

EXPLORATORY DATA ANALYSIS

SECTION 1: DESCRIPTIVE ANALYSIS

VENDING MACHINE SALES DATA

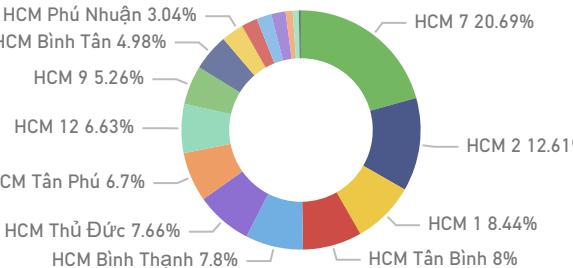
DESCRIPTIVE ANALYSIS - [CATEGORICAL] PARENT WAREHOUSE LOCATION

STATIC ANALYSIS

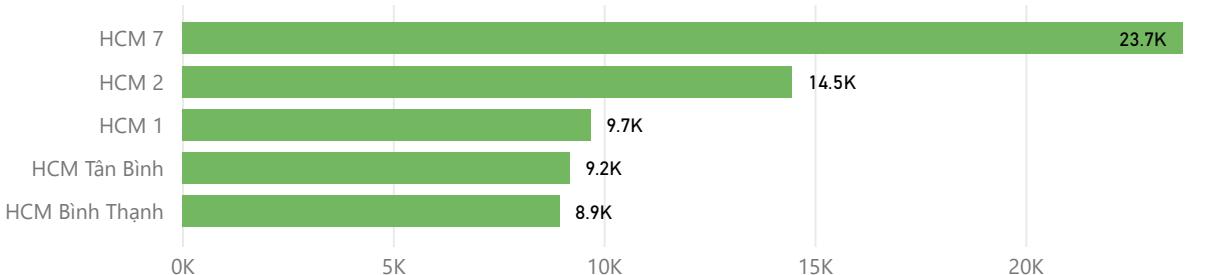
Frequency Table

Province	Count of Sales ID	%GT Count of Sales ID
HCM	112400	97.98%
7	23732	20.69%
2	14461	12.61%
1	9680	8.44%
Tân Bình	9178	8.00%
Bình Thạnh	8948	7.80%
Total	114713	100.00%

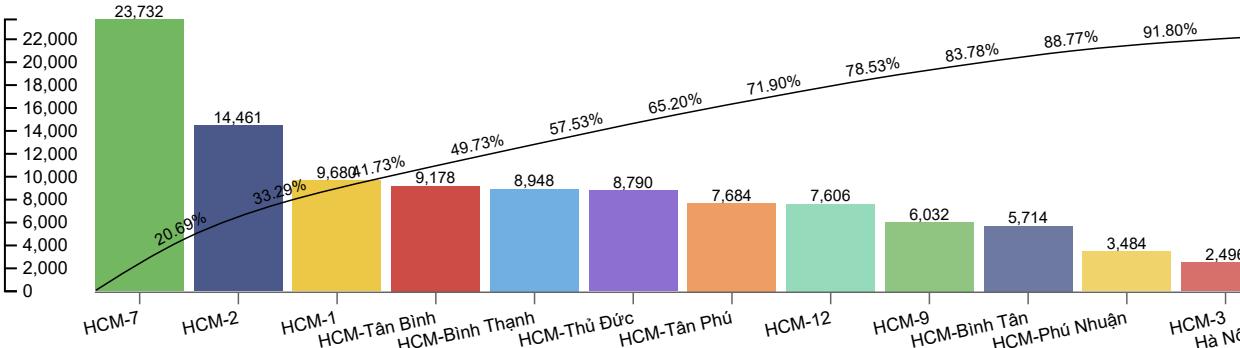
Contribution of Sales by Parent WH Loc



Number of Sales by Parent WH Loc



Pareto of Sales by Parent WH Loc

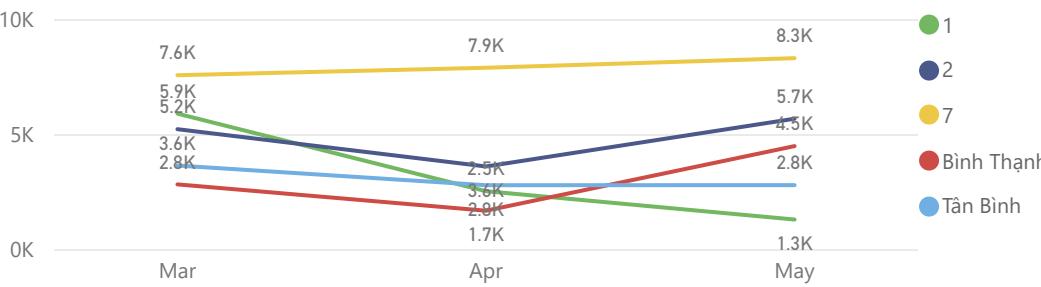


CHANGE OVER TIME ANALYSIS

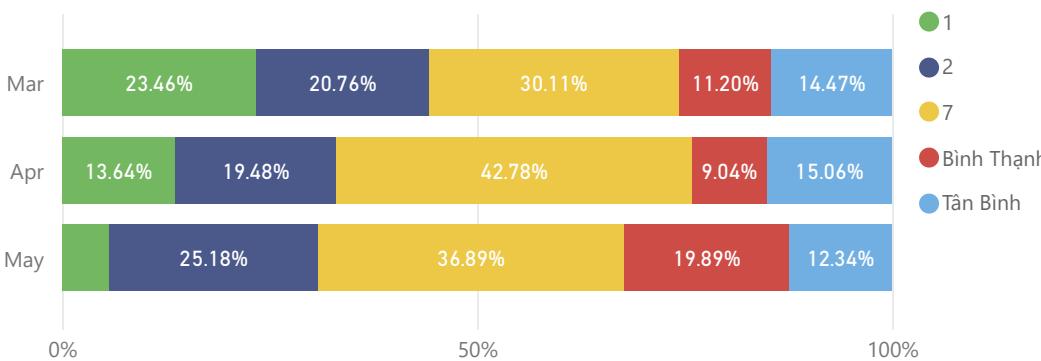
Frequency Table

Month	Mar		Apr		May	
	Province	Count of Sales ID	%CT Count of Sales ID	Count of Sales ID	%CT Count of Sales ID	Count of Sales ID
HCM	40875	98.09%	29144	97.65%	42381	98.11%
7	7555	18.13%	7880	26.40%	8297	19.21%
2	5209	12.50%	3588	12.02%	5664	13.11%
1	5886	14.13%	2513	8.42%	1281	2.97%
Tân Bình	3629	8.71%	2773	9.29%	2776	6.43%
Bình Thạnh	2809	6.74%	1665	5.58%	4474	10.36%
Total	41669	100.00%	29846	100.00%	43198	100.00%

Number of Sales by Top 5 Parent WH District changing over time



% Number of Sales by Top 5 Parent WH District changing over time



SLICER

Mth

- 3
- 4
- 5
- 6

Province

- Hà Nội
- HCM
- Long An

Loc Type

- Bến tàu thủy
- Câu lạc bộ
- Chung cư
- Entertainment

Line Na...

- Café

- D720

- D900

- Điện

- Bình Thạnh

- Tân Bình

Machin...

- Bảo trì
- Chờ khởi đ...
- Lưu kho
- ON

Product...

- Beverages
- Food
- Others
- Snacks

Payme...

- Cash
- Grab
- Momo
- Skillshare

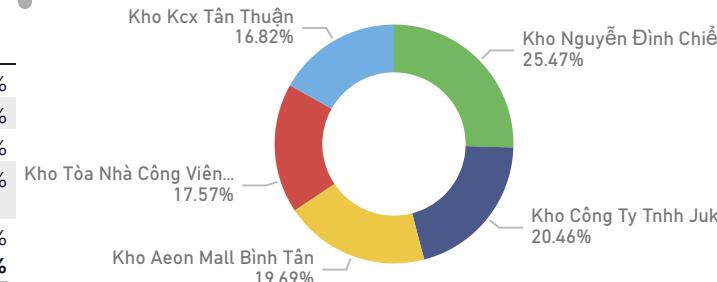
DESCRIPTIVE ANALYSIS - [CATEGORICAL] PARENT WAREHOUSE

STATIC ANALYSIS

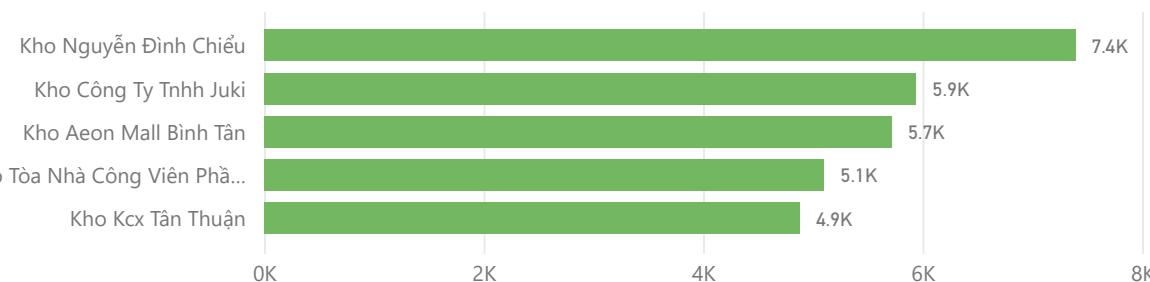
Frequency Table

ParentWH	Count of Sales ID	%GT Count of Sales ID
Kho Nguyễn Đình Chiểu	7392	6.44%
Kho Công Ty Tnhh Juki	5937	5.18%
Kho Aeon Mall Bình Tân	5714	4.98%
Kho Tòa Nhà Công Viên	5098	4.44%
Phần Mềm Quang Trung		
Kho Kcx Tân Thuận	4882	4.26%
Total	114713	100.00%

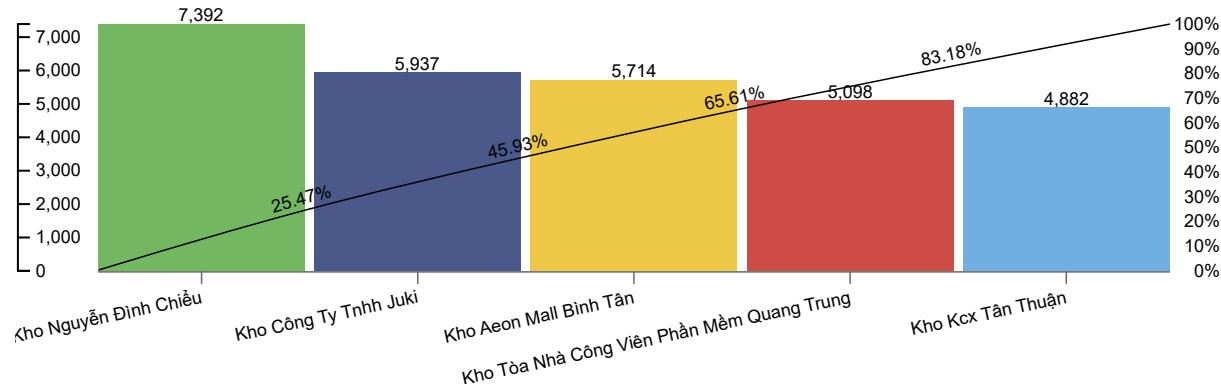
Contribution of Sales by Top 5 Parent WH



Number of Sales by Parent WH



Pareto of Sales by Top 5 Parent WH

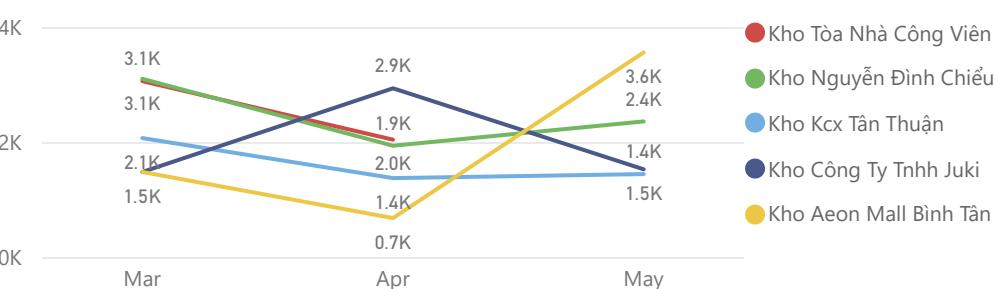


CHANGE OVER TIME ANALYSIS

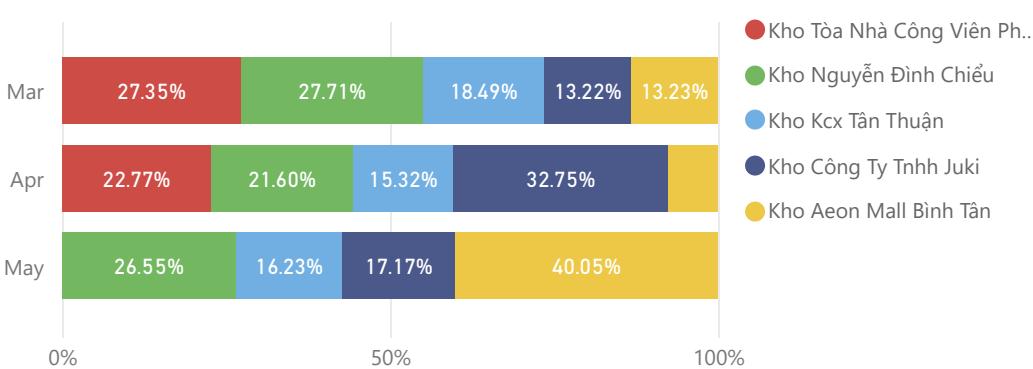
Frequency Table

Month	Mar		Apr		May	
	ParentWH	Count of Sales ID	%CT Count of Sales ID	Count of Sales ID	%CT Count of Sales ID	Count of Sales ID
Kho Nguyễn Đình Chiểu	3099	7.44%	1935	6.48%	2358	5.46%
Kho Công Ty Tnhh Juki	1478	3.55%	2934	9.83%	1525	3.53%
Kho Aeon Mall Bình Tân	1479	3.55%	677	2.27%	3558	8.24%
Kho Tòa Nhà Công Viên	3058	7.34%	2040	6.84%		
Phần Mềm Quang Trung	2068	4.96%	1372	4.60%	1442	3.34%
Kho Kcx Tân Thuận	2645	8.75%	1064	3.56%		
Total	41669	100.00%	29846	100.00%	43198	100.00%

Number of Sales by Top 5 Parent WH changing over time



% Number of Sales by Top 5 Parent WH changing over time



SLICER

Mth
 (Blank)
 1
 2
 3

Province
 Hà Nội
 HCM
 Long An

Loc Type
 Bến tàu thủy
 Câu lạc bộ
 Chung cư
 Esports

Line Na...
 Café
 D720
 D900
 Dora

Machin...
 Bảo trì
 Chờ khởi đ...
 Lưu kho
 ON

Product...
 Beverages
 Food
 Others
 Snacks

Payme...
 Cash
 Grab
 Momo
 Skillshare

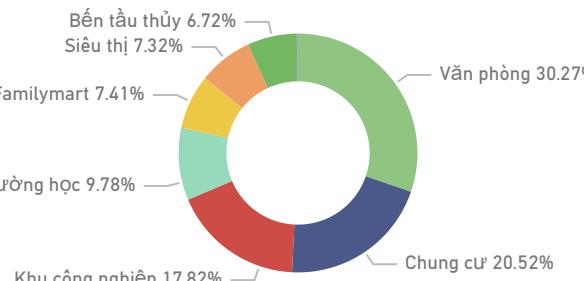
DESCRIPTIVE ANALYSIS - [CATEGORICAL] LOCATION TYPE

STATIC ANALYSIS

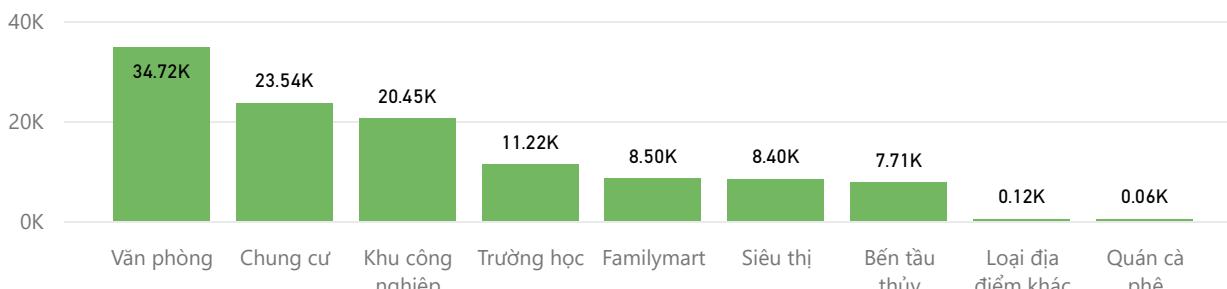
Frequency Table

Loc Type	Count of Sales ID	%GT Count of Sales ID
Văn phòng	34724	30.27%
Chung cư	23542	20.52%
Khu công nghiệp	20445	17.82%
Trường học	11221	9.78%
FamilyMart	8500	7.41%
Siêu thị	8396	7.32%
Total	114713	100.00%

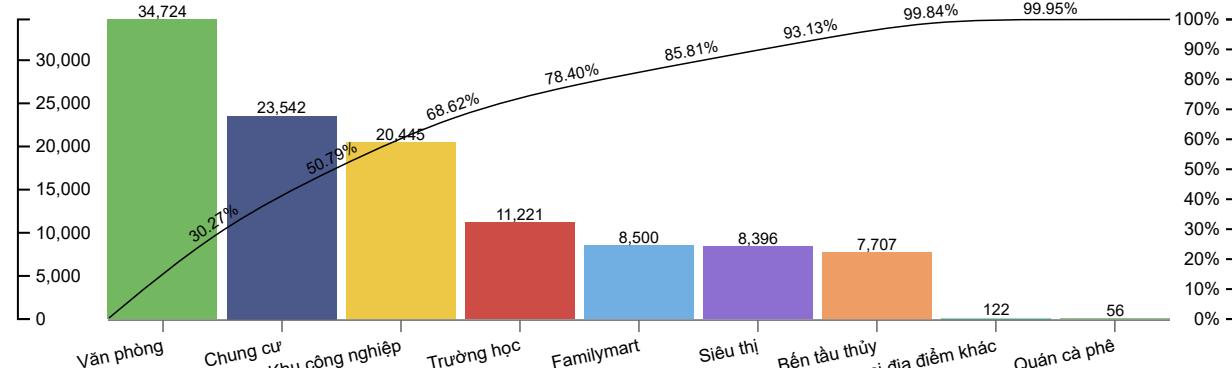
Contribution of Sales by Location Type



Number of Sales by Location Type



Pareto of Sales by Location Type

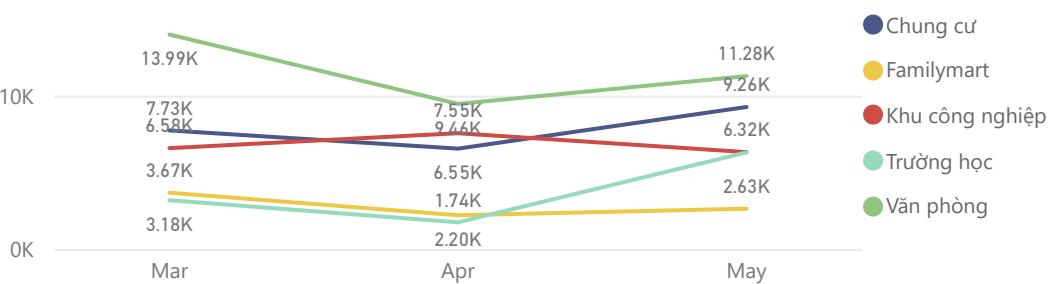


CHANGE OVER TIME ANALYSIS

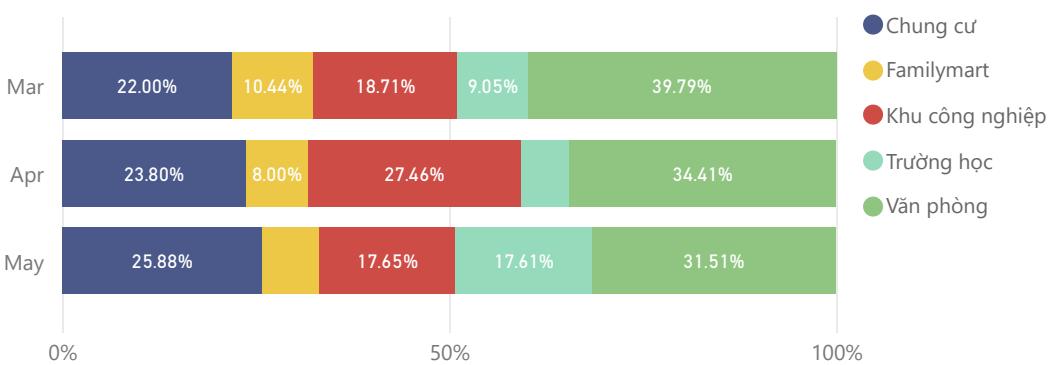
Frequency Table

Month	Mar		Apr		May		
	Loc Type	Count of Sales ID	%CT Count of Sales ID	Loc Type	Count of Sales ID	%CT Count of Sales ID	
Mar	Văn phòng	13987	33.57%	9462	31.70%	11275	26.10%
Mar	Chung cư	7734	18.56%	6546	21.93%	9262	21.44%
Mar	Khu công nghiệp	6577	15.78%	7551	25.30%	6317	14.62%
Mar	Trường học	3181	7.63%	1739	5.83%	6301	14.59%
Mar	FamilyMart	3670	8.81%	2201	7.37%	2629	6.09%
Mar	Siêu thị	2737	6.57%	1077	3.61%	4582	10.61%
Mar	Total	41669	100.00%	29846	100.00%	43198	100.00%

Number of Sales by Top 5 Location Type changing over time



% Number of Sales by Top 5 Location Type changing over time



SLICER

Mth

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Province

- Hà Nội
- HCM
- Long An

Loc Type

- Bến tàu thủy
- Câu lạc bộ
- Chung cư
- FamilyMart

Line Na...

- Café
- D720
- D900
- Điện

Machin...

- Bảo trì
- Chờ khởi đ...
- Lưu kho
- ON

Product...

- Beverages
- Food
- Others
- Snacks

Payme...

- Cash
- Grab
- Momo
- Skilochuh

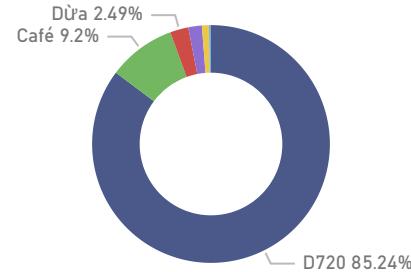
DESCRIPTIVE ANALYSIS - [CATEGORICAL] MACHINE LINE

STATIC ANALYSIS

Frequency Table

Line Name	Count of Sales ID	%GT Count of Sales ID
D720	97782	85.24%
Café	10552	9.20%
Dùa	2857	2.49%
Máy mì	2113	1.84%
D900	1100	0.96%
Hotfood	309	0.27%
Total	114713	100.00%

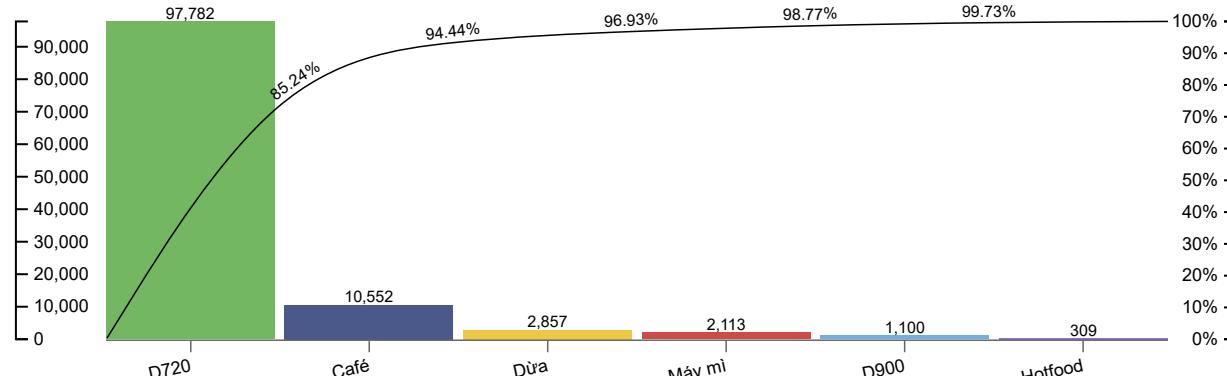
Contribution of Sales by Machine Line



Number of Sales by Machine Line



Pareto of Sales by Machine Line

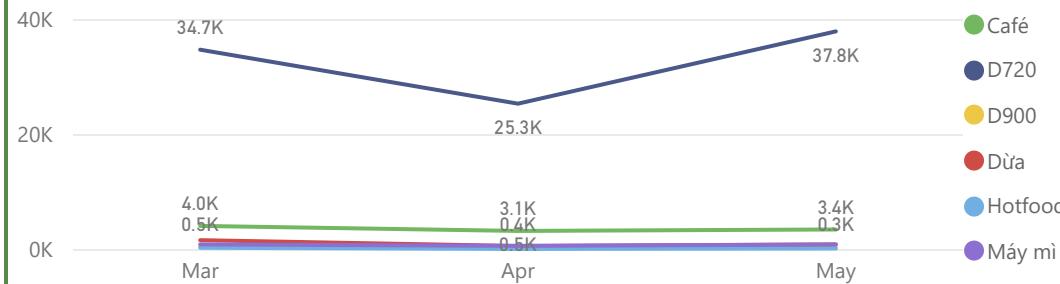


CHANGE OVER TIME ANALYSIS

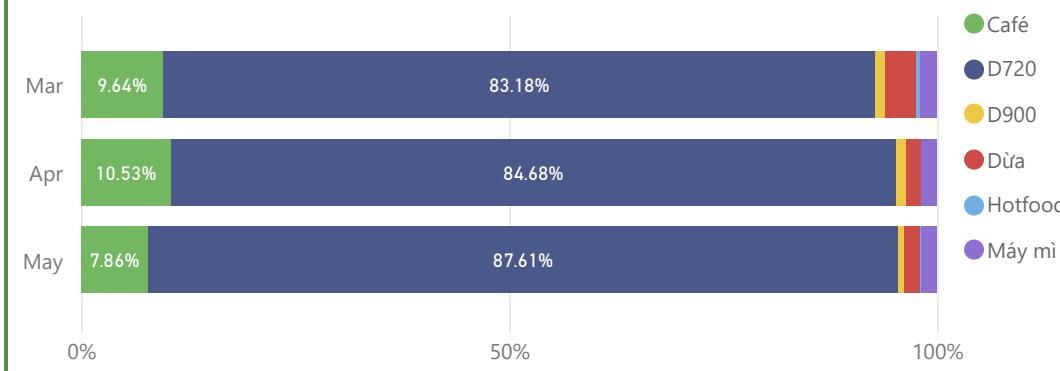
Frequency Table

Month	Mar		Apr		May		
	Line Name	Count of Sales ID	%CT Count of Sales ID	Count of Sales ID	%CT Count of Sales ID	Count of Sales ID	%CT Count of Sales ID
Mar	D720	34661	83.18%	25275	84.68%	37846	87.61%
Mar	Café	4015	9.64%	3142	10.53%	3395	7.86%
Mar	Dùa	1535	3.68%	519	1.74%	803	1.86%
Mar	Máy mì	798	1.92%	545	1.83%	770	1.78%
Mar	D900	450	1.08%	355	1.19%	295	0.68%
Mar	Hotfood	210	0.50%	10	0.03%	89	0.21%
Total	D720	41669	100.00%	29846	100.00%	43198	100.00%

Number of Sales by Machine Line changing over time



% Number of Sales by Machine Line changing over time



SLICER

Mth

- 3
- 4
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- 6

Province

- Hà Nội
- HCM
- Long An

Loc Type

- Bến tàu thủy
- Câu lạc bộ
- Chung cư
- Emplacement

Line Na...

- Café
- D720
- D900
- Dùa
- Hotfood
- Máy mì

Machin...

- Bảo trì
- Chờ khởi đ...
- Lưu kho
- ON

Product...

- Beverages
- Food
- Others
- Snacks

Payme...

- Cash
- Grab
- Momo
- SkillsHub

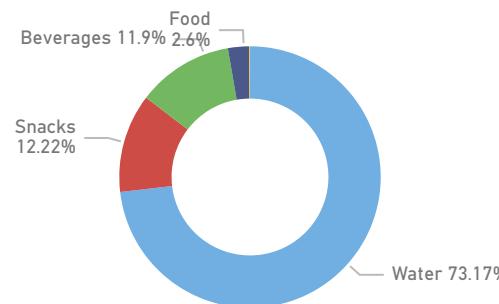
DESCRIPTIVE ANALYSIS - [CATEGORICAL] PRODUCT

STATIC ANALYSIS

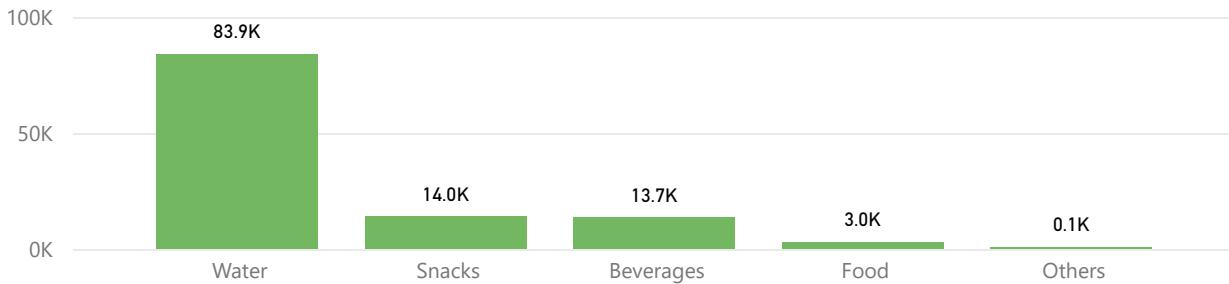
Frequency Table

Product Group	Count of Sales ID	%GT Count of Sales ID
Water	83932	73.17%
Nước	83932	73.17%
Snacks	14013	12.22%
Snack - Bánh kẹo	14013	12.22%
Beverages	13653	11.90%
TRÀ CHANH	3649	3.18%
Fruit	2857	2.49%
CAFE SỮA	2809	2.45%
CAFE ĐEN	1090	0.95%
Total	114713	100.00%

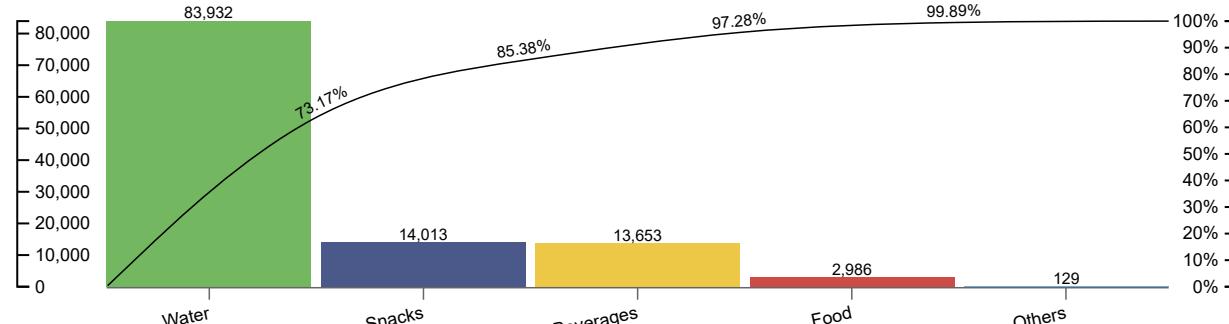
Contribution of Sales by Product



Number of Sales by Product



Pareto of Sales by Product

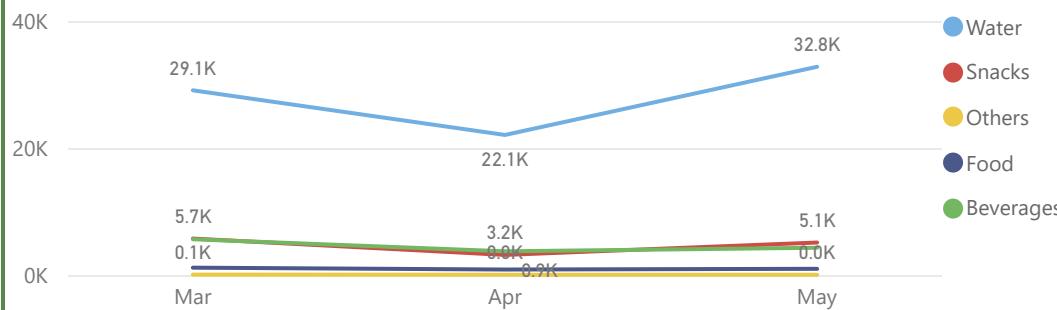


CHANGE OVER TIME ANALYSIS

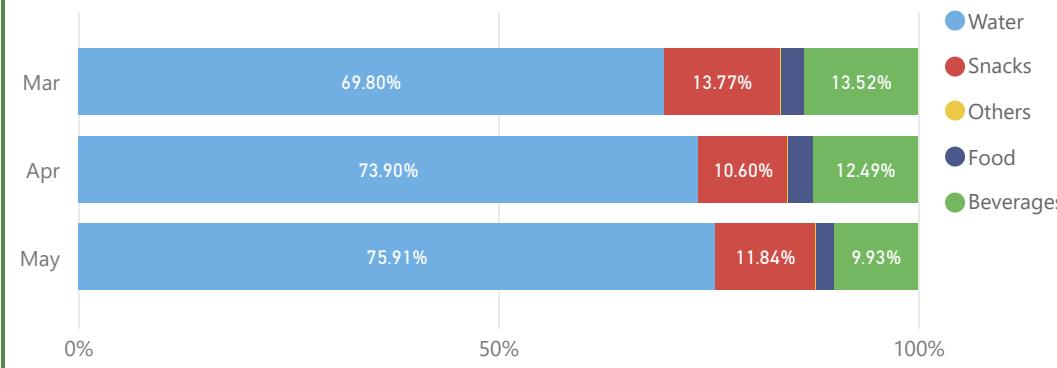
Frequency Table

Month	Mar		Apr		May	
	Product Group	Count of Sales ID	%CT Count of Sales ID	Count of Sales ID	%CT Count of Sales ID	Count of Sales ID
Water	29085	69.80%	22055	73.90%	32792	75.91%
Snacks	5736	13.77%	3164	10.60%	5113	11.84%
Beverages	5633	13.52%	3729	12.49%	4291	9.93%
Food	1153	2.77%	861	2.88%	972	2.25%
Others	62	0.15%	37	0.12%	30	0.07%
Total	41669	100.00%	29846	100.00%	43198	100.00%

Number of Sales by Product Group changing over time



% Number of Sales by Product Group changing over time

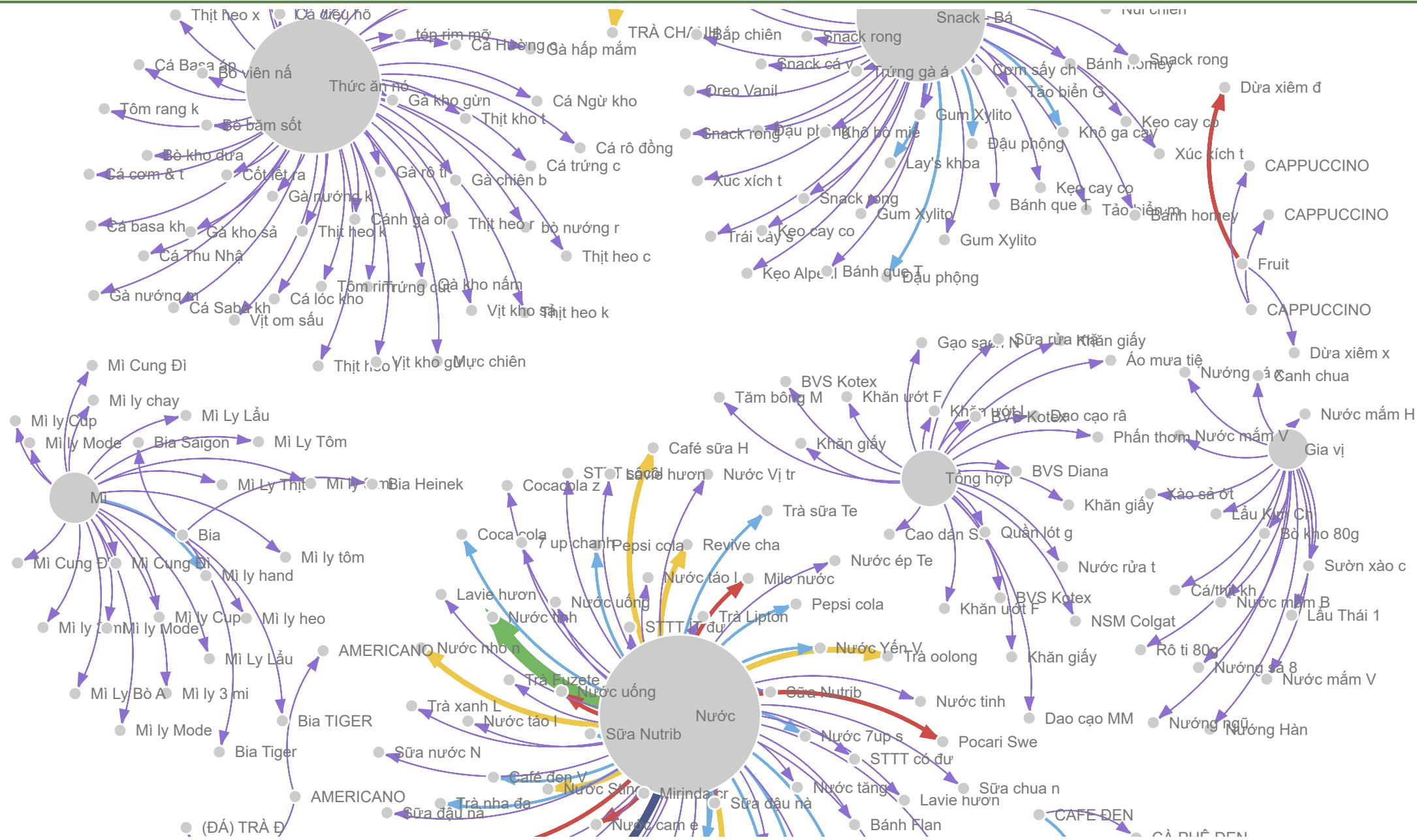


SLICER

- Mth
 - 3
 - 4
 - 5
 - 6
- Province
 - Hà Nội
 - HCM
 - Long An
- Loc Type
 - Bến tàu thủy
 - Câu lạc bộ ...
 - Chung cư
 - ...
- Line Na...
 - Café
 - D720
 - D900
 - ...
- Machin...
 - Bảo trì
 - Chờ khởi đ...
 - Lưu kho
 - ON
- Product...
 - Beverages
 - Food
 - Others
 - Snacks
 - Beverages
- Payme...
 - Cash
 - Grab
 - Momo
 - ...

DESCRIPTIVE ANALYSIS - [CATEGORICAL] PRODUCT FAMILY

Number of Sales by Product Category and Product Name

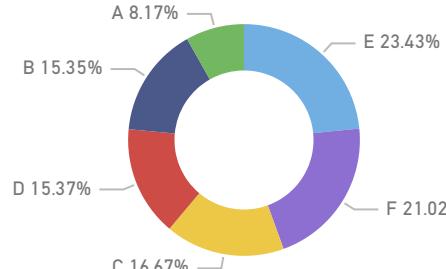


SLICER

DESCRIPTIVE ANALYSIS - [CATEGORICAL] POSITION

STATIC ANALYSIS

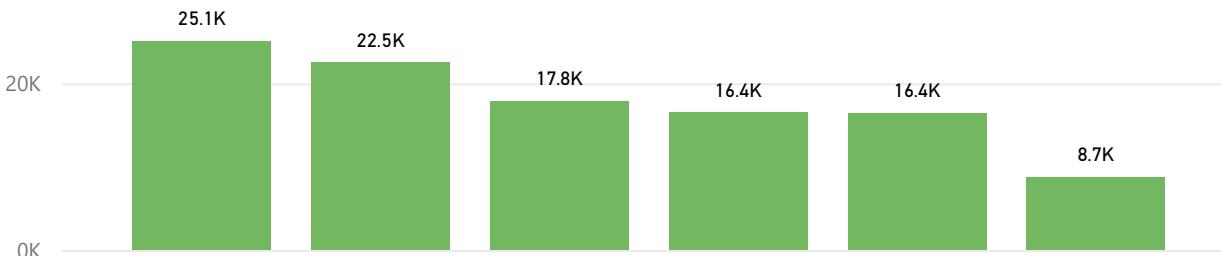
Contribution of Sales by Position



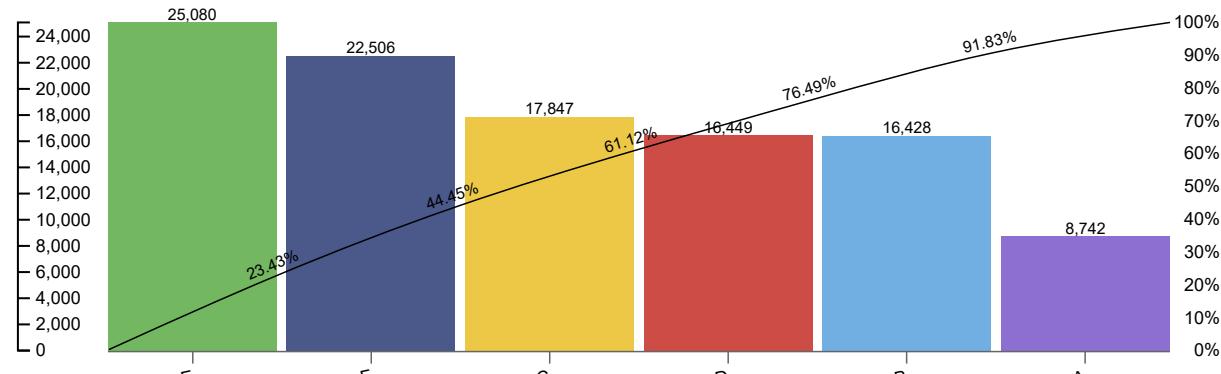
Frequency Table

Position	Count of Sales ID	%GT Count of Sales ID
B8	4380	4.09%
E5	3276	3.06%
E4	3099	2.89%
B2	2973	2.78%
E6	2973	2.78%
E7	2630	2.46%
F7	2583	2.41%
Total	107052	100.00%

Number of Sales by Position



Pareto of Sales by Position

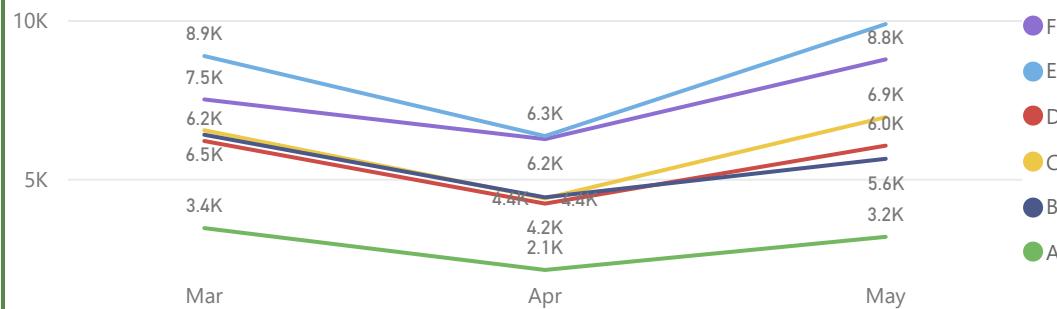


CHANGE OVER TIME ANALYSIS

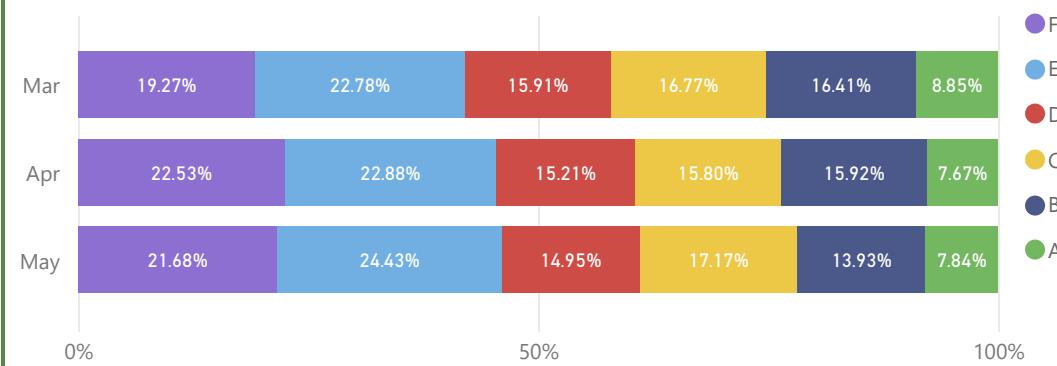
Frequency Table

Month	Mar		Apr		May	
	Pos Row	Count of Sales ID	%CT Count of Sales ID	Count of Sales ID	%CT Count of Sales ID	Count of Sales ID
E	8865	22.78%	6344	22.88%	9871	24.43%
F	7498	19.27%	6248	22.53%	8760	21.68%
C	6527	16.77%	4381	15.80%	6939	17.17%
D	6189	15.91%	4217	15.21%	6043	14.95%
B	6386	16.41%	4414	15.92%	5628	13.93%
A	3445	8.85%	2127	7.67%	3170	7.84%
Total	38910	100.00%	27731	100.00%	40411	100.00%

Number of Sales by Position Row changing over time



% Number of Sales by Position Row changing over time



SLICER

- Mth
 - 3
 - 4
 - 5
 - 6
- Province
 - Hà Nội
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 - Long An
- Loc Type
 - Bến tàu thủy
 - Câu lạc bộ
 - Chung cư
 - Emplacement
- Line Na...
 - Café
 - D720
 - D900
 - Điện
- Machin...
 - Bảo trì
 - Chờ khởi đ...
 - Lưu kho
 - ON
- Product...
 - Beverages
 - Food
 - Others
 - Snacks
- Payme...
 - Cash
 - Grab
 - Momo
 - Skilochuh

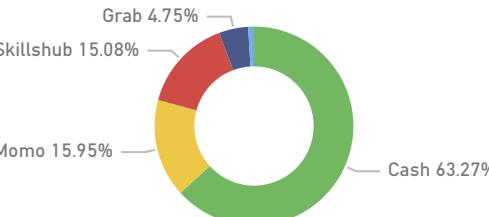
DESCRIPTIVE ANALYSIS - [CATEGORICAL] PAYMENT

STATIC ANALYSIS

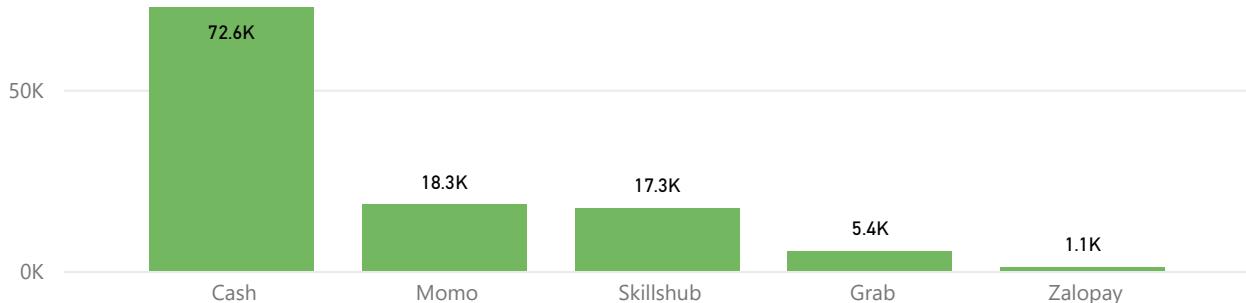
Frequency Table

Payment Type	Count of Sales ID	%GT Count of Sales ID
Cash	72584	63.27%
Momo	18296	15.95%
Skillhub	17303	15.08%
Grab	5445	4.75%
Zalopay	1085	0.95%
Total	114713	100.00%

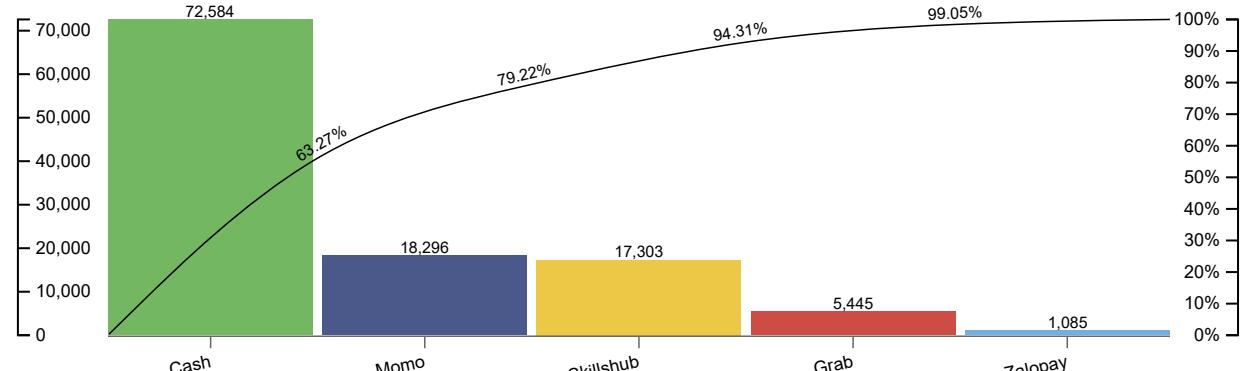
Contribution of Sales by Payment



Number of Sales by Payment



Pareto of Sales by Payment

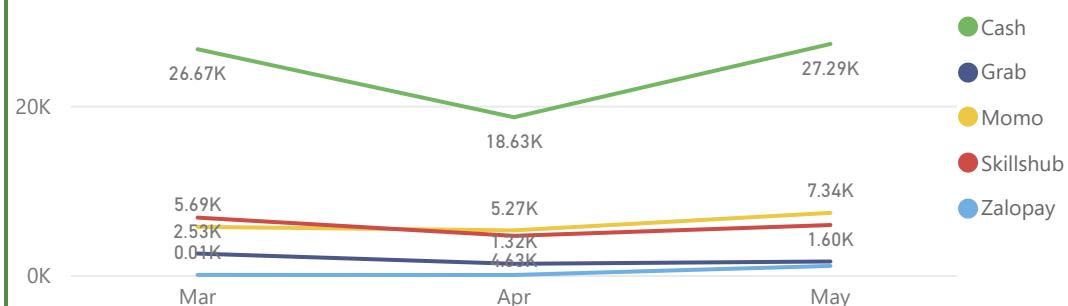


CHANGE OVER TIME ANALYSIS

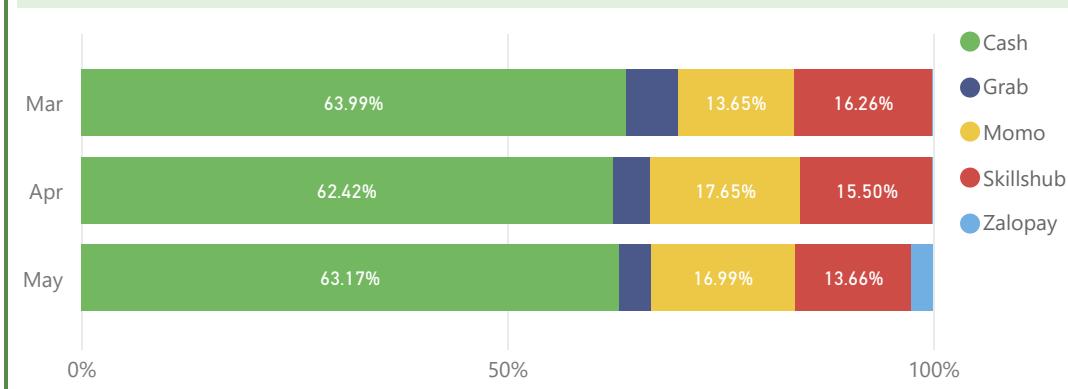
Frequency Table

Month	Mar		Apr		May	
	Payment Type	Count of Sales ID	%CT Count of Sales ID	Count of Sales ID	%CT Count of Sales ID	Count of Sales ID
Cash	26666	63.99%	18630	62.42%	27288	63.17%
Momo	5687	13.65%	5269	17.65%	7340	16.99%
Skillhub	6777	16.26%	4625	15.50%	5901	13.66%
Grab	2530	6.07%	1320	4.42%	1595	3.69%
Zalopay	9	0.02%	2	0.01%	1074	2.49%
Total	41669	100.00%	29846	100.00%	43198	100.00%

Number of Sales by Payment changing over time



% Number of Sales by Payment changing over time



SLICER

Mth

- 3
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Province

- Hà Nội
- HCM
- Long An

Loc Type

- Bến tàu thủy
- Câu lạc bộ
- Chung cư
- Embankment

Line Na...

- Café
- D720
- D900
- Điện

Machin...

- Bảo trì
- Chờ khởi đ...
- Lưu kho
- ON

Product...

- Beverages
- Food
- Others
- Snacks

Payme...

- Cash
- Grab
- Momo
- Skillhub

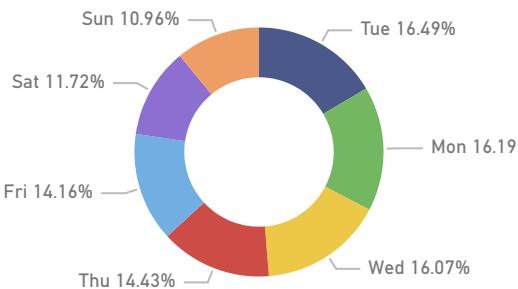
DESCRIPTIVE ANALYSIS - [CATEGORICAL] DAY OF WEEK

STATIC ANALYSIS

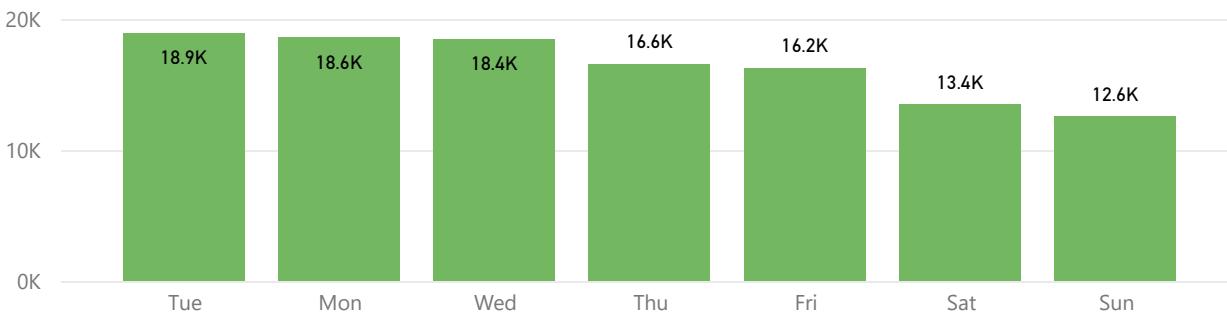
Frequency Table

Day Name	Count of Sales ID	%GT Count of Sales ID
Tue	18912	16.49%
Mon	18568	16.19%
Wed	18429	16.07%
Thu	16553	14.43%
Fri	16238	14.16%
Sat	13444	11.72%
Sun	12569	10.96%
Total	114713	100.00%

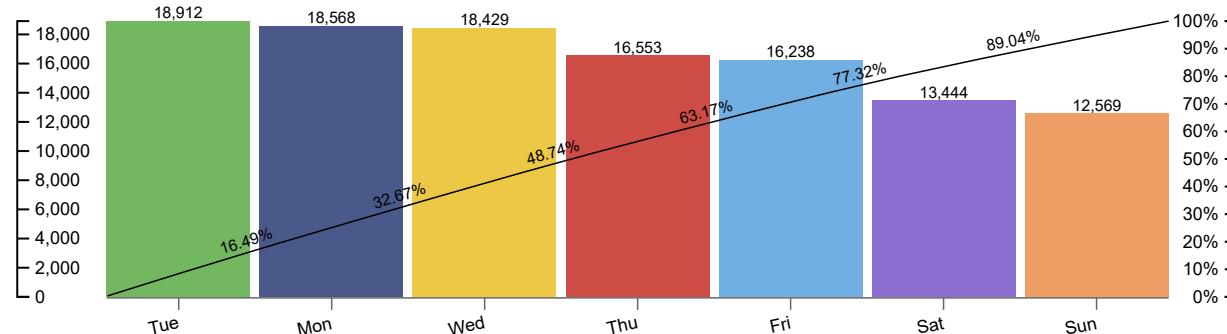
Contribution of Sales by DOW



Number of Sales by DOW



Pareto of Sales by DOW

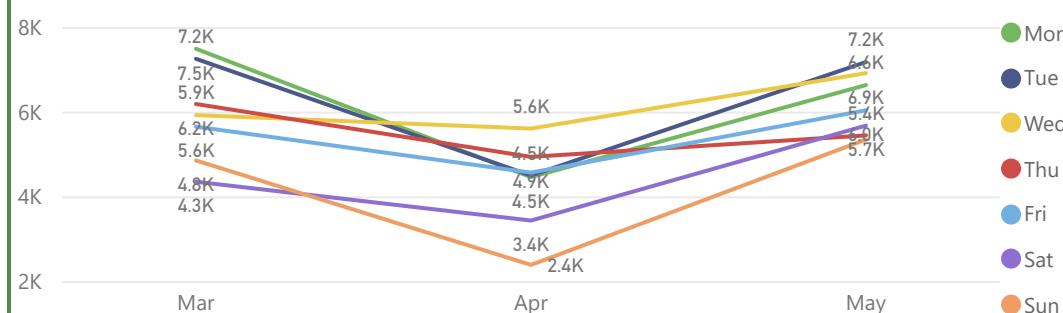


CHANGE OVER TIME ANALYSIS

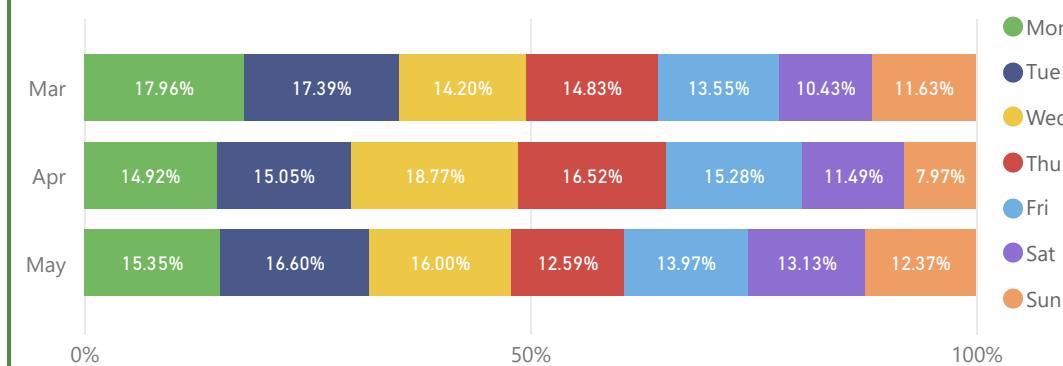
Frequency Table

Month	Mar		Apr		May	
	Day Name	Count of Sales ID	%CT Count of Sales ID	Count of Sales ID	%CT Count of Sales ID	Count of Sales ID
Tue	7248	17.39%	4491	15.05%	7173	16.60%
Mon	7485	17.96%	4454	14.92%	6629	15.35%
Wed	5918	14.20%	5601	18.77%	6910	16.00%
Thu	6181	14.83%	4932	16.52%	5440	12.59%
Fri	5645	13.55%	4560	15.28%	6033	13.97%
Sat	4345	10.43%	3428	11.49%	5671	13.13%
Total	41669	100.00%	29846	100.00%	43198	100.00%

Number of Sales by DOW changing over time



% Number of Sales by DOW changing over time



SLICER

Mth	3
Mth	4
Mth	5
Mth	6
Province	Hà Nội
Province	HCM
Province	Long An
Loc Type	Bến tàu thủy
Loc Type	Câu lạc bộ
Loc Type	Chung cư
Loc Type	Entertainment
Line Na...	Café
Line Na...	D720
Line Na...	D900
Line Na...	Điện
Machin...	Bảo trì
Machin...	Chờ khởi đ...
Machin...	Lưu kho
Machin...	ON
Product...	Beverages
Product...	Food
Product...	Others
Product...	Snacks
Payme...	Cash
Payme...	Grab
Payme...	Momo
Payme...	Skillshare

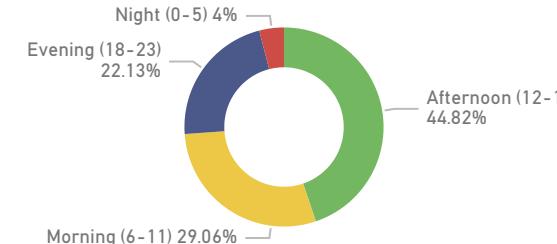
DESCRIPTIVE ANALYSIS - [CATEGORICAL] TIME OF DAY

STATIC ANALYSIS

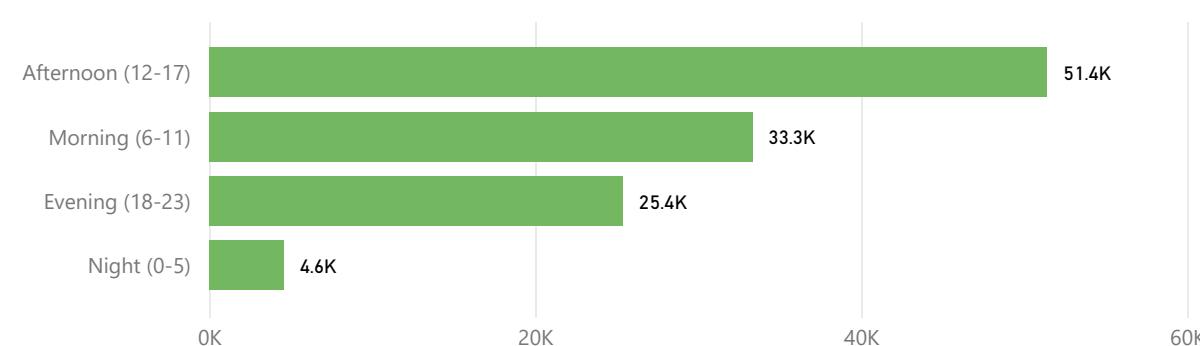
Frequency Table

Time Range	Count of Sales ID	%GT Count of Sales ID
Afternoon (12-17)	51409	44.82%
Morning (6-11)	33335	29.06%
Evening (18-23)	25383	22.13%
Night (0-5)	4586	4.00%
Total	114713	100.00%

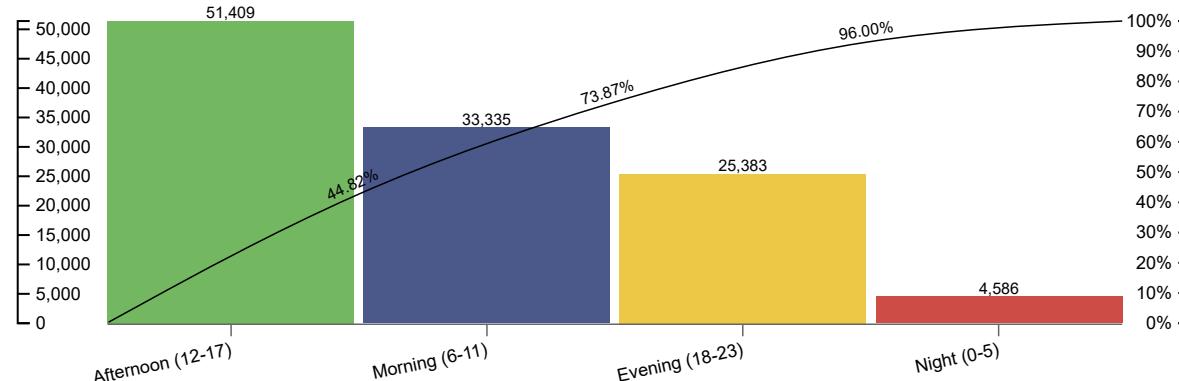
Contribution of Sales by Time



Number of Sales by Time



Pareto of Sales by Time

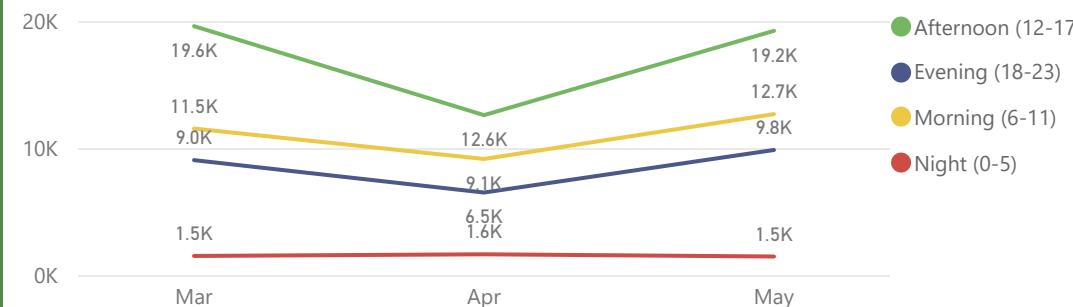


CHANGE OVER TIME ANALYSIS

Frequency Table

Month	Mar		Apr		May	
	Time Range	Count of Sales ID	%CT Count of Sales ID	Count of Sales ID	%CT Count of Sales ID	Count of Sales ID
Afternoon (12-17)	19594	47.02%	12587	42.17%	19228	44.51%
Morning (6-11)	11530	27.67%	9136	30.61%	12669	29.33%
Evening (18-23)	9045	21.71%	6493	21.76%	9845	22.79%
Night (0-5)	1500	3.60%	1630	5.46%	1456	3.37%
Total	41669	100.00%	29846	100.00%	43198	100.00%

Number of Sales by Time Range changing over time



% Number of Sales by Time Range changing over time



SLICER

Mth

- 3
- 4
- 5
- 6

Province

- Hà Nội
- HCM
- Long An

Loc Type

- Bến tàu thủy
- Câu lạc bộ
- Chung cư
- Entertainment

Line Na...

- Café
- D720
- D900
- Điện

Machin...

- Bảo trì
- Chờ khởi đ...
- Lưu kho
- ON

Product...

- Beverages
- Food
- Others
- Snacks

Payme...

- Cash
- Grab
- Momo
- Skyscanner

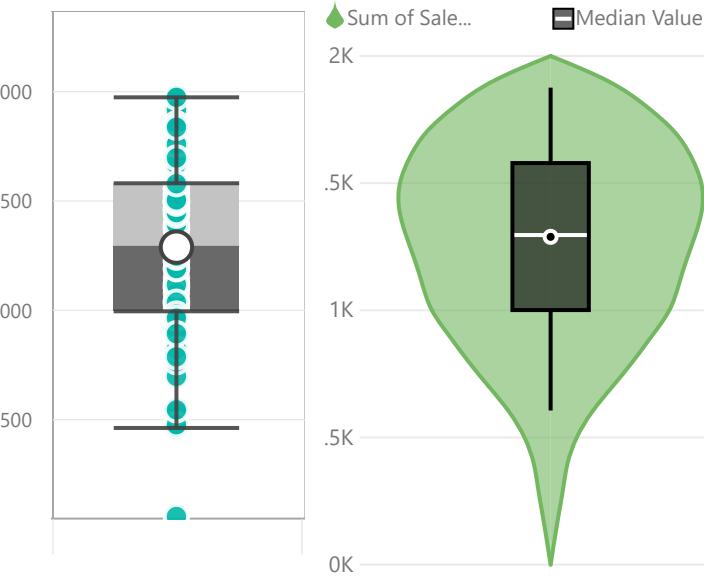
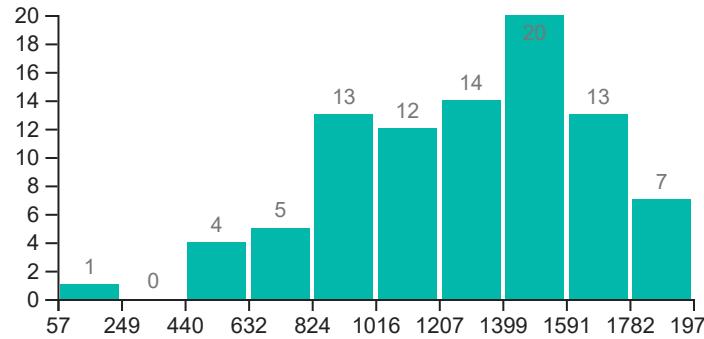
DESCRIPTIVE ANALYSIS - [NUMERIC] TRANSACTIONS - DATE LEVEL

STATIC ANALYSIS

Summary Statistics Table

114713 Sales ID	1288.91 Avg Sales ID_Date	1296 Med Sales ID_Date
57 Min Sales ID_Date	1974 Max Sales ID_Date	386.40 SD of Sales ID_Date

Sales Transaction Distribution _ Date Level

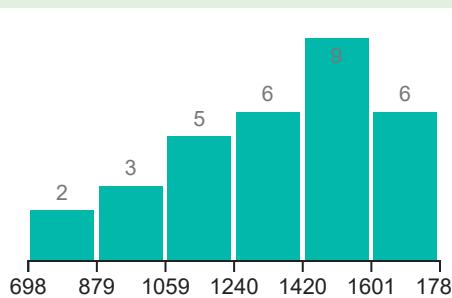


CHANGE OVER TIME ANALYSIS

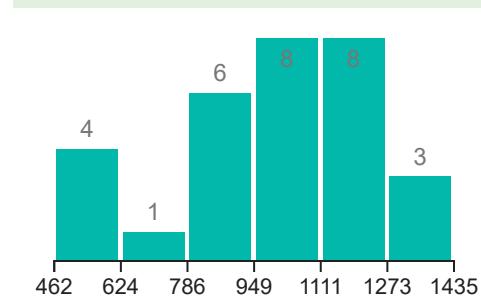
Summary Statistic Table

Month	Sales ID	Average of Sales ID_Date	Median of Sales ID_Date	Min of Sales ID_Date	Max of Sales ID_Date	Standard deviation of Sales ID_Date
March	41669	1344.16	1379	698	1781	258.96
April	29846	994.87	996	462	1435	260.46
May	43198	1542.79	1626	57	1974	408.87
Total	114713	1288.91	1296	57	1974	386.40

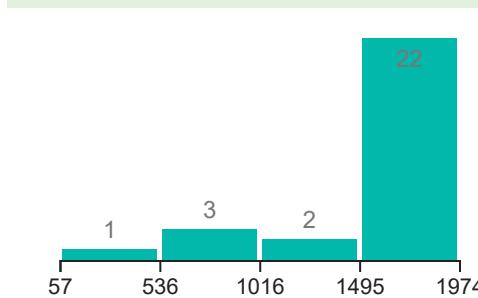
Mar Transaction Histogram



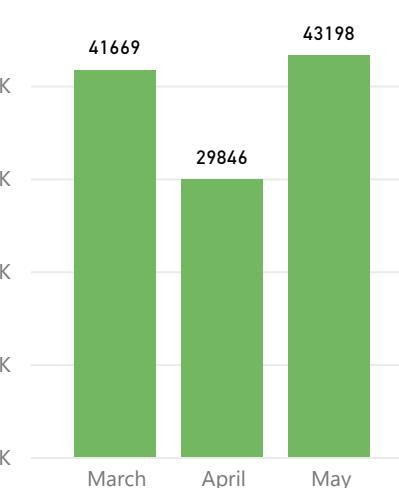
Apr Transaction Histogram



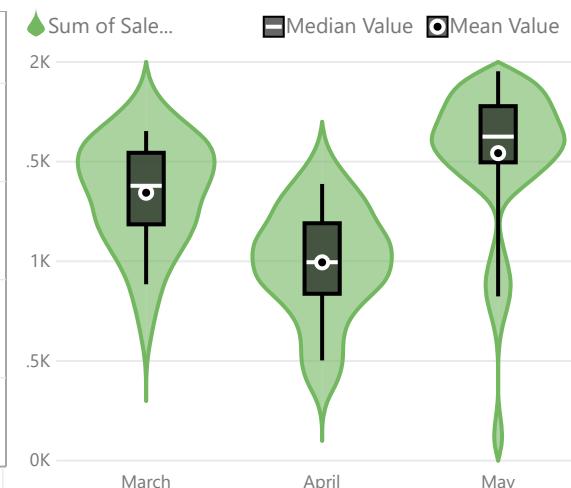
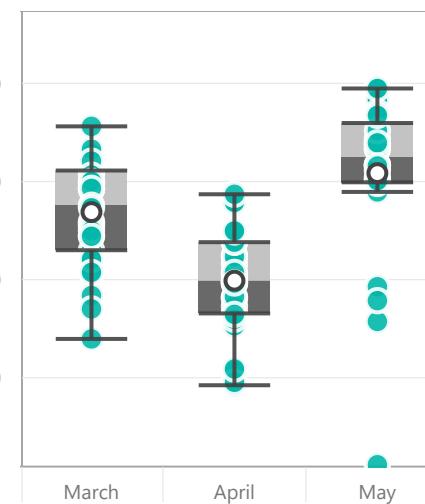
May Transaction Histogram



Transactions by Month



Sales Transaction Distribution _ Date Level changing over time



SLICER

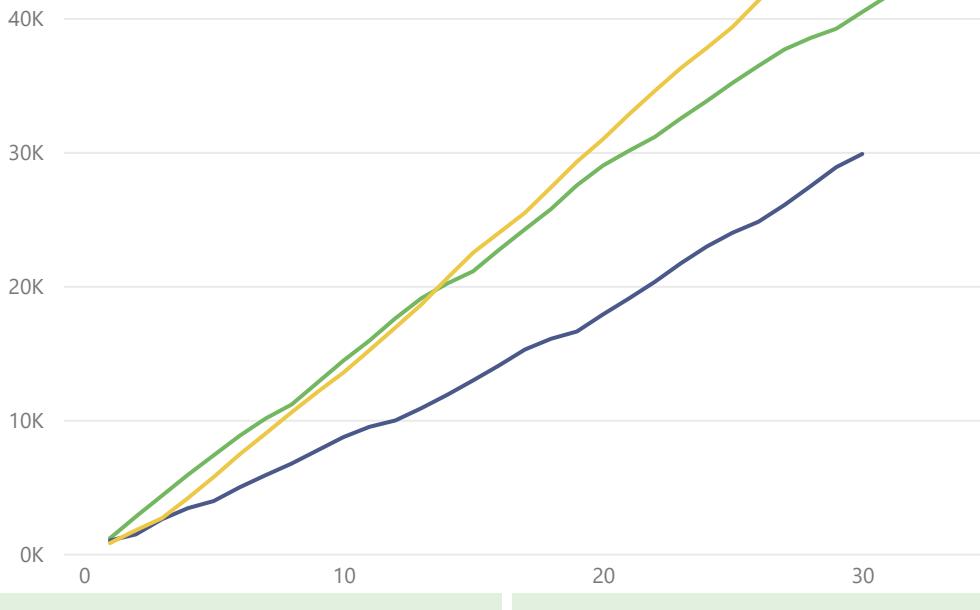
Mth	3
	4
	5
	6
Province	Hà Nội
	HCM
	Long An
Loc Type	Bến tàu thủy
	Câu lạc bộ
	Chung cư
	Entertainment
Line Na...	Café
	D720
	D900
	Điện
Machin...	Bảo trì
	Chờ khởi đ...
	Lưu kho
	ON
Product...	Beverages
	Food
	Others
	Snacks
Payme...	Cash
	Grab
	Momo
	Shopee

DESCRIPTIVE ANALYSIS - [NUMERIC] TRANSACTIONS TIME INTELLIGENCE

CHANGE OVER TIME ANALYSIS

Sales Transaction MTD by Day and Month

March April May



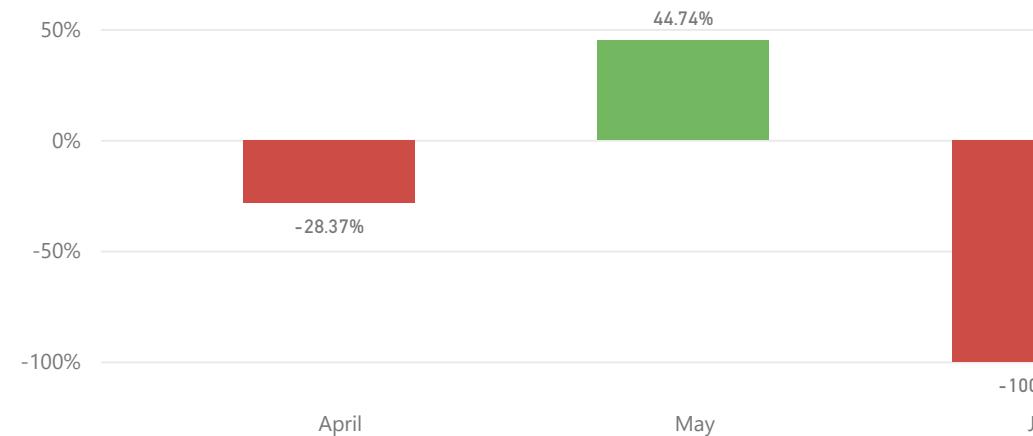
Check Trans Day in Month

Day	March	April	May
1	1150	979	787
2	1615	462	964
3	1556	1125	893
4	1560	828	1495
5	1464	535	1586
6	1459	1025	1687
7	1286	905	1556
8	1043	865	1583
9	1638	989	1520
10	1642	990	1417
Total	41669	29846	43198

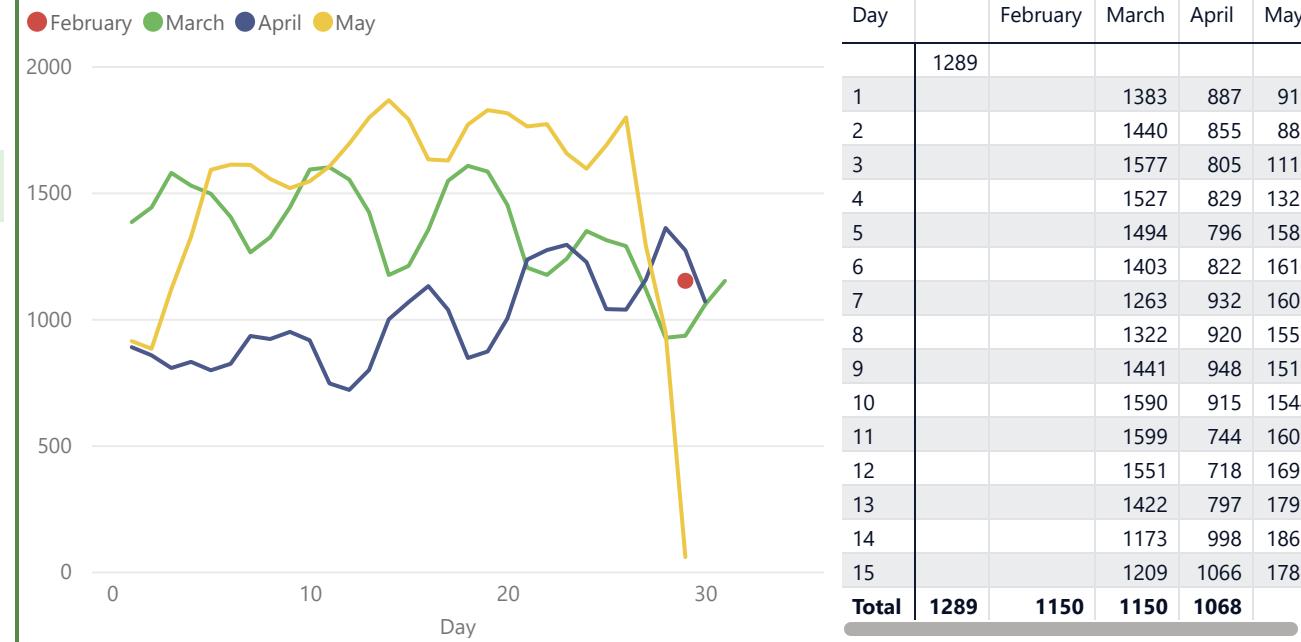
Check data MTD

Day	March	April	May
1	1150	979	787
2	2765	1441	1751
3	4321	2566	2644
4	5881	3394	4139
5	7345	3929	5725
6	8804	4954	7412
7	10090	5859	8968
8	11133	6724	10551
9	12771	7713	12071
10	14413	8702	12518
Total	41669	29846	43198

Sales Transaction MoM% by Month



Sales Transaction Rolling Average by Day and Month



SLICER

Mth	3
	4
	5
	6
Province	Hà Nội
	HCM
	Long An
Loc Type	Bến tàu thủy
	Câu lạc bộ
	Chung cư
	Entertainment
Line Na...	Café
	D720
	D900
	Điện
Machin...	Bảo trì
	Chờ khởi đ...
	Lưu kho
	ON
Product...	Beverages
	Food
	Others
	Snacks
Payme...	Cash
	Grab
	Momo
	Skillshare

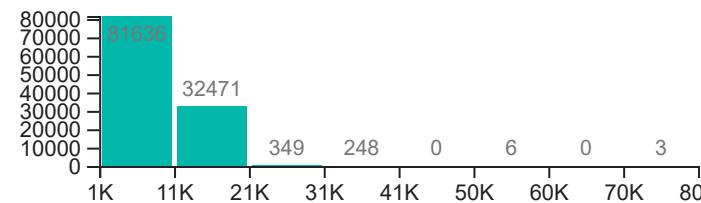
DESCRIPTIVE ANALYSIS - [NUMERIC] REVENUE - DATE LEVEL + TRANSACTION LEVEL

STATIC ANALYSIS

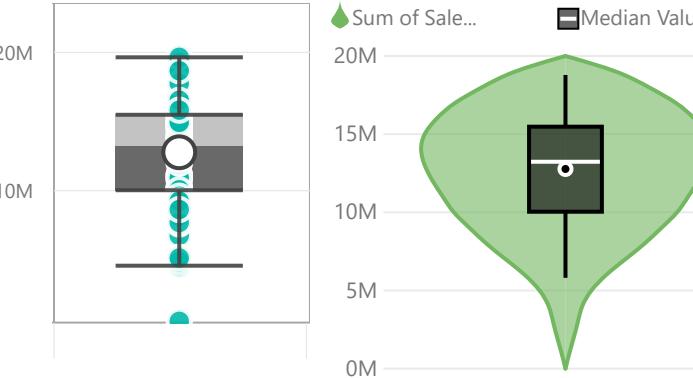
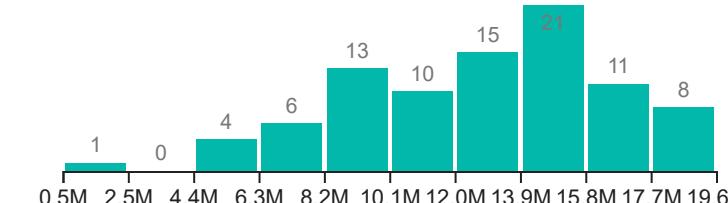
Summary Statistics Table

1136988600	9911.59	10000
Revenue	Avg Rev	Med Rev
1000	80000	3207.08
Min Rev	Max Rev	SD of Rev
12,775,152.81	13235600	546000
Avg Rev_Date	Med Rev_Date	Min Rev_Date

Revenue Histogram _ Transaction Level



Revenue Distribution _ Date Level



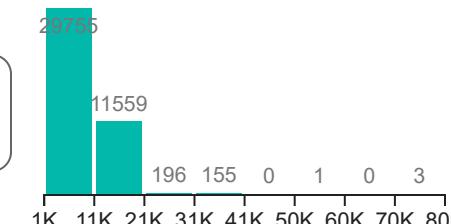
CHANGE OVER TIME ANALYSIS

Summary Statistic Table

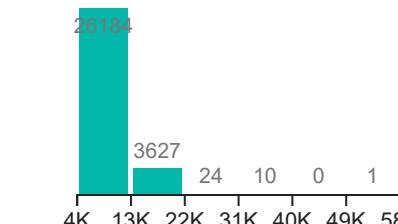
Month	Revenue	Avg Rev	Med Rev	Min Rev	Max Rev	SD of Rev	Avg Rev_Date	Med Rev_Date	Min Rev_Date	Max Rev_Date	SD of Rev_Date
March	412703750	9904.34	10000	1000	80000	3501.32	13,313,024.19	13807300	6754000	17461400	2,592,208.26
April	296393350	9930.76	10000	4000	58000	2767.21	9,879,778.33	10030050	4571000	13983550	2,581,702.55
May	427891500	9905.35	10000	2000	58000	3193.24	15,281,839.29	16077500	5460000	19645000	4,149,585.30
Total	1136988600	9911.59	10000	1000	80000	3207.08	12,775,152.81	13235600	546000	19645000	3,861,065.75

Mar Rev Histogram

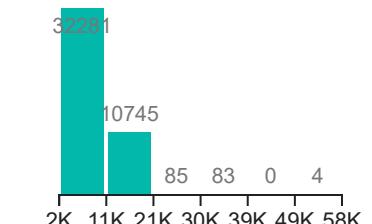
Transaction Level



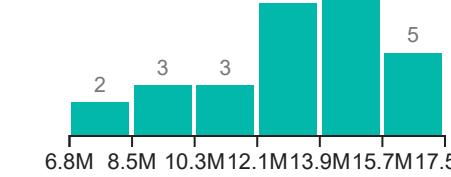
Apr Rev Histogram



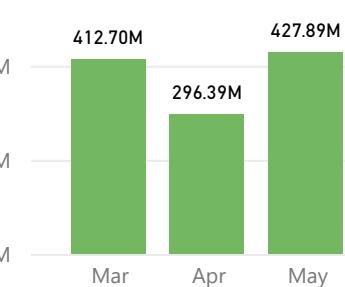
May Rev Histogram



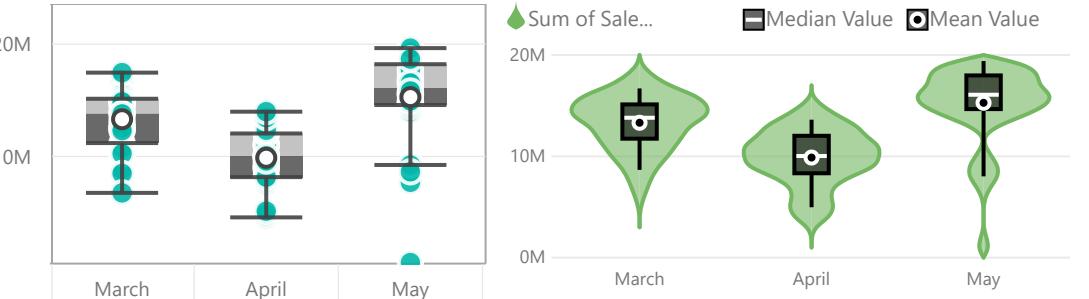
Date Level



Revenue by Month



Revenue Distribution _ Date Level changing over time



SLICER

Mth

- 3
- 4
- 5
- 6

Province

- Hà Nội
- HCM
- Long An

Loc Type

- Bến tàu thủy
- Câu lạc bộ
- Chung cư
- Entertainment

Line Na...

- Café
- D720
- D900
- Diya

Machin...

- Bảo trì
- Chờ khởi đ...
- Lưu kho
- ON

Product...

- Beverages
- Food
- Others
- Snacks

Payme...

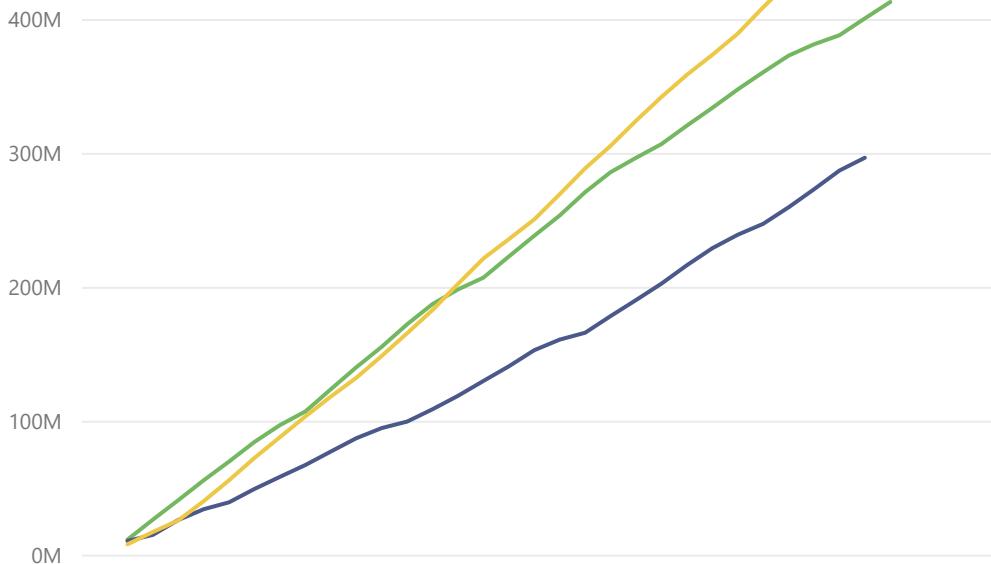
- Cash
- Grab
- Momo
- Skillshare

DESCRIPTIVE ANALYSIS - [NUMERIC] REVENUE TIME INTELLIGENCE

CHANGE OVER TIME ANALYSIS

Revenue MTD by Day and Month

March ● April ● May



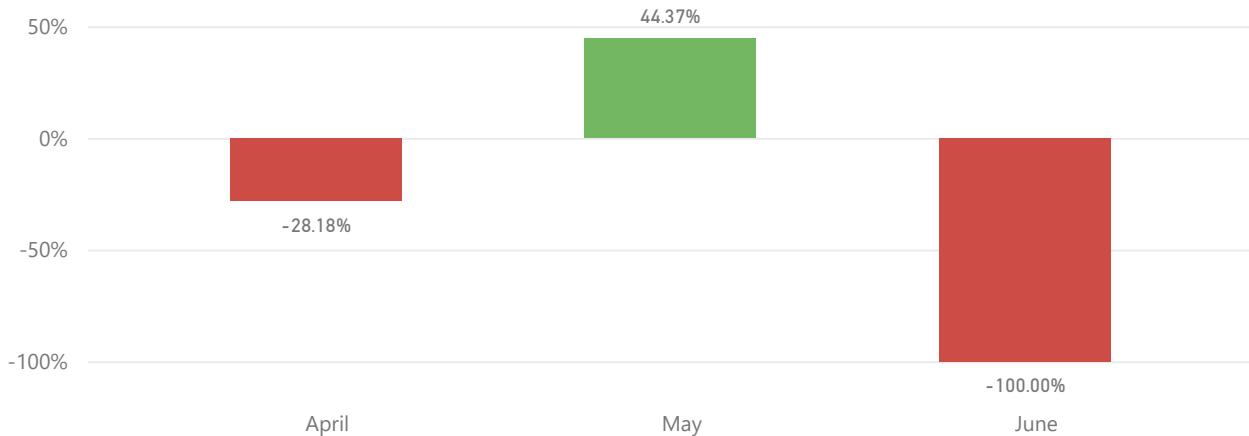
Check Revenue Day in Month

Date	Sum of Sales Amt
01 March 2020	11189000
02 March 2020	14943750
03 March 2020	14558950
04 March 2020	14846050
05 March 2020	14041100
06 March 2020	14639100
07 March 2020	12537000
08 March 2020	10186000
09 March 2020	16600150
10 March 2020	16363700
Total	1136988600

Check data MTD

Day	March	April	May
1	11189000	10212000	7696000
2	26132750	14783000	16935000
3	40691700	25892000	25568000
4	55537750	33937000	39981000
5	69578850	39119000	55626000
6	84217950	49102000	72297000
7	96754950	58128000	87767000
8	106940950	66971000	103245000
9	123541100	77010000	118030000
10	139901800	86937000	132053000
Total	412703750	296393350	427891500

Revenue MoM% by Month



Revenue Rolling Average by Day and Month



SLICER

Mth	3
Mth	4
Mth	5
Mth	6
Province	Hà Nội
Province	HCM
Province	Long An
Loc Type	Bến tàu thủy
Loc Type	Câu lạc bộ
Loc Type	Chung cư
Loc Type	Entertainment
Line Na...	Café
Line Na...	D720
Line Na...	D900
Line Na...	Điện
Machin...	Bảo trì
Machin...	Chờ khởi đ...
Machin...	Lưu kho
Machin...	ON
Product...	Beverages
Product...	Food
Product...	Others
Product...	Snacks
Payme...	Cash
Payme...	Grab
Payme...	Momo
Payme...	Skillshare

EXPLORATORY DATA ANALYSIS

SECTION 2: DIAGNOSTIC ANALYSIS

VENDING MACHINE SALES DATA

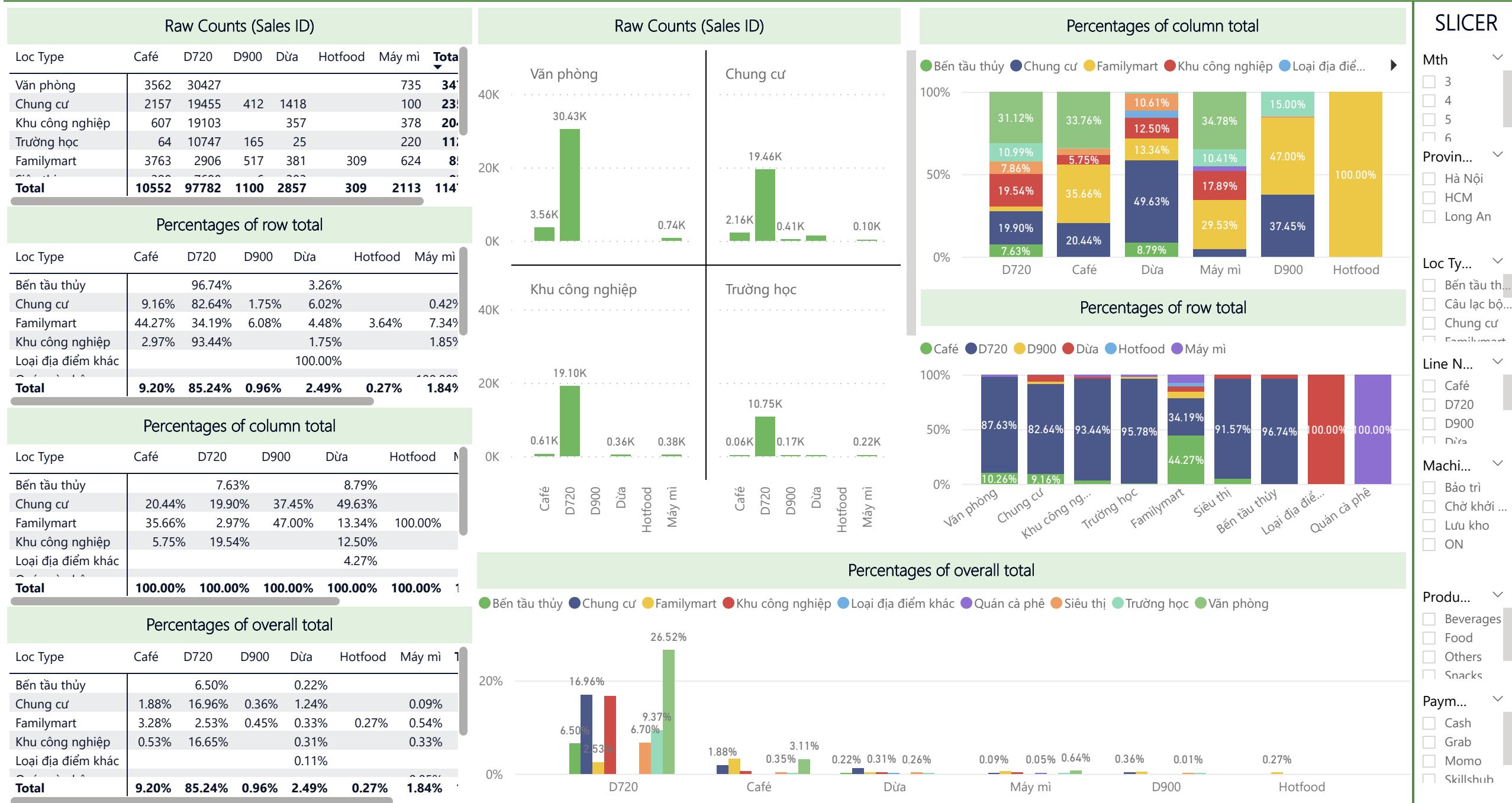
DIAGNOSTIC ANALYTICS - [CAT-CAT] PARENT WAREHOUSE LOCATION & LOCATION TYPE



DIAGNOSTIC ANALYTICS - [CAT-CAT] PARENT WAREHOUSE LOCATION & MACHINE LINE



DIAGNOSTIC ANALYTICS - [CAT-CAT] LOCATION TYPE & MACHINE LINE



DIAGNOSTIC ANALYTICS - [CAT-CAT] LOCATION TYPE & PRODUCT GROUP



DIAGNOSTIC ANALYTICS - [CAT-CAT] LOCATION TYPE AND PAYMENT



DIAGNOSTIC ANALYTICS - [CAT-CAT] MACHINE LINE & PRODUCT GROUP



DIAGNOSTIC ANALYTICS - [CAT-CAT] MACHINE LINE & POSITION



DIAGNOSTIC ANALYTICS - [CAT-CAT] MACHINE LINE & PAYMENT



DIAGNOSTIC ANALYTICS - [CAT-CAT] PRODUCT GROUP & POSITION



DIAGNOSTIC ANALYTICS - [CAT-CAT] DAY OF WEEK & LOCATION TYPE

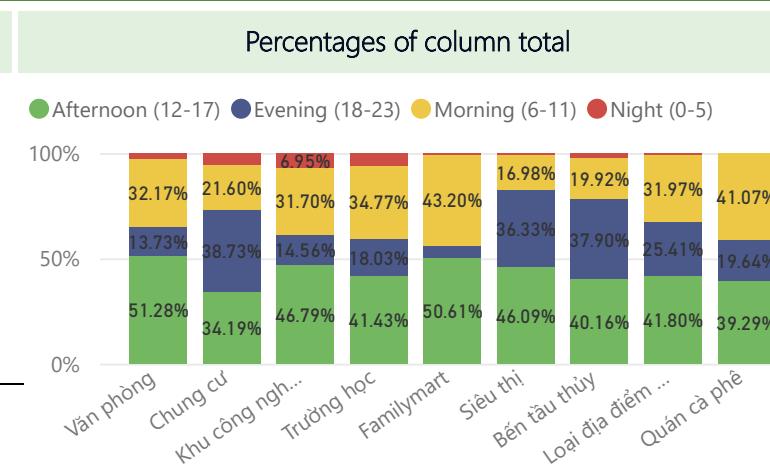
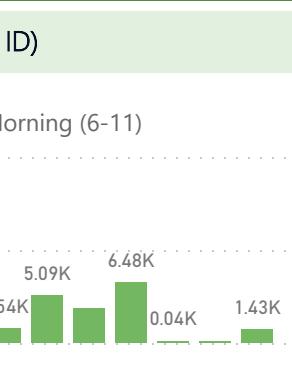
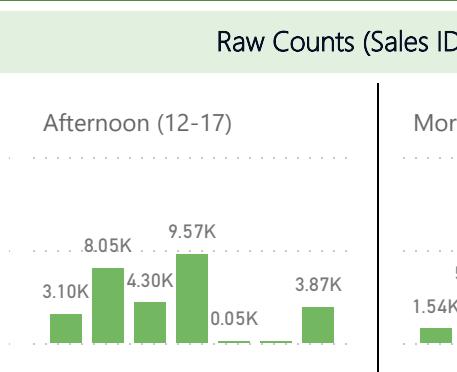


DIAGNOSTIC ANALYTICS - [CAT-CAT] DAY OF WEEK & PRODUCT GROUP

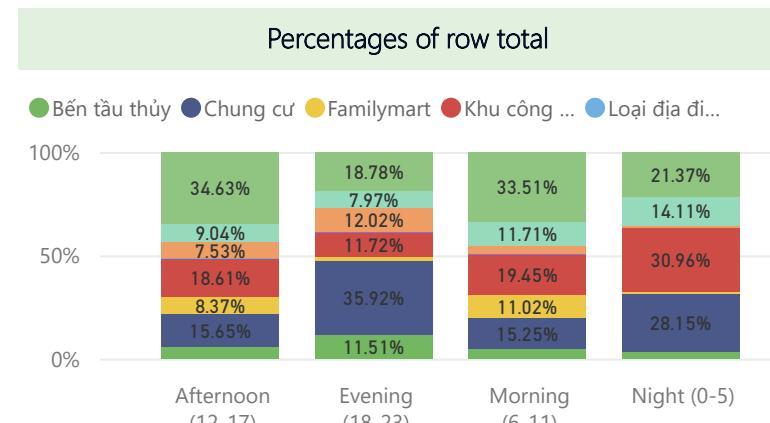
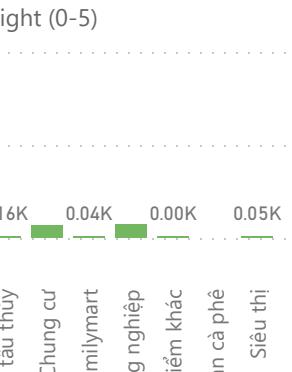
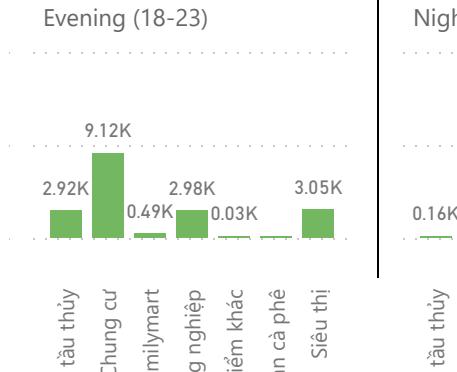


DIAGNOSTIC ANALYTICS - [CAT-CAT] TIME OF DAY & LOCATION TYPE

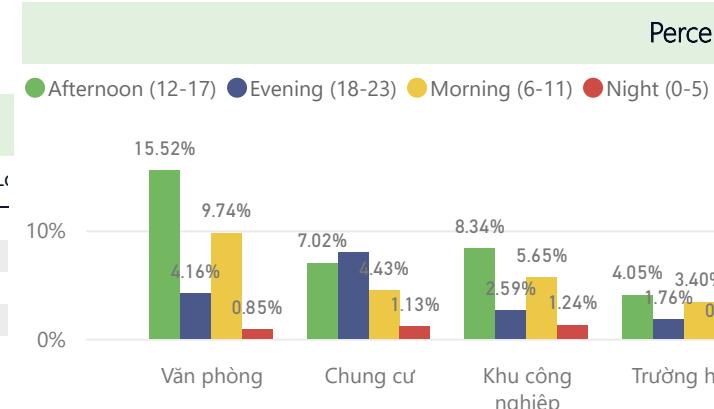
Raw Counts (Sales ID)					
Time Range	Bến tàu thủy	Chung cư	Familymart	Khu công nghiệp	Làng nghề
Afternoon (12-17)	3095	8048	4302	9567	
Morning (6-11)	1535	5085	3672	6482	
Evening (18-23)	2921	9118	485	2976	
Night (0-5)	156	1291	41	1420	
Total	7707	23542	8500	20445	



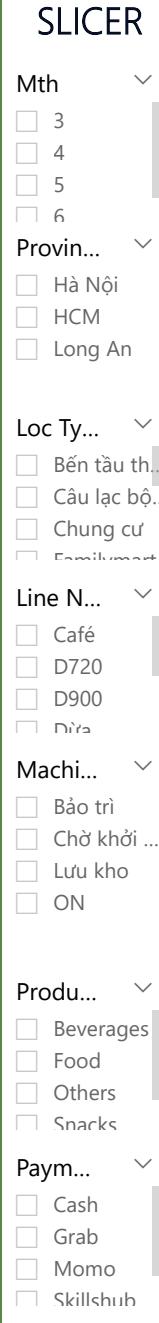
Time Range	Bến tàu thủy	Chung cư	Familymart	Khu công nghiệp	L
Afternoon (12-17)	6.02%	15.65%	8.37%	18.61%	
Evening (18-23)	11.51%	35.92%	1.91%	11.72%	
Morning (6-11)	4.60%	15.25%	11.02%	19.45%	
Night (0-5)	3.40%	28.15%	0.89%	30.96%	
Total	6.72%	20.52%	7.41%	17.82%	



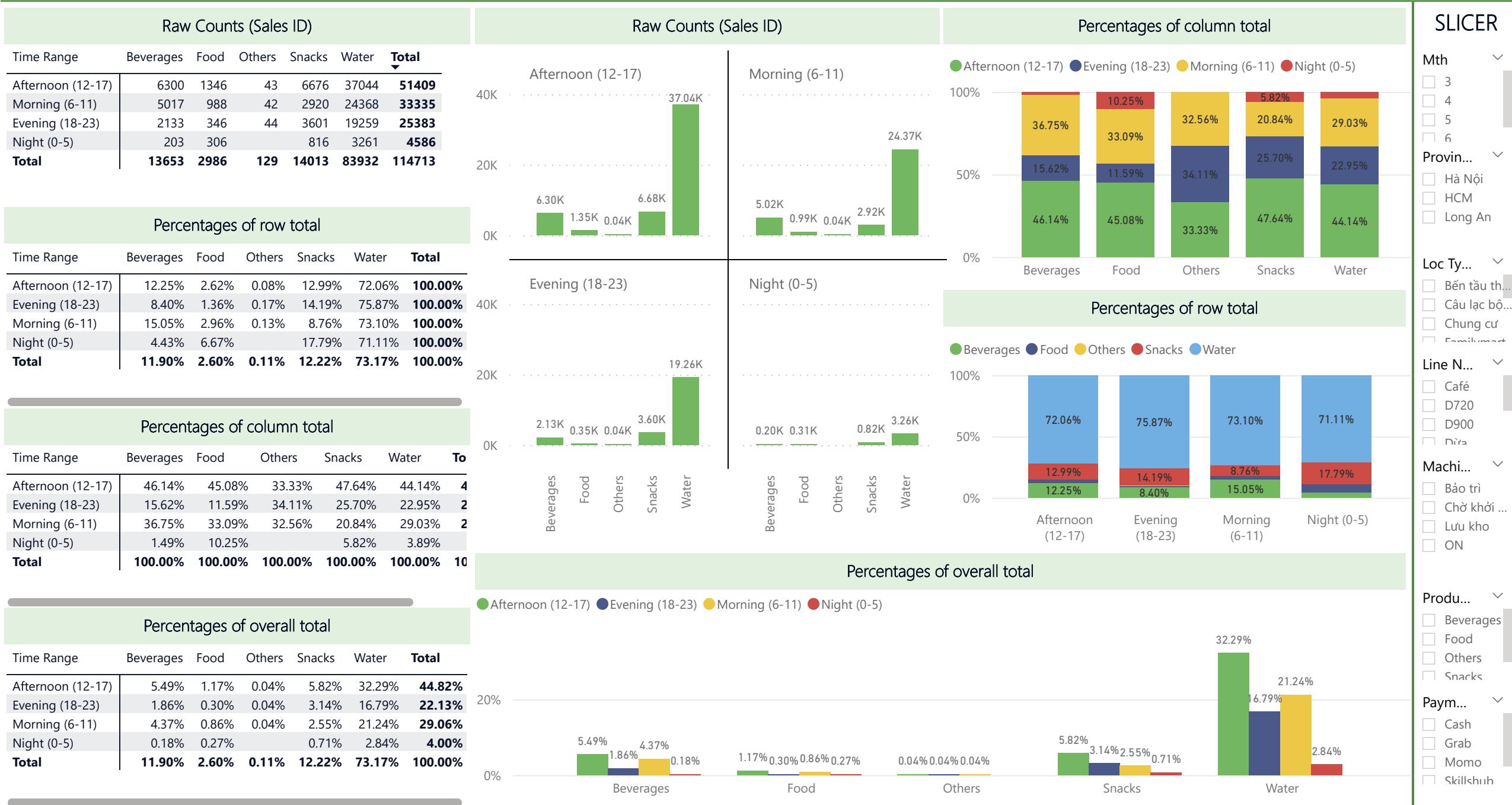
Percentages of Column total					
Time Range	Bến tàu thủy	Chung cư	FamilyMart	Khu công nghiệp	L
Afternoon (12-17)	40.16%	34.19%	50.61%	46.79%	
Evening (18-23)	37.90%	38.73%	5.71%	14.56%	
Morning (6-11)	19.92%	21.60%	43.20%	31.70%	
Night (0-5)	2.02%	5.48%	0.48%	6.95%	
Total	100.00%	100.00%	100.00%	100.00%	



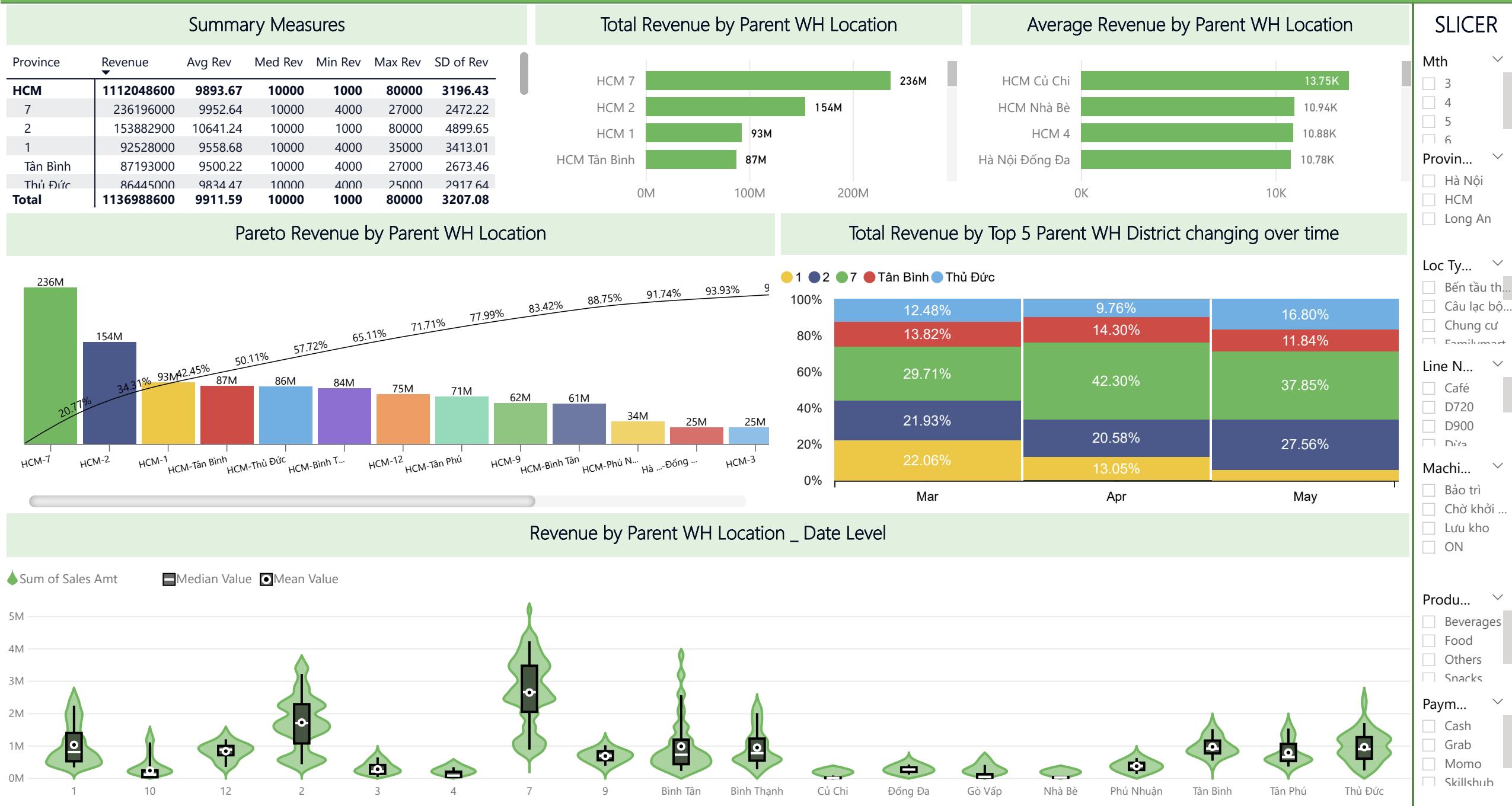
Percentages of overall total					
Time Range	Bến tàu thủy	Chung cư	Familymart	Khu công nghiệp	L
Afternoon (12-17)	2.70%	7.02%	3.75%	8.34%	
Evening (18-23)	2.55%	7.95%	0.42%	2.59%	
Morning (6-11)	1.34%	4.43%	3.20%	5.65%	
Night (0-5)	0.14%	1.13%	0.04%	1.24%	
Total	6.72%	20.52%	7.41%	17.82%	



DIAGNOSTIC ANALYTICS - [CAT-CAT] TIME OF DAY & PRODUCT GROUP



DIAGNOSTIC ANALYTICS - [CAT-NUM] PARENT WAREHOUSE LOCATION & REVENUE



DIAGNOSTIC ANALYTICS - [CAT-NUM] PARENT WAREHOUSE & REVENUE

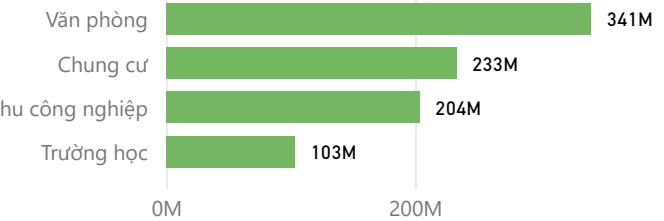


DIAGNOSTIC ANALYTICS - [CAT-NUM] LOCATION TYPE & REVENUE

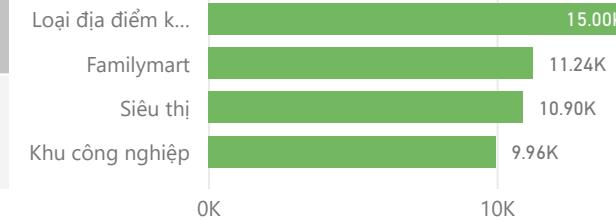
Summary Measures

Loc Type	Revenue	Avg Rev	Med Rev	Min Rev	Max Rev	SD of Rev
Văn phòng	341308700	9829.19	10000	4000	27000	2633.80
Chung cư	233127000	9902.60	10000	4000	80000	3134.93
Khu công nghiệp	203533000	9955.15	10000	4000	27000	2522.62
Trường học	103276000	9203.81	10000	4000	27000	2914.84
FamilyMart	95567900	11243.28	10000	1000	80000	5899.19
Siêu thị	91520000	10900.43	10000	6000	58000	2383.71
Total	1136988600	9911.59	10000	1000	80000	3207.08

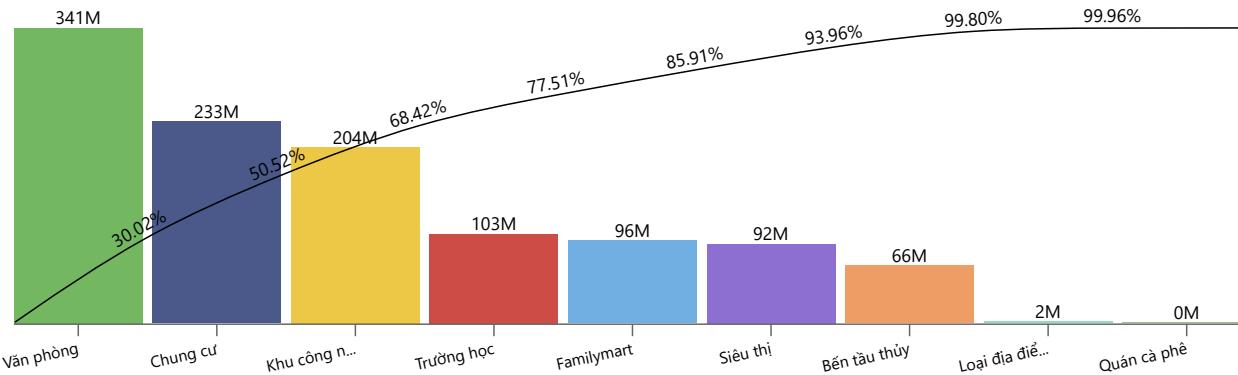
Total Revenue by Location Type



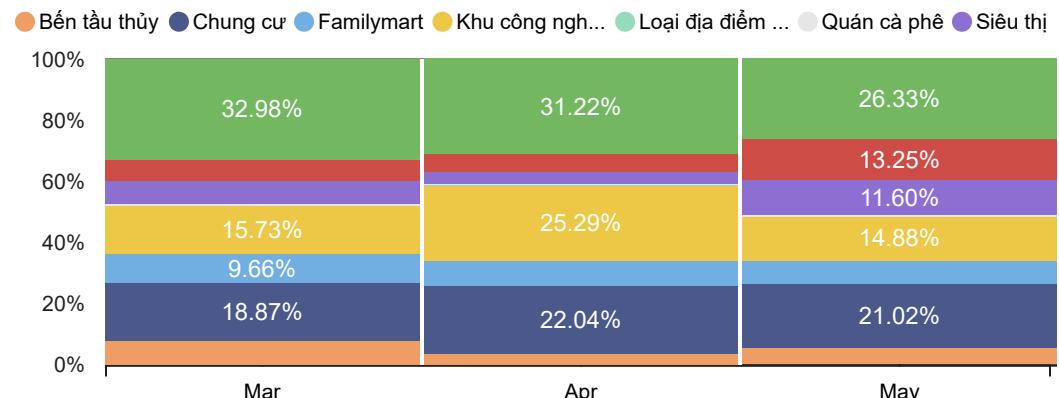
Average Revenue by Location Type



Pareto Revenue by Location Type

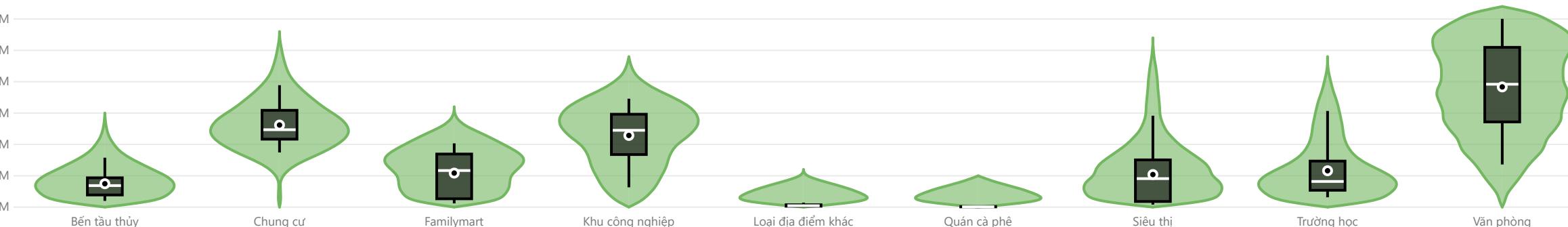


Total Revenue by Location Type changing over time



Revenue by Location Type _ Date Level

▲ Sum of Sales Amt ■ Median Value ● Mean Value



SLICER

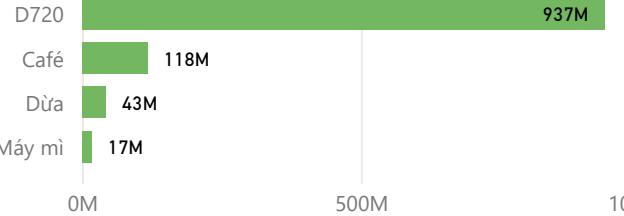
- Mth
 - 3
 - 4
 - 5
 - 6
- Provin...
 - Hà Nội
 - HCM
 - Long An
- Loc Ty...
 - Bến tàu th...
 - Câu lạc bộ...
 - Chung cư
 - FamilyMart
- Line N...
 - Café
 - D720
 - D900
 - Điện
- Machi...
 - Bảo trì
 - Chờ khởi ...
 - Lưu kho
 - ON
- Produ...
 - Beverages
 - Food
 - Others
 - Snacks
- Paym...
 - Cash
 - Grab
 - Momo
 - Skillshub

DIAGNOSTIC ANALYTICS - [CAT-NUM] MACHINE LINE & REVENUE

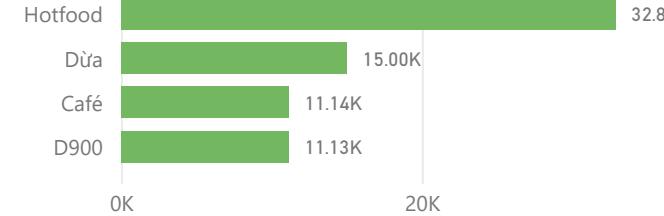
Summary Measures

Line Name	Revenue	Avg Rev	Med Rev	Min Rev	Max Rev	SD of Rev
D720	936909900	9581.62	10000	2000	80000	2787.26
Café	117531500	11138.32	10000	1000	15000	2982.61
Dùa	42846000	14996.85	15000	10500	18000	500.43
Máy mì	17302500	8188.59	8000	4000	18000	2189.43
D900	12244700	11131.55	10000	4000	58000	5907.17
Hotfood	10154000	32860.84	35000	20000	35000	4427.78
Total	1136988600	9911.59	10000	1000	80000	3207.08

Total Revenue by Machine



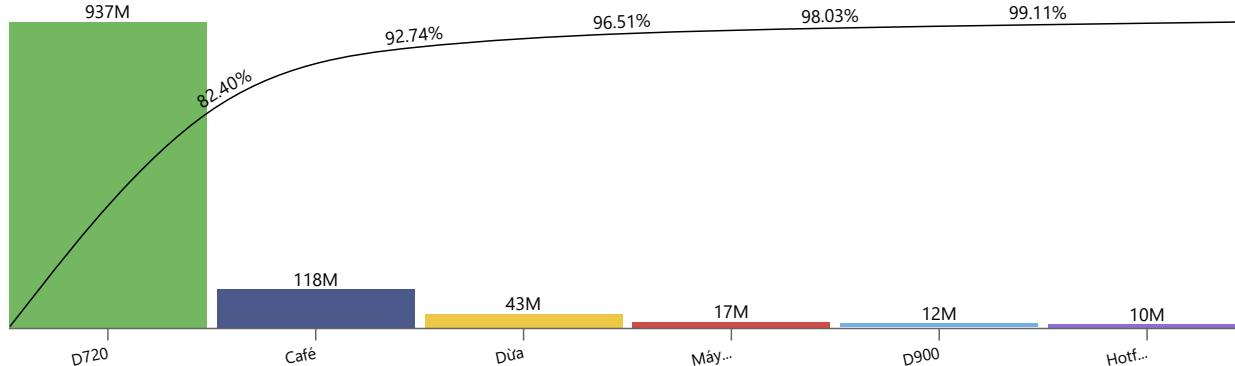
Average Revenue by Machine



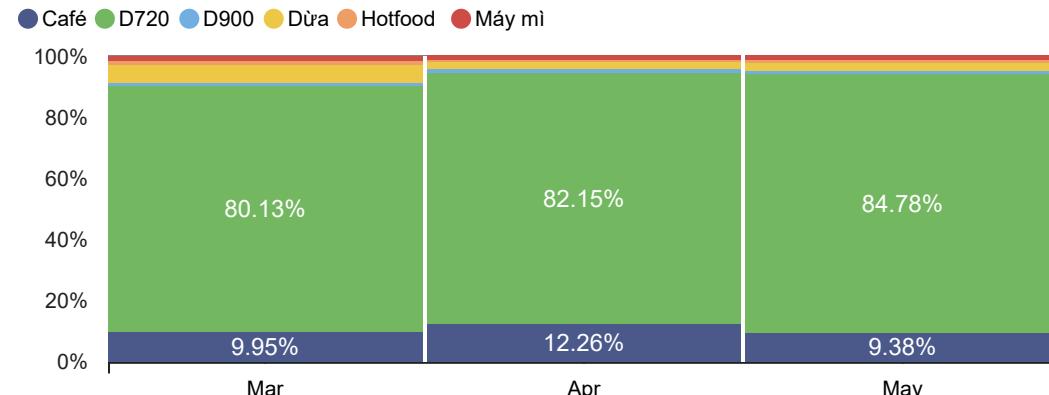
SLICER

Mth	3
4	
5	
6	
Provins...	
Hà Nội	
HCM	
Long An	

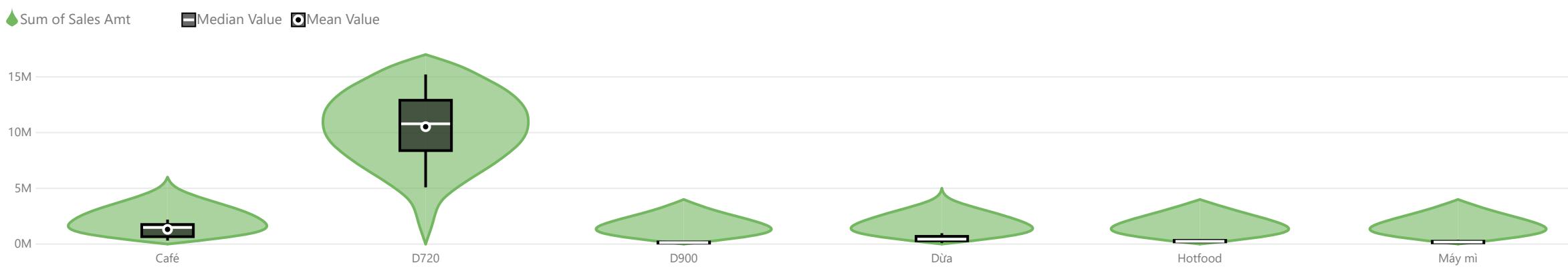
Pareto Revenue by Machine



Total Revenue by Machine changing over time



Revenue by Machine _ Date Level



Loc Ty...	Bến tàu th...
Câu lạc bộ...	
Chung cư	
...	

Line N...	Café
D720	
D900	
Dùa	

Machi...	Bảo trì
Chờ khởi ...	
Lưu kho	
ON	

Produ...	Beverages
Food	
Others	
Snacks	

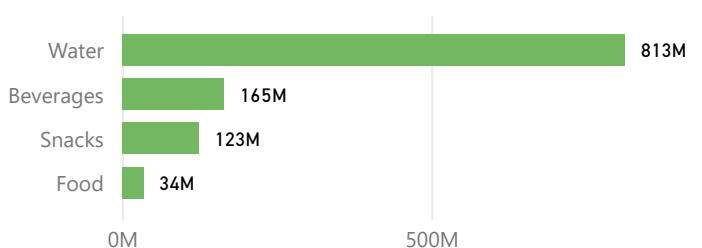
Paym...	Cash
Grab	
Momo	
Skillshub	

DIAGNOSTIC ANALYTICS - [CAT-NUM] PRODUCT GROUP & REVENUE

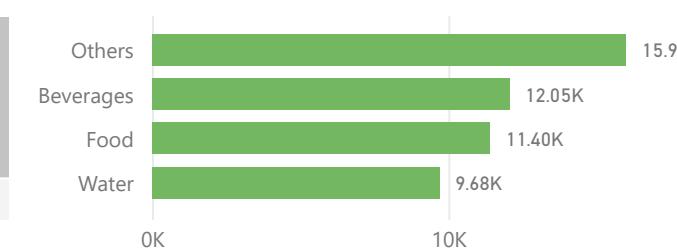
Summary Measures

Product Group	Revenue	Avg Rev	Med Rev	Min Rev	Max Rev	SD of Rev
Water	812849800	9684.62	10000	4000	25000	2676.41
Beverages	164585500	12054.90	10000	1000	20000	3148.78
Snacks	123438100	8808.83	8000	4000	27000	3141.88
Food	34052700	11404.12	8000	4900	35000	7747.14
Others	2062500	15988.37	10000	2000	80000	15311.05
Total	1136988600	9911.59	10000	1000	80000	3207.08

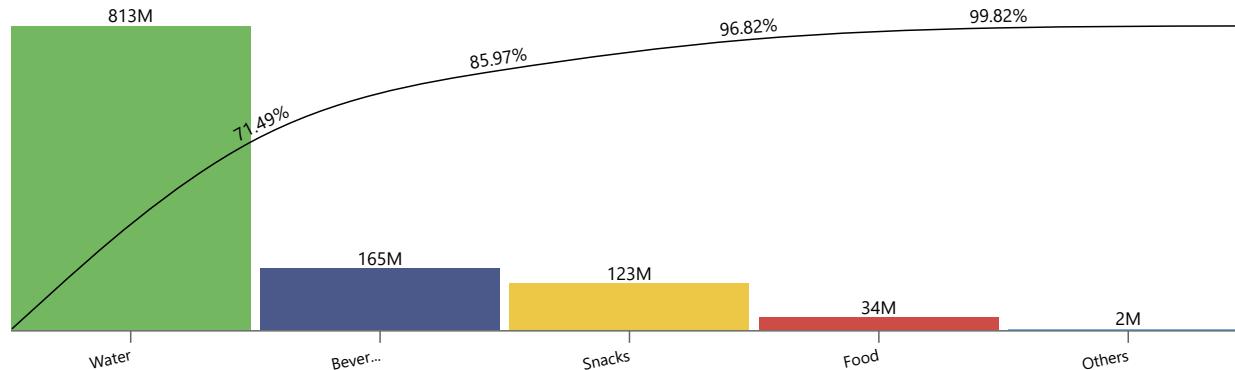
Total Revenue by Product



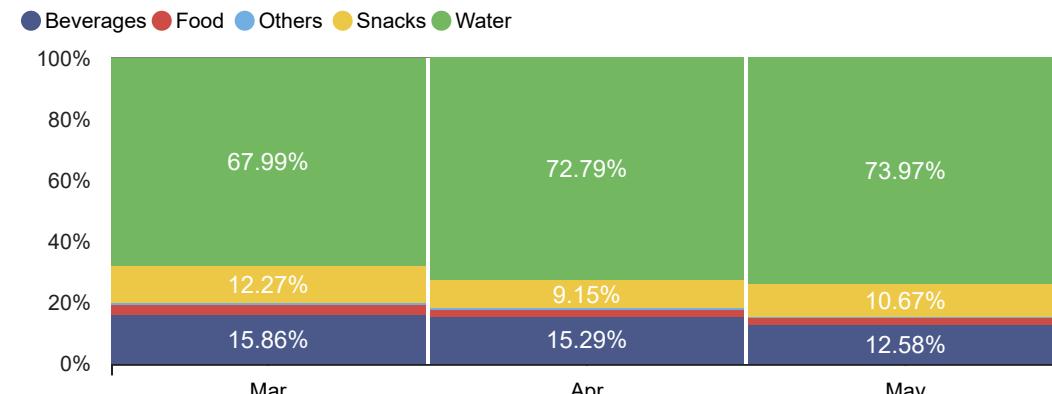
Average Revenue by Product



Pareto Revenue by Product



Total Revenue by Product Group changing over time



Revenue by Product _ Date Level



SLICER

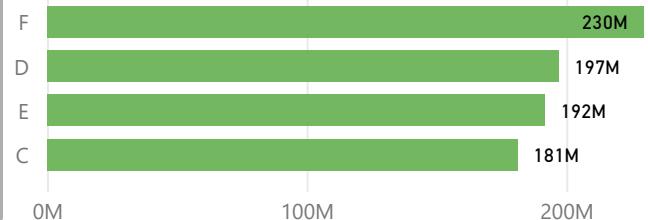
- Mth
 - 3
 - 4
 - 5
 - 6
- Provins...
 - Hà Nội
 - HCM
 - Long An
- Loc Ty...
 - Bến tàu th...
 - Câu lạc bộ...
 - Chung cư
 - ...
- Line N...
 - Café
 - D720
 - D900
 - ...
- Machi...
 - Bảo trì
 - Chờ khởi ...
 - Lưu kho
 - ON
- Produ...
 - Beverages
 - Food
 - Others
 - Snacks
- Paym...
 - Cash
 - Grab
 - Momo
 - Skillshub

DIAGNOSTIC ANALYTICS - [CAT-NUM] POSITION TYPE & REVENUE

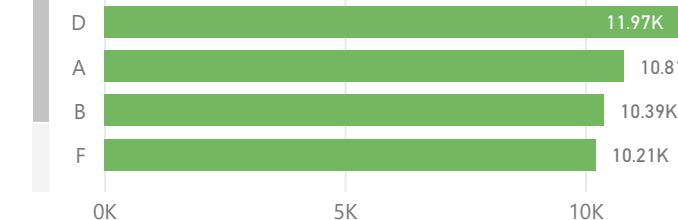
Summary Measures

Pos Row	Revenue	Avg Rev	Med Rev	Min Rev	Max Rev	SD of Rev
F	229872650	10213.84	10000	4000	35000	2045.62
D	196813300	11965.06	12000	4000	58000	3501.20
E	191540450	7637.18	6000	4200	80000	2409.16
C	181128800	10148.98	10000	2000	35000	2758.75
B	170716500	10391.80	10000	1000	27000	3322.78
A	94457700	10805.04	10000	1000	58000	4173.42
Total	1064529400	9944.04	10000	1000	80000	3239.82

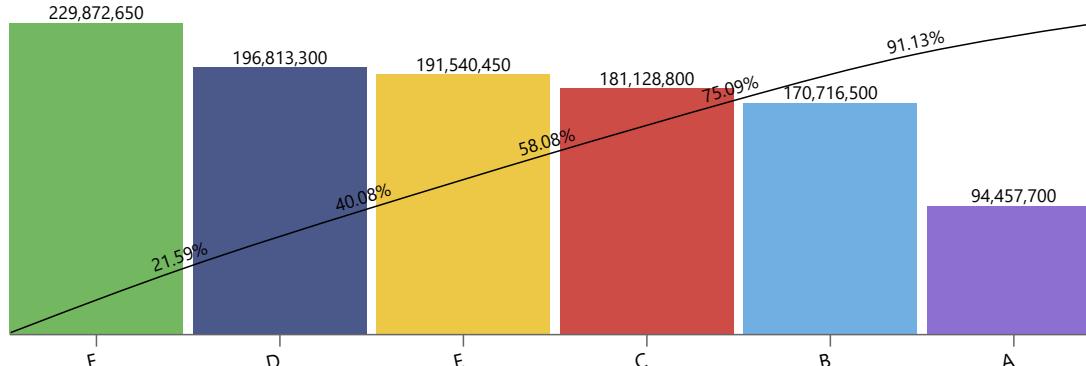
Total Revenue by Position



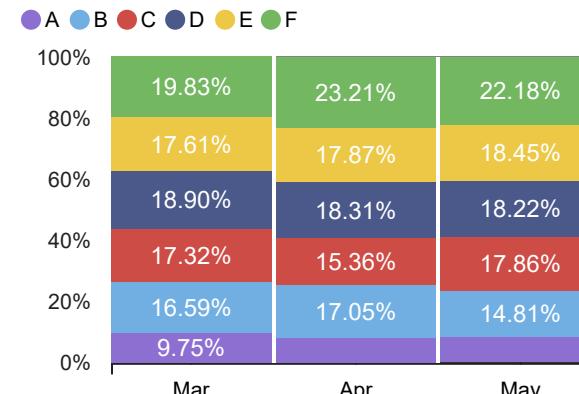
Average Revenue by Position



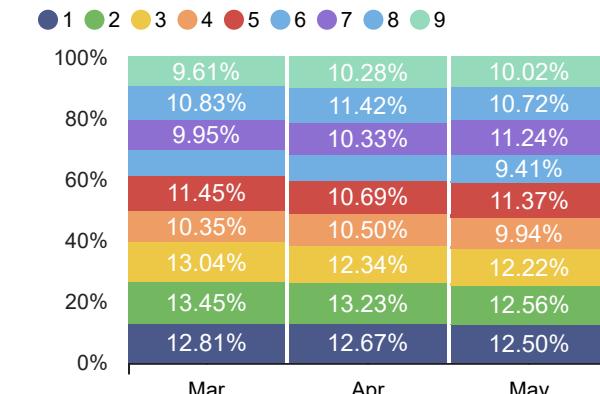
Pareto Revenue by Position



Tot Rev by Pos Row change over time

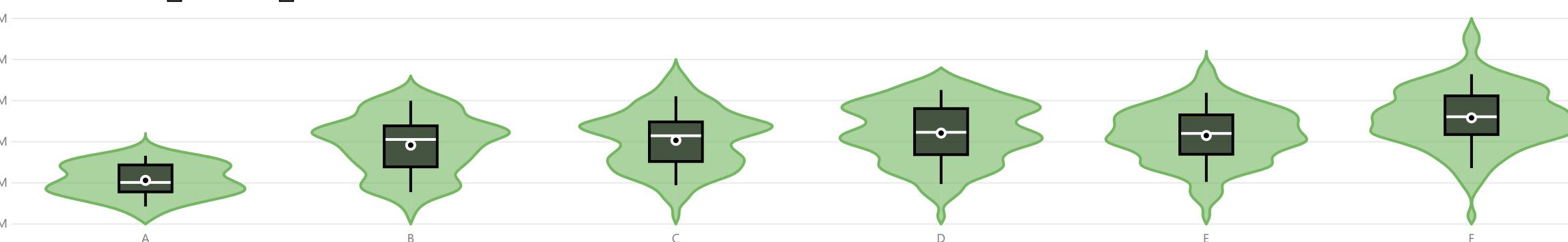


Tot Rev by Pos Col change over time



Revenue by Position _ Date Level

Sum of Sales Amt Median Value Mean Value



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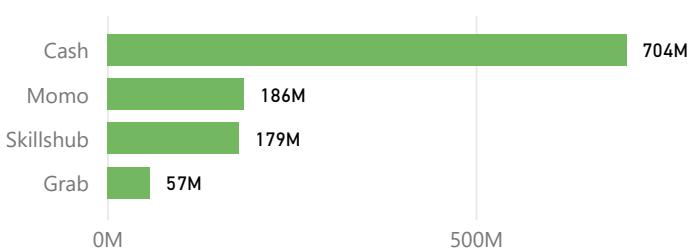
- Mth
 - 3
 - 4
 - 5
 - 6
- Provin...
 - Hà Nội
 - HCM
 - Long An
- Loc Ty...
 - Bến tàu th...
 - Câu lạc bộ...
 - Chung cư
 - ...
- Line N...
 - Café
 - D720
 - D900
 - ...
- Machi...
 - Bảo trì
 - Chờ khởi ...
 - Lưu kho
 - ON
- Produ...
 - Beverages
 - Food
 - Others
 - Snacks
- Paym...
 - Cash
 - Grab
 - Momo
 - Skillshub

DIAGNOSTIC ANALYTICS - [CAT-NUM] PAYMENT & REVENUE

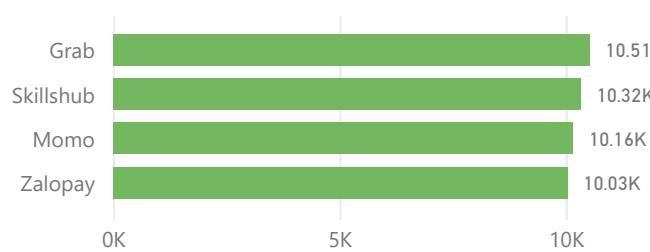
Summary Measures

Payment Type	Revenue	Avg Rev	Med Rev	Min Rev	Max Rev	SD of Rev
Cash	704416650	9704.85	10000	4000	80000	2776.10
Momo	185805650	10155.53	10000	4000	58000	3002.62
Skillshub	178632000	10323.76	10000	1000	80000	4692.87
Grab	57253800	10514.93	10000	4000	58000	3250.69
Zalopay	10880500	10028.11	10000	5000	22000	2681.46
Total	1136988600	9911.59	10000	1000	80000	3207.08

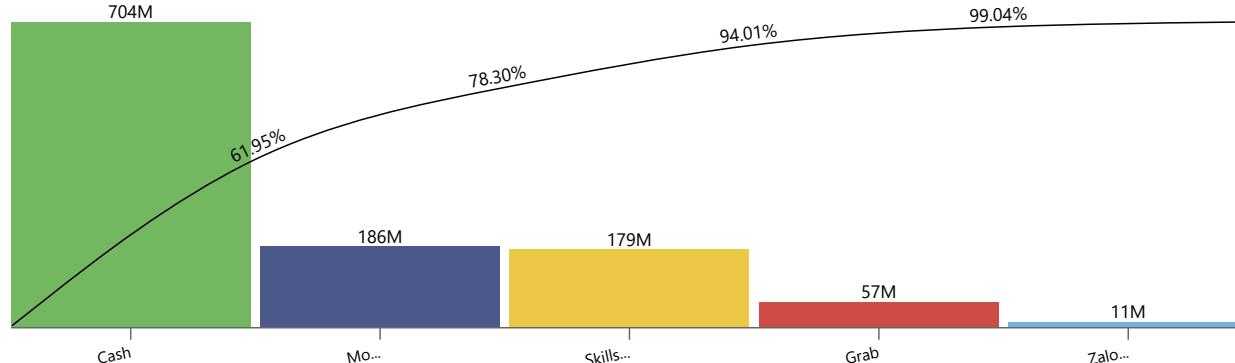
Total Revenue by Payment



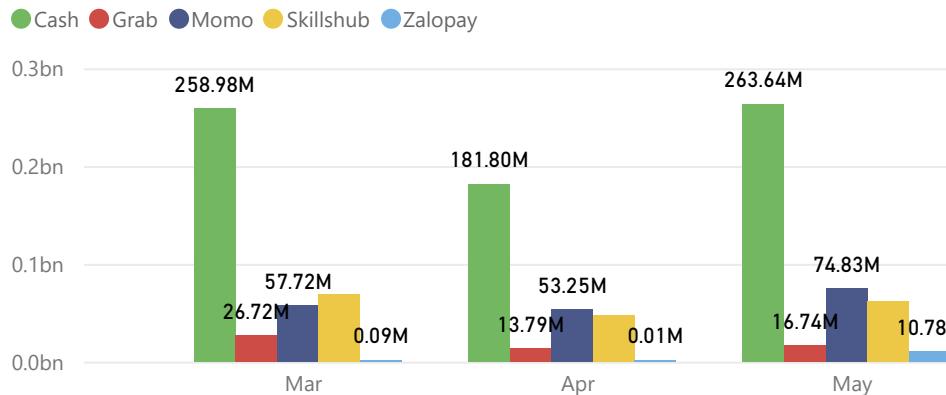
Average Revenue by Payment



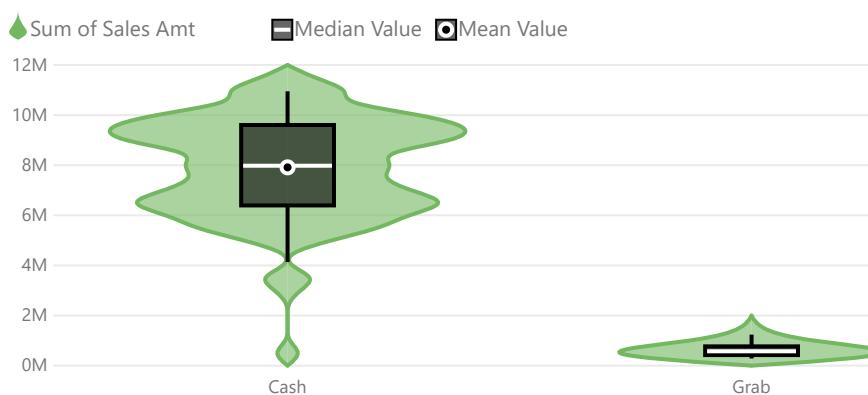
Pareto Revenue by Payment



Total Revenue by Payment changing over time



Revenue by Payment _ Date Level



SLICER

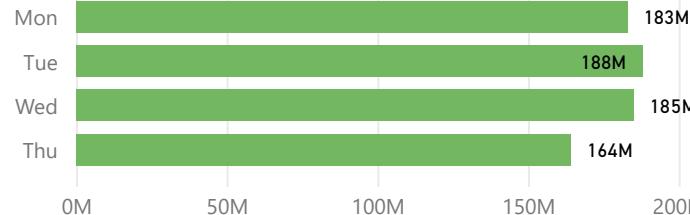
- Mth
 - 3
 - 4
 - 5
 - 6
- Provin...
 - Hà Nội
 - HCM
 - Long An
- Loc Ty...
 - Bến tàu th...
 - Câu lạc bộ...
 - Chung cư
 - ...
- Line N...
 - Café
 - D720
 - D900
 - ...
- Machi...
 - Bảo trì
 - Chờ khởi ...
 - Lưu kho
 - ON
- Produ...
 - Beverages
 - Food
 - Others
 - Snacks
- Paym...
 - Cash
 - Grab
 - Momo
 - Skillshub

DIAGNOSTIC ANALYTICS - [CAT-NUM] DAY OF WEEK & REVENUE

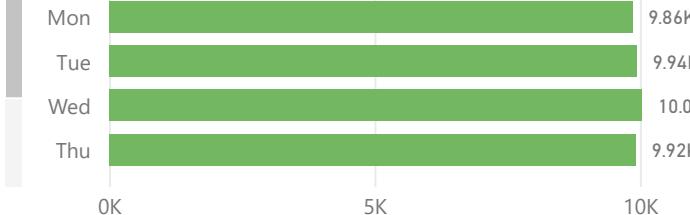
Summary Measures

Day Name	Revenue	Avg Rev	Med Rev	Min Rev	Max Rev	SD of Rev
Tue	187941000	9937.66	10000	1000	80000	3387.87
Wed	184983950	10037.66	10000	1000	35000	3203.18
Mon	183013550	9856.40	10000	1000	35000	3250.52
Thu	164207200	9920.09	10000	1000	35000	3226.82
Fri	162754400	10023.06	10000	2000	80000	3288.05
Sat	131214500	9760.08	10000	4000	80000	2969.03
Total	1136988600	9911.59	10000	1000	80000	3207.08

Total Revenue by DOW



Average Revenue by DOW



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Mth	3
4	5
5	6
6	Provin...
Hà Nội	HCM
HCM	Long An

Loc Ty...	Bến tàu th...
Câu lạc bộ...	Chung cư
Chung cư	Emmilk...
Emmilk...	...

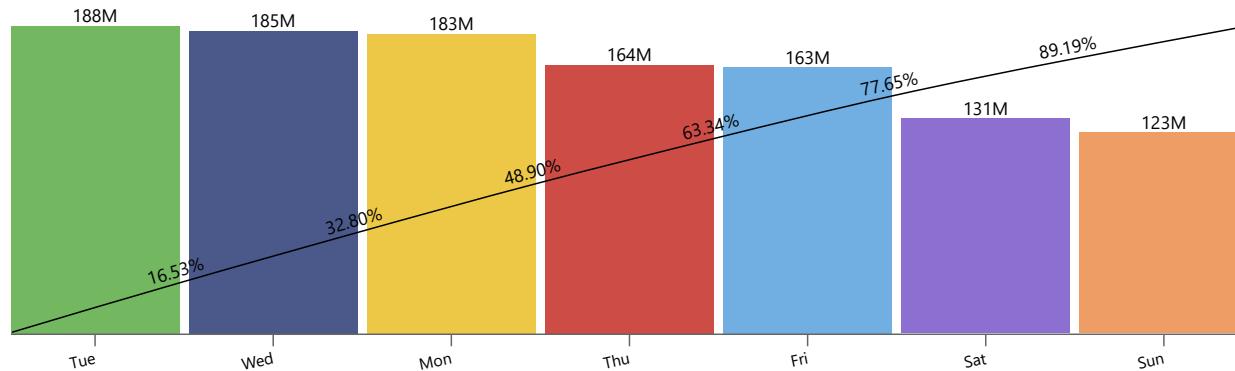
Line N...	Café
Café	D720
D720	D900
D900	Điện
Điện	...

Machi...	Bảo trì
Bảo trì	Chờ khởi ...
Chờ khởi ...	Lưu kho
Lưu kho	ON
ON	...

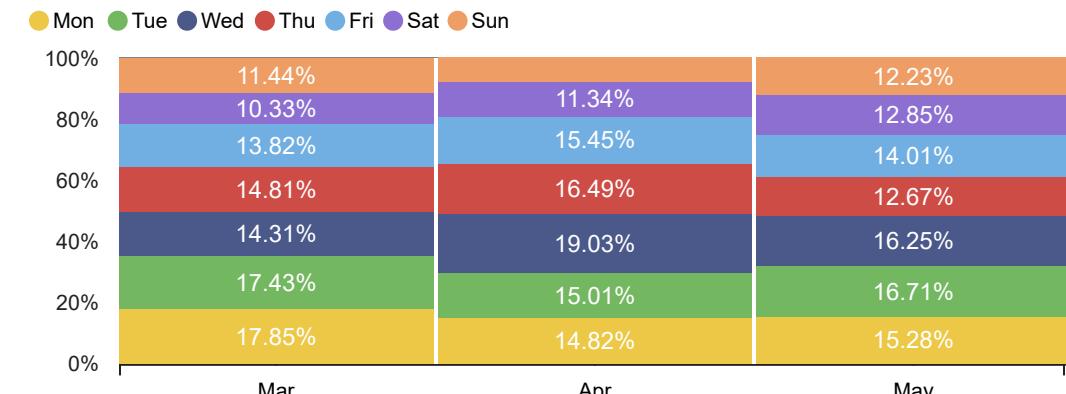
Produ...	Beverages
Beverages	Food
Food	Others
Others	Snacks
Snacks	...

Paym...	Cash
Cash	Grab
Grab	Momo
Momo	Skillshub
Skillshub	...

Pareto Revenue by DOW

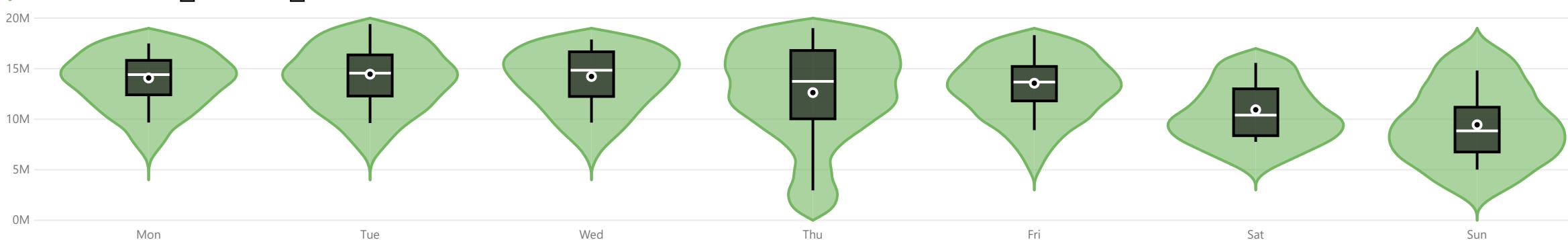


Total Revenue by DOW changing over time



Revenue by DOW _ Date Level

Sum of Sales Amt Median Value Mean Value

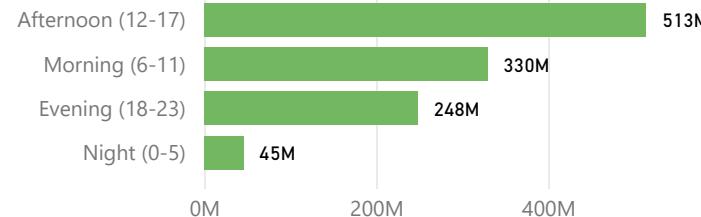


DIAGNOSTIC ANALYTICS - [CAT-NUM] TIME OF DAY & REVENUE

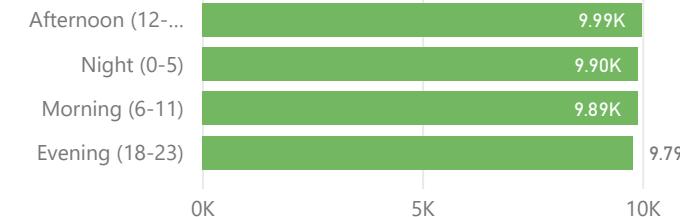
Summary Measures

Time Range	Revenue	Avg Rev	Med Rev	Min Rev	Max Rev	SD of Rev
Afternoon (12-17)	513499150	9988.51	10000	1000	35000	3237.85
Morning (6-11)	329673050	9889.70	10000	1000	58000	3276.01
Evening (18-23)	248420400	9786.88	10000	1000	80000	3098.66
Night (0-5)	45396000	9898.82	10000	4000	25000	2905.51
Total	1136988600	9911.59	10000	1000	80000	3207.08

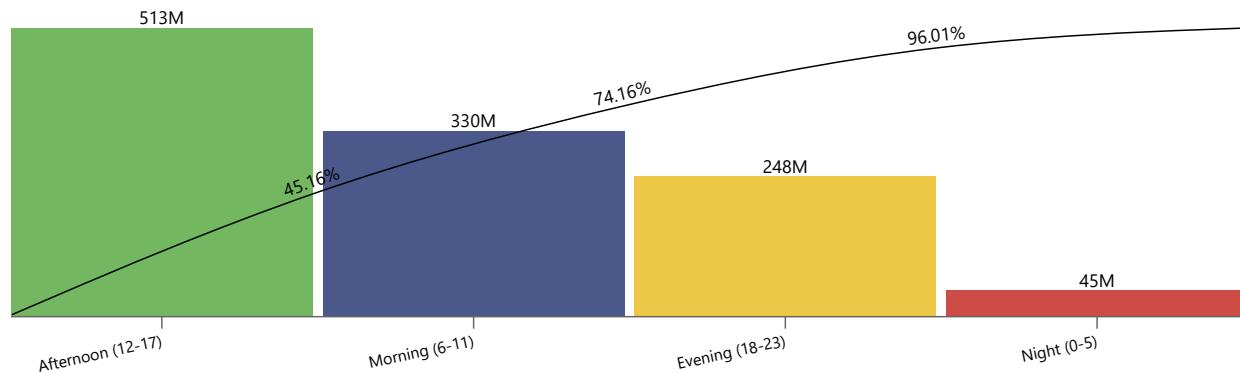
Total Revenue by Time



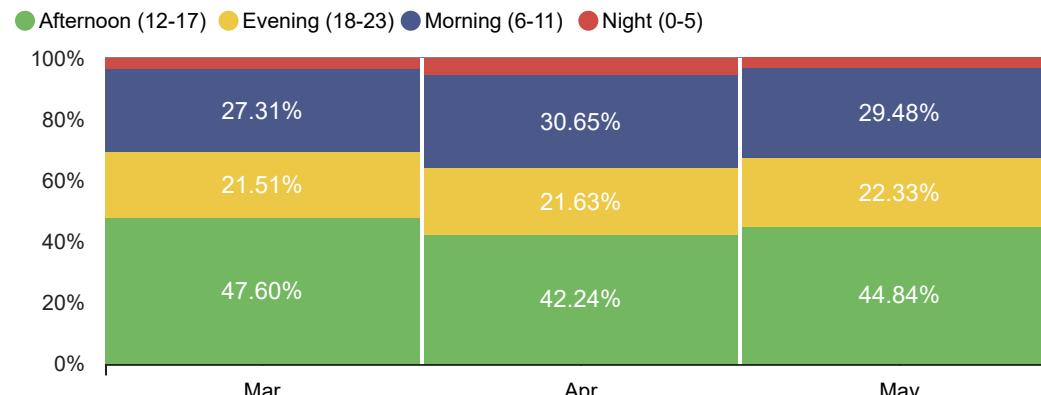
Average Revenue by Time



Pareto Revenue by Time



Total Revenue by Time Range changing over time



Revenue by Time _ Date Level



SLICER

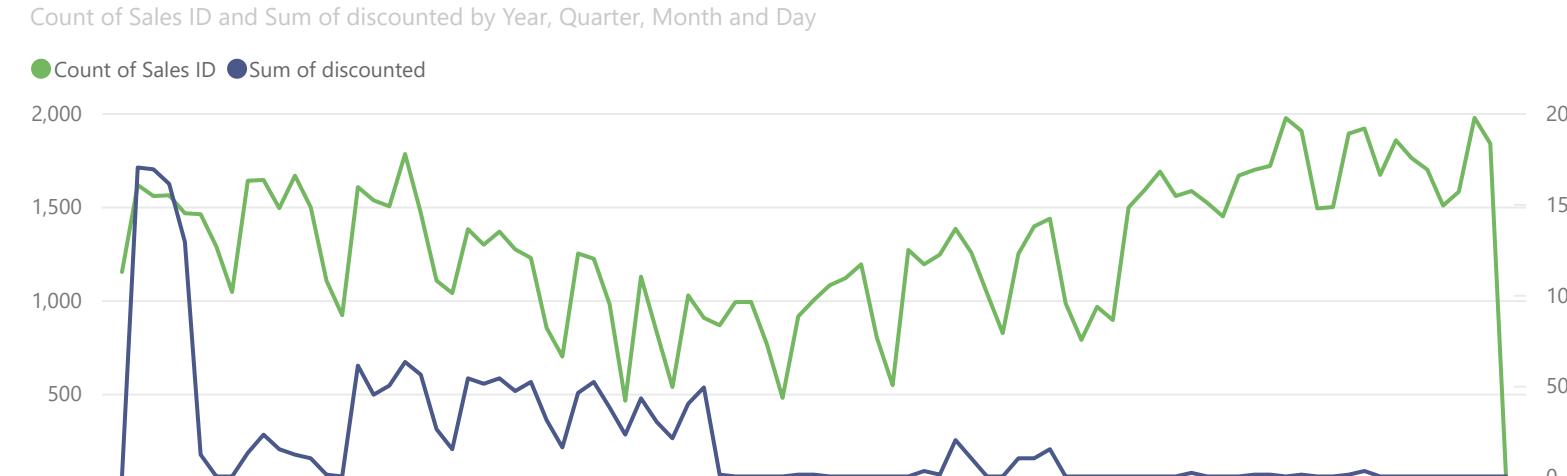
- Mth
 - 3
 - 4
 - 5
 - 6
- Provins...
 - Hà Nội
 - HCM
 - Long An
- Loc Ty...
 - Bến tàu th...
 - Câu lạc bộ...
 - Chung cư
 - Esports
- Line N...
 - Café
 - D720
 - D900
 - Dora
- Machi...
 - Bảo trì
 - Chờ khởi ...
 - Lưu kho
 - ON
- Produ...
 - Beverages
 - Food
 - Others
 - Snacks
- Paym...
 - Cash
 - Grab
 - Momo
 - Skillshub

DIAGNOSTIC ANALYTICS - [NUM-NUM] TRANSACTION VS DISCOUNT AMOUNT

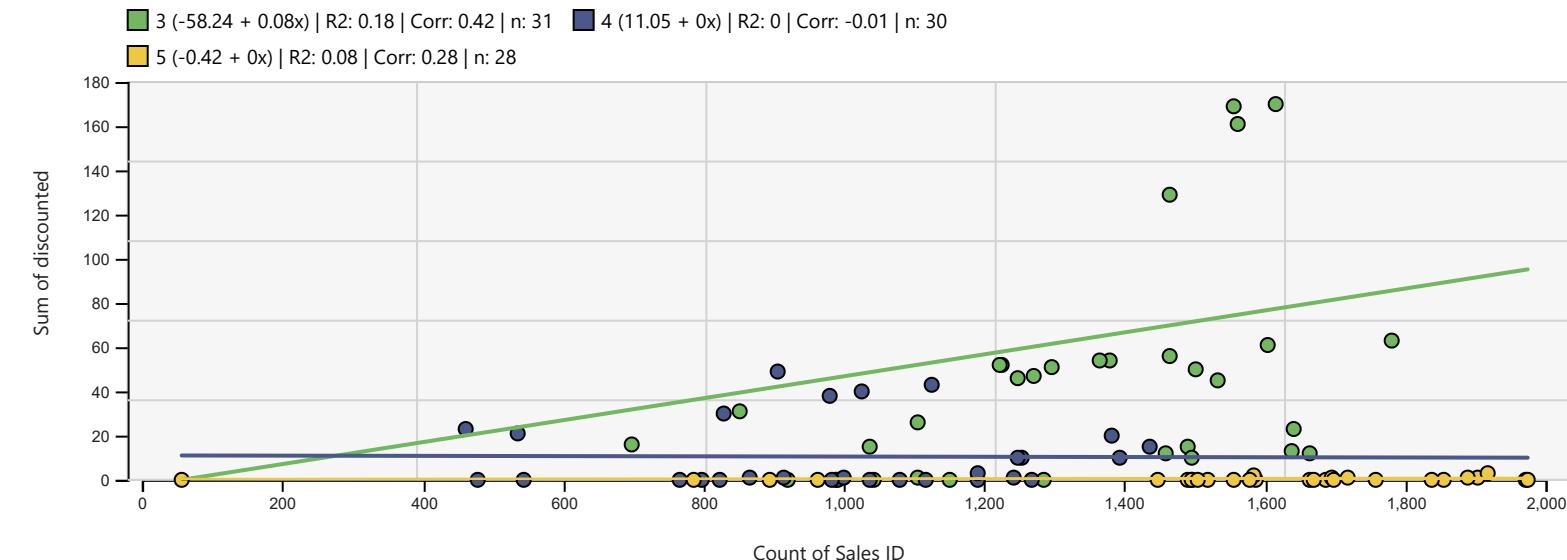
Transaction and Discount Quantity by Date

Sales Date	Sum of discounted	Count of Sales ID
01 March 2020	0	1150
02 March 2020	170	1615
03 March 2020	169	1556
04 March 2020	161	1560
05 March 2020	129	1464
06 March 2020	12	1459
07 March 2020	0	1286
08 March 2020	0	1043
09 March 2020	13	1638
10 March 2020	23	1642
11 March 2020	15	1491
12 March 2020	12	1665
13 March 2020	10	1496
14 March 2020	1	1104
15 March 2020	0	919
16 March 2020	61	1604
17 March 2020	45	1533
18 March 2020	50	1501
19 March 2020	63	1781
20 March 2020	56	1465
21 March 2020	26	1104
22 March 2020	15	1037
23 March 2020	54	1379
24 March 2020	51	1296
25 March 2020	54	1366
26 March 2020	47	1271
27 March 2020	52	1225
28 March 2020	31	851
29 March 2020	16	698
Total	1759	114713

Transaction and Discount Quantity by Date



Craydec Regression Chart - Transaction vs Discount Quantity



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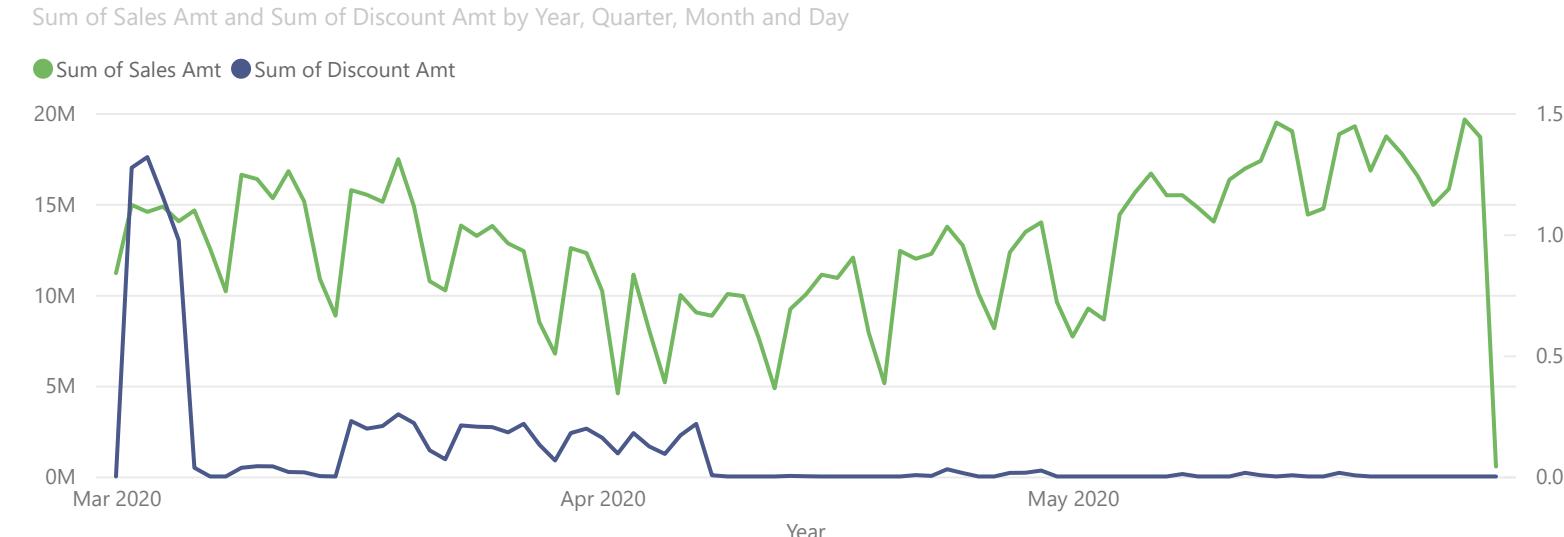
- Mth
 - 3
 - 4
 - 5
 - 6
- Provinst...
 - Hà Nội
 - HCM
- Loc Ty...
 - Bến tàu th...
 - Câu lạc bộ...
 - Chung cư
 - Familmart
- Line N...
 - Café
 - D720
 - D900
 - Dừa
 - Hotfood
- Machi...
 - Bảo trì
 - Chờ khởi ...
 - Lưu kho
 - ON
- Produ...
 - Beverages
 - Food
 - Others
 - Snacks
 - Water
- Paym...
 - Cash
 - Grab
 - Momo
 - Skillshub
 - Zalopay

DIAGNOSTIC ANALYTICS - [NUM-NUM] TRANSACTION VS DISCOUNT AMOUNT

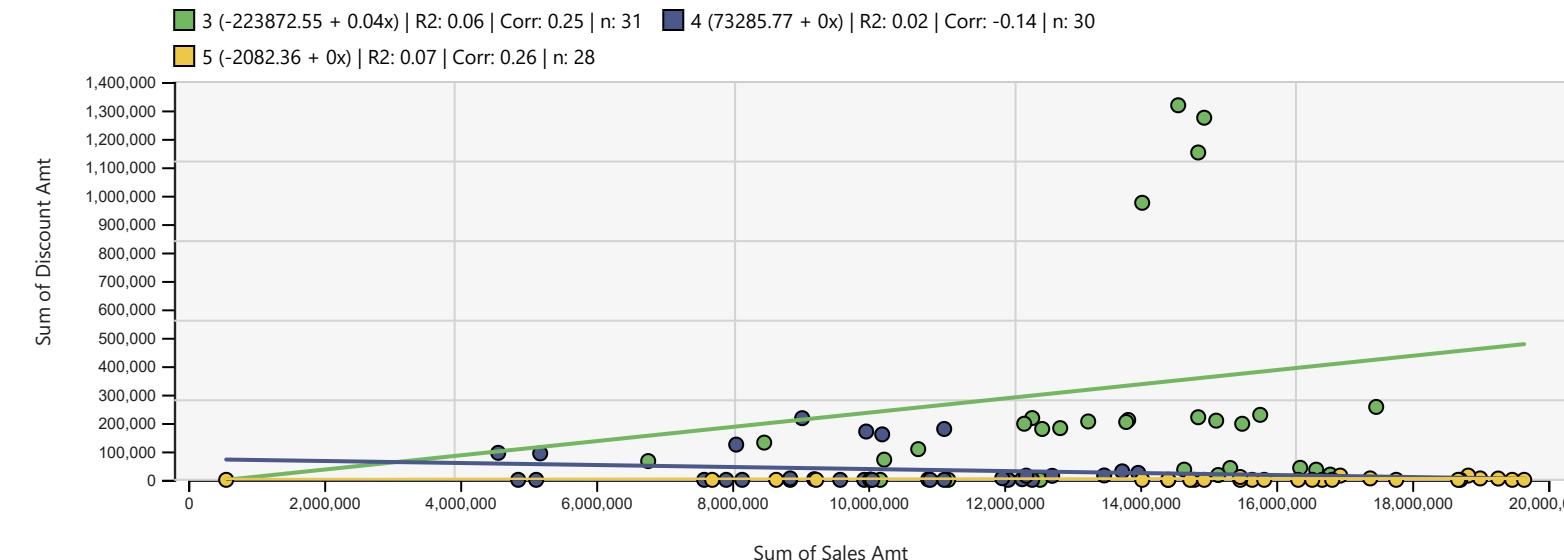
Revenue and Discount Amount by Date

Sales Date	Sum of Discount Amt	Sum of Sales Amt
01 March 2020	0	11189000
02 March 2020	1274250	14943750
03 March 2020	1318050	14558950
04 March 2020	1151950	14846050
05 March 2020	974900	14041100
06 March 2020	35900	14639100
07 March 2020	0	12537000
08 March 2020	0	10186000
09 March 2020	35850	16600150
10 March 2020	42300	16363700
11 March 2020	41600	15310400
12 March 2020	18450	16800550
13 March 2020	16950	15136050
14 March 2020	1500	10875500
15 March 2020	0	8849000
16 March 2020	228700	15754300
17 March 2020	197300	15499700
18 March 2020	208250	15110750
19 March 2020	256600	17461400
20 March 2020	220300	14862700
21 March 2020	108000	10747000
22 March 2020	71000	10238000
23 March 2020	210700	13807300
24 March 2020	205400	13235600
25 March 2020	203550	13784450
26 March 2020	182000	12825000
27 March 2020	217350	12401650
28 March 2020	131000	8483000
29 March 2020	66000	6754000
Total	9001400	1136988600

Revenue and Discount Amount by Date



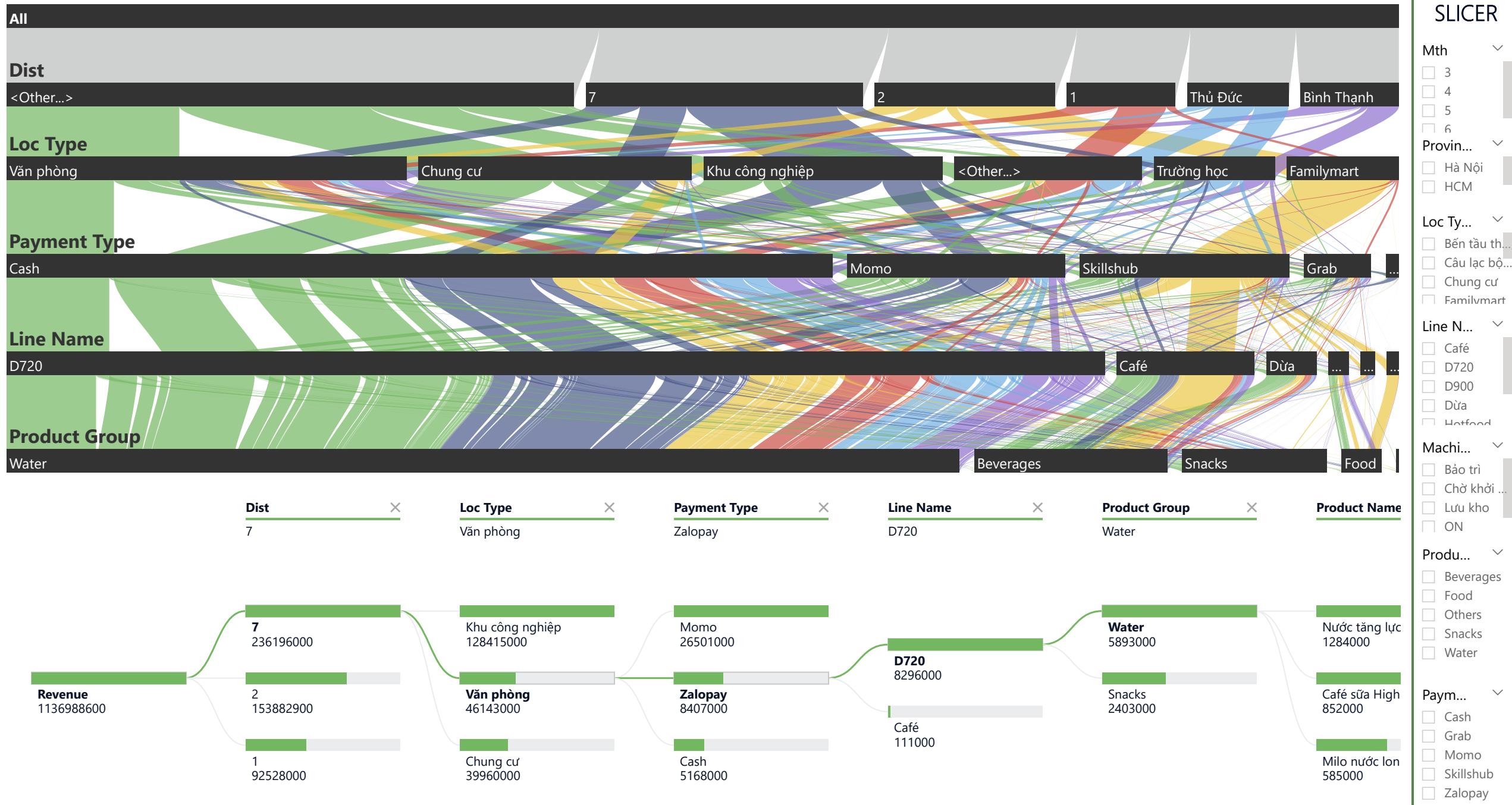
Craydec Regression Chart - Revenue vs Discount Amount



SLICER

- Mth
 - 3
 - 4
 - 5
 - 6
- Provinst...
 - Hà Nội
 - HCM
- Loc Ty...
 - Bến tàu th...
 - Câu lạc bộ...
 - Chung cư
 - Familmart
- Line N...
 - Café
 - D720
 - D900
 - Dừa
 - Hotfood
- Machi...
 - Bảo trì
 - Chờ khởi ...
 - Lưu kho
 - ON
- Produ...
 - Beverages
 - Food
 - Others
 - Snacks
 - Water
- Paym...
 - Cash
 - Grab
 - Momo
 - Skillshub
 - Zalopay

DIAGNOSTIC ANALYTICS - [REVENUE] SANKEY CHART & DECOMPOSITION TREE



DIAGNOSTIC ANALYTICS - [REVENUE] KEY POSITIVE INFLUENCERS

Key influencers Top segments



What influences Sales Amt to ?

When...

█ Pos Col is 0 - 2

1.36K

Pos Row is D

2.51K

Line Name is Café

1.28K

Loc Type is Siêu thị

1.02K

Loc Type is Familymart

1.46K

Product Name is Nước tăng
lực Red Bull 250ml

2.22K

Dist is Bình Tân

629.6

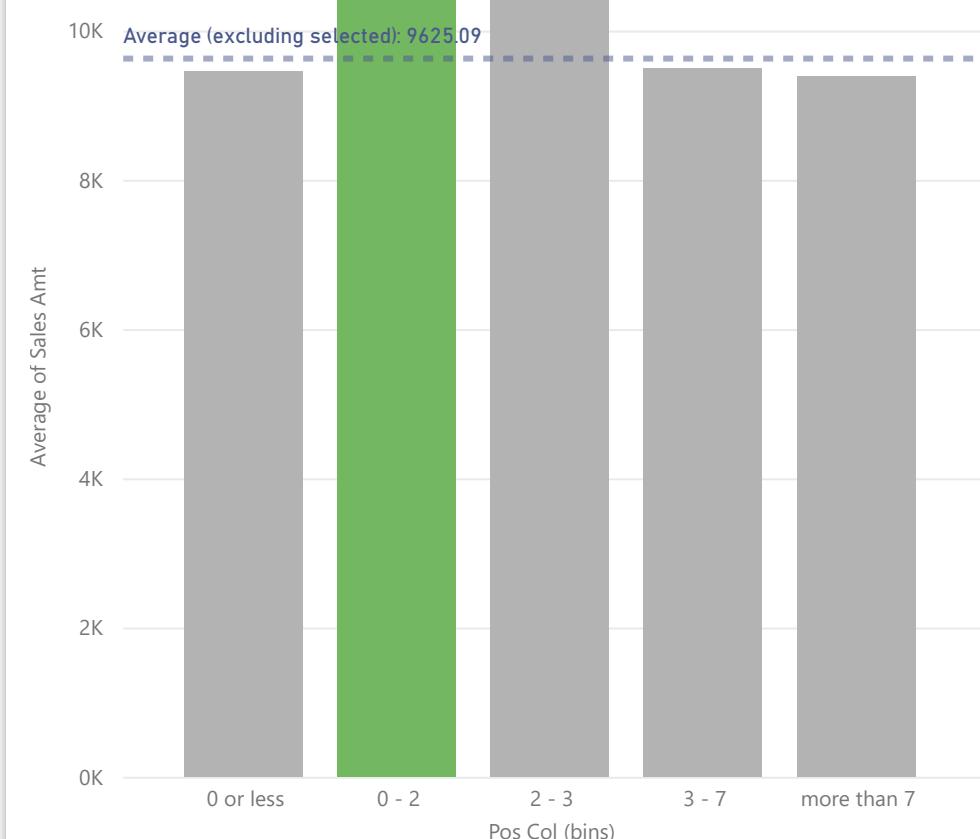
Product Name is Café sữa
Highland 235ml

5.08K

Sort by: Impact Count

....the average of Sales Amt
increases by

← Sales Amt is more likely to increase when Pos Col is 0 - 2 than otherwise (on average).



SLICER

Mth

- 3
- 4
- 5
- 6

Provinst...

- Hà Nội
- HCM

Loc Ty...

- Bến tàu th...
- Câu lạc bộ...

Line N...

- Café
- D720
- D900
- Dura

Machi...

- Bảo trì
- Chờ khởi ...
- Lưu kho
- ON

Produ...

- Beverages
- Food

Paym...

- Cash
- Grab

Date (...)

- Cluster1
- Cluster2
- Cluster3
- Cluster4
- Cluster5

DIAGNOSTIC ANALYTICS - [REVENUE] KEY NEGATIVE INFLUENCERS

Key influencers Top segments



What influences Sales Amt to Decrease ?

When...

Line Name is D720

2.25K

...the average of Sales Amt decreases by

Product Category is Nước

850

Product Group is Water

850

Payment Type is Cash

584.4

Pos Row is E

2.92K

Pos Col is more than 7

564.8

Product Category is Snack -
Bánh kẹo

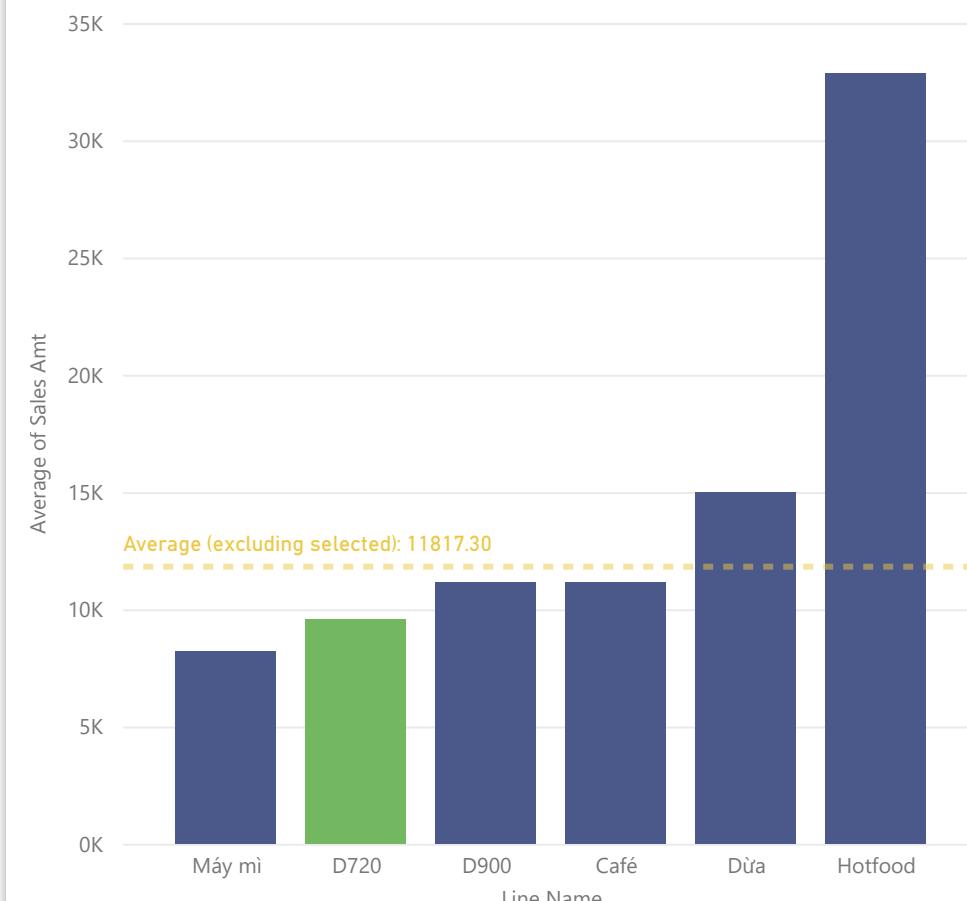
1.2K

Product Group is Snacks

1.2K

Sort by: Impact Count

← Sales Amt is more likely to decrease when Line Name is D720 than otherwise (on average).



SLICER

- Mth
 - 3
 - 4
 - 5
 - 6
- Provin...
 - Hà Nội
 - HCM
- Loc Ty...
 - Bến tàu th...
 - Câu lạc bộ...
- Line N...
 - Café
 - D720
 - D900
 - Dùa
- Machi...
 - Bảo trì
 - Chờ khởi ...
 - Lưu kho
 - ON
- Produ...
 - Beverages
 - Food
 - Others
- Payme...
 - Cash
 - Grab
 - K...
- Date ...
 - Cluster1
 - Cluster2
 - Cluster3
 - Cluster4