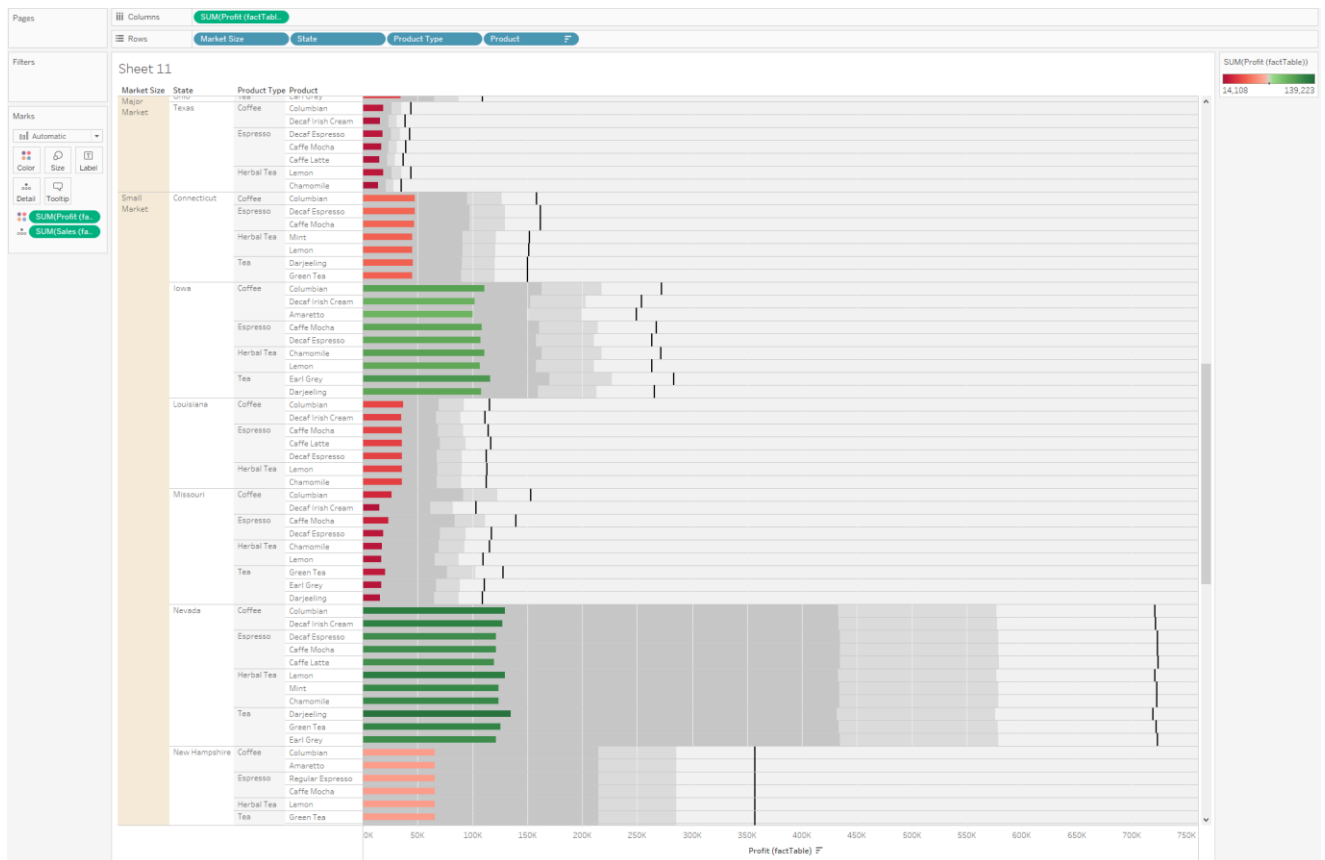


Then we wanted to know how the products with its product types are performing in each States by looking at the sales and profit ratio once more as shown above. With the visual data produced, we could filter data by each product type and product individually or all as shown above (How filters are done are shown below).

Product Type (Product)	Product (Product)
<input checked="" type="checkbox"/> (All)	<input checked="" type="checkbox"/> (All)
<input checked="" type="checkbox"/> Coffee	<input type="checkbox"/> Coffee
<input checked="" type="checkbox"/> Espresso	<input type="checkbox"/> Espresso
<input checked="" type="checkbox"/> Herbal Tea	<input type="checkbox"/> Herbal Tea
<input checked="" type="checkbox"/> Tea	<input checked="" type="checkbox"/> Tea

Product Type (Product)	Product (Product)
<input type="checkbox"/> (All)	<input type="checkbox"/> (All)
<input type="checkbox"/> Coffee	<input checked="" type="checkbox"/> Amaretto
<input type="checkbox"/> Espresso	<input type="checkbox"/> Caffè Latte
<input type="checkbox"/> Herbal Tea	<input type="checkbox"/> Caffè Mocha
<input checked="" type="checkbox"/> Tea	<input checked="" type="checkbox"/> Chamomile
	<input type="checkbox"/> Columbian
	<input checked="" type="checkbox"/> Darjeeling
	<input type="checkbox"/> Decaf Espresso
	<input checked="" type="checkbox"/> Decaf Irish Cream
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	<input checked="" type="checkbox"/> Green Tea
	<input type="checkbox"/> Lemon
	<input type="checkbox"/> Mint
	<input type="checkbox"/> Regular Espresso

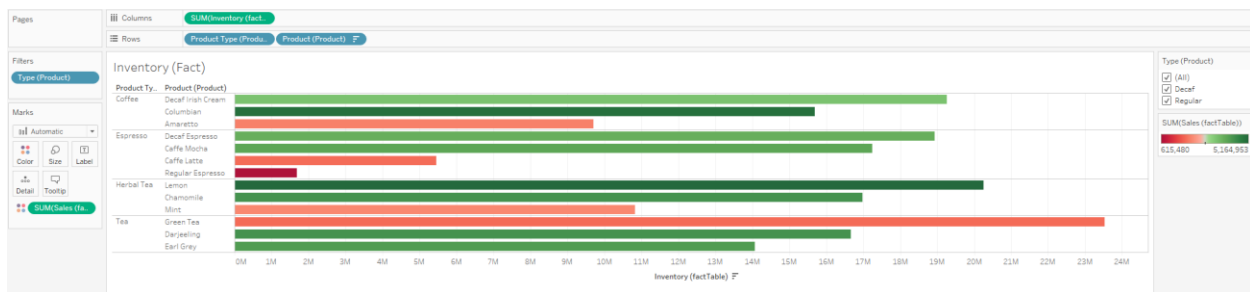
From the results, we found that the products are performing well in Nevada and seem to be the best and biggest market. Also, there are shades of red shown to emphasize the poor performing area and product with details of negative profit. Further detail of data can be viewed when the mouse hovers over the shaded circled region such as what product and product type are performing the best in a particular State. The numerical value and other visual representation about the map above can be seen below showing the sales and profit of each States, and what market the States are considered, whether they are a major or small market.

[illegible]

After evaluating the major and small market with subdivision into each State to see the data of their profit and sales. As a result, it was found that the State or market that is performing very well with high profit and sales is under the small market. While the major markets are not performing quite well with only two States that are performing well being Colorado and Illinois. Also, the major market is not producing a large of a sale as the small market. So, the method of

targeting markets need to be reevaluated so that the coffee house chain can produce better sales and yield more profit.

Besides looking at data of common categories such a sales, profit, and its margin, we also looked into the chains performances in each States. Now we will be looking at the inventory of each product with its sales since we can agree that sales have definite correlations with profit. We wanted to know how much inventory of each product and product type are held that are affecting sales.

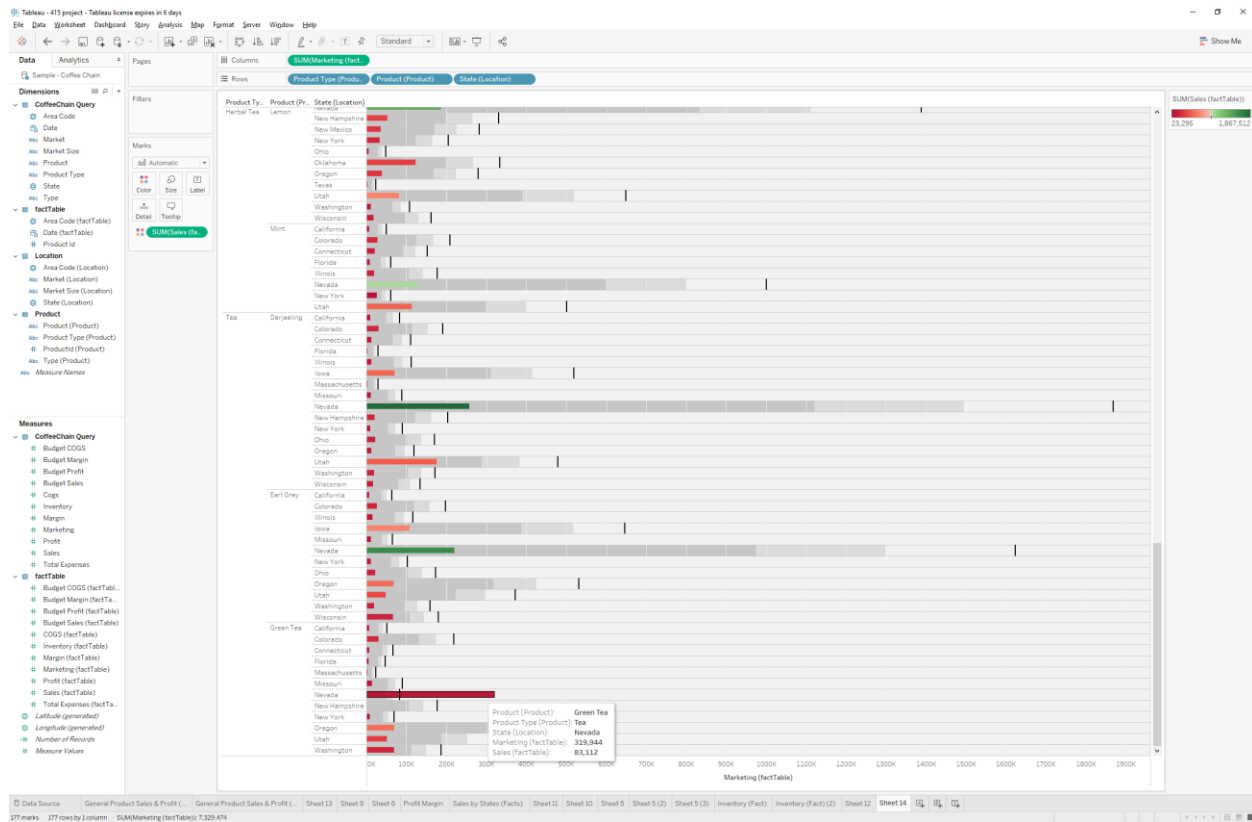


What we discovered is that Green Tea, the most underperforming product, has the most inventory for its sale ratio of 23,527,374 of inventory to 1,880,409 in sales. As for Regular Espresso, despite it being in red, the inventory to sales ratio of 1,681,994 to 615,480 is not terrible. One thing for certain, all products needs to reduce its inventory and needs to improve inventory management to cut the cost to have better sales to profit outcome. In the situation of Green Tea, the amount of inventory the coffee chain has is excessive and needs to be reduced because it is not yielding profit despite having sales, but sales are not high either. Cutting inventory should be an initial step to take if adjusting sales price for the product is not done to reduce cost and to hope it starts to yield profits. However, if prices are being modified first, hold off cutting inventory until more data or information is gathered after any adjustments. We also dived in further as to how much inventory there are in each month.



Again, we find Green Tea being in the spotlight. Its inventory started low but retained or purchased more throughout the month making the month of December containing the most inventory. Overall, there needs to be better management of inventory to improve profit in all aspect such as cutting holding cost or increase the production of items to improve sales.

One last thing we investigated was marketing. We wanted to know marketing is affecting sales and profit, and what its result from each States.



As a result, we can generally say that marketing was done properly. For starter, for most States marketing did not contribute much to the average sales of products. In other words, the marketing of each product in every State did not do well. However, when we get to Green Tea. The marketing of Green Tea in Nevada was costly and had no positive effects because marketing cost 319,944 while sales were only 83,112. Marketing needs to be improved overall or should be entirely removed because it is not benefiting the coffee chain's sales or profit. Otherwise, marketing should redraw their method of approach and approach marketing more tactically to better cater to the individual States.

In conclusion, the two major products that are underperforming are Green Tea and Regular Espresso because of its poor sales, but Green Tea being the only product that yields negative profit. Follow by an unsatisfactory unit of margins. Other findings from the data were the poor approach of sales of the product in individual States when more profitable State should

be more catered with the product that does well in, while continuing to research, improving, and adapting to find products that would do well in a particular State. Also, the management in inventory and marketing needs to drastically improved for it to be effective and efficient to yield positive profitability for the coffee chain. All in all, all the problems mentioned have a definite correlation to profit and should be changed to improve the chain's profitability and stability.