Report 1

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Report 1

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Product Cost of Sale by Facility Continent

Facility Continent

Facility Continent	Product Cost of Sale
Asia	14196
Europe	4824124
North America	20415087
South America	1379232

Product Cost of Sale (millions)

Product Cost of Sale by Product Line

Product Cost of Sale

Product Line

Product Cost of Sale ■ Product Cost of Sale

Unit Capacity by Transaction Month

Transaction Month
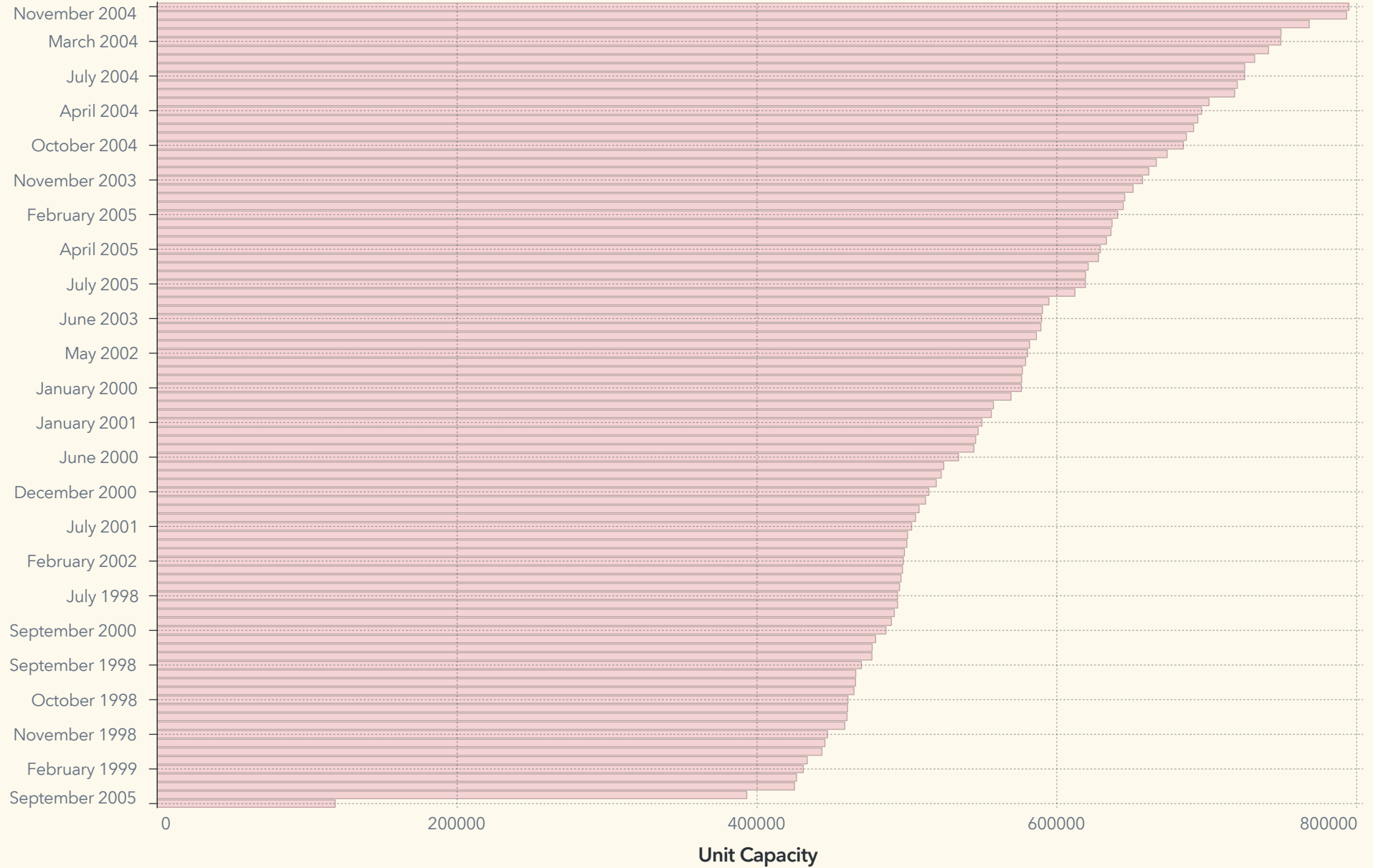
Unit Capacity

Product Sale by Facility Country

Facility Country

Norway

Mexico

Denmark

Colombia

Italy

Chile

France

Sweden

Brazil

Peru

Venezuela

United States

Canada

Germany

Spain

United Kingdom

23

0

Product Sale (millions)

Product Sale by Facility Country

Facility Country

Facility Country	Product Sale
Brazil	455194
Peru	376081
Venezuela	325704
Chile	282672
Colombia	200706
Argentina	57805

Product Sale

A1.2

Product Sale by Facility Country

Product Sale

Argentina 3.4%
Colombia 11.8%
Brazil 26.8%
Chile 16.6%
Venezuela 19.2%
Peru 22.1%

Facility Country

■ Brazil ■ Peru ■ Venezuela ■ Chile ■ Colombia ■ Argentina

A1.3

Product Sale by Facility Country

Facility Country

Brazil | Peru | Venezuela | Chile | Argentina / Colombia

455194
57805
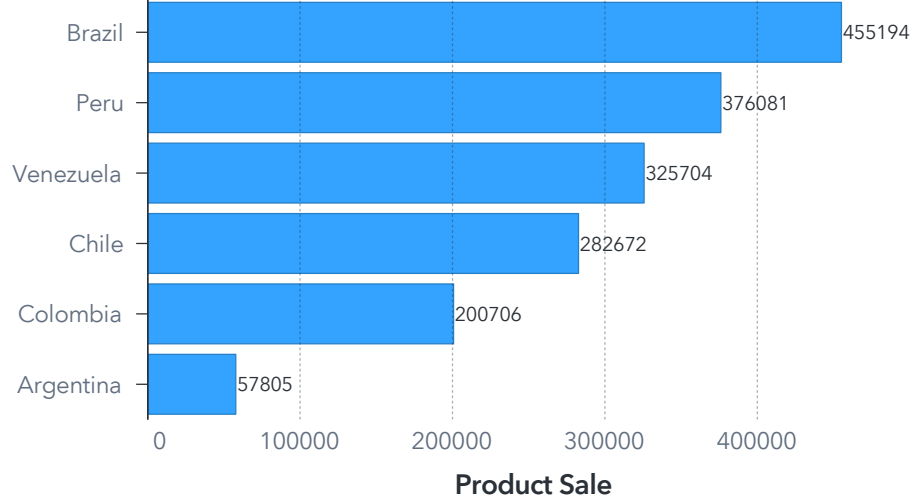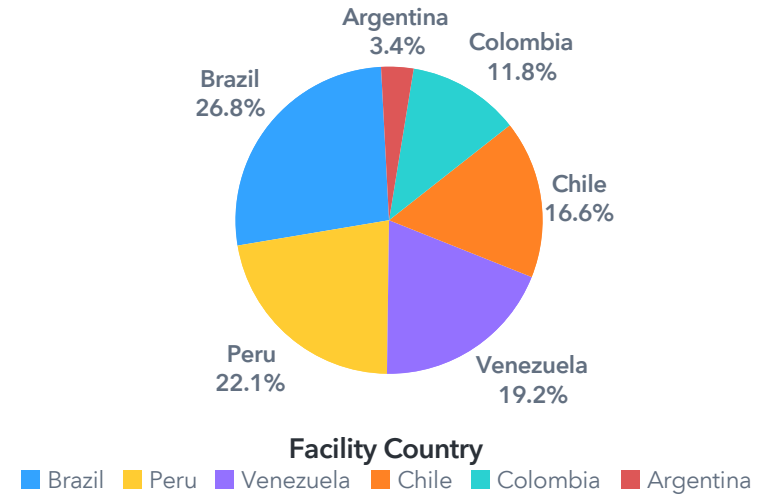
Product Sale

A1.4

Product Cost of Sale by Transaction Month

Product Cost of Sale

A2.1
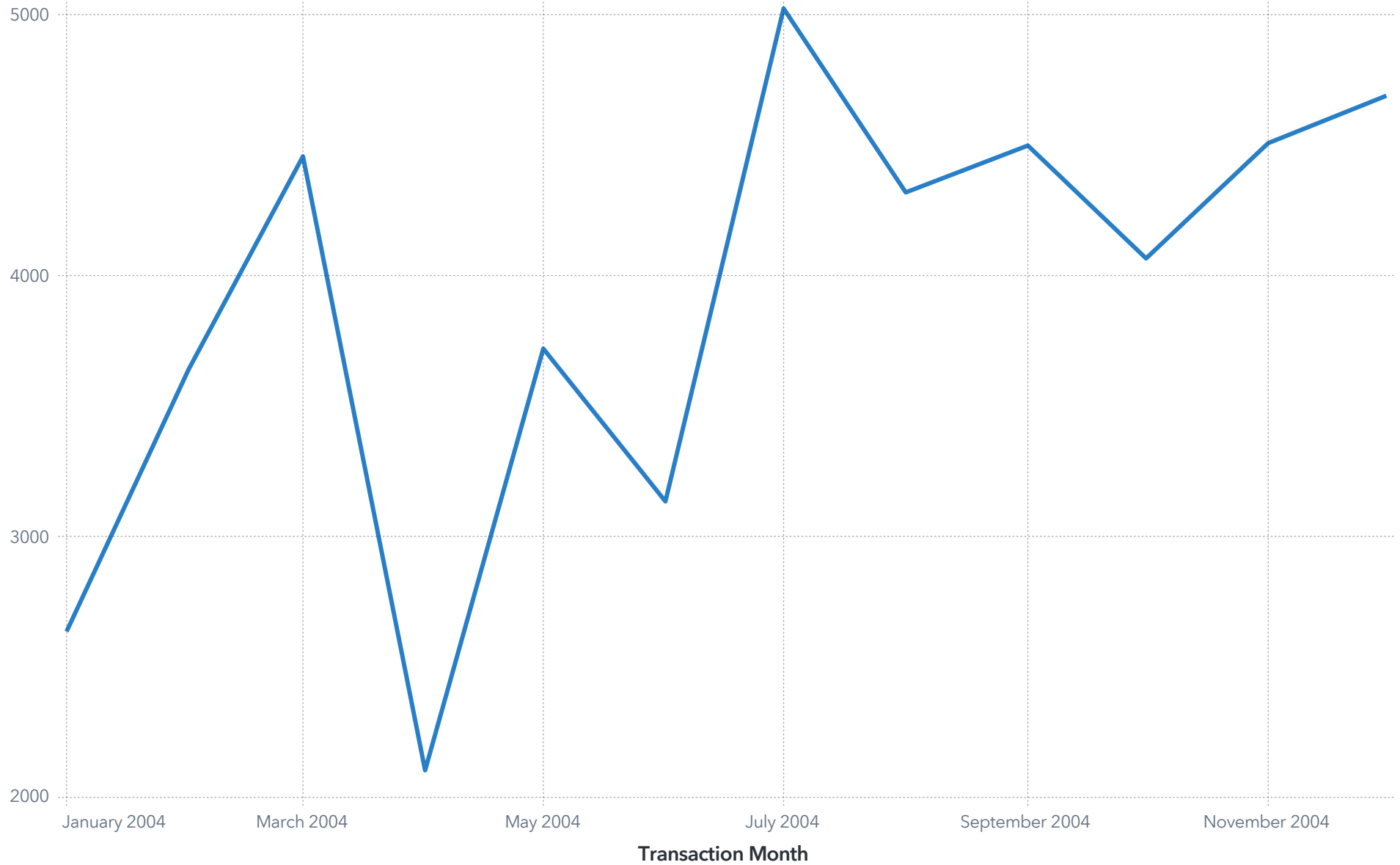
Executive Summary
This is a subtitle

A3.1

Product Sale	Facility Employees	Customer Satisfaction
32M	6.4M	47%
A3.2	A3.3	A3.4
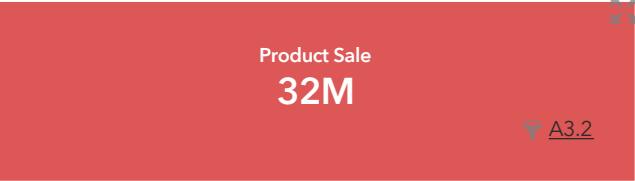
Product Sale by Transaction Year grouped by Product Brand

Product Sale (millions)

Product Brand
■ Novelty ■ Toy

A3.5
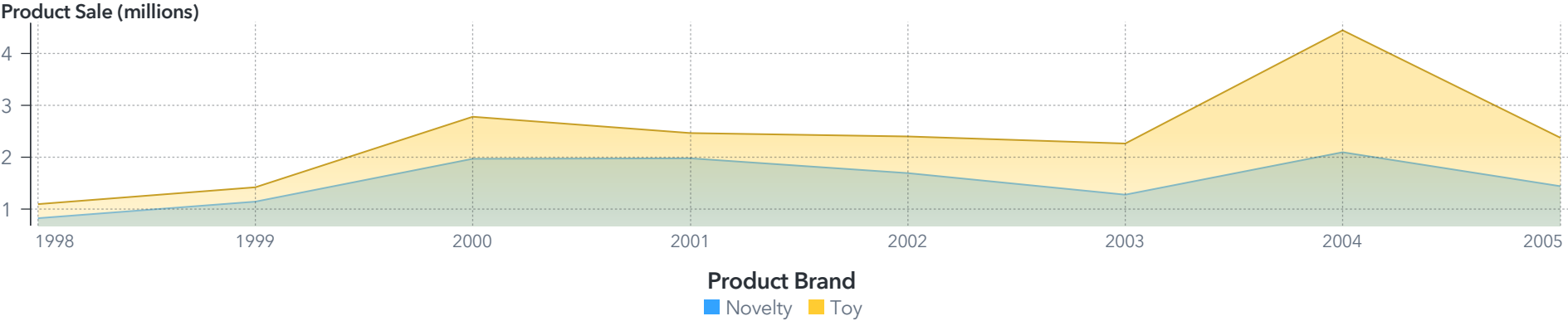
1998 to 2005

1998   2005

Regions

Product Sale by Facility Region grouped by Transaction Year
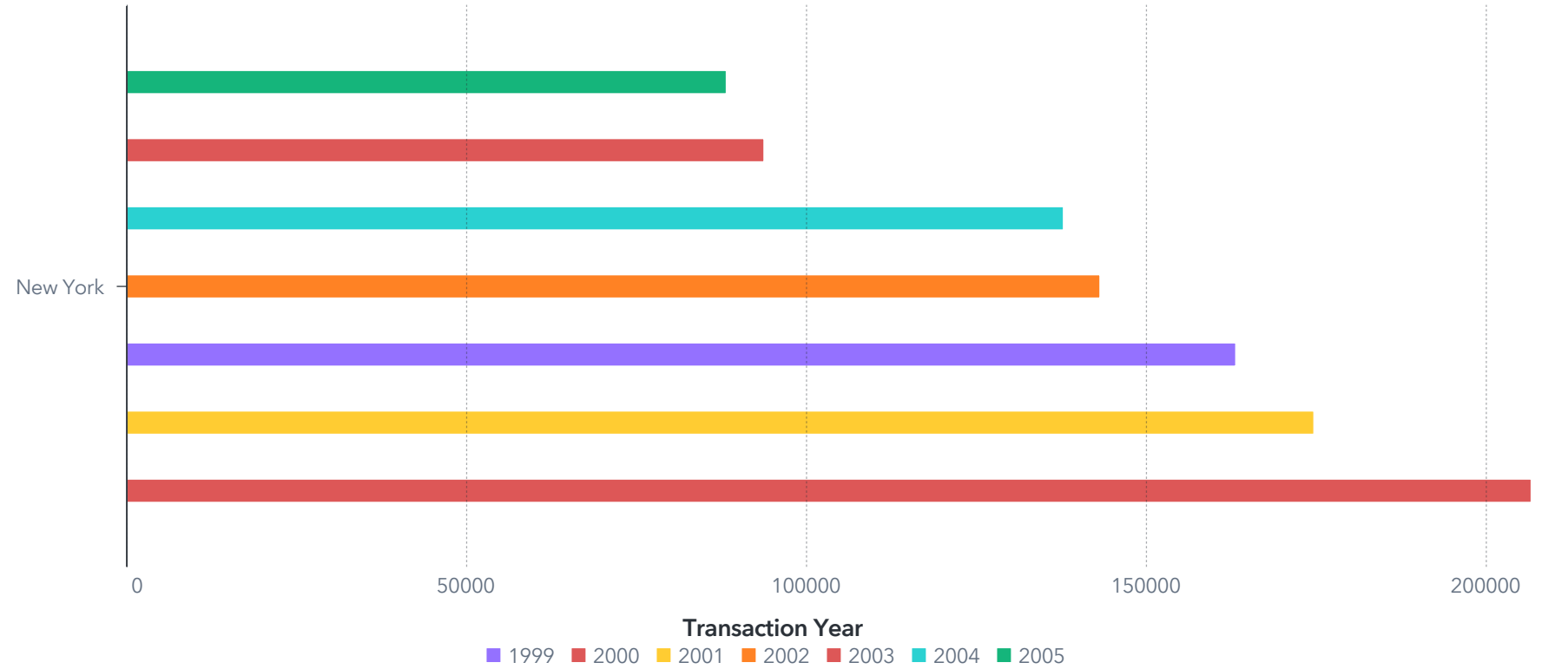
Transaction Year

■ 1999 ■ 2000 ■ 2001 ■ 2002 ■ 2003 ■ 2004 ■ 2005

A4.1

Product Sale

1M

A4.2

Customer Satisfaction

72%

A4.3

Product Sale by Facility Country

Facility Country

Country	
United States	
Spain	
United Kingdom	
Canada	
Germany	
Sweden	
Brazil	
Italy	
Norway	
Mexico	
Peru	
Venezuela	
France	
Chile	
Denmark	
Colombia	
Argentina	
China	

0   5   10   15   20

Product Sale (millions)
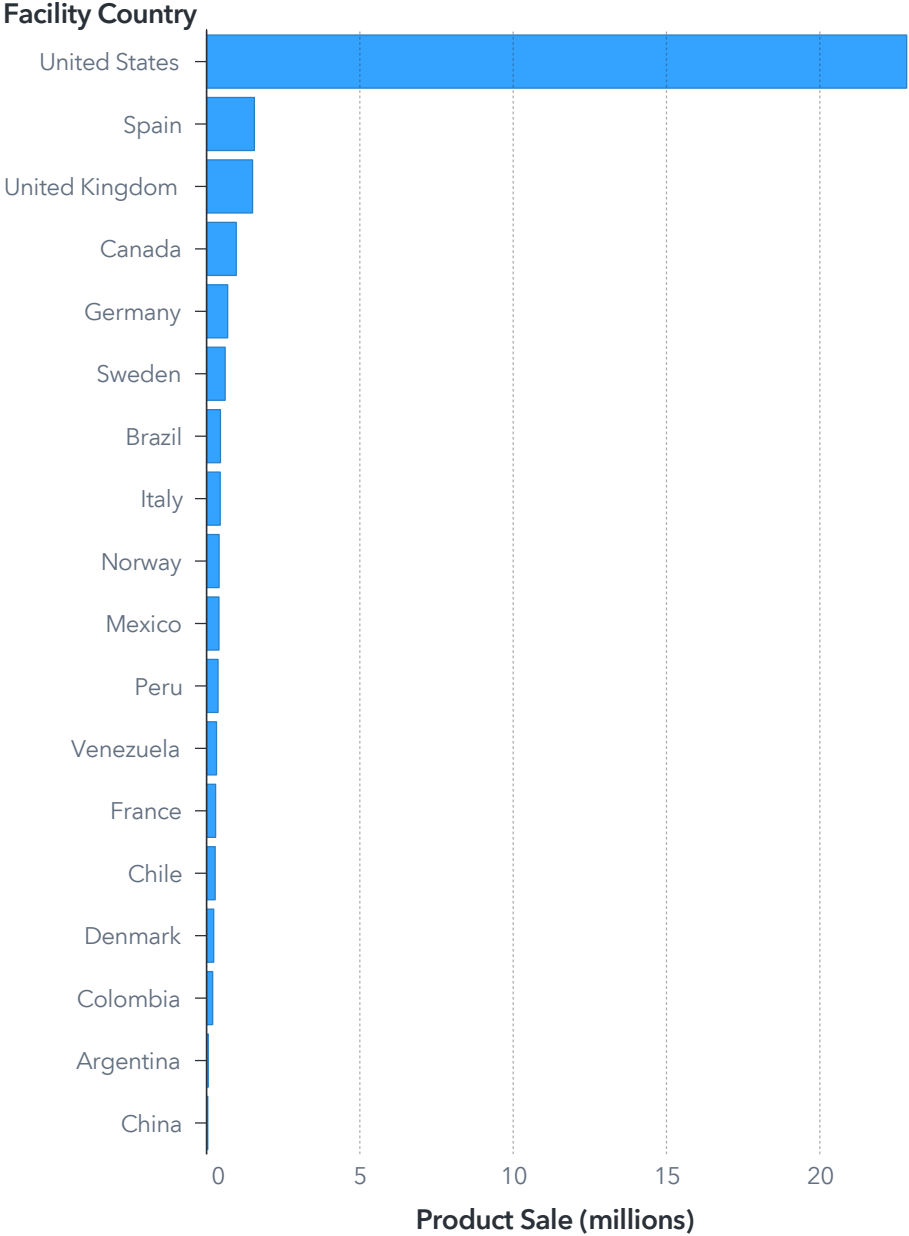
Coordinates Map of Facility

Map data © OpenStreetMap
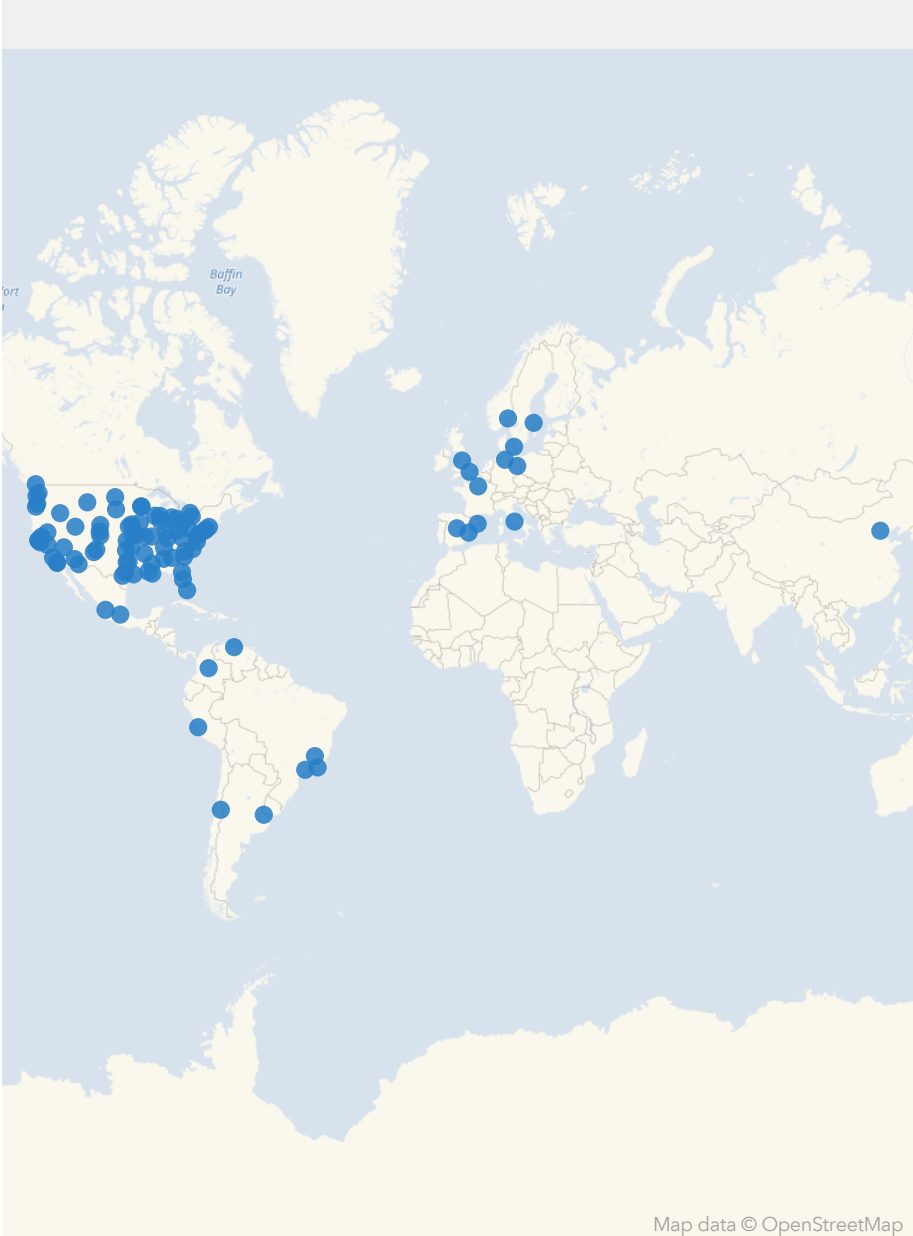
Product Quality by Product Line

Product Quality

Product Line	
Kiosk	Figurine	Store	Plush	Game	Gift	Bead	Promo
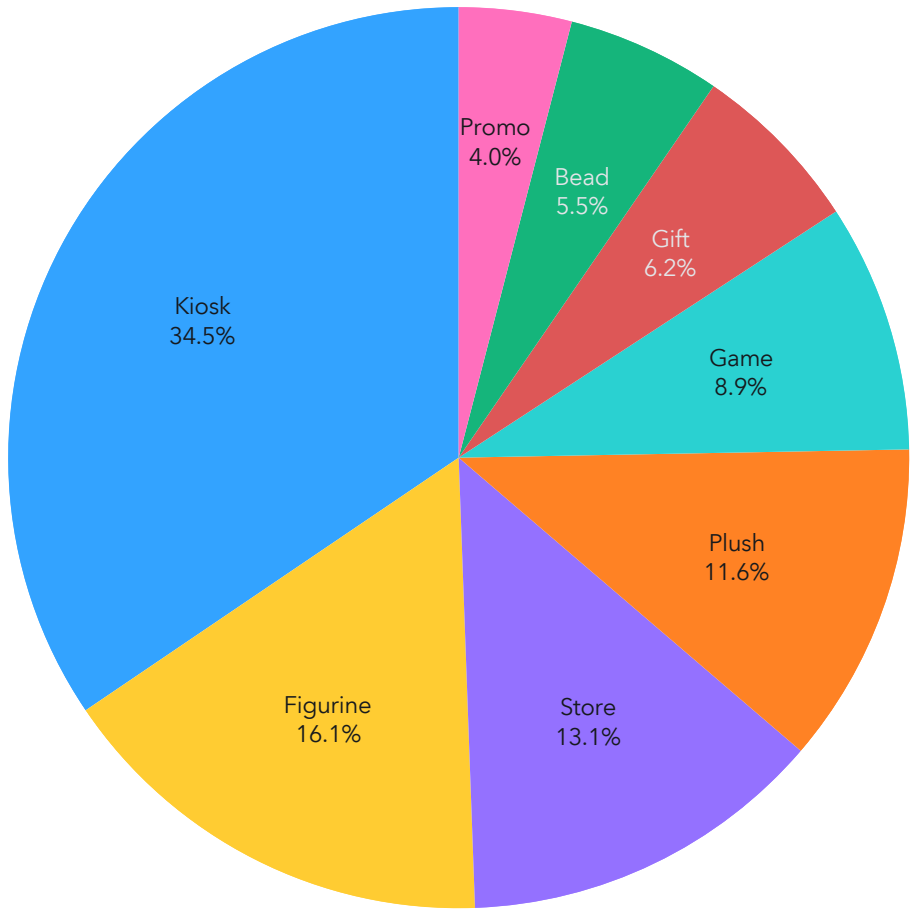
Customer Satisfaction by Product Line, Transaction Year

Product Line

42.4681%   53.2001%

Customer Satisfaction
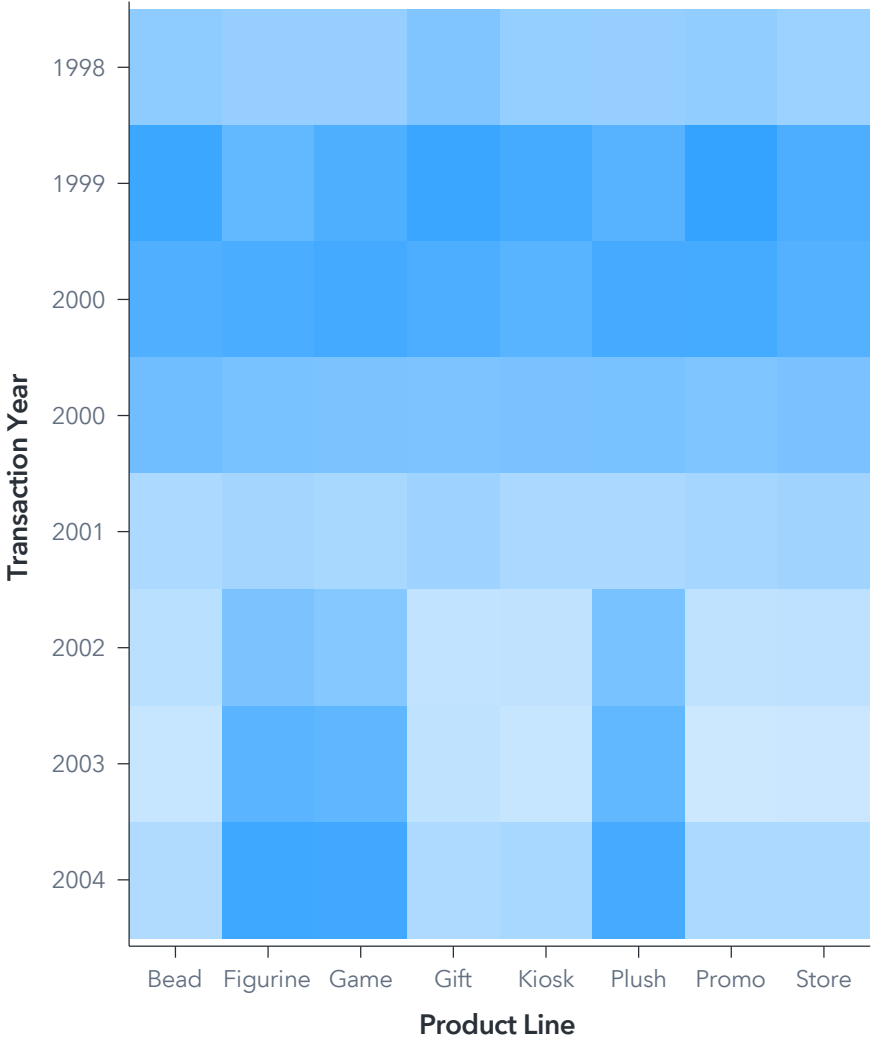
What are the characteristics of Product Sale?

Product Sale ranges from 0 to 173. Average Product Sale is 20. Most cases (1.3M of 1.6M) have a Product Sale between 2.7 and 43. Product Price (target) best differentiates the highest (top 10%) and the lowest (bottom 10%) Product Sale cases. There are 113K cases that might be outliers, with Product Sale above 61.

What factors are most related to Product Sale?

Product Cost of Sale

Product Make

Product Price (target)

Product Material Cost

Product Line

Unit Capacity

What is the relationship between Product Sale and Product Cost of Sale?
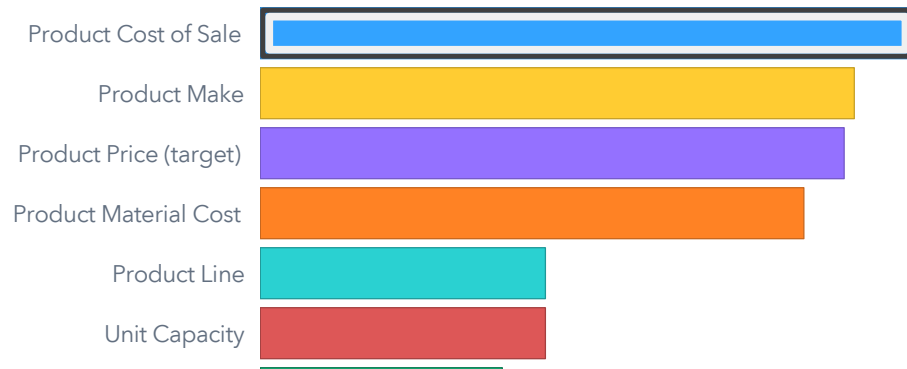
What are the groups based on Product Cost of Sale by the average value of Product Sale ?

163   If Product Cost of Sale is greater than or equal to 116 , Unit Actual is greater than or equal to 8 , then the 376 cases have a predicted Product Sale of 163.

163   If Product Cost of Sale is greater than or equal to 116 , Unit Target is greater than or equal to 8 , then the 520 cases have a predicted Product Sale of 163.

162   If Product Cost of Sale is greater than or equal to 116 , Product Brand is Novelty , then the 1.4K cases have a

Product Sale may have a strong positive relationship with Product Cost of Sale. It appears to be a cubic relationship. Average Product Cost of Sale is 17, and it ranges from 0 to 139.

What are the characteristics of Customer Satisfaction?

Customer Satisfaction ranges from 19% to 100%. Average Customer Satisfaction is 47%. Most cases (1.3M of 1.6M) have a Customer Satisfaction between 30% and 71%. Sales Rep Rating best differentiates the highest (top 10%) and the lowest (bottom 10%) Customer Satisfaction cases. There are 79K cases that might be outliers, with Customer Satisfaction above 87%.

What factors are most related to Customer Satisfaction?

- Sales Rep Rating
- Facility
- Facility City
- Facility Region
- Sales Rep Customers
- Sales Rep Customer Base
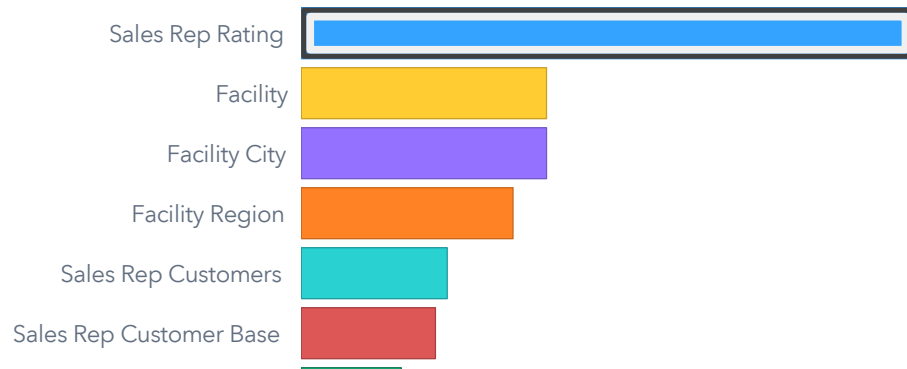
What are the groups based on Sales Rep Rating by the average value of Customer Satisfaction ?

96%   If Sales Rep Rating is greater than or equal to 100% , Facility Country is Venezuela , then the 1.8K cases have a predicted Customer Satisfaction of 96%.

96%   If Sales Rep Rating is greater than or equal to 100% , Facility Region is Distrito Capital , then the 1.8K cases have a predicted Customer Satisfaction of 96%.

96%   If Sales Rep Rating is greater than or

What is the relationship between Customer Satisfaction and Sales Rep Rating?
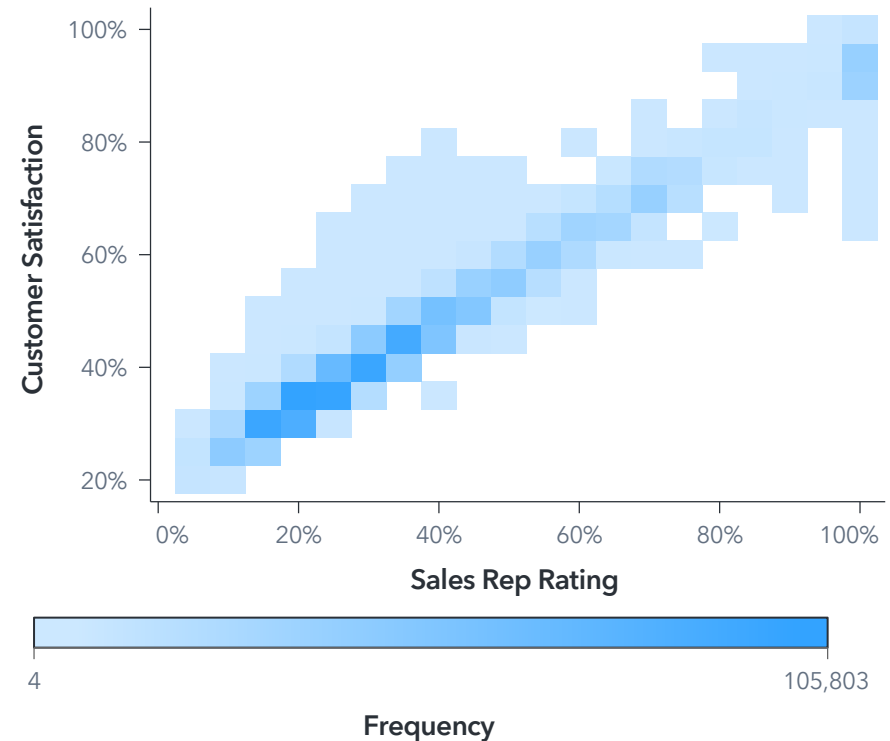
Customer Satisfaction may have a strong positive relationship with Sales Rep Rating. It appears to be a cubic relationship. Average Sales Rep Rating is .38, and it ranges from .05 to 1.

Appendix

<u>A1.1</u> Report 1

Parameters: Parameter 1 = 0.00

<u>A1.2</u> Product Sale by Facility Country

Filters: (Facility Continent In('South America')) OR Facility Continent Missing

<u>A1.3</u> Product Sale by Facility Country

Filters: (Facility Continent In('South America')) OR Facility Continent Missing

<u>A1.4</u> Product Sale by Facility Country

Filters: (Facility Continent In('South America')) OR Facility Continent Missing

<u>A2.1</u> Product Cost of Sale by Transaction Month

Filters: Facility City In('Atlanta')
                              (Transaction Month BetweenInclusive(January 2004; December 2004)) OR Transaction Month Missing

<u>A3.1</u> Text 3

Warnings: The required roles have not been assigned a data item.

<u>A3.2</u> Key value - Product Sale 1

Filters: Transaction Year BetweenInclusive(1998; 2005)

<u>A3.3</u> Key value - Facility Employees 1

Filters: Transaction Year BetweenInclusive(1998; 2005)

Facility Continent ▲	Product Cost of Sale
Asia	14196
Europe	4824124
North America	20415087
South America	1379232

Box - Product Line 1 Supplement 1

Product Line ▲	Minimum	Lower Whisker	First Quartile	Average	Median	Third Quartile	Upper Whisker	Maximum	Std Dev	Count
Bead	0	0	15	25	23	32	66	66	15	88,295
Figurine	0	0	22	23	24	27	33	33	7	255,845
Game	0	0	12	39	32	63	117	117	30	140,903
Gift	0	0	18	22	23	28	39	39	9	100,235
Kiosk	0	0	3	4	5	6	8	8	2	555,072
Plush	0	0	11	22	22	34	52	52	13	184,075
Promo	0	0	15	31	20	43	139	139	27	64,562
Store	0	0	4	11	6	11	74	74	14	211,013

Transaction Month ▲	Unit Capacity
November 2004	794840
December 2004	793280
August 2004	768341
December 2003	749541
March 2004	749363
January 2005	741128
September 2004	731903
January 2004	725299
July 2004	725245
June 2004	720352
December 2002	718609
January 2003	701485
April 2004	696516
March 2005	694040
May 2004	691201
August 2005	686382
October 2004	684404
November 2002	673570
June 2005	666343
May 2005	661291
November 2003	657132
July 2002	650873
July 2003	645281
October 2003	644270
February 2005	640533
December 2001	636828
November 2001	636105
August 2002	633080
April 2005	629000
February 2004	627741
October 2002	620888
May 2003	619135
July 2005	619028
January 2002	612065
March 2003	594735
March 2000	590461
June 2003	589782
May 2000	589356
April 2003	586325
September 2003	581823
May 2002	580518
September 2002	579153
August 2003	577016
October 2001	576518
January 2000	576335
April 2002	569441
August 2001	557677
August 2000	556299
January 2001	550055
November 2000	547507
May 2001	545858
February 2003	544654
June 2000	534412
February 2000	524562
March 2002	522861
July 1999	519578
December 2000	514598
June 2002	512407
September 2001	508096
October 2000	505746
July 2001	503166
September 1999	500427
March 1999	499977
November 1999	498348
February 2002	497578
December 1999	497028
July 2000	496017
December 1998	495059
July 1998	493792
August 1999	493752
April 2001	491606
April 2000	489673
September 2000	486036
April 1999	479137
May 1999	476836
June 1999	476658
September 1998	469653
January 1999	465895
March 2001	465762
February 2001	464680
October 1998	460698
June 1998	460409
January 1998	460067
October 1999	458589
November 1998	447005
March 1998	445339
August 1998	443329
June 2001	433498
February 1999	430831
May 1998	426336
April 1998	425001
February 1998	393208
September 2005	118671

Treemap - Facility Country 1 Supplement 1

Facility Country	Product Sales
Argentina	57805
Brazil	455194
Canada	969520
Chile	282672
China	16645
Colombia	200706
Denmark	234614
France	296303
Germany	689530
Italy	445738
Mexico	406205
Norway	409697
Peru	376081
Spain	1560412
Sweden	607665
United Kingdom	1501642
United States	22832243
Venezuela	325704

Bar - Facility Country 1 Supplement 1

Facility Country ▲	Product Sale ✖
Brazil	455194
Peru	376081
Venezuela	325704
Chile	282672
Colombia	200706
Argentina	57805

Pie - Facility Country 1 Supplement 1

Facility Country ▲	Product Sale
Brazil	455194
Peru	376081
Venezuela	325704
Chile	282672
Colombia	200706
Argentina	57805

Treemap - Facility Country 2 Supplement 1

Facility Country	Product Sales
Argentina	57805
Brazil	455194
Chile	282672
Colombia	200706
Peru	376081
Venezuela	325704

Transaction Month	Product Cost of Sale
January 2004	2636
February 2004	3641
March 2004	4456
April 2004	2104
May 2004	3720
June 2004	3134
July 2004	5023
August 2004	4319
September 2004	4498
October 2004	4066
November 2004	4507
December 2004	4689

Key value - Product Sale 1 Supplement 1

Product Sale
31668376

Key value - Facility Employees 1 Supplement 1

	Facility Employees
1	6435241

Key value - Customer Satisfaction 1 Supplement 1

	Customer Satisfaction
47%	47%

Transaction Year	Product Sale	Product Brand
1998	824019	Novelty
1999	1143323	Novelty
2000	1969304	Novelty
2001	1978457	Novelty
2002	1693094	Novelty
2003	1277314	Novelty
2004	2095641	Novelty
2005	1440523	Novelty
1998	1095757	Toy
1999	1420416	Toy
2000	2780110	Toy
2001	2465349	Toy
2002	2399955	Toy
2003	2264206	Toy
2004	4447015	Toy
2005	2373892	Toy

Regional Analysis Supplement 1

Facility Region ▲	Product Sale ▼	Transaction Year
New York	206641	2000
New York	174675	2001
New York	163183	1999
New York	143204	2002
New York	137828	2004
New York	93777	2003
New York	88238	2005

Key value - Product Sale 2 Supplement 1

	Product Sale
46	1007546

Key value - Customer Satisfaction 2 Supplement 1

Customer Satisfaction

72%

Facility Country ▲	Product Sale
United States	22832243
Spain	1560412
United Kingdom	1501642
Canada	969520
Germany	689530
Sweden	607665
Brazil	455194
Italy	445738
Norway	409697
Mexico	406205
Peru	376081
Venezuela	325704
France	296303
Chile	282672
Denmark	234614
Colombia	200706
Argentina	57805
China	16645

Facility

ARBUENOS0118
BRBELOHO0119
BRRIODEJ0120
BRSAOPAU0121
CATORONT0049
CAVANCOU0075
CLSANTIA0122
CNBEIJIN0127
COBOGOTA0123
DEBERLIN0106
DEHAMBUR0107
DKCOPENH0104
ESBARCEL0110
ESMADRID0112
ESVALENC0111
FRPARIS.0105
GBLONDON0114
GBMANCHE0115
ITROME..0108
MXGUADAL0037
MXMEXICO0038
MXTIJUAN0036
NOOSLO..0109
PELIMA..0124
SESTOCKH0113
USALBUQU0082
USATLANT0025
USAUSTIN0011
USBALTIM0032
USBATONR0016
USBILLIN0081
USBIRMIN0018
USBISMAR0058
USBOISE.0080
USBUFFAL0091
USCHARLE0030
USCHARLO0028
USCHEYEN0087
USCHICAG0041
USCLEVEL0046
USCOLORA0079
USCOLUMB0026
USCOLUMB0045
USDALLAS0009
USDENVER0078
USDESMOI0050
USDETROI0044
USFORTWO0012
USFRESNO0068
USHOUSTO0008
USINDIAN0042
USJACKSO0020
USJACKSO0023
USJEFFER0057
USKANSAS0055
USLANSIN0043
USLASVEG0085
USLINCOL0060
USLITTLE0015
USLONGBE0064
USLOUISV0021
USMADISO0048
USMIAMI.0024
USMILWAU0047
USMINNEA0053
USNASHVI0019
USNEWORL0017
USNEWYOR0092
USOAKLAN0070
USOKLAHO0013
USOLYMPI0074
USOMAHA.0059
USORLAND0022
USPHILAD0093
USPHOENI0076
USPIERRE0061
USPITTSB0094
USPORTLA0071
USRALEIG0027
USRENO..0084
USRICHMO0029
USSACRAM0069
USSALEM.0073
USSALTLA0086
USSANANT0010
USSANDIE0065
USSANFRA0067
USSANJOS0066
USSANTAF0083
USSEATTL0072
USST.LOU0056
USSTPAUL0054
USTOPEKA0052
USTRENTO0090
USTUCSON0077
USTULSA.0014
USWASHIN0031
USWICHIT0051
VECARACA0125

Pie - Product Line 1 Supplement 1

Product Line	Product Quality
Kiosk	47,079,713%
Figurine	21,990,217%
Store	17,953,467%
Plush	15,796,372%
Game	12,165,342%
Gift	8,506,480%
Bead	7,549,496%
Promo	5,520,183%

Product Line	Transaction Year	Customer Satisfaction
Bead	1998	47%
Figurine	1998	46%
Game	1998	46%
Gift	1998	48%
Kiosk	1998	46%
Plush	1998	46%
Promo	1998	47%
Store	1998	46%
Bead	1999	53%
Figurine	1999	50%
Game	1999	51%
Gift	1999	53%
Kiosk	1999	52%
Plush	1999	51%
Promo	1999	53%
Store	1999	51%
Bead	2000	51%
Figurine	2000	52%
Game	2000	52%
Gift	2000	51%
Kiosk	2000	51%
Plush	2000	52%
Promo	2000	52%
Store	2000	51%
Bead	2001	49%
Figurine	2001	48%
Game	2001	48%
Gift	2001	48%
Kiosk	2001	48%
Plush	2001	48%
Promo	2001	48%
Store	2001	48%
Bead	2002	45%
Figurine	2002	45%
Game	2002	45%
Gift	2002	46%
Kiosk	2002	45%
Plush	2002	45%
Promo	2002	45%
Store	2002	45%
Bead	2003	44%
Figurine	2003	48%
Game	2003	47%
Gift	2003	43%
Kiosk	2003	43%
Plush	2003	48%
Promo	2003	43%
Store	2003	43%
Bead	2004	43%
Figurine	2004	50%
Game	2004	50%
Gift	2004	43%
Kiosk	2004	43%
Plush	2004	50%
Promo	2004	42%
Store	2004	43%
Bead	2005	44%
Figurine	2005	52%
Game	2005	52%
Gift	2005	45%
Kiosk	2005	45%
Plush	2005	52%
Promo	2005	45%
Store	2005	45%

1. Select response for Automated Explanation.	A report author selected Product Sale as the response.
2. Screen factors.	Automated Explanation modified or removed 22 of 51 factors. See the Screening Results tab for details.
3. Determine most related factors.	Automated Explanation used a one-level decision tree for each factor to determine its relative importance to Product Sale. For example, the input Product Make has a relative importance of 0.91 which means it is 0.91 times as important as Product Cost of Sale.
4. Find groups based on selected related factor.	Automated Explanation ran 9 decision trees with response Product Sale. The trees used Product Cost of Sale and another important factor as predictors. The trees had 6 levels and 2 branches. Each group describes a leaf from one of these trees.

Factor	Action Taken
Customer	The category was rejected because too many distinct levels were detected.
Customer Distance	
Customer Satisfaction	
Facility	
Facility Age	
Facility City	
Facility Continent	
Facility Country	
Facility Efficiency	The measure was converted to category because relatively few distinct levels were detected.
Facility Employees	The measure was converted to category because relatively few distinct levels were detected.
Facility Region	
Order	The category was rejected because too many distinct levels were detected.
Product	The category was rejected because too many distinct levels were detected.
Product Brand	
Product Cost of Sale	
Product Line	
Product Make	
Product Material Cost	
Product Price (target)	
Product Quality	
Product Style	The category was rejected because too many distinct levels were detected.
Sales Rep	The category was rejected because too many distinct levels were detected.
Sales Rep Customer Base	
Sales Rep Customers	
Sales Rep ID	
Sales Rep Rating	
Unit	The category was rejected because too many distinct levels were detected.
Unit Actual	
Unit Age	
Unit Capacity	The measure was converted to category because relatively few distinct levels were detected.
Unit Discard Rate	
Unit Discards	
Unit Lifespan	The measure was rejected because it is too strongly correlated with another measure.
Unit Lifespan Limit	The measure was converted to category because relatively few distinct levels were detected.
Unit Reliability	
Unit Status	The factor was rejected because it is a constant value.
Unit Status Code	The factor was rejected because it is a constant value.
Unit Target	
Unit Yield Rate	
xyCustomer Lat	
xyCustomer Lon	
xyFacility City Lat	Geo attributes latitude and/or longitude were rejected.
xyFacility City Lon	Geo attributes latitude and/or longitude were rejected.
xyFacility Continent Lat	Geo attributes latitude and/or longitude were rejected.
xyFacility Continent Lon	Geo attributes latitude and/or longitude were rejected.
xyFacility Country Lat	Geo attributes latitude and/or longitude were rejected.
xyFacility Country Lon	
xyFacility Lat	Geo attributes latitude and/or longitude were rejected.
xyFacility Lon	Geo attributes latitude and/or longitude were rejected.
xyFacility Region Lat	Geo attributes latitude and/or longitude were rejected.
xyFacility Region Lon	Geo attributes latitude and/or longitude were rejected.

Factor	Importance
Product Cost of Sale	1.0000
Product Make	0.9081
Product Price (target)	0.8926
Product Material Cost	0.8310
Product Line	0.4359
Unit Capacity	0.4359
Unit Target	0.3700
Unit Actual	0.2808
Product Brand	0.2303
Unit Yield Rate	0.1501
Unit Reliability	0.1047
Product Quality	0.0866
Unit Discards	0.0745
Unit Discard Rate	0.0724
Unit Lifespan Limit	0.0406
Facility	0.0360
Facility City	0.0360
Facility Region	0.0356
Unit Age	0.0354
Facility Age	0.0200
xyCustomer Lat	0.0157
xyCustomer Lon	0.0139
Facility Country	0.0120
Sales Rep Rating	0.0109
xyFacility Country Lon	0.0106
Customer Satisfaction	0.0098
Sales Rep Customers	0.0097
Sales Rep Customer Base	0.0094
Facility Continent	0.0082
Facility Efficiency	0.0068
Sales Rep ID	0.0063
Customer Distance	0.0025
Customer	0.0000
Facility Employees	0.0000
Order	0.0000
Product	0.0000
Product Style	0.0000
Sales Rep	0.0000
Unit	0.0000
Unit Lifespan	0.0000
Unit Status	0.0000
Unit Status Code	0.0000
xyFacility City Lat	0.0000
xyFacility City Lon	0.0000
xyFacility Continent Lat	0.0000
xyFacility Continent Lon	0.0000
xyFacility Country Lat	0.0000
xyFacility Lat	0.0000
xyFacility Lon	0.0000
xyFacility Region Lat	0.0000
xyFacility Region Lon	0.0000

1. Select response for Automated Explanation.	A report author selected Customer Satisfaction as the response.
2. Screen factors.	Automated Explanation modified or removed 22 of 51 factors. See the Screening Results tab for details.
3. Determine most related factors.	Automated Explanation used a one-level decision tree for each factor to determine its relative importance to Customer Satisfaction. For example, the input Facility has a relative importance of 0.4 which means it is 0.4 times as important as Sales Rep Rating.
4. Find groups based on selected related factor.	Automated Explanation ran 9 decision trees with response Customer Satisfaction. The trees used Sales Rep Rating and another important factor as predictors. The trees had 6 levels and 2 branches. Each group describes a leaf from one of these trees.

Factor	Action Taken
Customer	The category was rejected because too many distinct levels were detected.
Customer Distance	
Facility	
Facility Age	
Facility City	
Facility Continent	
Facility Country	
Facility Efficiency	The measure was converted to category because relatively few distinct levels were detected.
Facility Employees	The measure was converted to category because relatively few distinct levels were detected.
Facility Region	
Order	The category was rejected because too many distinct levels were detected.
Product	The category was rejected because too many distinct levels were detected.
Product Brand	
Product Cost of Sale	
Product Line	
Product Make	
Product Material Cost	
Product Price (target)	
Product Quality	
Product Sale	
Product Style	The category was rejected because too many distinct levels were detected.
Sales Rep	The category was rejected because too many distinct levels were detected.
Sales Rep Customer Base	
Sales Rep Customers	
Sales Rep ID	
Sales Rep Rating	
Unit	The category was rejected because too many distinct levels were detected.
Unit Actual	
Unit Age	
Unit Capacity	The measure was converted to category because relatively few distinct levels were detected.
Unit Discard Rate	
Unit Discards	
Unit Lifespan	The measure was rejected because it is too strongly correlated with another measure.
Unit Lifespan Limit	The measure was converted to category because relatively few distinct levels were detected.
Unit Reliability	
Unit Status	The factor was rejected because it is a constant value.
Unit Status Code	The factor was rejected because it is a constant value.
Unit Target	
Unit Yield Rate	
xyCustomer Lat	
xyCustomer Lon	
xyFacility City Lat	Geo attributes latitude and/or longitude were rejected.
xyFacility City Lon	Geo attributes latitude and/or longitude were rejected.
xyFacility Continent Lat	Geo attributes latitude and/or longitude were rejected.
xyFacility Continent Lon	Geo attributes latitude and/or longitude were rejected.
xyFacility Country Lat	Geo attributes latitude and/or longitude were rejected.
xyFacility Country Lon	
xyFacility Lat	Geo attributes latitude and/or longitude were rejected.
xyFacility Lon	Geo attributes latitude and/or longitude were rejected.
xyFacility Region Lat	Geo attributes latitude and/or longitude were rejected.
xyFacility Region Lon	Geo attributes latitude and/or longitude were rejected.

Factor	Importance
Sales Rep Rating	1.0000
Facility	0.4000
Facility City	0.4000
Facility Region	0.3453
Sales Rep Customers	0.2380
Sales Rep Customer Base	0.2188
Facility Country	0.1631
xyFacility Country Lon	0.1602
xyCustomer Lon	0.1558
xyCustomer Lat	0.1293
Facility Efficiency	0.1198
Facility Age	0.0961
Unit Lifespan Limit	0.0786
Sales Rep ID	0.0672
Customer Distance	0.0422
Unit Reliability	0.0272
Unit Age	0.0265
Product Sale	0.0224
Product Quality	0.0215
Product Cost of Sale	0.0203
Unit Yield Rate	0.0197
Unit Target	0.0174
Unit Discard Rate	0.0172
Unit Discards	0.0169
Unit Actual	0.0153
Product Make	0.0068
Product Price (target)	0.0067
Product Line	0.0064
Product Brand	0.0063
Unit Capacity	0.0055
Product Material Cost	0.0046
Facility Continent	0.0010
Customer	0.0000
Facility Employees	0.0000
Order	0.0000
Product	0.0000
Product Style	0.0000
Sales Rep	0.0000
Unit	0.0000
Unit Lifespan	0.0000
Unit Status	0.0000
Unit Status Code	0.0000
xyFacility City Lat	0.0000
xyFacility City Lon	0.0000
xyFacility Continent Lat	0.0000
xyFacility Continent Lon	0.0000
xyFacility Country Lat	0.0000
xyFacility Lat	0.0000
xyFacility Lon	0.0000
xyFacility Region Lat	0.0000
xyFacility Region Lon	0.0000