

Data Science Project - SOK1005

Candidatenummer 5 & 32

Task 2

This report provides an analysis of the sales and profits for the Oak Lawn store in Chicago. The analysis uses data from cheese sales spanning from the first week and throughout the last week of 1990. The purpose of this report is to provide insight into the store's cheese sale performance during the year and to identify opportunities for the future.

Profit each week for Oak Lawn (store 8)

The figure above represents the total profit from cheese sales by brand. By the figure, we can see that the total profit from cheese sales is highest by the KR brand, which stands for Kraft and the DOM brand. The average profit for this cheese brand, as we can see from the chart above, is between 1000-2000\$ each week for Oak Lawn store.

Amount sold each week for Oak Lawn (store 8)

The figure above represents the amount of cheeses sold, sorted by brand. Again we can see the sales of the Kraft and DOM cheese is at the top. These brands seem to be the most popular at the Oak Lawn store. We can see something interesting in April 1990. We see all cheese sales falling quite a bit.

Profit Margins

BRAND	AVG_PROFIT_MARGIN
BORDEN	23.37063
DOM	39.62169
HH	37.66571
KR	27.74442

BRAND	AVG_PROFIT_MARGIN
SARG	31.65537

The table shows the profit margins for the different cheese brands. We can see even though KR doesn't provide the highest average profit, still it provides most profit due to high sales rates. We can see Borden performing badly compared to the other brands, on both amount sold and profit margins.

Total profit from different cheese brands for Oak Lawn (store 8)

During the time period we analyzed, the store generated a total profit of 136 318\$ from cheese sales alone. The sales were driven primarily by the KR and DOM brand, which accounted for most of the total sales. HH and Borden performed poorly.

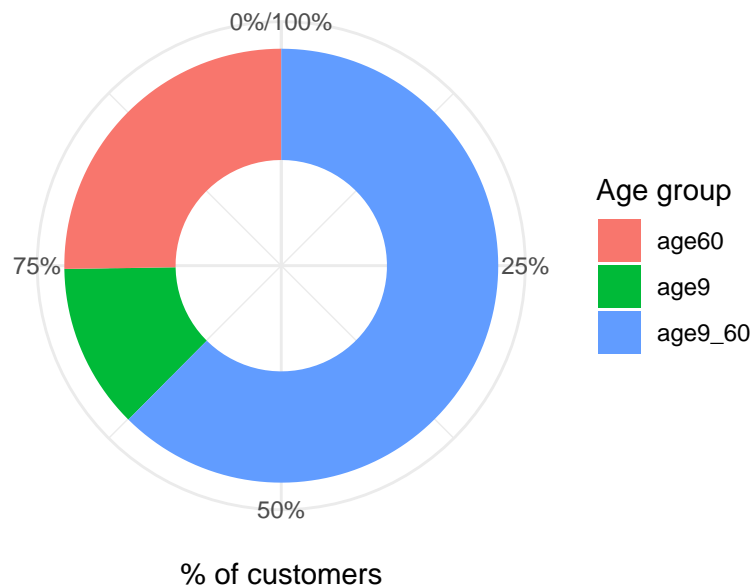
Total Profit - 136 318\$

Sales performance by Cheese Brand:

- KR – 61 126\$
- Dom – 56 786\$
- SARG – 11 641\$
- HH – 4 233\$
- Borden – 2 532\$

Sales by age group

Oak Lawn: Sales by age groups



Sales performance by Age Group:

- Age 0-9: 12% of overall sales with a revenue of 16 358\$
- Age 60+: 25% of overall sales with a revenue of 34 080\$
- All other: 63% of overall sales with a revenue of 85 880\$

The pie chart shows the distribution of cheese sales for Oak Lawn among the different age groups. As seen, the largest group of customers are those in the middle of the pack. Which is not that surprising considering they contain the vast majority of the population.

Task 3

A monthly sales report to the company should give you a concrete oversight over a couple of things for you to take into consideration for the future. By doing a monthly sales report, you get a more comprehensive, less volatile and a report that's more suited for decision-making compared to a weekly report. Here's some examples on what a monthly report should include:

- Total sales for the month: Including all brands will give you the sum of all sales done by each month and even for the whole year.

- Comparison to previous months: By including more months we get an overview on which months people are buying our product, this will make it easier to plan for the future by being prepared for the years and months to come.
- Sales by product: This should give an oversight over which brand is doing well and which is underperforming. And important step for planning ahead as a company dont want to stock up on products that dont sell.
- Sales by territory: This will give the company an overview of which area that generates the most revenue. Giving the company an opportunity to identify for growth.
- Analysis of trends in sales: This should explain significant changes in sales from previous months, giving the company the possibility to capitalize on opportunities for the future.
- Recommendations for improvements: This is where you should give recommendations for how the company can improve.

Here are examples:

Monthly sales - Chain based numbers

The figure above shows the amount of sales by cheese brand for the chain. We can see the KR and DOM brand performing well, with fluctuations. We see HH and Borden brand with relative low sales compared to the other brands.

Total profit for the year

BRAND	TOTAL_PROFIT
BORDEN	135109.1
DOM	3665446.0
HH	319378.4
KR	4008157.4
SARG	894182.0

We can see the KR brand providing the largest profit amount to the chain, followed closely by the DOM brand. We see the Borden brand providing a low amount of profit to the chain, compared to other brands. We saw from TASK 2, that the average profit the Borden brand was the lowest, aswell as low sales. We might look into finding other brands to replace this Brand, to achieve higher cheese sales in total.

Monthly profit for the different brands

The figure above shows the total profit in thousand dollars. We can use this data for looking for different trends, and which months performs better than others.

Task 4

The interactive map above shows us different Dominicks store locations in Chicago. The size of the markers indicate the total sales amount. Larger marker - more sales. We can also see different areas missing stores, between decent performing other ones. These areas could be potential new locations for stores. We can use the amount sold as an indicator of well performing areas for new stores.

The qmd-file that generates this pdf is stored together with task 1 and html version (for interactive) [here](#)