Lab Notebook for: beerEthnicityConsumptionBrandChoice

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Contents

S1.beer_2010DataCleaning - Process raw beer data

Algorithm name: S1.beer_2010DataCleaning(save_2010_main_data = 'all_formats',
                                          out_algoRunTime = T)

Algorithm run time: 33.2137923 minute(s).

S2.construct__2010marketData - Partition the cleaned data by city

```
Algorithm name: S2.construct_2010marketData(input_fileType = 'feather',
                                            marketNames = c('all'),
                                            out_algoRunTime = T)
```

Algorithm run time: 3.2091913 minute(s).

S3.explore_2010marketData - Explore the completeness of the data

This algorithm takes city level data and determines, by brand, if there are any weeks over a 52 week period (one year) that a brand is missing in the data. If there are missing weeks in the data it is impossible to tell if there were no sales of a particular brand during that week or if the brand was not offered for sale. All we can see is that the week is missing data. Further, this algorithm determines the completeness of the data at the chain level. The same problem occurs when evaluating missing data at the chain level. It is not possible to say why the data is missing, simply that the data is missing.

The output of the algorithm presents a data file called: D3.explore_2010marketData.rds

This files contains information on missingness in the data by city / brand / week / chain.

Several data frames are contained in the list.

- BrandsOnly_CompleteData_wks: contains a list of brands with complete data over all 52 weeks.

- explore_Data_Complete_wks: contains the raw data.frame for the brands with complete data over all 52 weeks.

- Brands_CompleteData_wksANDChains: contains a list of brands with complete data over all 52 weeks and complete data over all chains in the city. The number of chains is variable depending on the city.

- explore_Data_Complete_wksANDChains: contains the raw data.frame for the brands with complete data over all 52 weeks and chains with complete data over all chains.

- explore_Data: contains the complete raw data.frame used to obtain the above filtered results.

`Algorithm name: S3.explore_2010marketData(out_algoRunTime = T)`

Algorithm run time: 3.0931297 minute(s).

S4.allBrands_2010analysis -

```
Algorithm name: S4.allBrands_2010analysis(brands= c("CHICAGO",
                                                     "DALLAS, TX",
                                                     "LOS ANGELES",
                                                     "SPOKANE",
                                                     "SYRACUSE",
                                                     "HOUSTON"),
                                            out_algoRunTime = T
                                            )
```

Algorithm run time: 0.0076146 minute(s).

S5.aggregate_allBrands_2010 -

City: CHICAGO

```
Algorithm name: S5.aggregate_allBrands_2010(Market = 'CHICAGO',
                                            figurePlot = T,
                                            screenPlot = T,
                                            saveData = T,
                                            out_algoRunTime = T)
```

Algorithm run time: 0.9425799 minute(s).

prcntBrandRep_units: 76.1677326%.

prcntBrandRep_dol: 79.7331841%.

prcntBrandRep_gal: 83.8276386%.

prcntFirmRep_units: 93.2128207%.

prcntFirmRep_dol: 93.6344766%.

prcntFirmRep_gal: 96.1166734%.

prcntConglomerateRep_units: 93.4637987%.

prcntConglomerateRep_dol: 93.8386745%.

prcntConglomerateRep_gal: 96.2340386%.

Table 1: Aggregate Conglomerate Data for CHICAGO

	Conglomerates	UNITS	DOLLARS	total_gal
1	SABMILLER	1341061	12858494.13	1919373.805
2	ANHEUSER-BUSCH INBEV	703186	6592746.34	929321.930
3	CONSTELLATION BRANDS INC	320397	3689692.35	332339.297
4	HEINEKEN USA INC	223202	2317296.07	204782.828
5	S & P COMPANY	95268	767591.99	131722.266
6	DIAGEO	90385	800058.38	60240.594
8	BOSTON BEER CO	74781	794918.76	66500.641
9	MARK ANTHONY BRANDS INC	73022	719802.50	51868.125
11	SIERRA NEVADA BREWING CO	17230	188197.02	13167.656
20	E & J GALLO WNRY	2670	21262.27	1499.062

Note:

Test

Table 2: Aggregate Firm Data for CHICAGO

	Firms	UNITS	DOLLARS	total_gal
1	MILLERCOORS	1211060	11517961.02	1805195.477
2	ANHEUSER-BUSCH INBEV	666259	6273777.01	890461.148
3	CROWN IMPORTS	320397	3689692.35	332339.297
4	HEINEKEN USA INC	223202	2317296.07	204782.828
5	TENTH & BLAKE BEER CO	130001	1340533.11	114178.328
6	PABST BREWING CO	95268	767591.99	131722.266
7	DIAGEO GUINNESS USA	82487	737496.75	55714.953
9	BOSTON BEER CO	74781	794918.76	66500.641
10	MARK ANTHONY BRANDS INC	73022	719802.50	51868.125
11	MICHELOB BREWING CO	36927	318969.33	38860.781
13	SIERRA NEVADA BREWING CO	17230	188197.02	13167.656
23	E & J GALLO WNRY	2670	21262.27	1499.062

Note:

Test

Table 3: Aggregate Brand Data for CHICAGO

	Brands	UNITS	DOLLARS	total_gal
1	MILLER LITE	513772	5563091.56	840811.6875
2	BUD LIGHT	214515	2269587.47	338383.8125
3	CORONA EXTRA	167318	1930201.41	176218.2656
4	COORS LIGHT	133061	1492072.15	226284.3750
5	MILLER GENUINE DRAFT	132885	1260618.66	183935.3750
6	BUDWEISER	126866	1154621.76	168268.1250
7	MILLER HIGH LIFE	115827	1013147.98	198003.5625
8	HEINEKEN	107693	1172537.88	99689.8594
9	MODELO ESPECIAL	79514	898638.77	81288.7500
10	MILLER GENUINE DRAFT LIGHT 64	65706	708916.38	106581.9375

11	ICEHOUSE	58526	385122.27	71708.3125
12	BUSCH LIGHT	52330	557267.29	116339.8125
13	CORONA LIGHT	45439	515927.62	46569.9375
14	BUSCH	44881	373276.49	75306.1875
16	BLUE MOON BELGIAN WHITE ALE	35520	364205.64	29579.7500
18	STELLA ARTOIS LAGER	31406	367912.87	26216.1016
21	BUD LIGHT LIME	27644	260709.77	24785.8594
22	PABST BLUE RIBBON	26540	253936.60	48990.5625
23	GUINNESS DRAUGHT	25835	249137.71	18565.9062
24	TECATE	25571	248155.13	29058.8125
25	SAMUEL ADAMS SEASONAL	25401	266005.13	22169.1719
26	BECKS	25206	256068.80	22508.4375
27	HEINEKEN PREMIUM LIGHT LAGER	22964	272217.95	22651.8828
28	MICHELOB ULTRA	22643	194070.37	24943.8750
30	SAMUEL ADAMS BOSTON LAGER	21899	231142.51	19720.4062
35	FOSTERS LAGER	18848	65355.29	5778.2266
40	ODOULS	14893	96729.46	12209.6250
41	MIKES HARD LEMONADE	14618	144903.91	10632.1250
44	SIERRA NEVADA PALE ALE	12767	140917.46	10002.2812
45	ROLLING ROCK EXTRA PALE	12027	114186.01	12163.8750
48	RED STRIPE	11791	88735.21	6543.3516
49	NEWCASTLE BROWN ALE	11416	124317.39	9319.4609
50	BLUE MOON SEASONAL COLLECTION	11083	110675.70	8778.3750
57	GUINNESS EXTRA STOUT	9967	73609.97	5361.7969
58	NEGRA MODELO	9886	108652.49	8704.8750
59	MILLER CHILL	9631	75513.07	8915.6250
60	MIKES HARD CRANBERRY LEMONADE	8858	86867.06	6257.6797
61	COORS	8758	99598.51	15621.7500
62	NATURAL ICE	8375	58195.68	11723.0625
70	KEYSTONE LIGHT	6739	85668.46	18833.2500
71	BUD LIGHT GOLDEN WHEAT	6513	60730.89	5654.2500
74	MIKES HARD SEASONAL	6204	54444.63	3879.8047
75	SMIRNOFF ICE	6177	52095.94	3936.7109
78	MIKES HARD LIGHT LEMONADE	5676	54972.06	3882.3359
84	SMIRNOFF ICE PARTY PACK	5495	67279.16	5752.5781
86	SAINT PAULI GIRL	5103	56195.11	5158.5000
89	GEORGE KILLIANS IRISH RED LAG	4854	49350.13	4457.6250
94	ODOULS AMBER	4712	22462.29	2650.5000
99	BACARDI SILVER MOJITO	4414	31121.06	2482.8750
102	LANDSHARK LAGER	4039	35863.90	2977.8750
103	SHOCK TOP BELGIAN WHITE ALE	4018	29929.89	2450.3438
113	SMIRNOFF ICE RASPBERRY BURST	3219	24231.18	1684.9453
118	SMIRNOFF ICE GREEN APPLE BITE	2583	19221.26	1352.0391
121	DOS EQUIS XX AMBAR LAGER	2361	28237.74	2511.5625
131	MICHELOB AMBER BOCK	2025	19924.78	2036.2500
133	NATURAL LIGHT	1993	22733.25	5027.0625
144	MICHELOB ULTRA AMBER	1679	13861.68	1812.9375
149	MIKES HARD MANGO PUNCH	1510	12176.94	790.3906
154	MICHELOB ULTRA LIME CACTUS	1366	7969.91	768.3750
163	MICHELOB ULTR POMEGRANAT RSPB	1183	6954.70	665.4375
171	MOLSON CANADIAN	1027	8695.54	1036.1250

177	HORNSBYS AMBER DRAFT	939	7490.31	528.1875
198	MILWAUKEES BEST	622	5570.19	1170.5625
201	WILD BLUE	583	4426.37	327.9375

Note:

Test

Market: CHICAGO
Total Units by Brand

MILLER LITE
BUD LIGHT
CORONA EXTRA
COORS LIGHT
MILLER GENUINE DRAFT
BUDWEISER
MILLER HIGH LIFE
HEINEKEN
MODELO ESPECIAL
MILLER GENUINE DRAFT LIGHT 64
ICEHOUSE
BUSCH LIGHT
CORONA LIGHT
BUSCH
BLUE MOON BELGIAN WHITE ALE
STELLA ARTOIS LAGER
BUD LIGHT LIME
PABST BLUE RIBBON
GUINNESS DRAUGHT
TECATE
SAMUEL ADAMS SEASONAL
BECKS
HEINEKEN PREMIUM LIGHT LAGER
MICHELOB ULTRA
SAMUEL ADAMS BOSTON LAGER
FOSTERS LAGER
ODOULS
MIKES HARD LEMONADE
SIERRA NEVADA PALE ALE
ROLLING ROCK EXTRA PALE
RED STRIPE
NEWCASTLE BROWN ALE
BLUE MOON SEASONAL COLLECTION
GUINNESS EXTRA STOUT
NEGRA MODELO
MILLER CHILL
MIKES HARD CRANBERRY LEMONADE
COORS
NATURAL ICE
KEYSTONE LIGHT
BUD LIGHT GOLDEN WHEAT
MIKES HARD SEASONAL
SMIRNOFF ICE
MIKES HARD LIGHT LEMONADE
SMIRNOFF ICE PARTY PACK
SAINT PAULI GIRL
GEORGE KILLIANS IRISH RED LAG
ODOULS AMBER
BACARDI SILVER MOJITO
LANDSHARK LAGER
SHOCK TOP BELGIAN WHITE ALE
SMIRNOFF ICE RASPBERRY BURST
SMIRNOFF ICE GREEN APPLE BITE
DOS EQUIS XX AMBAR LAGER
MICHELOB AMBER BOCK
NATURAL LIGHT
MICHELOB ULTRA AMBER
MIKES HARD MANGO PUNCH
MICHELOB ULTRA LIME CACTUS
MICHELOB ULTR POMEGRANAT RSPB
MOLSON CANADIAN
HORNSBYS AMBER DRAFT
MILWAUKEES BEST
WILD BLUE

Units

Market: CHICAGO
Total Dollars by Brand

MILLER LITE
BUD LIGHT
CORONA EXTRA
COORS LIGHT
MILLER GENUINE DRAFT
HEINEKEN
BUDWEISER
MILLER HIGH LIFE
MODELO ESPECIAL
MILLER GENUINE DRAFT LIGHT 64
BUSCH LIGHT
CORONA LIGHT
ICEHOUSE
BUSCH
STELLA ARTOIS LAGER
BLUE MOON BELGIAN WHITE ALE
HEINEKEN PREMIUM LIGHT LAGER
SAMUEL ADAMS SEASONAL
BUD LIGHT LIME
BECKS
PABST BLUE RIBBON
GUINNESS DRAUGHT
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DOS EQUIS XX AMBAR LAGER
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SMIRNOFF ICE GREEN APPLE BITE
MICHELOB ULTRA AMBER
MIKES HARD MANGO PUNCH
MOLSON CANADIAN
MICHELOB ULTRA LIME CACTUS
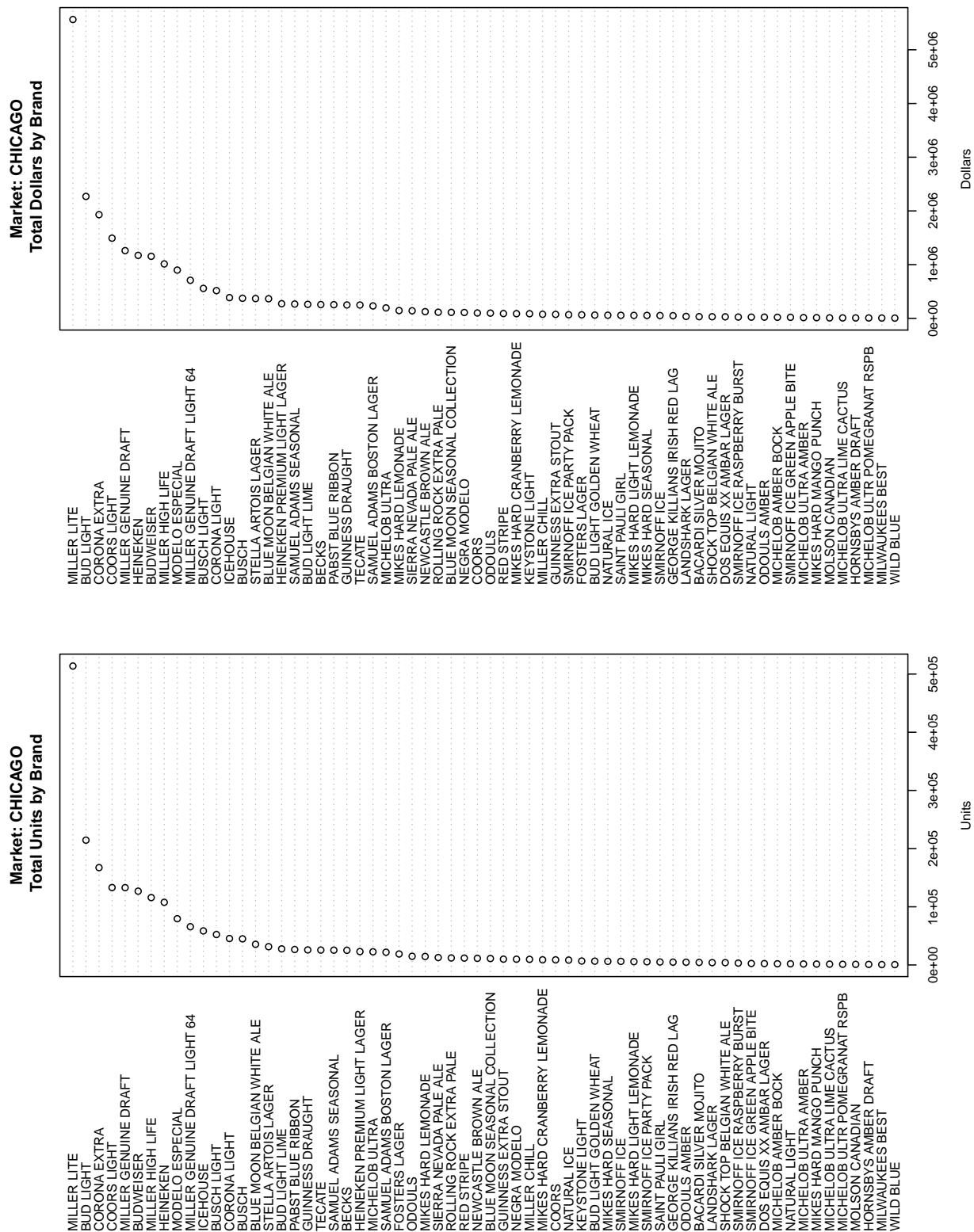HORNSBYS AMBER DRAFT
MICHELOB ULTR POMEGRANAT RSPB
MILWAUKEES BEST
WILD BLUE

Dollars

Figure 1: Plot of Aggregate Data for Chicago