**Effective Campaign Selection for Restaurant Revenue Enhancement: A Comparison of Four Strategies**

**Summary**

In this project, I aim to analyze the changes in restaurant sales based on different campaign methods and derive characteristics influencing sales to formulate effective marketing strategies. To achieve this, we collected sales data during the campaign periods. Each campaign lasted for one week (from Monday to Sunday), and data were collected based on the restaurant's location (Seoul, Suburbs of Seoul, Provinces), lunchtime (11:00 AM to 3:00 PM), dinnertime (6:00 PM to 10:00 PM), and weekdays and weekends. The results of the basic statistical analysis allowed us to understand the order frequency and amounts by region, as well as the characteristics of customer restaurant visits under different conditions. Based on the analysis, we could formulate marketing strategies to enhance restaurant sales and address any shortcomings.

Keywords: Sales, Descriptive Statistics Analysis, Marketing Strategy, Multiple comparison. ANOVA

**1. Introduction**

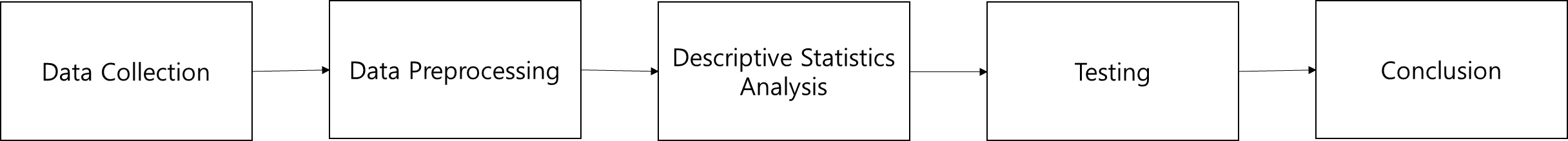
**1.1 Background and Objectives**

In the modern restaurant operating environment, increasing sales is recognized as a crucial challenge. Consequently, this project applied four campaigns to restaurant operations with the goal of boosting sales. The primary objective was to analyze the effectiveness of these campaigns, compare the performance of each campaign, and derive the most efficient strategy for enhancing sales. By achieving this, we aim to contribute to the restaurant industry. The success of the campaign is defined as the method that shows the greatest increase in sales among the four options, and no specific target amount has been set.

**1.2 Scope and Methodology**

Thirty restaurants were selected, considering regional diversity. The study divided the target area into three parts, and restaurants were randomly chosen from each region. This approach ensured diversity across regions while maintaining randomness within each specific area. Four different campaign methods were employed: A. Online Order Event: Providing a complimentary dish for online orders, B. Enhanced Employee Service Quality: Implementing friendlier service during the campaign period after employee training, C. Discount Event: Offering a 5% discount on food prices, D. Digital Marketing: Providing a complimentary dish for uploading on social media or following the restaurant's official SNS after placing a food order. For campaigns 1 and 4, the provided dishes were fixed as 1. Kimbap and 2. Hwa-Chae. The cumulative sales for each campaign period were calculated and used as the response variable.

<Picture 1> The research methodology is as follows:

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**2. Research Method**

**2.1 Data Collection and Preprocessing**

Sales data for each period was collected from 30 selected restaurants as the subjects of the study. Each campaign took place during the same period (e.g., June 5th to 11th, 7 days), with a two-week interval between the completion of one campaign and the start of the next. The order of campaign application to restaurants was conducted completely at random. The total campaign period spanned from June 5th, 2023, to August 13th, 2023, covering a total of 10 weeks. Sales data for each period were quantified, and for data preprocessing, they were organized based on 1. location, 2. time of day, and 3. before/after the campaign. This preprocessing aimed to reduce the time required for analysis and transform the data into a suitable format for algorithmic analysis.

The collection of sales data was conducted through the POS (Point of Sale) system. During the campaign period, sales data for each restaurant was automatically recorded in the POS system. The POS system utilizes an automated recording method to accurately capture sales data. Details such as order information, sales amounts, and payment methods are systematically recorded. Through this automated recording method, all transaction details are captured without omission and accurately documented. Through these data sources, I was able to comprehensively gather insights into the sales trends during the campaign period. When transactions took place in the restaurant, everything was automatically recorded in the POS (Point of Sale) system, and there were no missing transaction details.

Additionally, environmental factors that could impact restaurant sales during the campaign period included 1. weather, 2. holiday periods, and 3. before/after the campaign. The average temperature in Korea during the research period is shown in the table 1 below, with no significant variation observed across different regions. There were no specific events during this experiment that could have influenced the results. Furthermore, the research period consisted of ordinary days without holidays. The adoption of different campaign strategies or existing operational methods by nearby restaurants could potentially impact the study. However, during this research period, surrounding restaurants continued their operations in the same manner as before.  
 \* During the investigation period, the average temperature was determined using the official weather records  
 from the Korean Meteorological Administration.

<Table 1> Average temperature during the campaigns.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  | |  | | --- | |  | |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  | Unit: ℃ | |  |  |  |  |  |
| **Location** | **June** | **July** | **August** |  |  |  |  |  |
| **Seoul** | 27 | 29.5 | 30.4 |  |  |  |  |  |
| **Suburb** | 28 | 29.8 | 30.9 |  |  |  |  |  |
| **Province** | 26.7 | 28.9 | 31.4 |  |  |  |  |  |
| \* 27℃ ≈ 80℉, 31℃ ≈ 88℉ | | |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

**2.2. Experimental Design and Validation Methods**

**2.2.1. Randomized Block Design**

① Used Variables

- Input Variable: Type of Campaign (A, B, C, D)

- Output Variable: Revenue

② Testing Method

- Verify if there is a difference in the average revenue for each campaign (F-test).

- Statistical Test: One-way Analysis of Variance (ANOVA)

- p-value Threshold: Significance level of 0.05 (α=0.05)

- Interpretation: If the p-value under H0 is less than 0.05, it provides statistical evidence that the revenue means of at least one group differ. Subsequently, employ multiple comparisons to identify which campaigns exhibit significant differences.

- Null and Alternative Hypotheses

. H0: There is no difference in revenue means among campaigns.

. H1: There is a difference in revenue means among campaigns.

**2.2.1.1. Multiple comparisons (If the tested variable in Section 2.2.1 is rejected, perform this test)**

① Used Variables

- Input Variable: Type of Campaign (A, B, C, D)

② Testing Method

- Statistical Test: Tukey’s Honestly Significant Difference (HSD) test

- p-value Threshold: Significance level of 0.05 (α=0.05)

- Null and Alternative Hypotheses

. H0: There is no statistically significant difference in revenue means among campaigns   
(pairwise comparison for each pair of campaigns).

. H1: There is a statistically significant difference in revenue means among campaigns.

**2.2.2. Multiple-way layout**

① Used Variables

- Input Variables: Campaign (Before, After) / Day (Weekday, Weekend) / Time Slot (Lunch, Dinner) /   
Location (Seoul, Near Seoul, Provincial)  
 \* Weekdays refer to Monday through Friday, while weekends include Saturday and Sunday.  
 Lunchtime (11:00 AM to 3:00 PM), dinnertime (6:00 PM to 10:00 PM)

- Output Variable: Revenue

② Testing Method (Main Effect)

- Statistical Test: Item tests for each input variable in Multiple-way ANOVA

- p-value Threshold: Significance level of 0.05 (α=0.05)

- Interpretation: If the revenue means show statistically significant differences for a specific input variable,  
 consider that the input variable influences revenue.

- Null and Alternative Hypotheses

⒜ Revenue by Campaign

. H0: There is no difference in revenue between before and after the campaign.

. H1: There is a difference in revenue between before and after the campaign.

⒝ Revenue by Day

. H0: There is no difference in revenue between weekdays and weekends.

. H1: There is a difference in revenue between weekdays and weekends.

⒞ Revenue by Time Slot

. H0: There is no difference in revenue between lunch and dinner.

. H1: There is a difference in revenue between lunch and dinner.

⒟ Revenue by Location

. H0: There is no difference in revenue among Seoul, Near Seoul, and Provincial locations.

. H1: There is a difference in revenue among Seoul, Near Seoul, and Provincial locations.

③ Testing Method (Interaction)

- Statistical Test: Interaction item test in Multiple-way ANOVA

- p-value Threshold: Significance level of 0.05 (α=0.05)

- Interpretation: Check if there is a statistically significant interaction between at least two input variables.

- Null and Alternative Hypotheses

. H0: There is no statistically significant interaction between at least two variables.

. H1: There is a statistically significant interaction between at least two input variables.

**2.2.2.1. Multiple comparisons (If the tested variable in Section 2.2.2 is rejected, perform this test)**

① Used Variables

- Input Variable: Campaign, Week, Time, Location

② Testing Method

- Statistical Test: Tukey’s Honestly Significant Difference (HSD) test

- p-value Threshold: Significance level of 0.05 (α=0.05)

- Null and Alternative Hypotheses

. H0: There is no difference among all levels of each variable.

. H1: There is difference among all levels of each variable.

**3. Experimental Results and Analysis**

**3.1 Basic Statistical Analysis**

Basic statistical analysis was conducted using the data collected through data preprocessing. The average revenue for each campaign across all restaurants is presented in Table 1. This table summarizes the mean revenue values for different campaigns across the entire set of restaurants.

A. Online Order Event: Providing a complimentary dish for online orders, B. Enhanced Employee Service Quality: Implementing friendlier service during the campaign period after employee training, C. Discount Event: Offering a 5% discount on food prices, D. Digital Marketing:

<Table 2> Campaign-wise Average Revenue for All Restaurants

|  |  |  |
| --- | --- | --- |
| **No,** | **Campaign name** | **Average Revenue (unit:10$)** |
| A | Online order event | 121 |
| B | Enhanced Employee Service Quality | 110 |
| C | Discount Event | 139 |
| D | Digital Marketing | 207 |

**3.2 Results of 2.2.1 Testing**

**3.2.1. – Overall Test (2.2.1.)**

The F-test was conducted on the data collected through data preprocessing in section 2.2.1. The null hypothesis posited that there is no difference in revenue based on the campaign method. The results of the F-test in section 2.2.1 indicate that the p-value for the campaign is smaller than the significance level of 0.05, confirming statistical significance. This suggests that the campaign has a statistically significant impact on sales. With the observed significant effect in the analysis of variance for the campaign, further multiple testing can now be performed to identify the statistical differences among individual campaigns.

Examining the effect size additionally, it is utilized to calculate the magnitude of the effects in the ANOVA results. It ranges from 0 to 1, and a higher value indicates that the corresponding effect explains a greater proportion of the variance in the dependent variable. The 'restaurant' effect has a value of approximately 0.00197, while the 'campaign' effect has a value of about 0.3936. The 'restaurant' effect suggests a minimal explanation of the variance in the dependent variable, whereas the 'campaign' effect indicates a relatively substantial explanation of the variance in the dependent variable.

<Table. 3> Calculation of effect size

|  |  |  |
| --- | --- | --- |
| **Source** | **Restaurant** | **Campaign** |
| Effect Size | 0.001974779 | 0.393619466 |

<Table. 4> Result of 2.2.1 F test (H0: There is no difference in revenue means among campaigns. → **Reject**) (

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Source** | **DoF** | **Sum sq** | **Mean Sq** | **F value** | **Pr (>F)** |
| Restaurant | 1 | 851 | 851 | 0.376 | 0.541 |
| Campaign | 3 | 169,630 | 56543 | 24.965 | 1.6e-12 \*\*\* |
| Residuals | 115 | 260,468 | 2265 |  |  |
| Total | 119 |  |  |  |  |

**3.2.2. - Multiple Comparison (2.2.1.1)**

In the multiple comparison analysis, pairs of two campaigns were tested to determine whether there were significant differences in sales between them. Table 3 represents the results of the mean comparisons through Tukey's multiple comparison test. The "Combination" column indicates which campaigns were compared, and the "diff" value represents the difference in average sales between each pair of campaigns. There are a total of three combinations where the difference in average sales is not statistically significant: 1. A and D, 2. B and D, and 3. C and D. The combinations involving the remaining campaigns did not show statistically significant differences in average sales. According to the multiple comparison results, Campaign D exhibited a statistically significant difference in average sales compared to all other campaigns. This suggests that Campaign D has a unique effect, significantly influencing sales differently from the other campaigns.

<Table.5> Multiple comparison testing result – Campaign. (

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Combination** | **different** | **Lower** | **Upper** | **P adj** |
| A – B | -11.40000 | -43.434884 | 20.63488 | 0.7900545 |
| A – C | 17.76667 | -14.268217 | 49.80155 | 0.4736320 |
| A – D | 85.5667 | 53.531783 | 117.60155 | 0.0000000 |
| B – C | 29.1667 | -2.868217 | 61.20155 | 0.0880023 |
| B – D | 96.96667 | 64.931783 | 129.00155 | 0.0000000 |
| C - D | 67.80000 | 35.765116 | 99.83488 | 0.0000013 |

**3.3 Results of 2.2.2 Testing**

**3.3.1 - Overall Test (2.2.2.) / Including interaction test results**

To determine whether Campaign D actually affected restaurant sales, I conducted additional verification based on the multiple comparison results of 2.2.1.2. Considering various variables that can affect sales, we explored the difference in sales according to various input variables, such as whether there is a campaign, day of the week, time, and place, using Multiple-way ANOVA. Statistical significance for each variable was tested at the significance level of 0.05. If there was a significant difference in statistical significance between levels of a particular variable, it was considered as a factor influencing sales.

As a result of the verification, it was found that location, campaign, and time had a statistically significant impact on sales as main effects. This implies that, in addition to the presence or absence of a campaign, there are factors that affect sales. In addition, significant interaction results were observed. In the main effect, it can be interpreted that week factors that were not statistically significant appear when they occur with other variables. In the case of week:location, this implies that distinct regions exhibit varying effects depending on weekdays and weekends. For location:campaign, it indicates that the campaign's effectiveness varies based on the location. For location:time, it suggests that there is a difference in lunch and dinner sales depending on the location.

In the case of week:location:campaign, the interpretation is that an effect on sales occurs when week, location, and campaign change simultaneously. This can be interpreted as the interaction of week, location, and campaign to have an overall effect. This provided statistical insight into the effect of state, location, campaign, time, and interaction between them on sales.

The effect size values represent the magnitude of the impact each effect or interaction has on the dependent variable. Small values indicate a small impact, while large values indicate a substantial impact. For instance, the effect size for "campaign" is 0.117, suggesting that it explains approximately 11.7% of the variability in the dependent variable.

<Table. 6> Calculation of effect size

|  |  |  |  |
| --- | --- | --- | --- |
| **Source** | **Effect size** | **Source** | **Effect size** |
| week | 0.00114 | location:time | 0.01135 |
| location | 0.02367 | campaign:time | 0.00041 |
| campaign | 0.11707 | week:location:campaign | 0.00663 |
| time | 0.00589 | week:location:time | 0.00352 |
| week:location | 0.01166 | week:campaign:time | 0.00091 |
| week:campaign | 0.00003 | location:campaign:time | 0.00037 |
| location:campaign | 0.04102 | week:location:campaign:time | 0.00439 |
| week:time | 0.00001 |  |  |

<Table.7> Multiple-way ANOVA results (

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **source** | **DoF** | **Sum Sq** | **Mean Sq** | **F value** | **Pr(>F)** |
| week | 1 | 3025 | 3025 | 1.209 | 0.27179 |
| location | 2 | 62603 | 31301 | 12.513 | 4.44e-06 \*\*\* |
| campaign | 1 | 309581 | 309581 | 123.754 | < 2e-16 \*\*\* |
| time | 1 | 15583 | 15583 | 6.229 | 0.01276 \* |
| week:location | 2 | 30822 | 15411 | 6.16 | 0.00221 \*\* |
| week:campaign | 1 | 81 | 81 | 0.032 | 0.85756 |
| location:campaign | 2 | 108469 | 54234 | 21.68 | 6.70e-10 \*\*\* |
| week:time | 1 | 31 | 31 | 0.012 | 0.91161 |
| location:time | 2 | 30007 | 15004 | 5.998 | 0.00260 \*\* |
| campaign:time | 1 | 1079 | 1079 | 0.431 | 0.51154 |
| week:location:campaign | 2 | 17533 | 8766 | 3.504 | 0.03052 \* |
| week:location:time | 2 | 9305 | 4653 | 1.86 | 0.15636 |
| week:campaign:time | 1 | 2412 | 2412 | 0.964 | 0.32645 |
| location:campaign:time | 2 | 985 | 493 | 0.197 | 0.82133 |
| week:location:campaign:time | 2 | 11600 | 5800 | 2.318 | 0.09907 . |
| Residuals | 816 | 2041294 | 2502 |  |  |
| --- |  |  |  |  |  |
| Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1 | | | | | |

**3.3.2 - Multiple Comparison (2.2.2.1)**

A multiple testing was conducted for the statistically significant differences identified in the multiple-way ANOVA, specifically focusing on the "location" variable. The results revealed variations in revenue between Seoul and non-metropolitan areas, as well as between Seoul and suburban areas. This discrepancy was consistently observed across different location categories: Seoul, non-metropolitan (referred to as "ji-bang" in Korean), and suburban (referred to as "geun-gyo" in Korean).

The city of Seoul consistently exhibited significant differences in the response variable due to its higher population density. Seoul accommodates approximately one-fifth of the entire population of South Korea and is a region where many businesses are located. On the other hand, suburban and non-metropolitan areas are predominantly residential areas with relatively lower population density compared to Seoul. Furthermore, individuals residing in these areas may commute to Seoul for work, contributing to the observed differences based on location. The findings suggest that regional disparities are influenced by both population density and commuting patterns, particularly between Seoul and the surrounding regions.

For lunch, the campaign variable has a statistically significant impact on the dependent variable (revenue). This implies that there is a significant difference in revenue between pre-campaign and post-campaign periods during lunchtime. Notably, the interaction effect of week:location is observed. This result indicates variations in revenue during lunch hours between weekdays and weekends based on different regions. The statistically significant differences in the dependent variable based on the day of the week and location imply that there are meaningful variations. For example, these results suggest that on weekdays, restaurants in downtown areas with many offices attract more lunchtime customers, while on weekends, the customer base shifts to various residential areas.

<Table.8> Multiple comparison testing results – Location. ( (Lunch+Dinner)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Combination** | **diff** | **Lower** | **Upper** | **P adj** |
| Seoul – Province | 15.896429 | 5.971203 | 25.821654 | 0.0005322 |
| Suburb – Province | -4.128571 | -14.053797 | 5.796654 | 0.5918287 |
| Suburb - Seoul | -20.025 | -29.950226 | -10.099774 | 0.0000076 |

<Table.9> Multiple comparison testing results – Location. ( (ONLY Lunch)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **source** | **DoF** | **Sum Sq** | **Mean Sq** | **F value** | **Pr(>F)** |
| Week | 1 | 1833 | 1833 | 0.717 | 0.397754 |
| Location | 2 | 2974 | 1487 | 0.581 | 0.559668 |
| Campaign | 1 | 137054 | 137054 | 53.567 | 1.34e-12 \*\*\* |
| Week:location | 2 | 36217 | 18108 | 7.078 | 0.000951 \*\*\* |
| Week:campaign | 1 | 805 | 805 | 0.315 | 0.575108 |
| Location:campaign | 2 | 64623 | 32312 | 12.629 | 4.77e-06 \*\*\* |
| Week:location:campaign | 2 | 27127 | 13564 | 5.301 | 0.005334 \*\* |
| Residuals | 408 | 1043888 | 2559 |  |  |
| --- |  |  |  |  |  |
| Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1 | | | | | |

I conducted a multiple comparison analysis for lunch and dinner, aiming to identify statistically significant differences between regions during these two time periods.

In the case of dinner, we identified variations in revenue based on the region. Additionally, the difference in revenue between pre-campaign and post-campaign periods varies during dinner time. The interaction effect, specifically the interaction between location and campaign, is statistically significant. This result indicates that there is a difference in revenue when both the location and campaign change simultaneously. While there is no statistically significant difference in revenue based on the week and week-specific factors, the location, campaign, and their interaction show statistically significant effects on revenue.

<Table. 10> Multiple-way ANOVA results ( (ONLY Dinner)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **source** | **DoF** | **Sum Sq** | **Mean Sq** | **F value** | **Pr(>F)** |
| Week | 1 | 1223 | 1223 | 0.5 | 0.479859 |
| Location | 2 | 89635 | 44818 | 18.333 | 2.38e-08 \*\*\* |
| Campaign | 1 | 173606 | 173606 | 71.015 | 6.14e-16 \*\*\* |
| Week:location | 2 | 3910 | 1955 | 0.8 | 0.45014 |
| Week:campaign | 1 | 1687 | 1687 | 0.69 | 0.406593 |
| Location:campaign | 2 | 44830 | 22415 | 9.169 | 0.000127 \*\*\* |
| Week:location:campaign | 2 | 2005 | 1003 | 0.41 | 0.663808 |
| Residuals | 408 | 997406 | 2445 |  |  |
| --- |  |  |  |  |  |
| Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1 | | | | | |

I performed multiple comparisons by region, and significant differences in revenue were observed between Seoul and the other two regions. Seoul showed significantly higher revenue compared to the other regions. This suggests that when planning future campaigns, considering the characteristics of lunch and dinner times as well as the specific features of each region could lead to increased revenue.

<Table.11> Multiple comparison testing results – Location. ( (Dinner)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Combination** | **diff** | **Lower** | **Upper** | **P adj** |
| Seoul – Province | 26.678571 | 12.7775 | 40.57967 | 2.47E-05 |
| Suburb – Province | -7.314286 | -21.215 | 6.586814 | 0.43164 |
| Suburb - Seoul | -33.992857 | -47.894 | -20.0918 | 1E-07 |

**5. Conclusion**

Through this project, we have confirmed that the digital marketing campaign influences the increase in restaurant sales. Additionally, by testing other factors that impact sales, we gained insights into how we could run our campaigns more efficiently. Based on the analysis results, we can make practical plans for future campaign operations.

1. Local Prioritization: Given the significant impact of location and campaign interactions on sales, campaigns can be tailored to specific regions. By understanding the characteristics of each region and maximizing the effectiveness of the campaign, you can generate more sales.
2. Campaign Timing Optimization: Interaction effects, including week and campaign, suggest that the effectiveness of the campaign may vary depending on when it is executed. It has been confirmed that more sales could be made if a customized campaign were operated, taking into consideration the differences between weeks and regions.
3. Consider Multivariate Approaches: Adopting a multivariate approach, particularly considering interactions involving state, region, and campaign, can be effective at times when impacts on weekdays, weekends, and regions are most likely.
4. Timed Campaigns: The interaction between regions and time highlights differences in sales between lunch and dinner. Adjusting campaigns to align with these changes and running campaigns that consider peak hours in different regions can increase sales.

I have confirmed that we can use the insights from these analyses to develop future campaign strategies more effectively. I look forward to optimizing the impact of the campaign on restaurant sales by statistically assessing the subtle effects of various variables and their interactions.

**6. Project Review**

Through conducting this project, I was able to analyze the performance of each campaign and identify which type of campaign significantly influences sales. This experience allowed me to learn how to apply experimental design in real-world scenarios. Particularly, the aspect of considering and controlling variables to minimize the impact of external factors and confirm clear causal relationships was the most intriguing. The results of the experiment enable strategic decision-making, providing insights for developing and launching successful campaigns or services in the market. I felt a great sense of accomplishment in learning how to use experimental design to make informed decisions and contribute to innovation in real-life situations. I am committed to continually learning and applying experimental design to contribute to innovation in my practical endeavors.

**7. Reference**

(1) Analysis of business partner characteristics and marketing strategy using statistical models, Hyunsook Jung, 2015, Yonsei University

**8. Appendix**

<Picture 2> Comparison of sales by campaigns.

텍스트, 스크린샷, 도표, 직사각형이(가) 표시된 사진

자동 생성된 설명

<Picture 3> Subset of data: Sales Change (Seoul)

텍스트, 스크린샷, 도표, 직사각형이(가) 표시된 사진

자동 생성된 설명

<Picture 4> Subset of data: Sales Change (Suburb)

텍스트, 스크린샷, 도표, 직사각형이(가) 표시된 사진

자동 생성된 설명

<Picture 5> Subset of data: Sales Change (Province)

텍스트, 스크린샷, 도표, 직사각형이(가) 표시된 사진

자동 생성된 설명

<Picture 6> Watermelon Hwa-Chae

Watermelon Hwa-Chae: a refreshing dessert made by adding fruit to cold drinks, usually enjoyed cool, especially during the summer.

음식, 딸기, 과일 컵, 과일 샐러드이(가) 표시된 사진

자동 생성된 설명 자연 식품, 음식, 농산물, 슈퍼푸드이(가) 표시된 사진

자동 생성된 설명

<picture 7> Kimbap

Kimbap is a representative Korean convenience food made by wrapping rice and various ingredients with seaweed. Kimbap contains a variety of ingredients, typically including carrots, pickled radish, cucumber, onion, ham, and egg. These ingredients are wrapped with rice in seaweed, creating a cylindrical shape that is easy to hold and convenient for a quick meal. Kimbap is known for its versatility, and it can be enjoyed even when served cold, making it a portable and convenient option. Depending on the type, kimbap offers a range of flavors to suit different preferences.

음식, 요리, 회, 캘리포니아 롤이(가) 표시된 사진

자동 생성된 설명

<picture 8> Cause and effects diagram

