

Newspaper Kiosk Revenue Increase Strategies

Phase 1: Business & Data Understanding

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26/01/2021

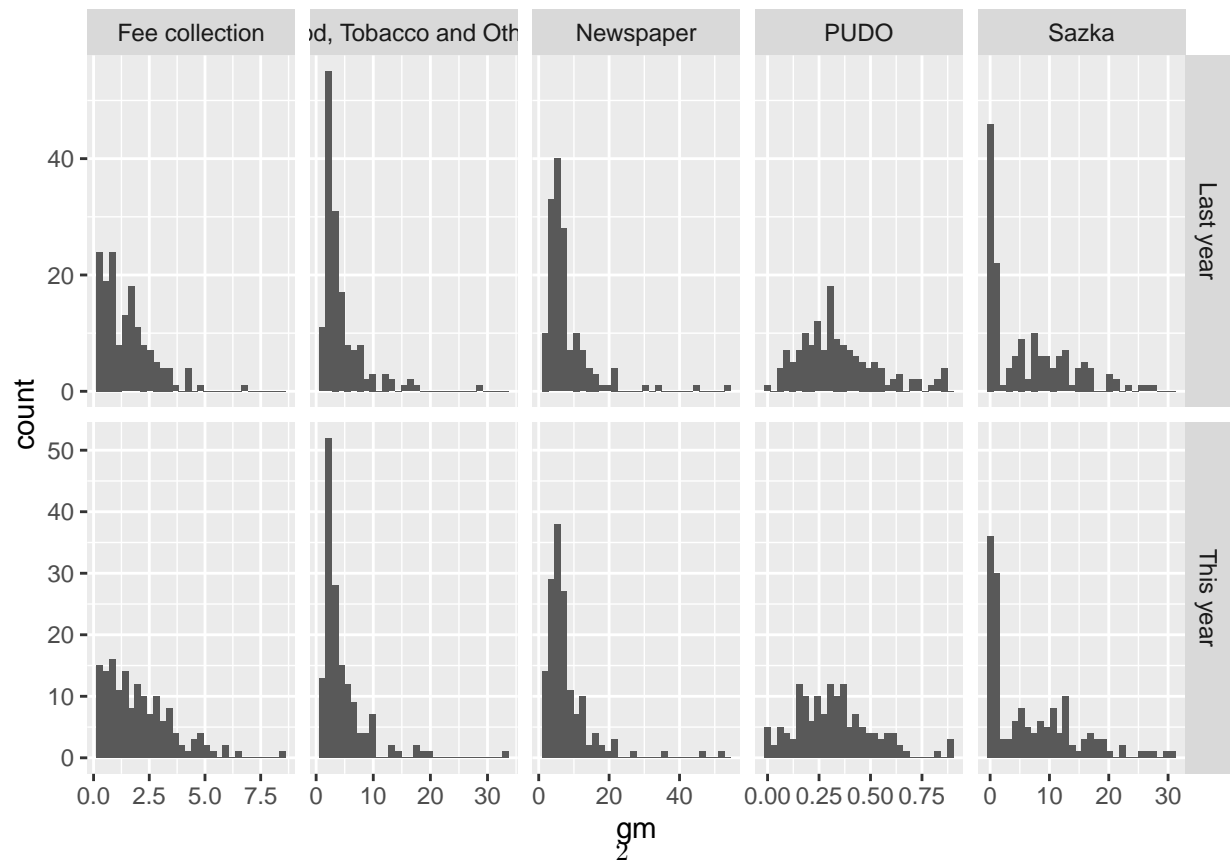
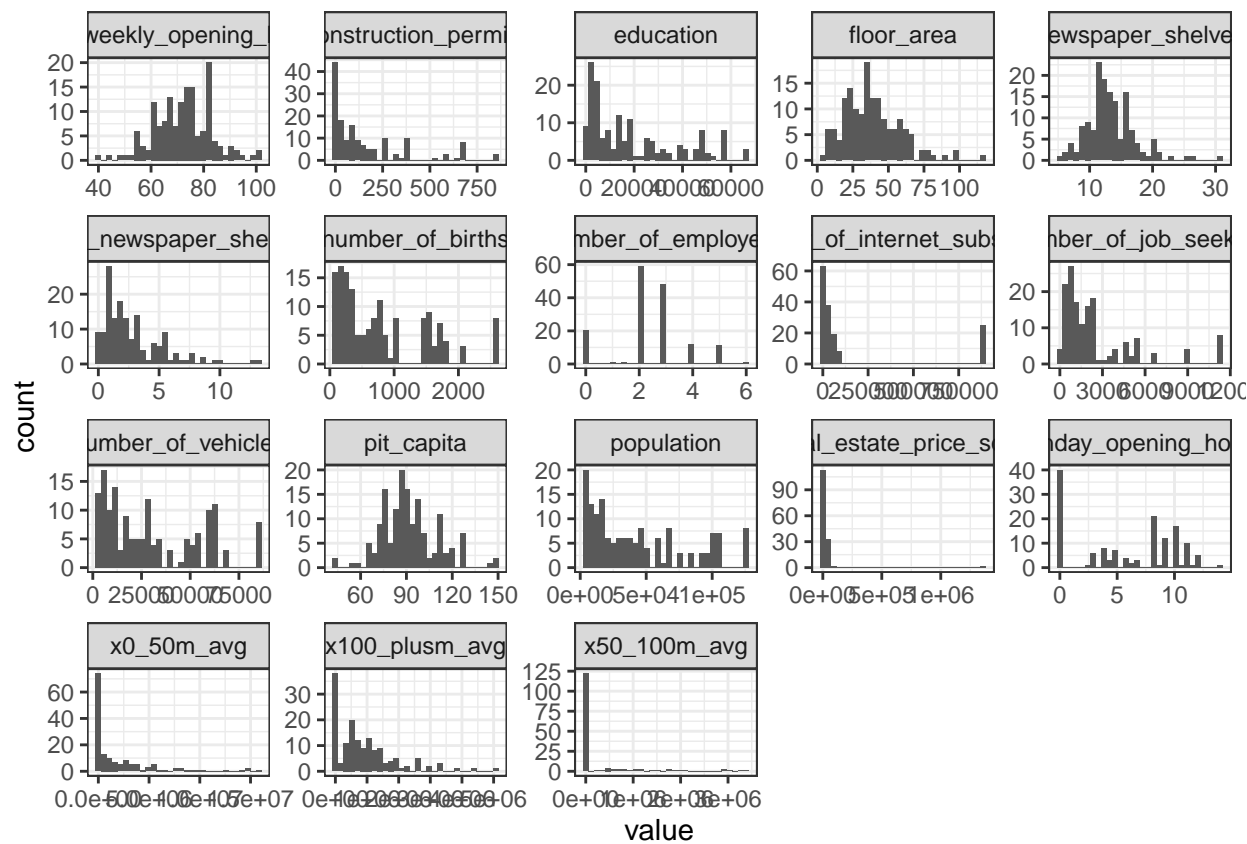
Abstract

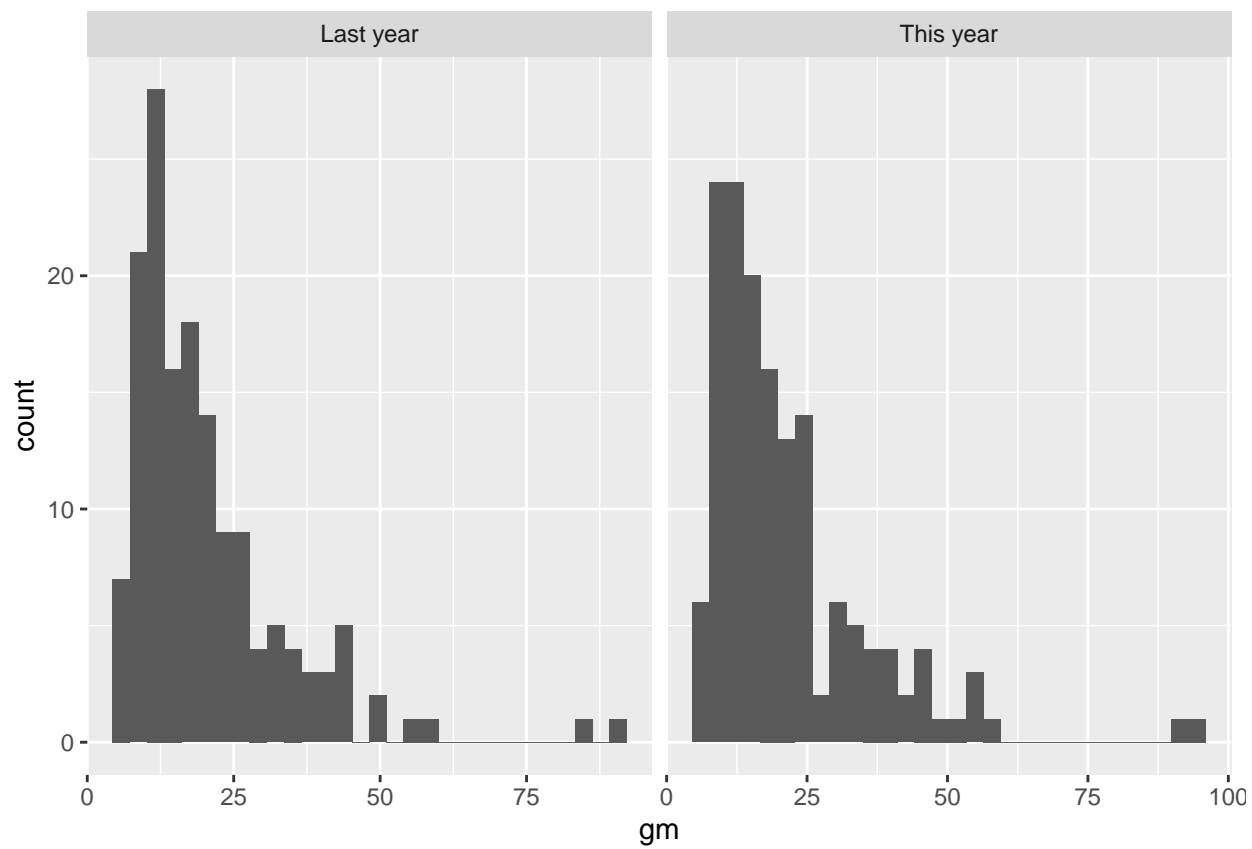
This document details the process of business and data understanding. It points out data cleaning issues, showcases descriptive and exploratory data analysis, variable transformations and formulates insights gained from them.

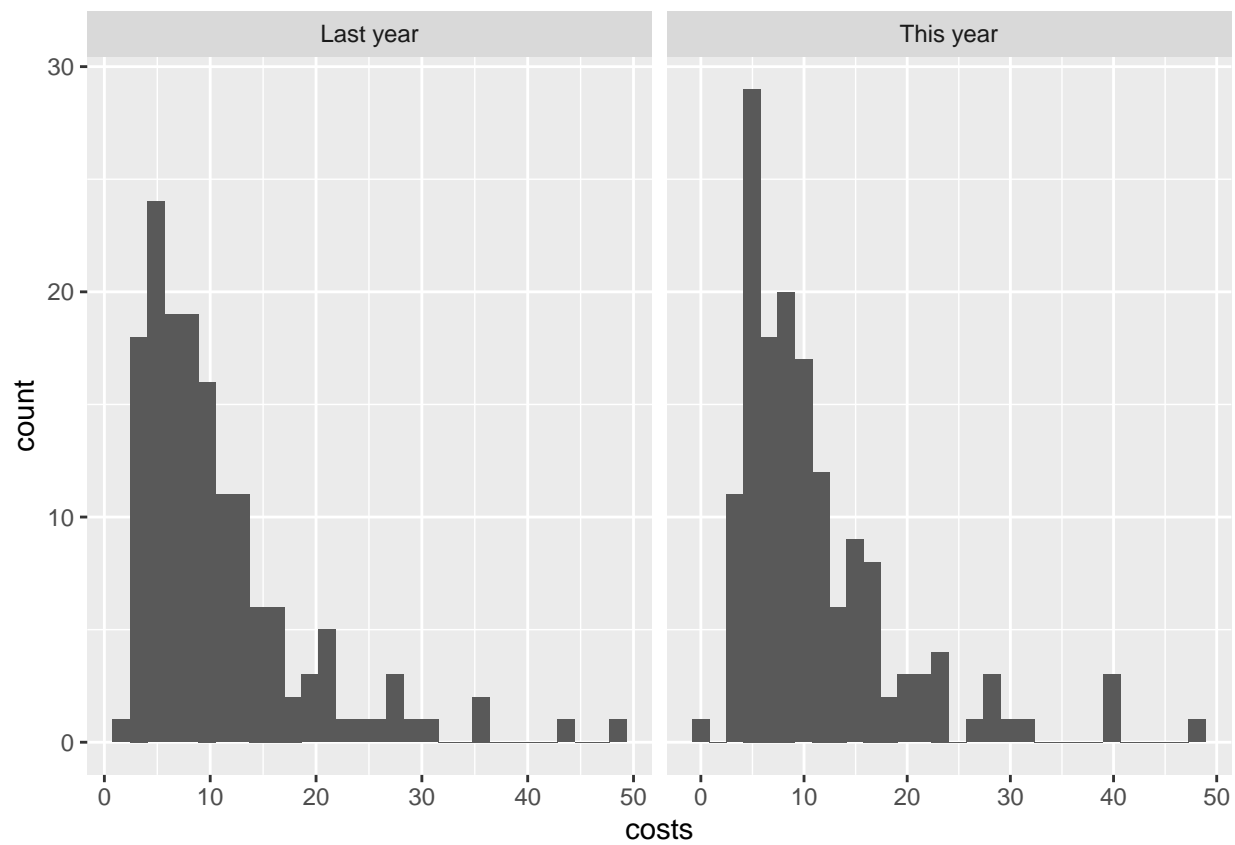
Data Cleaning and Wrangling

We

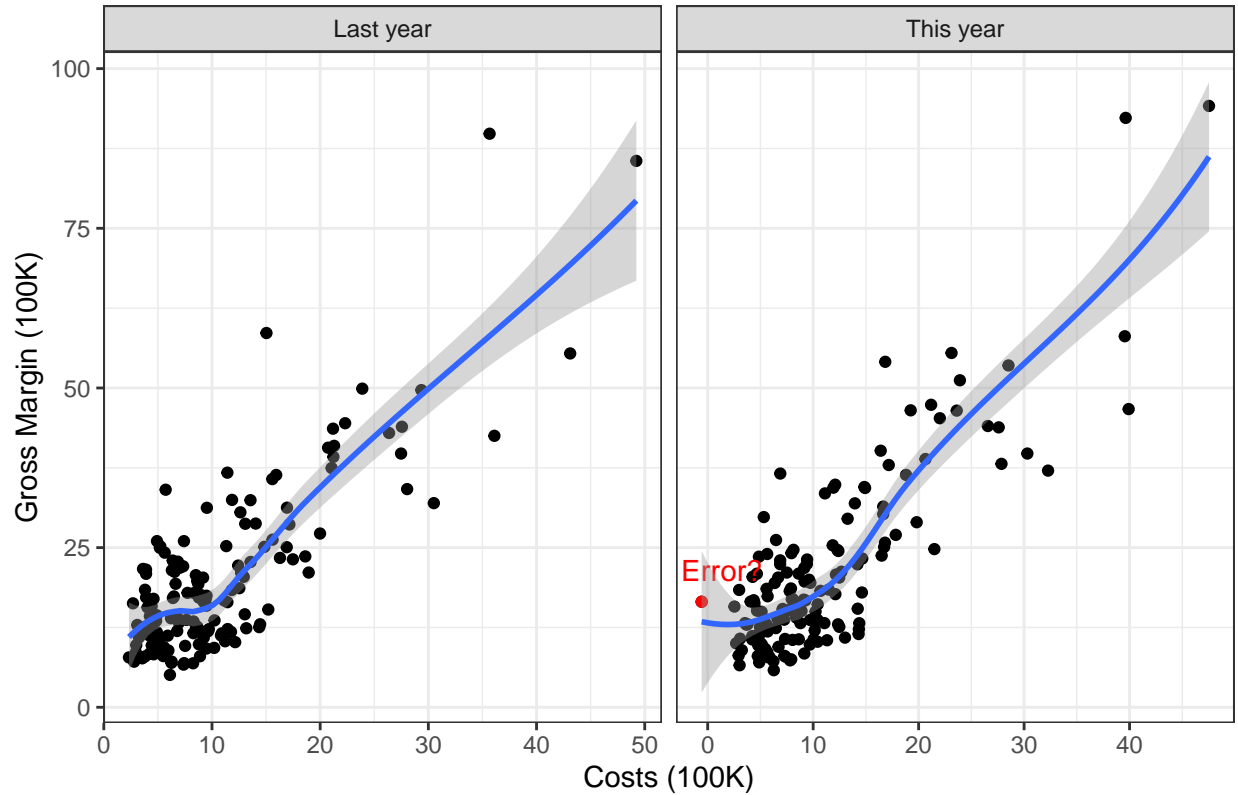
General Descriptive Statistics and Exploratory Data Analysis







Relationship between Non-COGS Costs and Gross Margin



##	[1]	11.1208844	16.9321185	6.2524000	7.5176085	11.4475226	6.4811626
##	[7]	6.6396478	9.2358570	6.3889519	9.5281433	8.2839244	5.2211367
##	[13]	8.3484826	3.9066689	5.0824770	12.5286830	9.6352174	8.5089278
##	[19]	15.5985796	26.3647741	4.9060044	7.0380333	9.1781433	17.1541611
##	[25]	2.6965737	5.0869752	8.5258704	9.4976181	5.9709741	9.2296374
##	[31]	3.0914826	6.1142978	4.4336600	9.4923759	11.8536781	9.1875337
##	[37]	6.8478615	6.7856678	8.7896874	15.2038185	8.2519370	10.2036459
##	[43]	14.3670256	8.7371200	9.0197800	12.6276293	12.9371874	10.2340726
##	[49]	17.4798322	7.3354841	4.0406385	3.9713178	4.1925930	4.8359552
##	[55]	6.9442281	4.9006015	4.9148504	9.4838619	19.9887100	4.5965396
##	[61]	5.9079170	4.9659141	21.0603556	36.1045378	13.0777889	12.6950133
##	[67]	11.2126648	22.3072915	7.4082789	49.2236241	18.6253537	4.2142281
##	[73]	3.8760089	5.1809152	12.4217100	7.6515730	15.5752878	13.0329370
##	[79]	14.0396848	7.4264841	3.6492374	9.3754915	6.7155407	5.5116315
##	[85]	6.2083596	4.6127356	7.7390704	3.8067970	13.5594407	14.4469344
##	[91]	13.1702952	9.4254067	4.9588078	3.8089619	6.2686685	15.9355856
##	[97]	11.3208019	6.3694322	8.7882459	3.6262048	5.5027493	8.2980981
##	[103]	2.3268959	6.9511374	2.7994815	12.1442274	16.2842867	8.6444270
##	[109]	11.8312911	30.5082322	15.0331352	14.8388048	21.2238418	2.9625167
##	[115]	27.4764648	4.2587456	3.5520437	4.1815926	16.9088915	23.8924026
##	[121]	5.6319874	18.9401152	35.6616607	21.2902641	6.2937804	13.5695674
##	[127]	7.3705515	10.9105500	43.1108585	28.0379530	21.1860574	11.4255244
##	[133]	8.8917707	29.3572144	9.7065889	3.6721844	5.5635507	5.5573285
##	[139]	11.7548770	3.2518656	5.7191867	4.3638156	10.8318570	6.5377433
##	[145]	8.6397733	11.4234893	3.9106874	4.4188978	3.9032881	2.9995830
##	[151]	20.7303522	27.5559900	11.4735289	18.8093241	6.2346770	7.3357641

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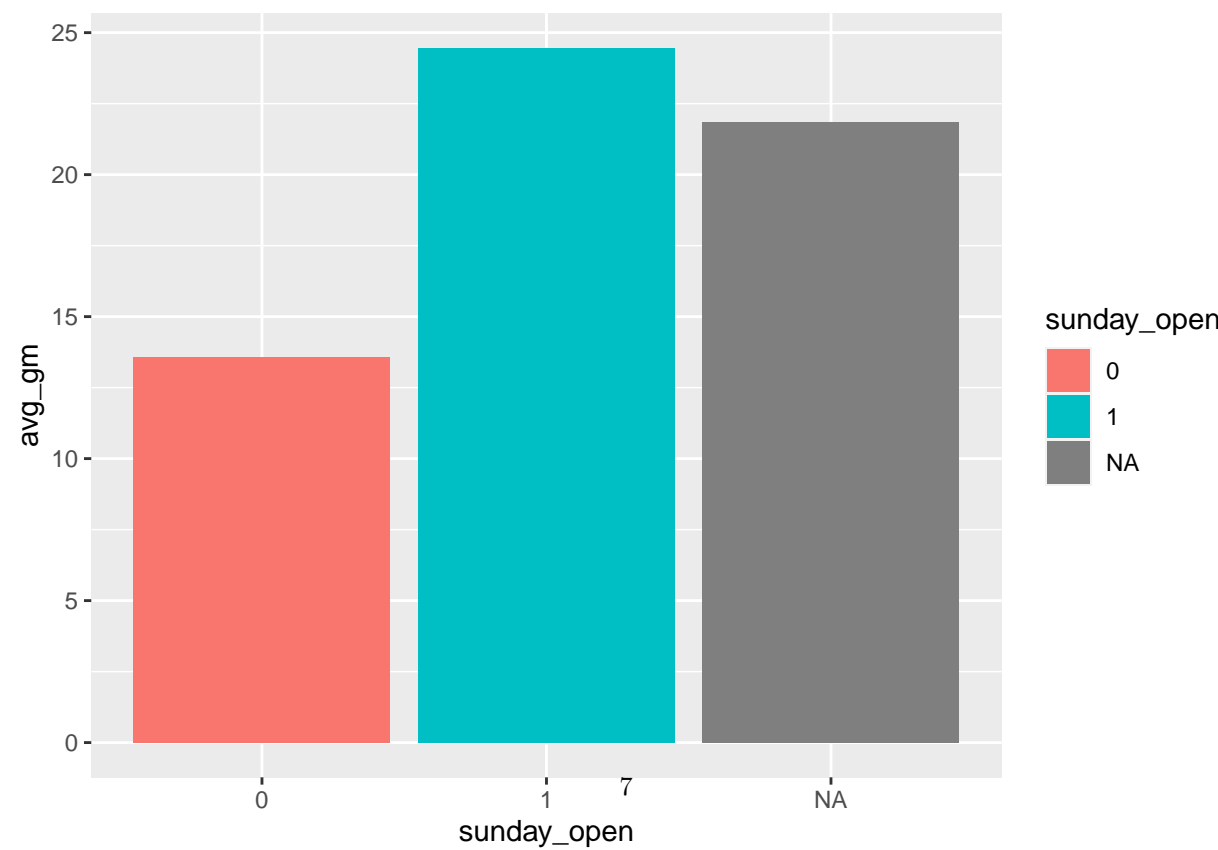
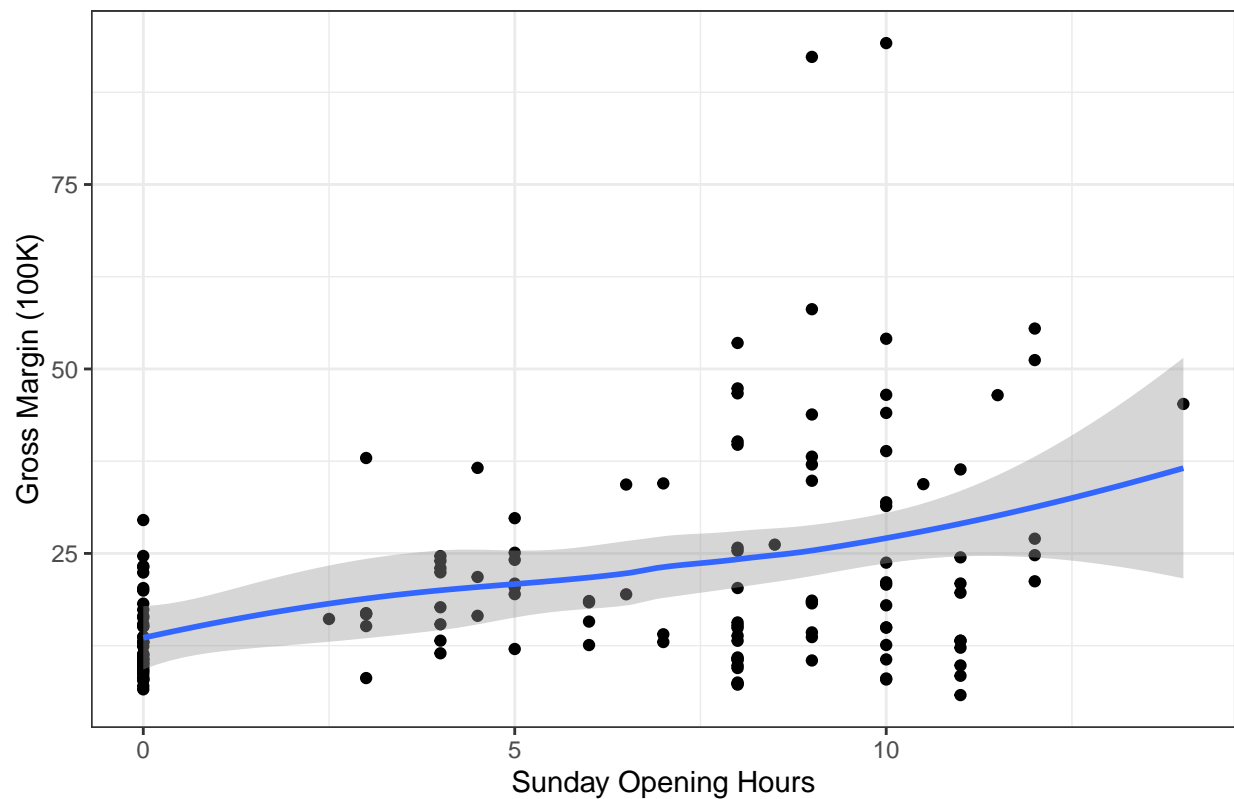
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## [169] 10.2281693 7.5054648 16.6443641 26.5648756 5.6821230 9.4063744
## [175] 9.7364374 16.6468556 2.5359678 4.8240863 8.7923915 10.4321337
## [181] 5.4693826 -0.5695044 3.5394489 6.2697289 4.9980959 8.7954300
## [187] 12.0910819 9.7123781 7.9380622 6.6299230 8.0464819 14.6221807
## [193] 7.9214826 9.6871704 14.3352611 8.6238237 9.1962707 11.9208211
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## [205] 4.2244559 4.9802900 6.8279115 5.1122659 5.3230981 10.0399600
## [211] 17.8346285 4.3646452 6.4614796 4.8780744 20.6520741 39.9150681
## [217] 13.2711885 12.3950089 11.3231663 23.9168948 6.4824822 47.5340756
## [223] 19.8179359 5.7283619 4.9686933 5.6427026 12.3013256 8.0558256
## [229] 17.1692759 14.2272356 13.9570485 7.8151111 3.7763185 8.0785574
## [235] 7.1085544 5.5792333 7.5664089 4.7538193 7.8981207 2.9342600
## [241] 14.8571681 14.3734370 14.3114144 9.2643756 5.1451581 2.9837422
## [247] 7.2738789 16.4075230 11.8556252 6.8735878 9.1077648 4.8603644
## [253] 5.8629200 8.8980215 3.2372615 7.2567885 3.0253430 12.4817985
## [259] 16.4977141 8.2074922 12.1602263 32.2734533 16.8358348 14.6576241
## [265] 23.6142019 2.7024615 27.5943941 5.5729204 4.8837185 3.6678419
## [271] 16.8074407 23.1210985 5.5889167 21.4928570 39.6351822 22.0131852
## [277] 6.8704559 12.4729111 7.3777459 13.0202178 39.5497252 27.8580244
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## [289] 5.6516185 6.7188619 12.3612196 3.0750844 6.8853478 10.6965885
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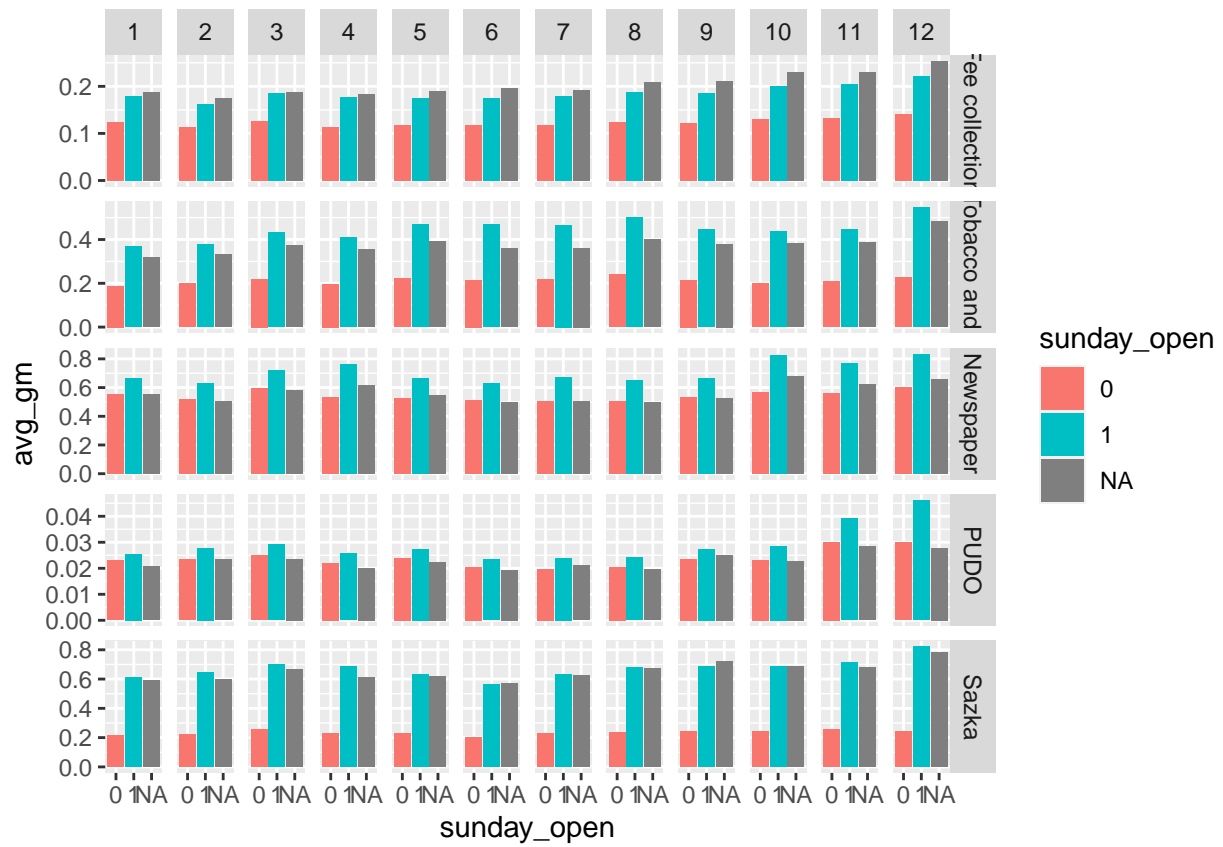
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Revenue Improvement Strategies | EDA

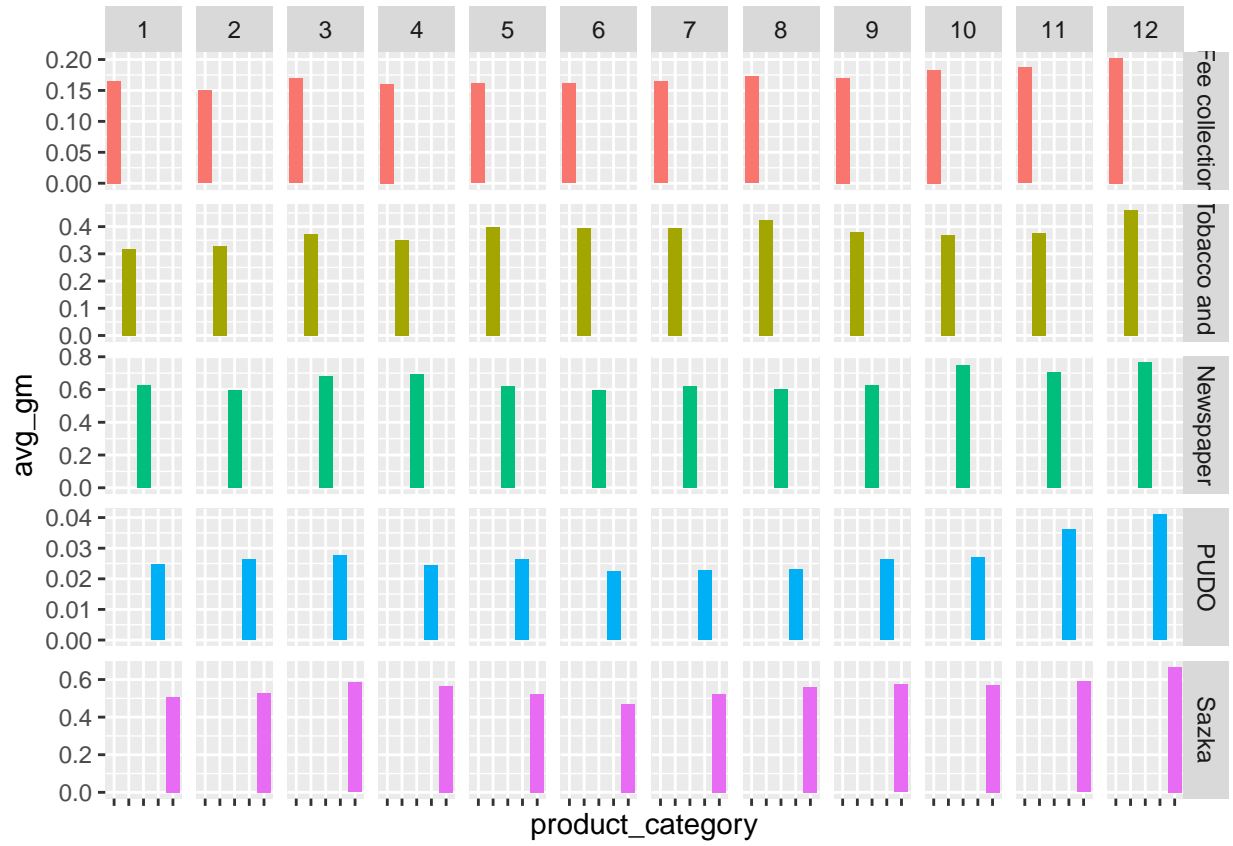
1. Weekend Opening Hours

Pattern of association between Gross Margin and Sunday Opening Hours



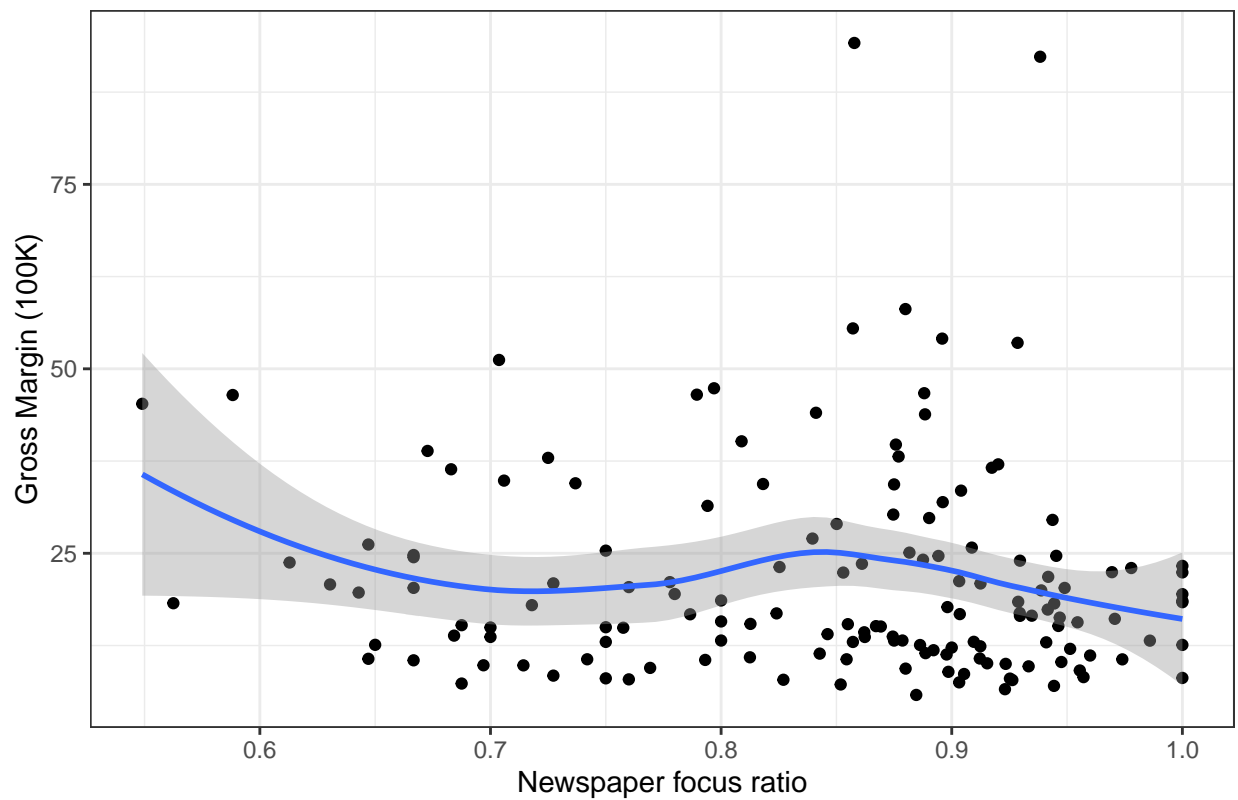


2. Potential benefits of the abolition of PUDO Services

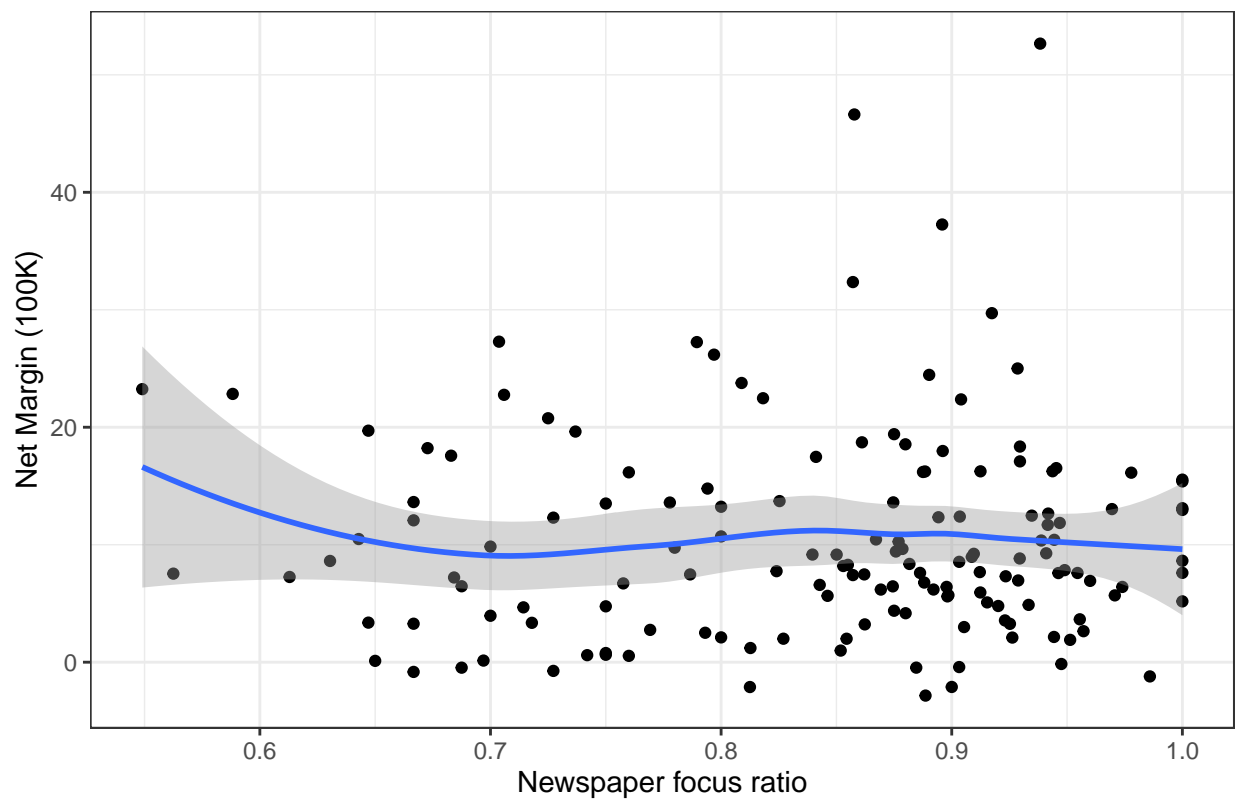


3. Finding better product combos/mixes

Pattern of association between Gross Margin and Newspaper focus ratio



Pattern of association between Gross Margin and Newspaper focus ratio



Preliminary exploratory analysis suggests that using this strategy will not increase revenue generation. It seems like there is no strong relationship between the store's newspaper focus and Gross Margin/Net Margin. A multiple regression would give a better idea whether there is indeed no pattern of association between the two.

4.

5.

6.

Notes