

DANDELION SMALL-BATCH CHOCOLATE

STRATEGIC DASHBOARD

Helping artisanal chocolatiers keep track of their competitors and find the best quality cocoa beans.

MISM6213 : Project 2
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About Dandelion Chocolate



- A San Francisco based bean-to-bar chocolate maker.
- Each bar is sourced from a single place of origin.
- Chocolatiers spend months experimenting with beans to find the best roasting and processing for each type.

The Artisanal Chocolate Industry

- Growth rate of 4.4% CAGR
- 16% of new entrants into market are from the US.
- 58% of US customers eating more chocolate in 2022.

Purpose of the Dashboard

- Support decision making of business executives at Dandelion Chocolates.
- Provide highly granular insights about their competitor's product offerings.
- Track the market's supply of chocolate based on cocoa percentages and ingredient combinations.
- Track quality, ratings and prices of cocoa beans of major cocoa exporting countries.



Sources of Data - 1



The 'Chocolate Bar Ratings' dataset is maintained by the Manhattan Chocolate Society - an organization that researches and reviews artisanal chocolate.

The dataset maintains expert ratings for chocolate bars from the years of 2006 to 2022, having reviewed about 2600 chocolate bars.

Data Description:

The dataset has the following descriptors:

- Ref No
- Company Name
- Company Location
- Country of Bean Origin
- Chocolate Bar Name
- Cocoa Percentage
- Ingredients
- Most memorable Characteristics
- Rating

Data Profiling & Improvement:

The original dataset had 2633 rows and 10 columns. By filtering the dataset for US based companies only, it was reduced to 1194 rows. The modified dataset has:

- 261 American chocolate companies,
- Beans originating from 38 countries
- 38 distinct percentages of cocoa
- 18 combinations of ingredients
- 1182 distinct memorable characteristics

Sources of Data - 2



The 'Fine and Flavor' dataset is maintained by the International Cocoa Organization, an entity under the United Nations which supports sustainable development of the global cocoa sector.

- 'Fine Cocoa' is cocoa that is free of defects in flavor and provides aromatic characteristics important in blends.
- Flavor Cocoa has little to no defects in flavor and provides valuable aromatic characteristics traditionally important in blends

Data Description:

The dataset had the following descriptors:

- Country Name
- Fine and Flavor Percent

Data Profiling & Improvement:

The original dataset had 25 rows and 2 columns. An additional column was added to the table which tracked the average price per kg of cocoa beans. The resulting table had:

- 38 rows and 3 columns, the additional rows were added to match the countries in the previous dataset.
- 13 missing values for Fine and Flavor percents which were not publicly available.

Explaining Dashboard Elements

Top 20 Companies By Average Rating		
Rank ..	Company	Avg. Rating
1	Heirloom Cacao Preserva..	3.88
2	Patric	3.79
3	Landmark (Amano)	3.75
	Kerchner	3.75
	Dole (Gittard)	3.75
	Chocola'te	3.75
7	Chokola	3.71
8	Fresh Coast aka Just Goo..	3.67
9	Kah Kow	3.63
	Fresh Coast	3.63
11	Raphio	3.58
	Durci	3.58

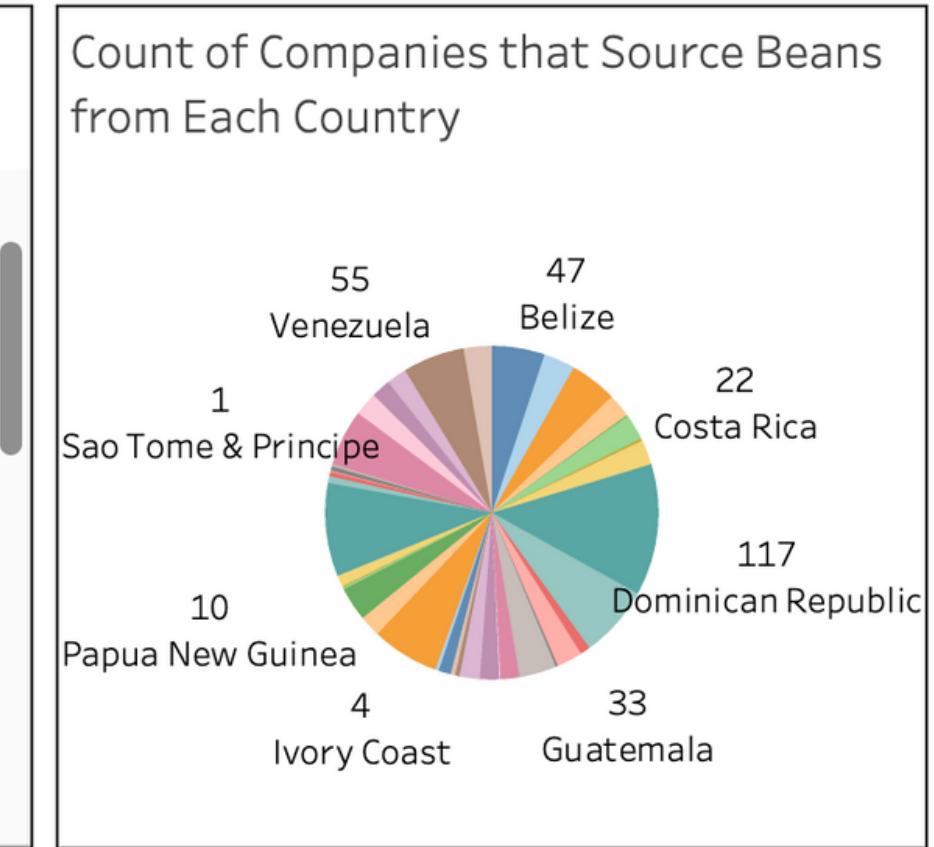
Ranked table with ratings aggregated by company into average ratings.

Top 20 Chocolate Bars by Avg. Rating		
Rank ..	Chocolate Bar Name	Avg. Rating
1	Asante	4.00
	Bejofo, 2019 H., Batch 20	4.00
	Bellavista Coop, #225, L..	4.00
	Beniano	4.00
	Chuao Village, BR-SC, b..	4.00
	Chuao, #217, DR, MC, b..	4.00
	Chuao, batch 1089	4.00
	Corona Arriba	4.00
	Costa Esmeraldas, CEco..	4.00
	Coto Brus, Heirloom, Ba..	4.00
	Coto Brus, Terciopelo	4.00

Ranked table with ratings of each individual chocolate bar.

Bean Origin, Avg Rating and Avg Price		
Bean Origin ..	Avg. Rating	Avg. Avg Price Kg
Colombia	3.24	2.5
Congo	3.00	2.41
Costa Rica	3.19	2.99
Dominican R..	3.22	2.69
Ecuador	3.26	2.43
Fiji	2.94	2.73
Ghana	3.06	2.89
Grenada	3.38	4.03
Guatemala	3.25	4.49
Haiti	3.13	2.48
Hawai'i	3.75	Null
Honduras	3.29	3.99

Country of bean origin, average rating and average price.

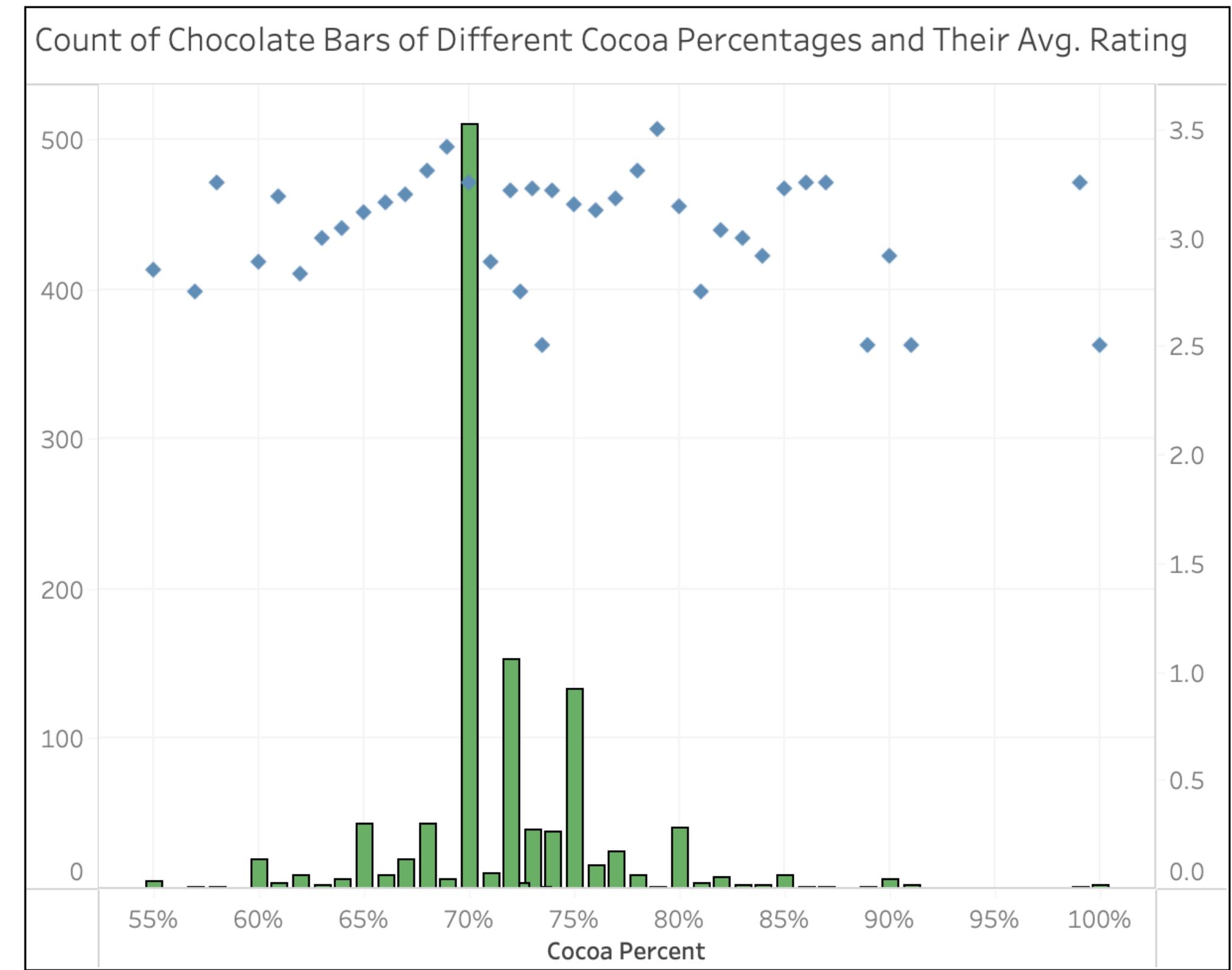


Pie Chart with each section representing a country, with the size of each section representing the number of companies that buy cocoa beans from it.

Explaining Dashboard Elements-2

A dual-axis graph where the bars represent the amount of chocolate bars in the market that have a certain percentage of cocoa in them.

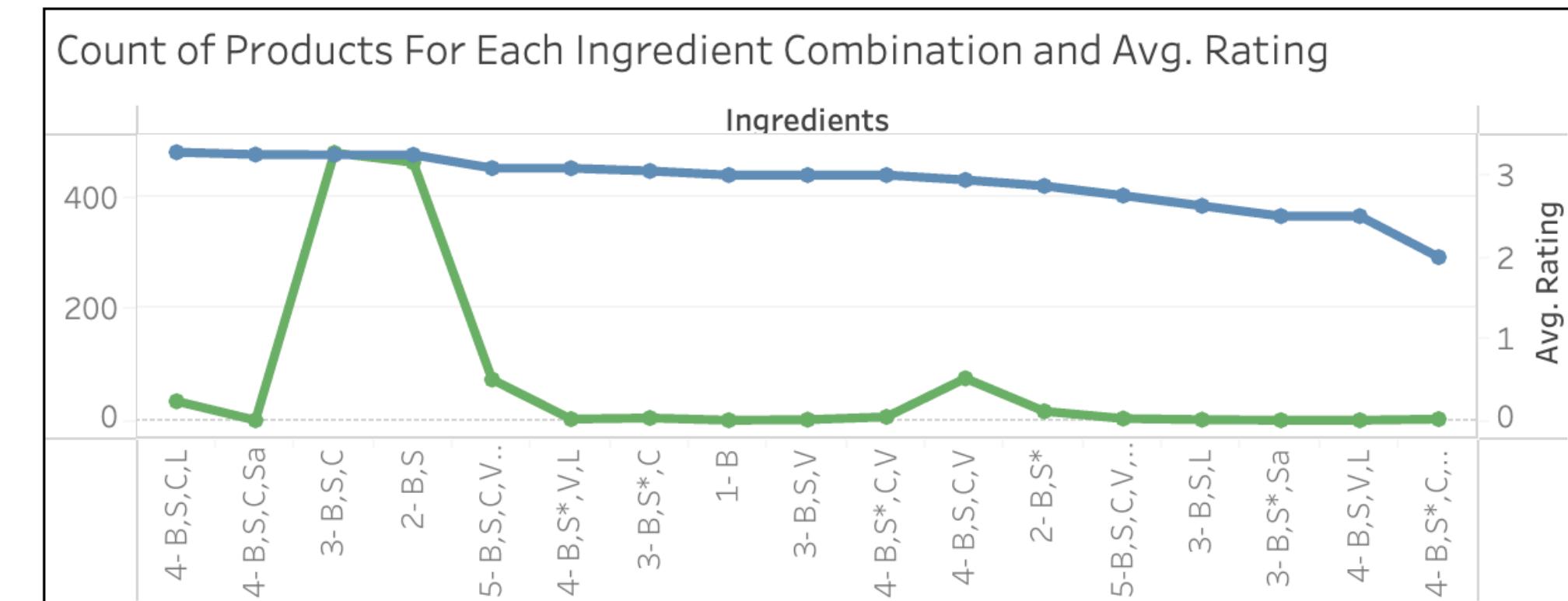
The dots represent the average rating received by chocolate bars at each percent of cocoa.



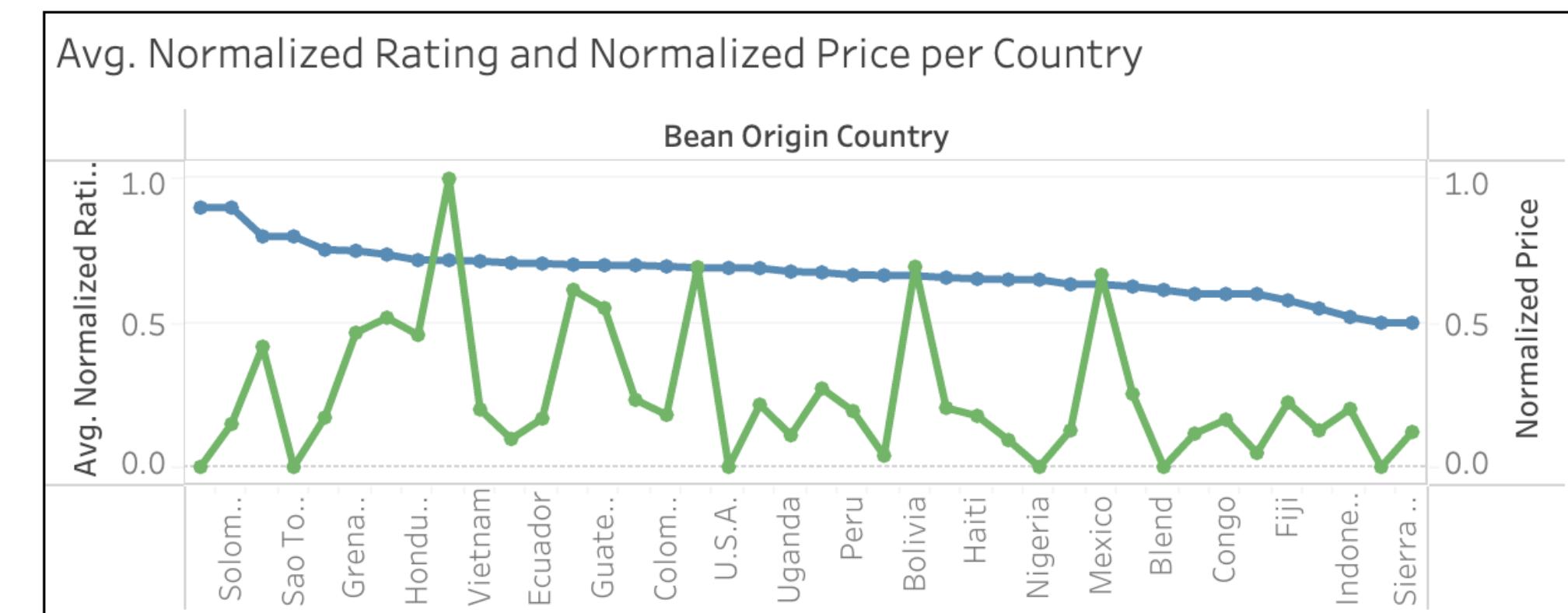
Explaining Dashboard Elements-3

A dual-axis graph where the blue line represents the average rating for bars of chocolate based on the specific ingredient formulation they have used.

The green line represents the count of chocolate bars in the market that are produced using that specific formulation of ingredients.



A dual-axis graph where the blue line represents the normalized average rating for bars of chocolate based on which country's cocoa beans were used to produce them. The green line represents the normalized average price of cocoa beans in the specific country.



Example of Usage:

(4)

Let's assume an executive want's to survey chocolate bars with 80% cocoa:

1. He selects the 80% bar on the bar chart.
2. Observes that highly rated ingredient formulations '4-B,S,C,L' and '4-B,S,C,Sa' have low number of products, decides to develop new chocolate bars using these ingredients.
3. Observes that the highest rated cocoa bean for 80% bars are underpriced.
4. Checks it's average price and decides to investigate whether Dandelion Chocolates can buy them.



Evaluating the Dashboard



- Assimilates data from multiple reliable sources into one database
- Dashboard Interface allows for quick and intuitive data retrieval with minimal technical expertise
- Saves time and tedious effort required to manually seek information from different sources multiple times
- Reliable data sources ensure that quality of data is to a high standard.

Data Management and Improvement

- Alteryx and UIPath can automate web scraping process to regularly update the dataset.
- Dashboard can be improved by adding data about prices, sales and profits of competitors.



THANK YOU!

SOURCES:

- Chocolate Database. Flavors of cacao - chocolate database. (n.d.). Retrieved April 22, 2023, from https://flavorsofcacao.com/chocolate_database.html
- Fine or flavor cocoa. International Cocoa Organization. (2021, November 9). Retrieved April 22, 2023, from <https://www.icco.org/fine-or-flavor-cocoa/>
- Food & Agriculture B2B marketplace. Selina Wamucii. Retrieved April 22, 2023, from <https://www.selinawamucii.com/>
- Max, A. (2023, March 6). Craft chocolate will continue to grow. Dame Cacao. Retrieved April 22, 2023, from <https://damecacao.com/craft-chocolate-continue-to-grow/>
- A higher bar for Artisan Chocolate. IFT.org. (n.d.). Retrieved April 22, 2023, from <https://www.ift.org/news-and-publications/digital-exclusives/a-higher-bar-for-artisan-chocolate>