

Newspaper Kiosk Revenue Increase Strategies

Phase 1: Business & Data Understanding

true

true

26/01/2021

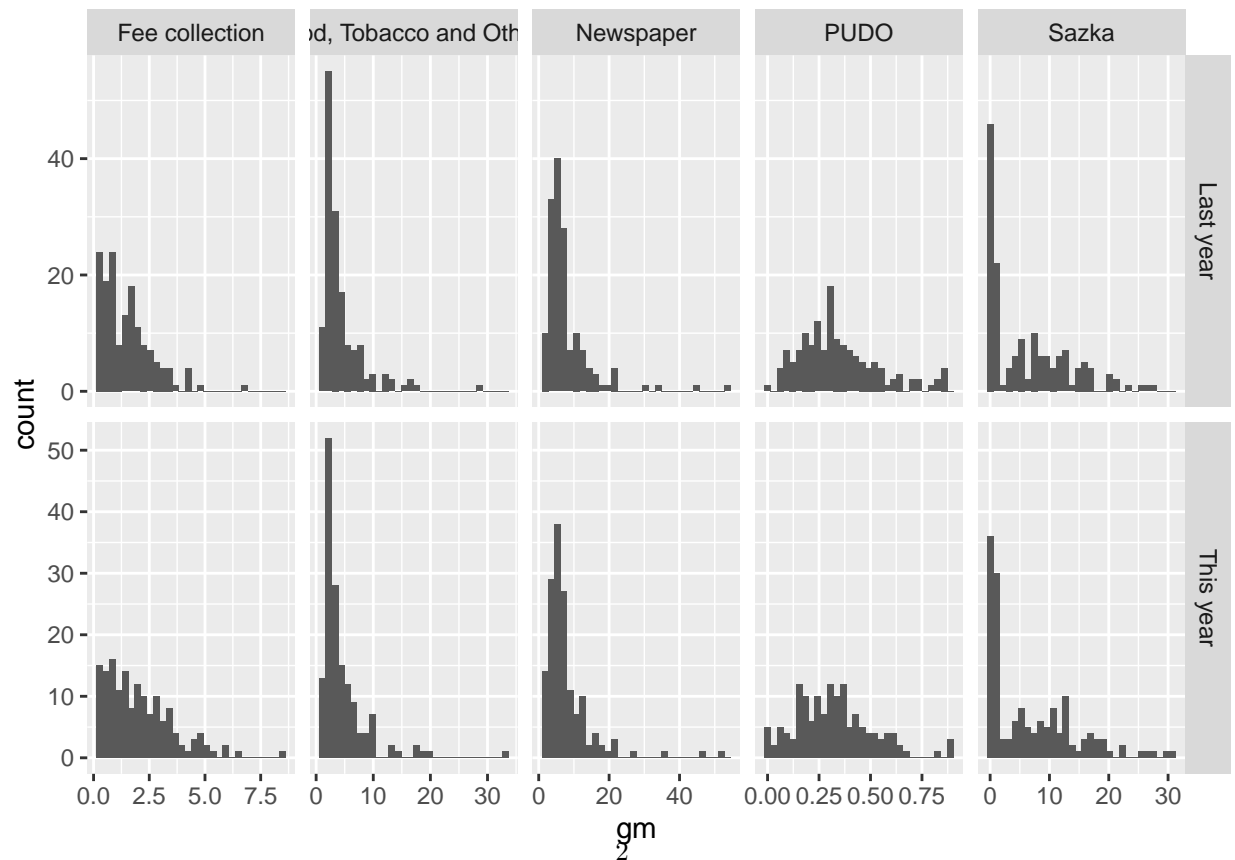
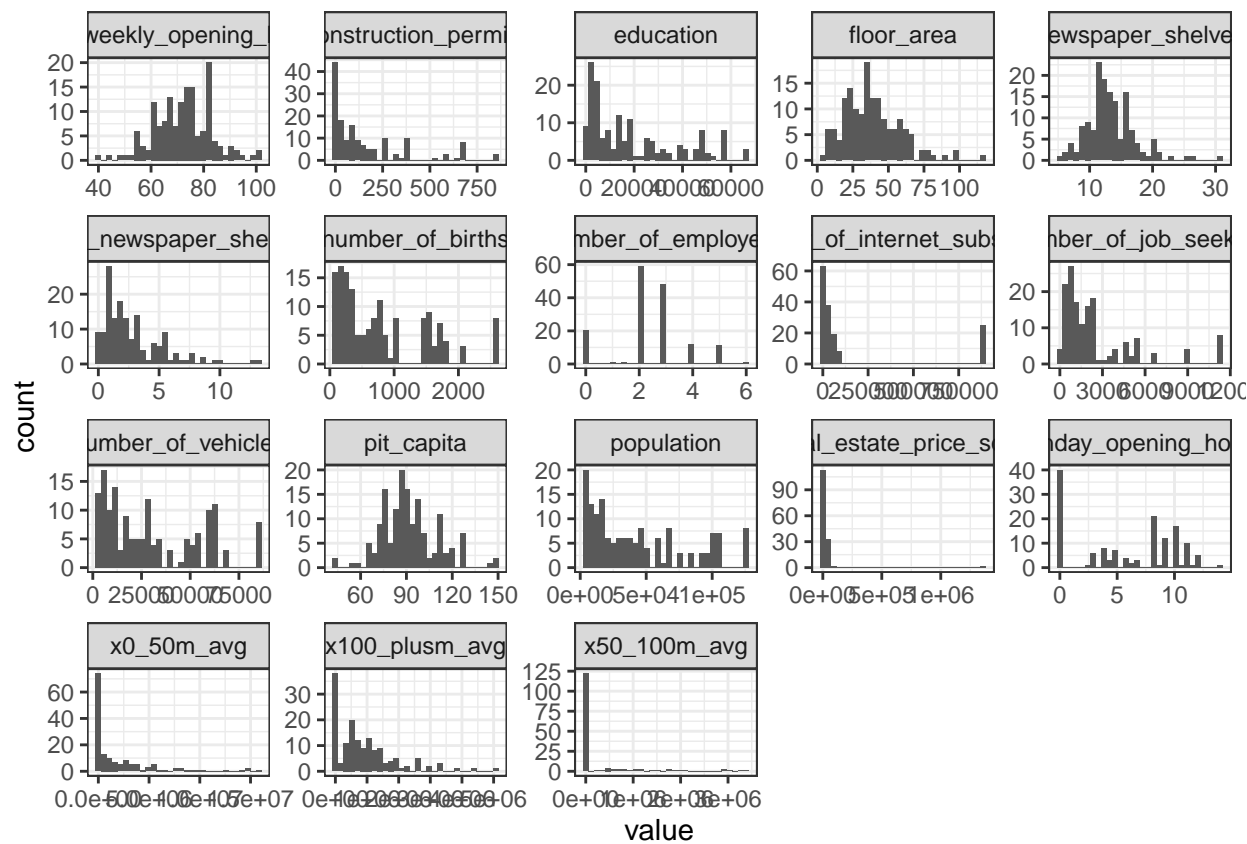
Abstract

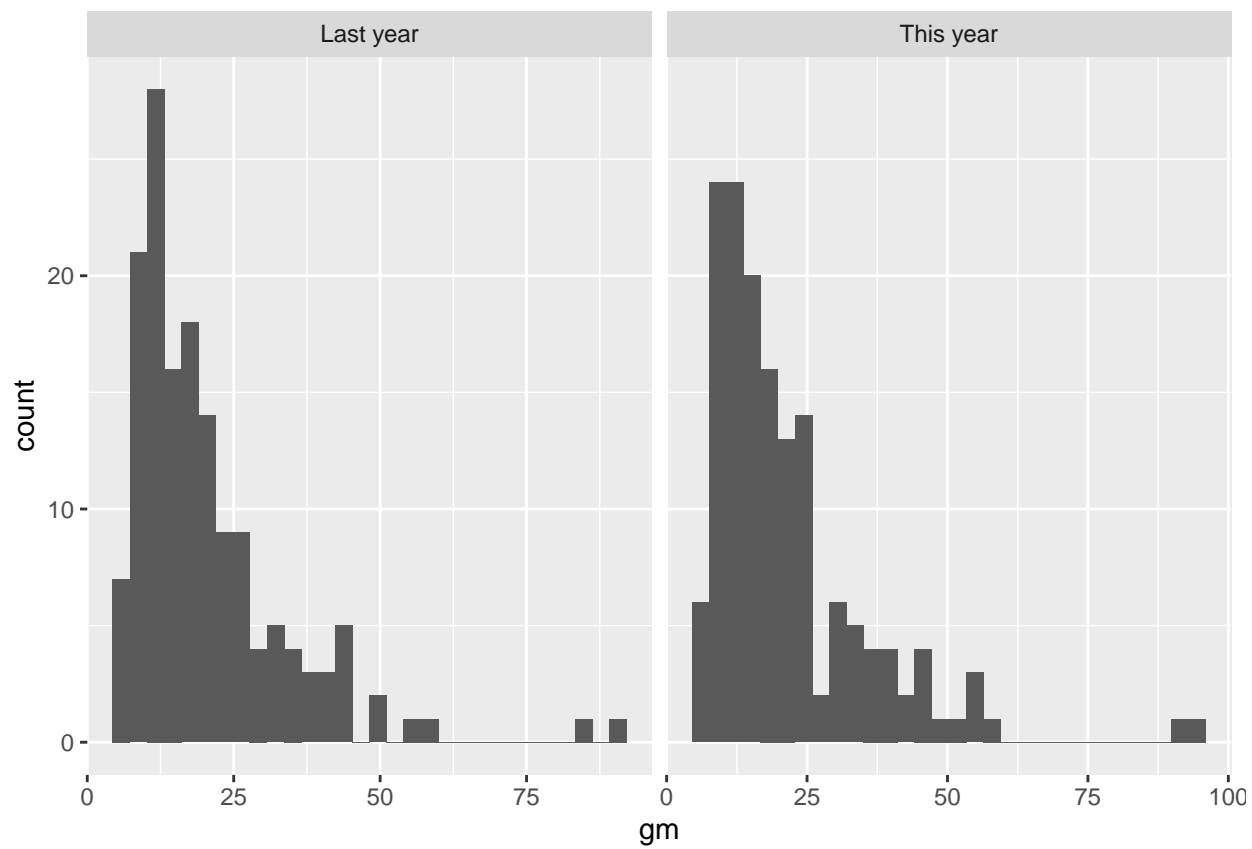
This document details the process of business and data understanding. It points out data cleaning issues, showcases descriptive and exploratory data analysis, variable transformations and formulates insights gained from them.

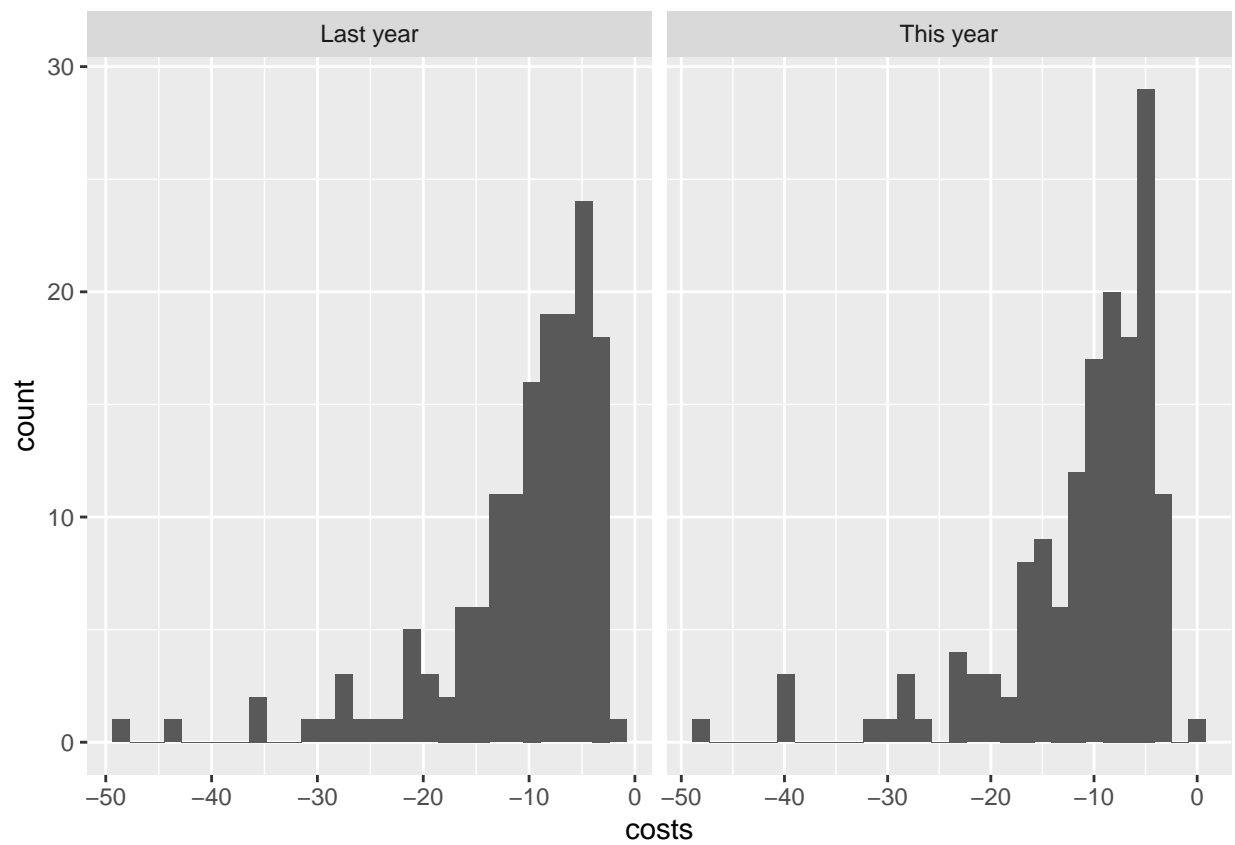
Data Cleaning and Wrangling

We

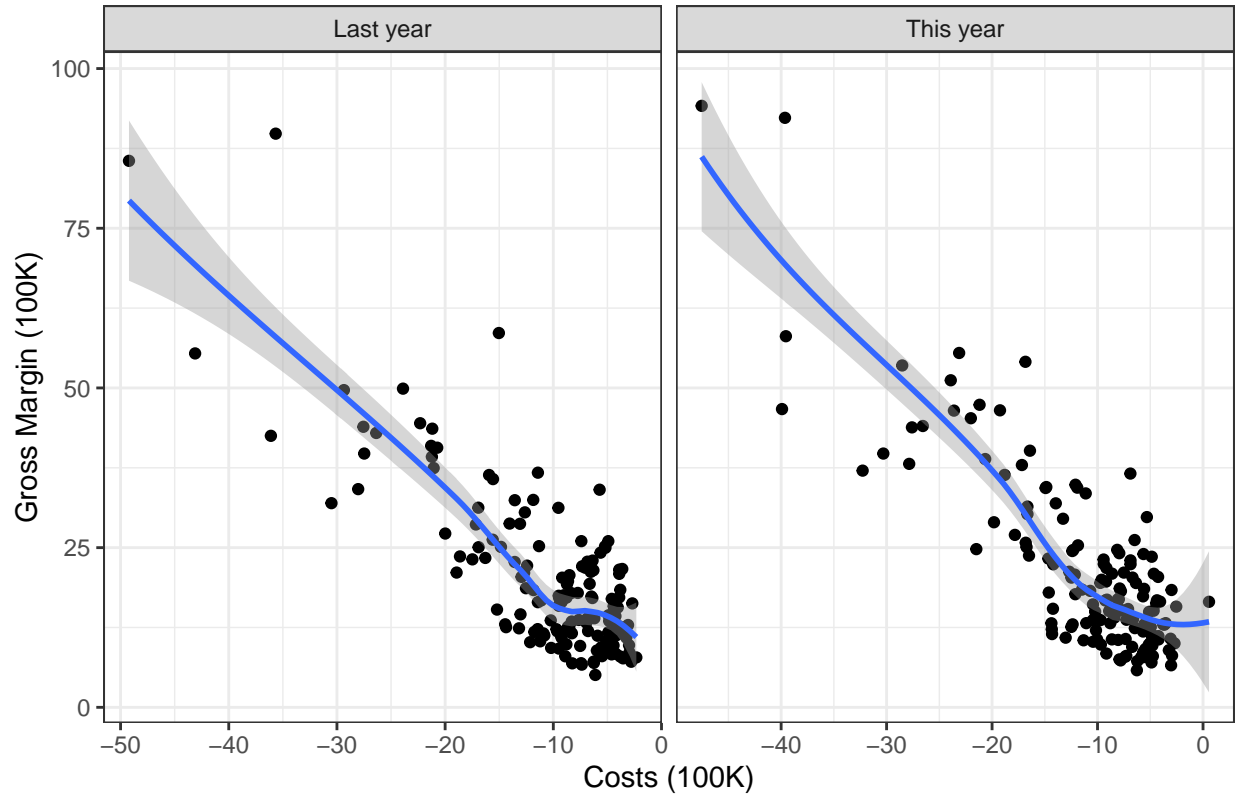
General Descriptive Statistics and Exploratory Data Analysis







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 -21.2238419 -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
```

```

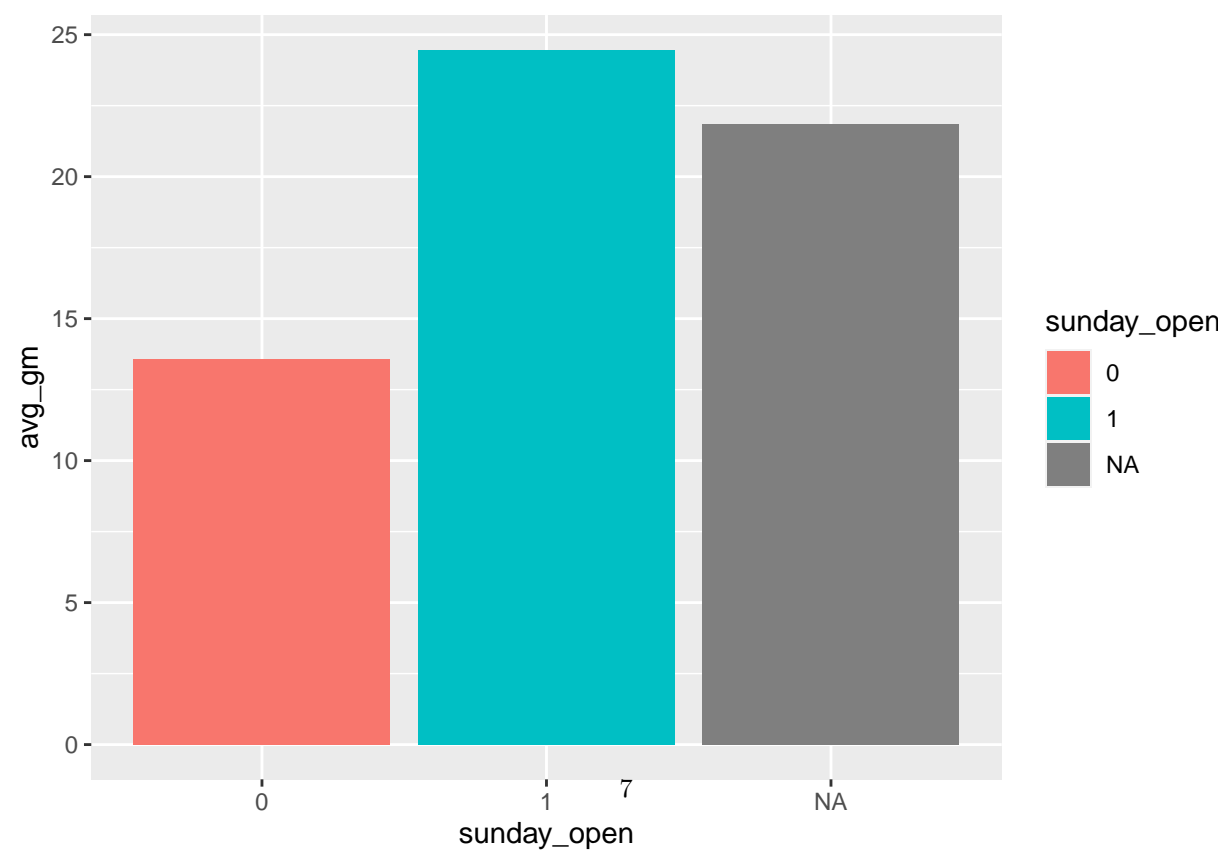
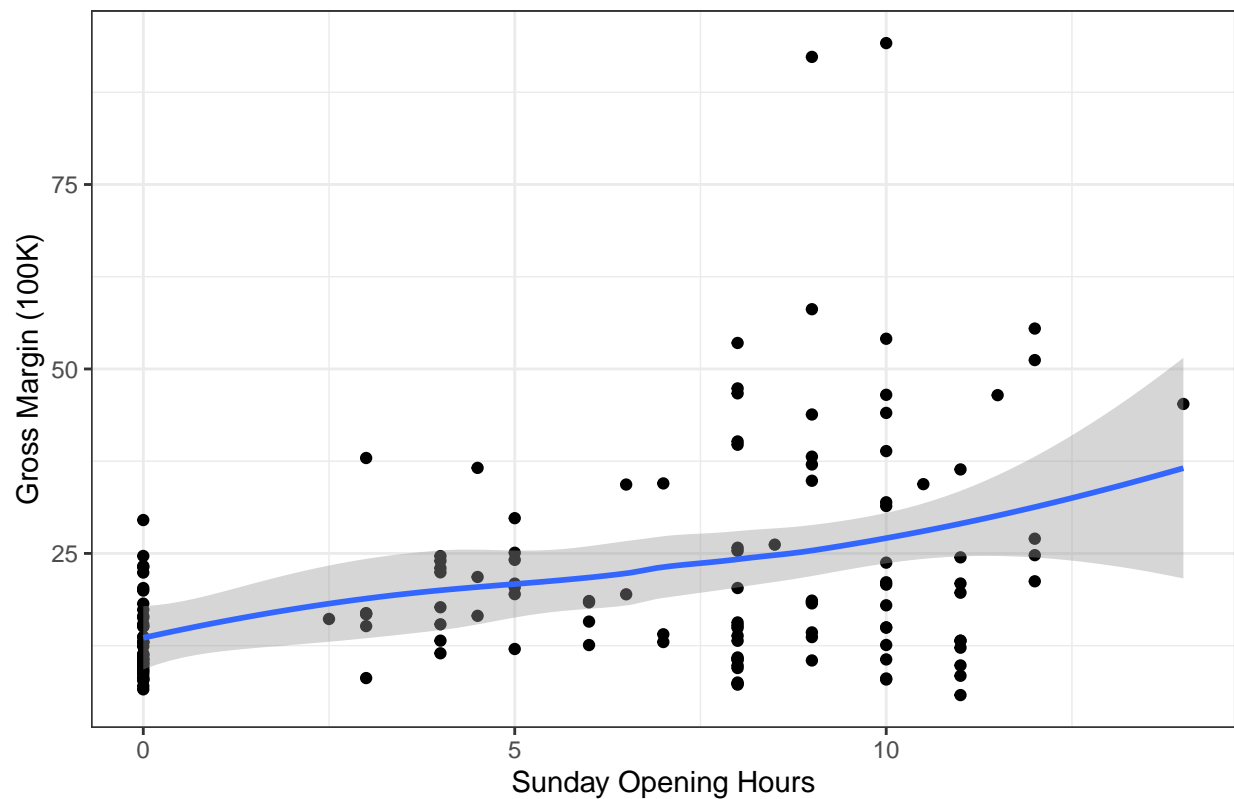
## [157] -8.3991989 -6.6826148 -6.3554011 -11.0666267 -7.9800233 -11.1200081
## [163] -8.6407896 -9.4264670 -7.7823848 -4.6615593 -5.2047022 -12.6829759
## [169] -10.2281693 -7.5054648 -16.6443641 -26.5648756 -5.6821230 -9.4063744
## [175] -9.7364374 -16.6468556 -2.5359678 -4.8240863 -8.7923915 -10.4321337
## [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
## [199] -14.1993289 -10.1488178 -16.7307648 -8.1345185 -4.0701526 -4.6806874
## [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
## [283] -19.2485559 -12.1094893 -9.1619526 -28.5208700 -10.4391648 -4.2190893
## [289] -5.6516185 -6.7188619 -12.3612196 -3.0750844 -6.8853478 -10.6965885
## [295] -10.4220019 -9.6138441 -9.1574570 -14.9256411 -5.6852678 -4.4327189
## [301] -4.2587196 -4.8016993 -21.1847637 -30.3102644

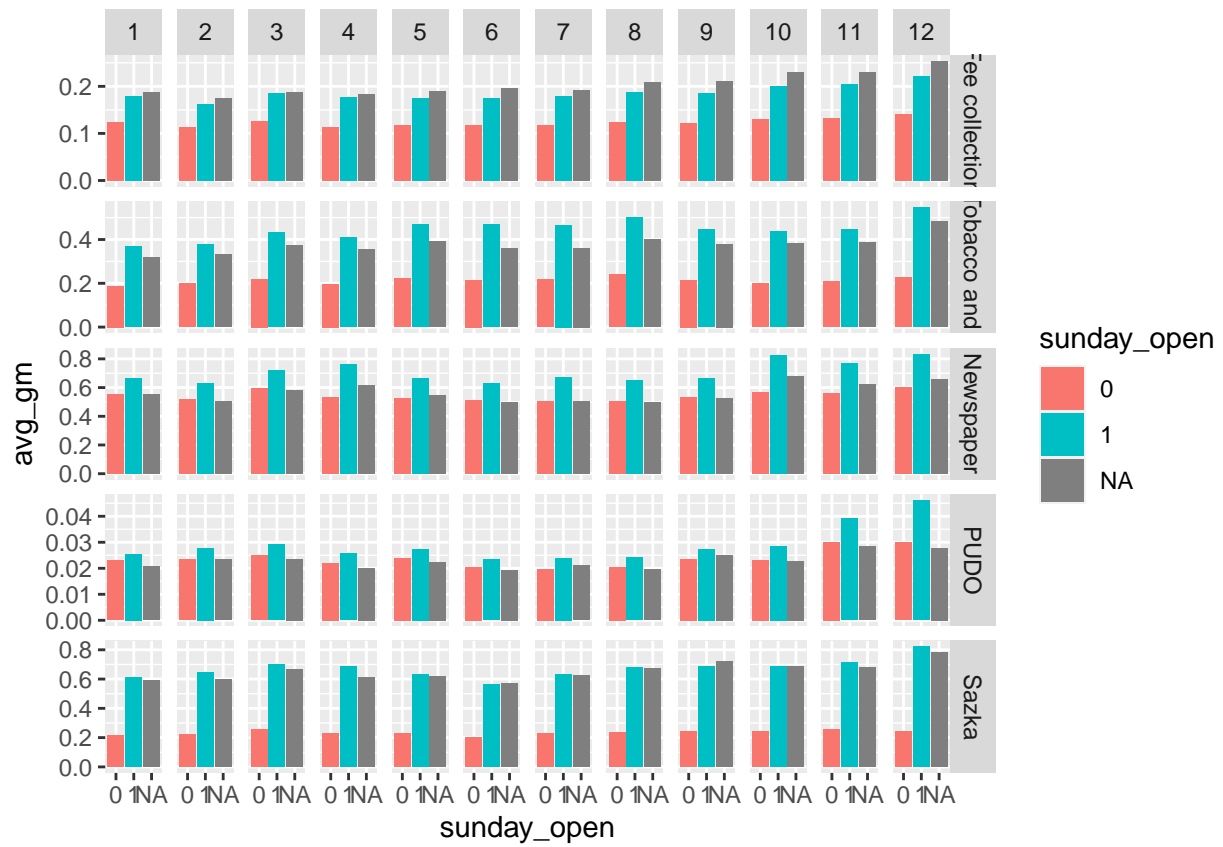
```

Revenue Improvement Strategies | EDA

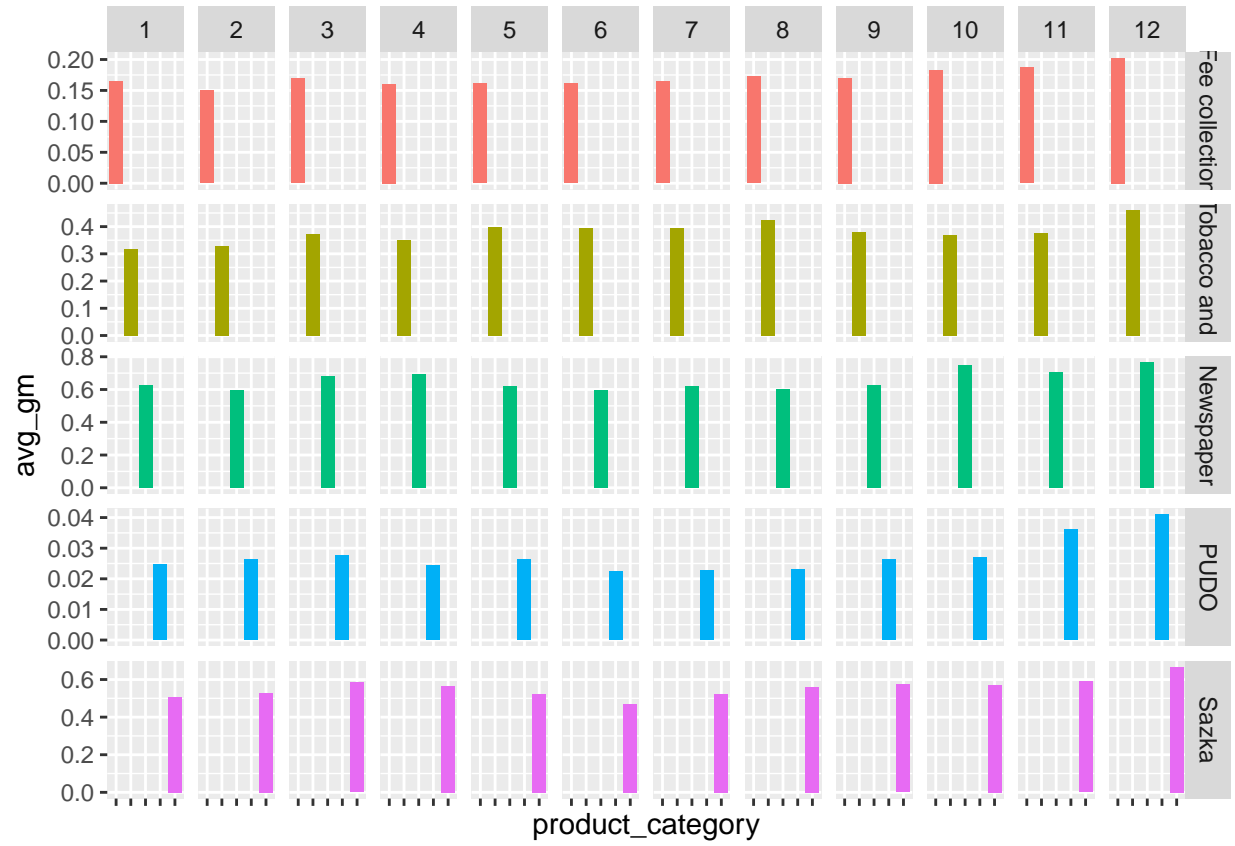
1. Weekend Opening Hours

Pattern of association between Gross Margin and Sunday Opening Hours



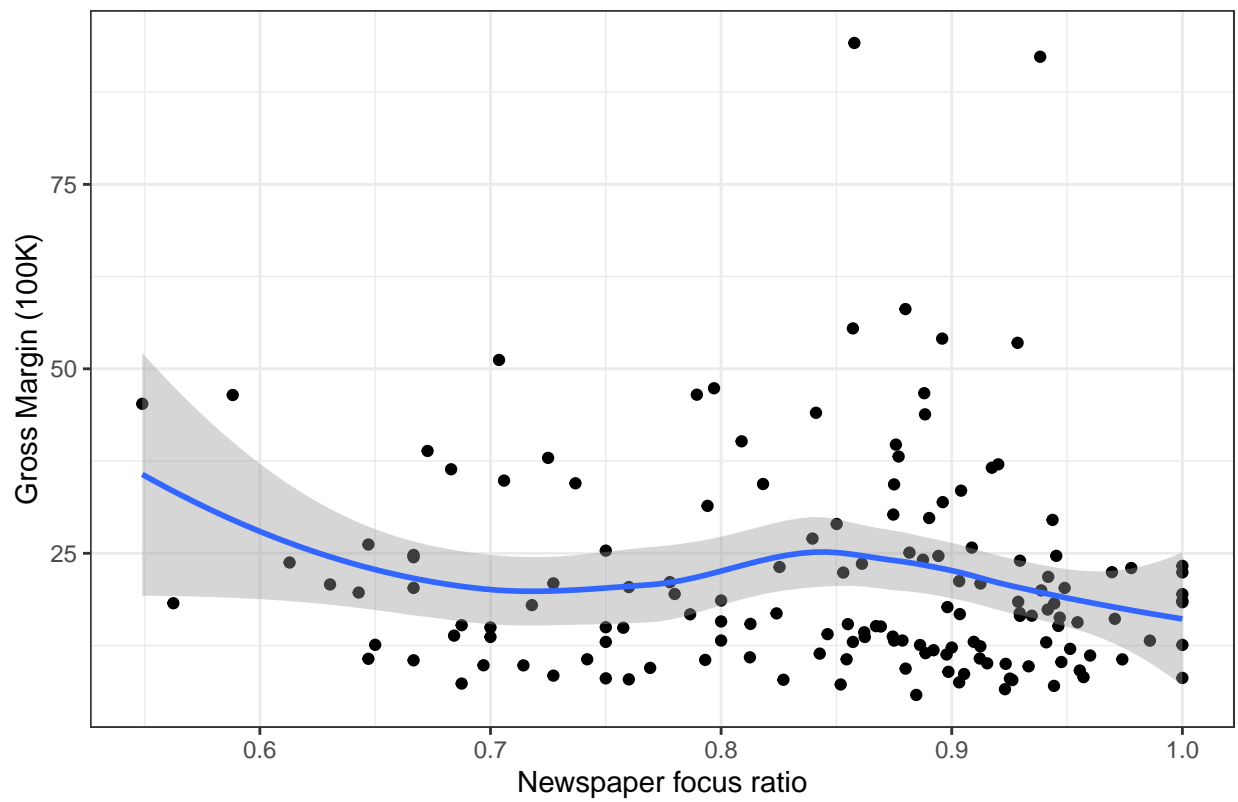


2. Potential benefits of the abolition of PUDO Services

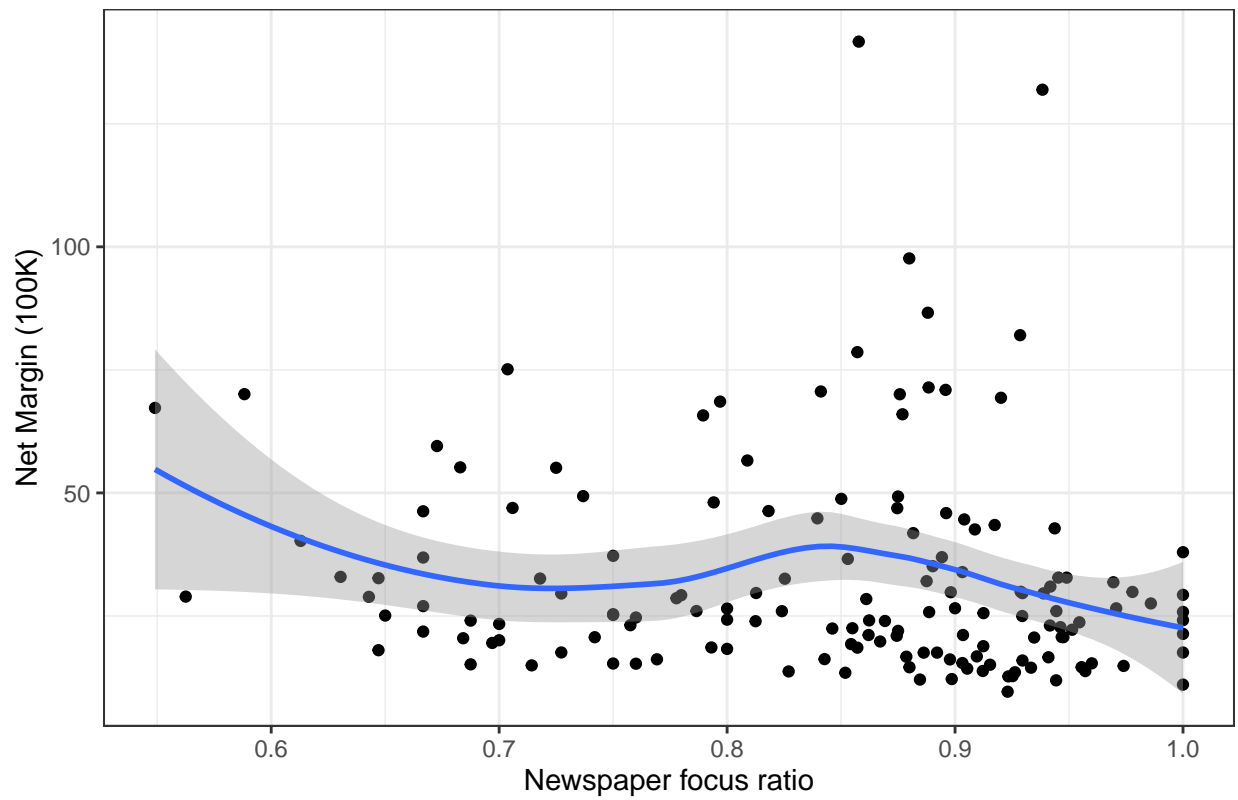


3. Finding better product combos/mixes

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