

Cookie Data Report

1. Introduction:

In our cookie data set cookies—specifically six types: Chocolate Chip, Fortune Cookie, Sugar, oatmeal Raisin, Snickerdoodle, and White chocolate macadamia Nut.

We've got a treasure trove of data on these cookies, covering how many units were sold, their costs, the money they brought in (revenue), and the profits they made. And we're not just looking at one place or time; we're exploring different countries and dates to see how things vary.

This report isn't just about cookies; it's about understanding what people like, how much they're willing to pay, and where these treats are most popular. So, get ready to uncover some fascinating insights into the cookie world and what it means for businesses like yours.

2. Questionnaire:

Q1. Compare Malaysia and Philippines on the bases of two types of Cookies

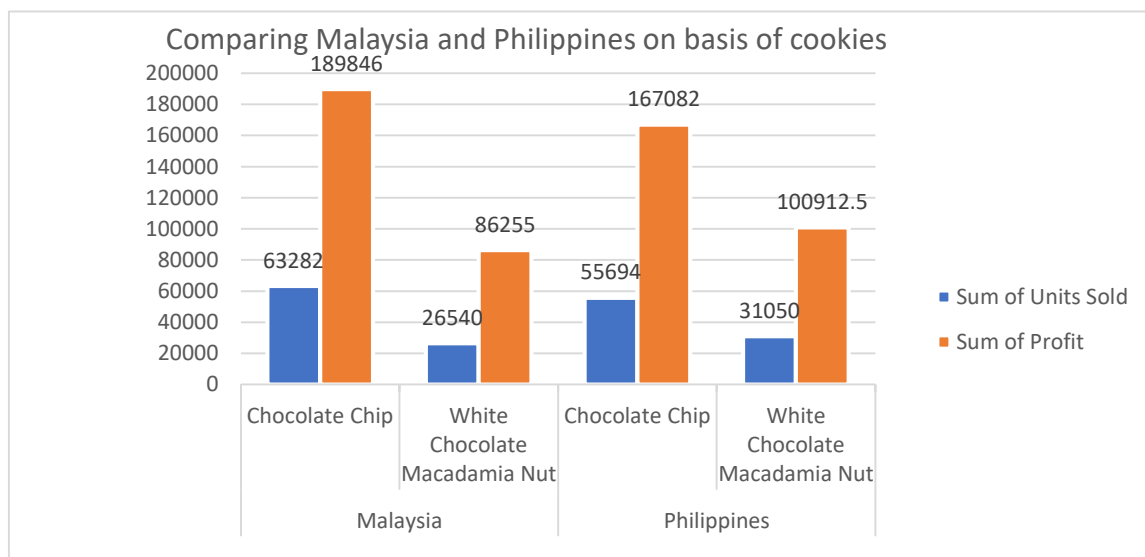
Q2. What is the performance of Choco Chips Cookies in all Country Which Competes the best?

Q3. Compare all the countries on the bases of profit and unit sold, which is the best performance country on the basis of profit.

Q4. which Cookie is the bestselling Cookie in India and US in year 2019,

3. Analytics:

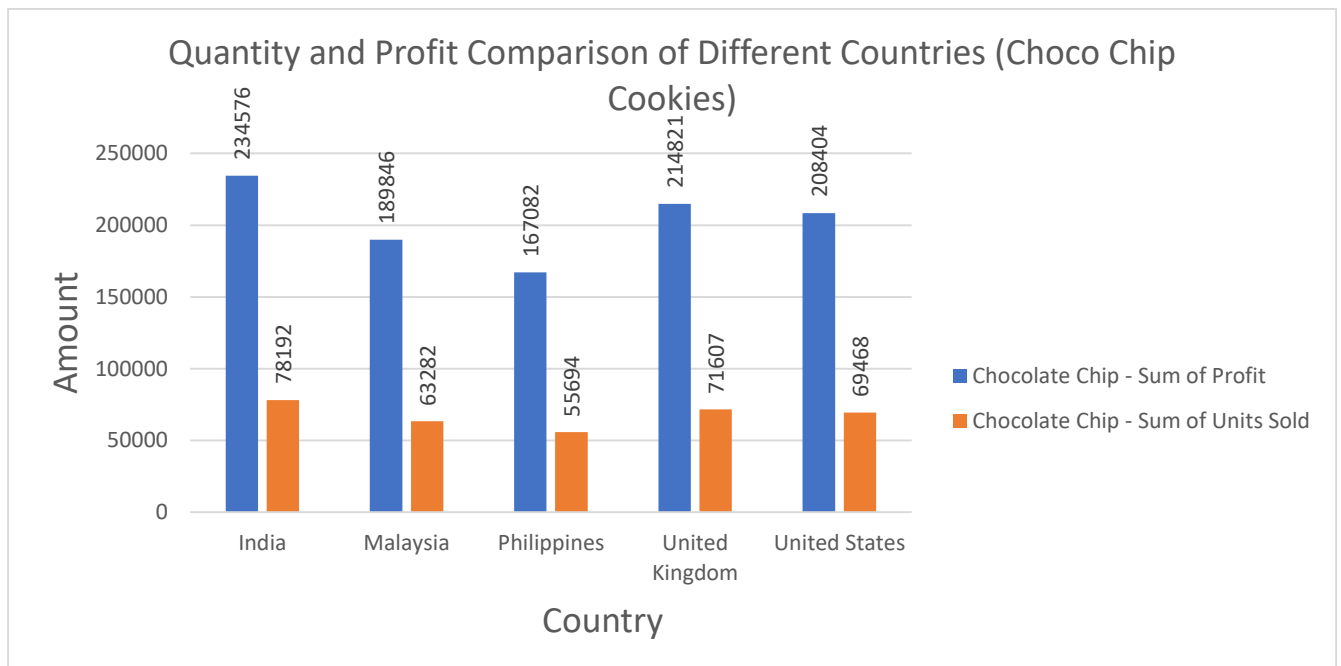
Q1 . Compare Malaysia and Philippines on the bases of two types of Cookies.



Answer:

Malaysia sold overall more products than Philippines and made 8,106.5 more profit than Philippines

Q2. What is the performance of Choco Chips Cookies in all Country Which Competes the best?

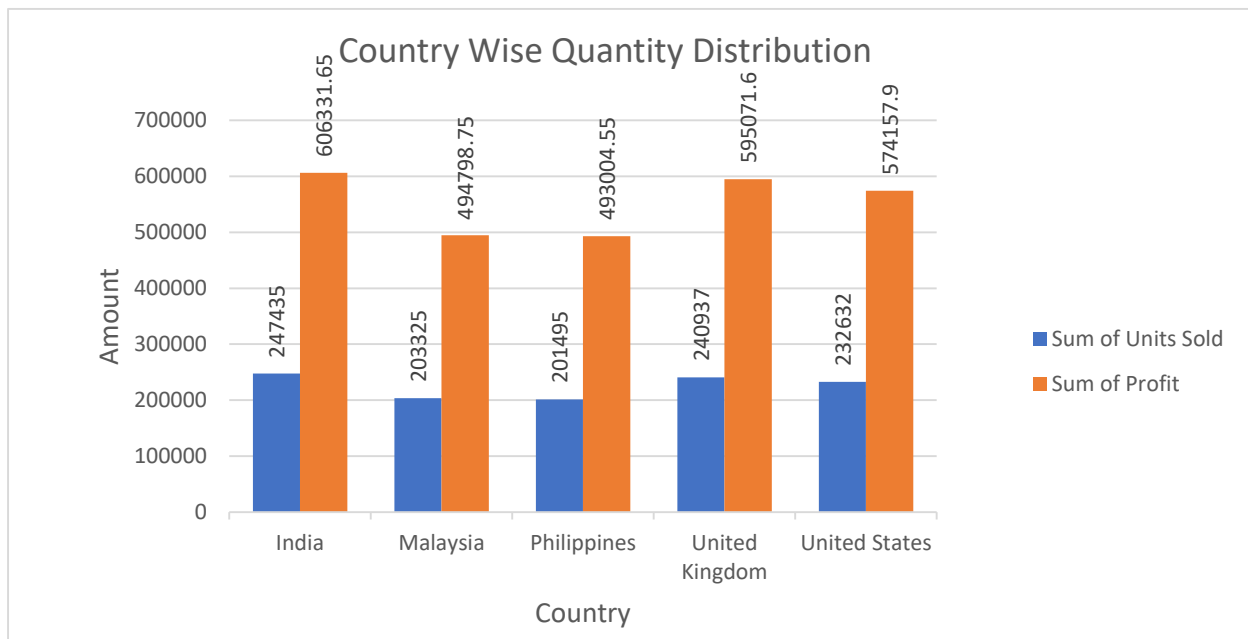


Answer:

India stands out as the foremost consumer of Choco chips worldwide, primarily due to its exceptional profitability and record-breaking sales figures.

Units Sold	Profit	Country	Product
218	\$654.00	India	Chocolate Chip
241	\$723.00	Malaysia	Fortune Cookie
257	\$771.00	Philippines	Oatmeal Raisin
260	\$780.00	United Kingdom	Snickerdoodle
267	\$801.00	United States	Sugar
274	\$822.00		White Chocolate M...
278	\$834.00		
292	\$876.00		

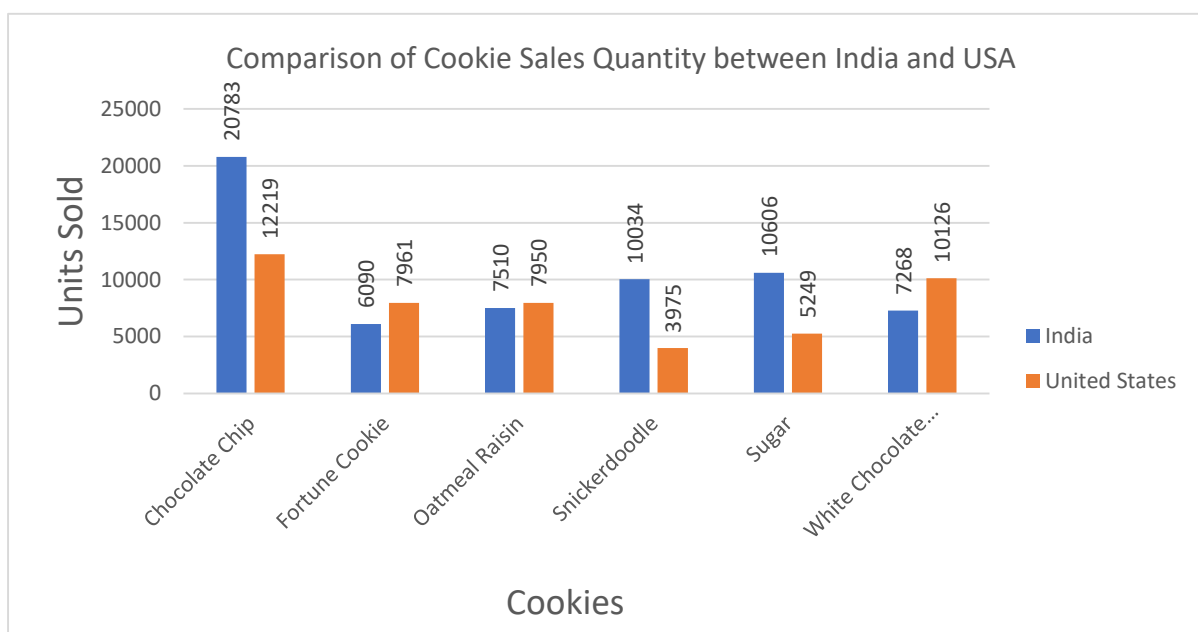
Q3. Compare all the countries on the bases of profit and unit sold, which is the best country on the basis of profit.



Answer:

India stands out as the leading performer globally when it comes to both profit generation and units sold in the Choco chip market.

Q4. Which Cookie is the best Selling Cookie in India and US in year 2019,



Answer:

In the year 2019, chocolate chip cookies emerged as the top-selling cookie in both India and the United States.

Regression:

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.829304							
R Square	0.687746							
Adjusted R Square	0.687298							
Standard Error	1462.76							
Observations	700							
ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	3.29E+09	3.29E+09	1537.356	1.4E-178			
Residual	698	1.49E+09	2139668					
Total	699	4.78E+09						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-74.4103	116.5304	-0.63855	0.523326	-303.202	154.3817	-303.202	154.3817
Units Sold	2.500792	0.063781	39.20914	1.4E-178	2.375567	2.626017	2.375567	2.626017

The regression model, with a significant p-value ($p < 0.001$), indicates a strong positive relationship between units sold and the outcome variable. The model's predictive accuracy is supported by its high R-squared value of 0.688, suggesting that approximately 68.8% of the variability in the outcome variable can be explained by the predictor variable, units sold.

Co-relation:

	<i>Units Sold</i>	<i>Revenue</i>
Units Sold	1	0.796298
Revenue	0.796298	1

The correlation coefficient between units sold and revenue is 0.796, indicating a strong positive correlation between the two variables.

Anova (Single Factor) :

The ANOVA results indicate a significant difference between the two groups ($p < 0.001$), with 1 degree of freedom. The within-group error is 7681356717, and the total R-squared value is 0.06, suggesting that the model explains 6% of the variability in the data.

SUMMARY						
<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>		
3450	699	1923505	2751.795	4154648		
5175	699	2758189	3945.908	6850161		
ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	4.98E+08	1	4.98E+08	90.57022	7.53E-21	3.848129
Within Groups	7.68E+09	1396	5502405			
Total	8.18E+09	1397				

Anova two factor without Replication:

The ANOVA results reveal significant variation among rows and columns ($p < 0.001$), with degrees of freedom (df) values of 48 and 3, respectively. The error term has a degree of freedom of 144.

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Rows	8.21E+08	48	17108242	5.848894	8.54E-17	1.445925
Columns	5.65E+10	3	1.88E+10	6435.486	3.8E-153	2.667443
Error	4.21E+08	144	2925039			
Total	5.77E+10	195				

Descriptive Statistics:

<i>Units Sold</i>	
Mean	1608.32
Standard Error	32.78652
Median	1542.5
Mode	727
Standard Deviation	867.4498
Sample Variance	752469.1
Kurtosis	-0.31491
Skewness	0.43627
Range	4293
Minimum	200
Maximum	4493
Sum	1125824
Count	700

<i>Profit</i>	
Mean	3947.664
Standard Error	98.86874
Median	3424.5
Mode	5229
Standard Deviation	2615.821
Sample Variance	6842519
Kurtosis	0.338621
Skewness	0.840484
Range	13319
Minimum	160
Maximum	13479
Sum	2763364
Count	700

4. Conclusion and Review:

After thorough analysis of the cookie sales data, it is evident that there are notable trends and insights to be gleaned. By examining key metrics such as units sold, revenue, cost, and profit across different countries and products, we can draw valuable conclusions about market demand, pricing strategies, and overall profitability. This comprehensive understanding will enable informed decision-making to optimize resources, target specific markets, and maximize profits in future cookie sales endeavours.