Dear McDonald's CEO Stephen Easterbrook,

Thank you for the sales data. My team of data scientists and I have looked through the sales data, and we have identified certain interesting trends for you and the McDonald's Corporation to consider, including the impact of Burger King's Impossible Burger when it was introduced in October 2018.

The following report is broken into two parts:

1) The impact of Burger King's Impossible Burger based on monthly sales numbers
2) Possible sales opportunities to consider, based on the day of the week

Kind regards,

Nathan Tsai
Senior Data Scientist
McDonald's Corporation

The Impact of Burger King's Impossible Burger

When our competitor Burger King debuted the Impossible Burger to the fast food market, our sales saw a dramatic drop in all three of our best-selling sandwich types: the hamburger, chicken filet, and fish filet.

Looking at the hamburger sales data, there was a steady increase in the number of hamburger sales in all regions from January 2016 to July or August 2018. However, when the Impossible Burger was introduced in October 2018, we saw a significant drop in hamburger sales, ranging from 200,000 to 300,000 fewer sales in all regions across the country.

Impossible Burger Severely Hurts Hamburger Sales Nationally

Hamburger Sales Across All Regions from January 2016 to September 2019
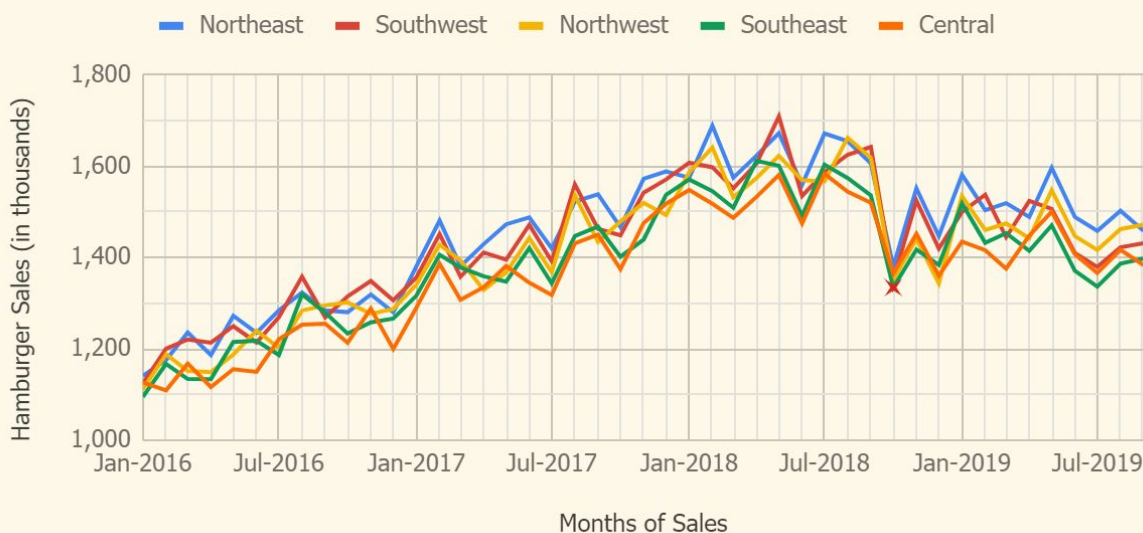

Similar damages in sales were seen in the chicken and fish filet sales data as well, as the

Impossible Burger negatively affected sales numbers in all regions across the nation. The

chicken filet sandwiches sales decreased by about 150,000 sales in the month during which the Impossible Burger was introduced. Similarly, the fish filet sandwiches sales decreased by around 100,000 sales nationwide.
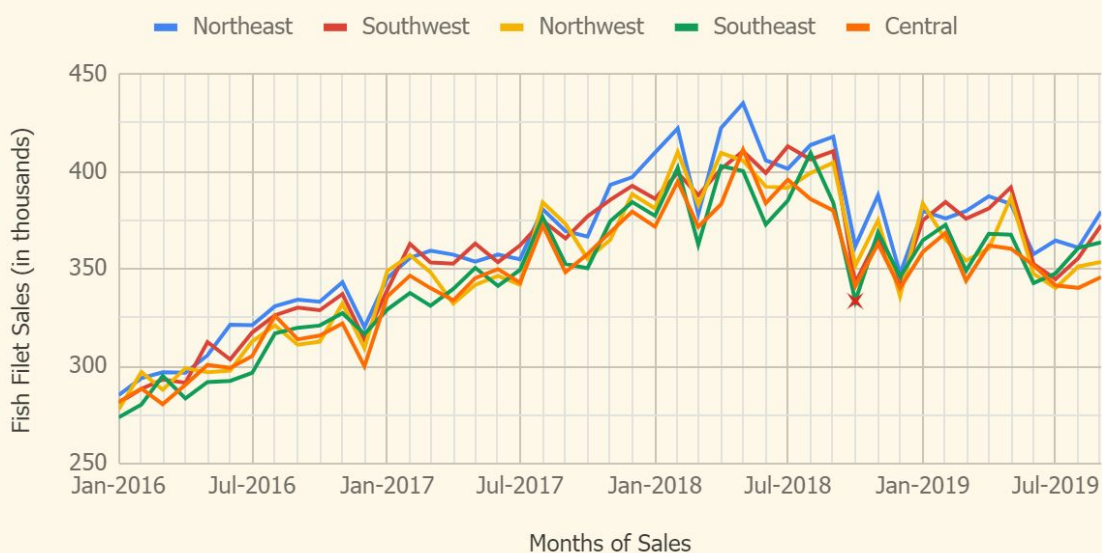

Impossible Burger Hurts Chicken Filet Sales Nationally
Chicken Filet Sales Across All Regions from January 2016 to September 2019
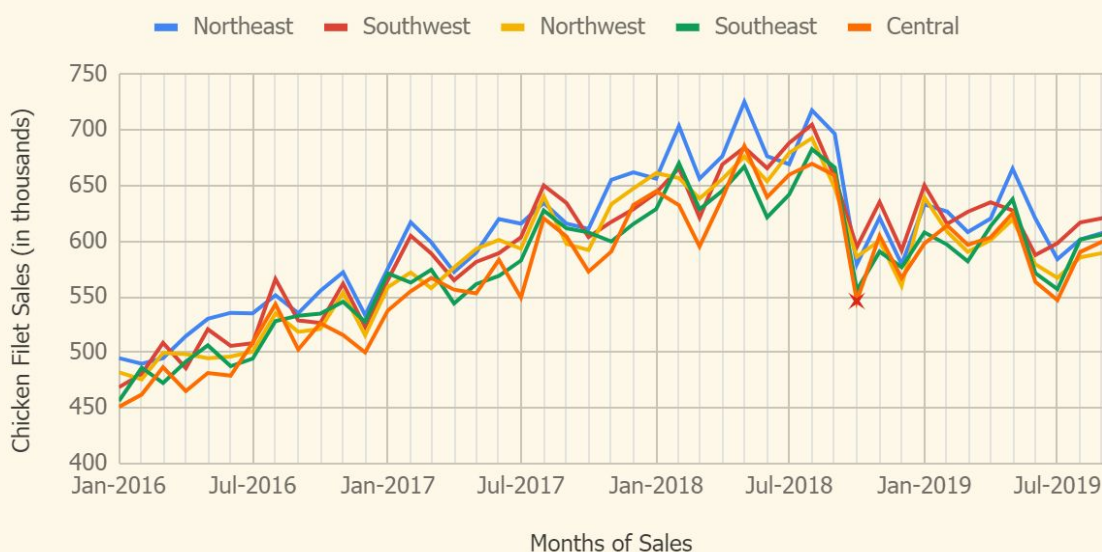


Impossible Burger Hurts Fish Filet Sales Nationally
Fish Filet Sales Across All Regions from January 2016 to September 2019

Day of Week Sales Promotions to Consider

Given that our sales numbers are not as high as they were prior to Burger King's Impossible Burger, we could consider promotions to increase the sales of our hamburger, chicken filet, and fish filet products, in order to recover our sales numbers. As a result, I have identified certain interesting trends based on daily sales data from January 2016 that you may consider.

Looking at average hamburger sales based on day of the week, I have identified that the least average hamburger sales occur around the beginning of the week (Sunday, Monday, Tuesday) in all regions except the Northeast. To increase hamburger sales in these regions, I would consider Sunday hamburger promotions in the Central and Northwest regions, Monday hamburger promotions in the Southwest region, and Tuesday hamburger promotions in the Southeast region.

Hamburger Sales Dip at Beginning of Week

National Average Hamburger Sales by Day of Week in January 2016
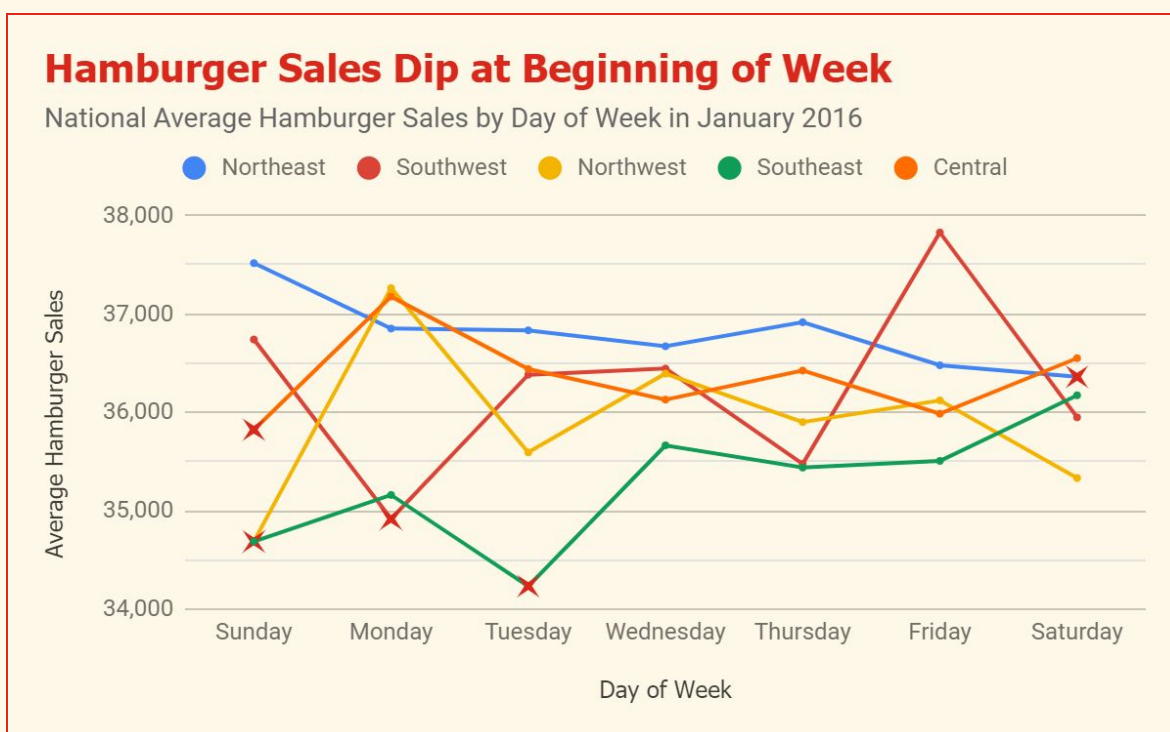
Looking at the average chicken filet sales data based on day of the week, I identified that three regions had the least average chicken filet sales numbers on Saturday. To combat this decrease in sales, I would advise a possible Saturday chicken filet promotion across all regions. Additionally, Monday promotions in the Southeast region, Tuesday promotions in the Central region, and Thursday promotions in the Southwest region could also have a positive impact on chicken filet sales.

Least Chicken Filet Sales on Saturdays
National Average Chicken Filet Sales by Day of the Week in January 2016
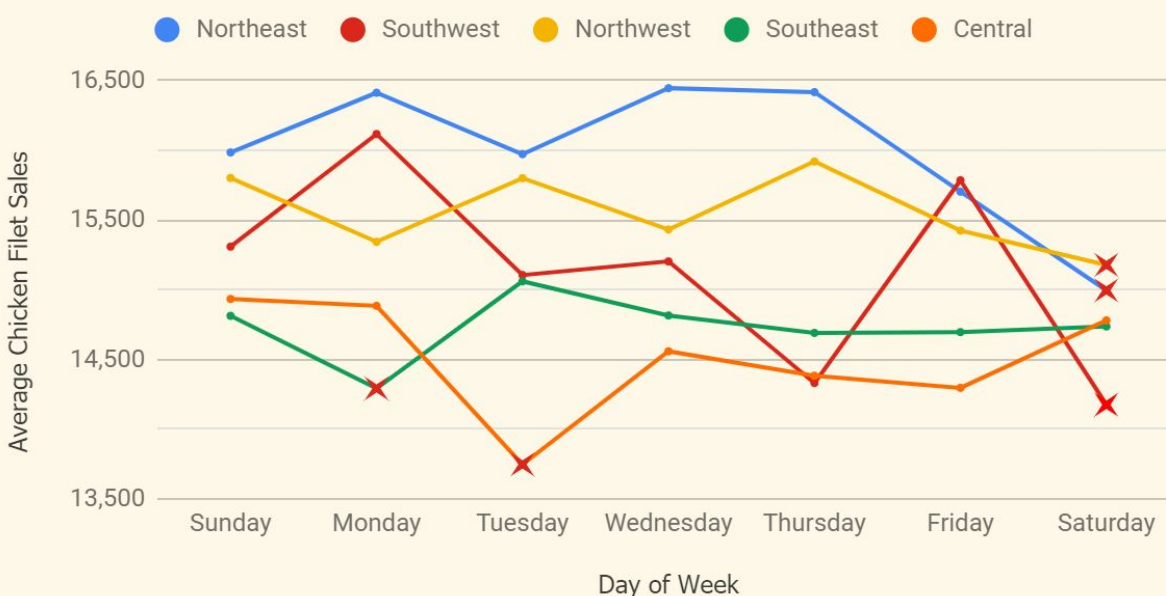
Lastly, when looking at the average fish filet sales for the weekend, there were some surprising similarities among all the regions. In every region, the peak of average fish filet sales happened on Thursday or Friday, but quickly fell to the lowest average sales numbers during the weekend, on Saturday and Sunday. To take advantage of the peak sales numbers at the end of the weekdays, I would consider a weekend-long promotion on fish filet products in all regions.

Fish Filet Sales Lowest on Weekends
National Average Fish Filet Sales by Day of Week in January 2016