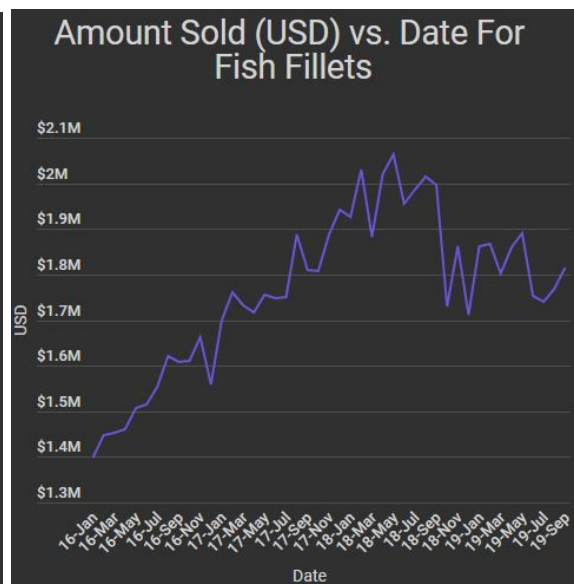
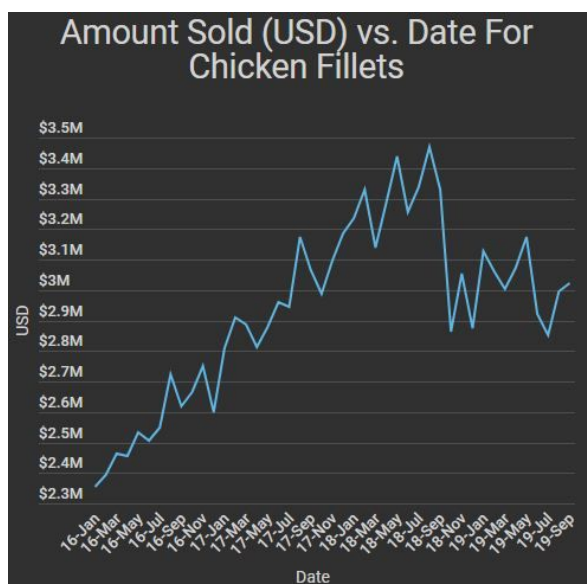
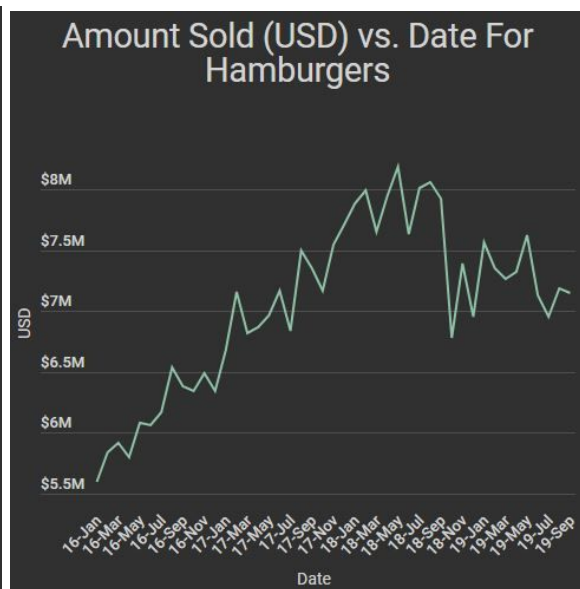
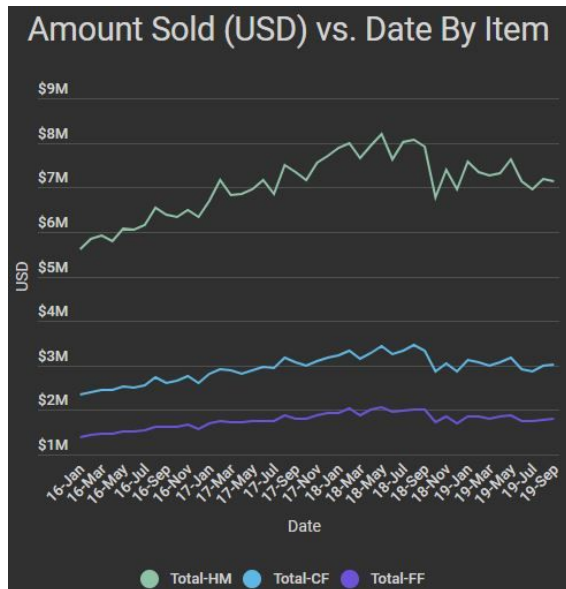


McDonald's Insights

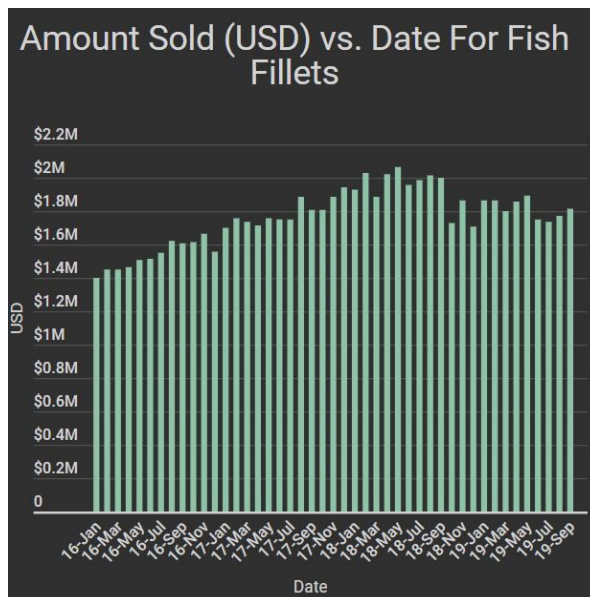
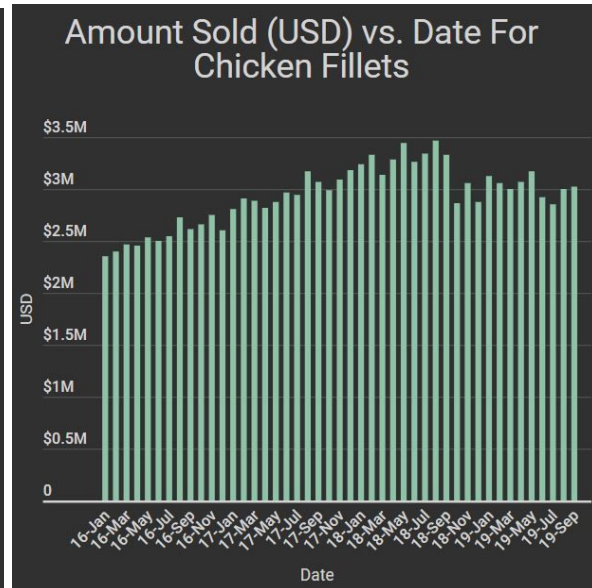
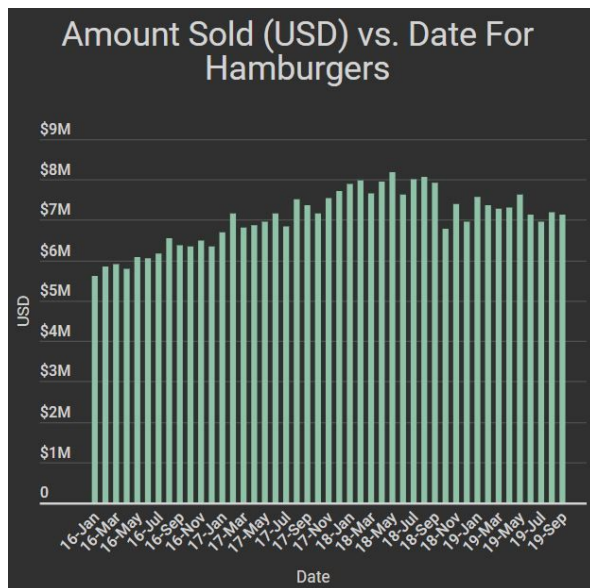
Fast-food restaurants across the US are beginning to offer healthier food options to capitalize on consumers' increasing demand for high-quality food at the cheapest price. Some major strides in healthier food options have been made due to food manufacturers producing plant-based proteins that taste like animal protein. One such protein is the plant-based burger, which is becoming more common because of both the ethical appeal of not harming animals to produce the burger and the delicious taste that is familiar to a burger made with animal protein. Rather than trying to convert meat-eaters, companies are trying to appeal to health-conscious consumers.

Last October (October 2018), Burger King introduced the Impossible Burger. After performing some data analysis on the provided data sets, we see that since Burger King's introduction of the Impossible Burger in October 2018, the amount of money spent on hamburgers, chicken fillets, and fish fillets at McDonald's has significantly decreased. After performing some mathematical calculations, we see that from September to October 2018 (Burger King's introduction of the Impossible Burger), the amount of money spent at McDonald's were impacted by the following amounts: about a 14.409% decrease for hamburgers (from about \$7.92M to about \$6.78M), about a 13.981% decrease for chicken fillets (from about \$3.327M to about \$2.862M), and about a 13.336% decrease for fish fillets (from about \$1.997M to about \$1.730M). Below are the line charts for sales of all three items on one chart and a chart for each of the three items at McDonald's.



Interestingly, sales of all three items at McDonald's increased and peaked again specifically at January and June 2019 before declining again in July 2019. Another interesting insight is that sales of chicken fillets and fish fillets at McDonald's have increased from July to September 2019. Specifically, sales of chicken fillets increased about 5.658% from July 2019 (about \$2.85M) to September 2019 (about \$3.02M), and sales of fish fillets increased about 4.196% from July 2019 (about \$1.73M) to September 2019 (about \$1.81M). While the sales of these two items have increased since July 2019, the sales of hamburgers has actually decreased from August to September 2019. Specifically, sales of hamburgers decreased about 0.664% from

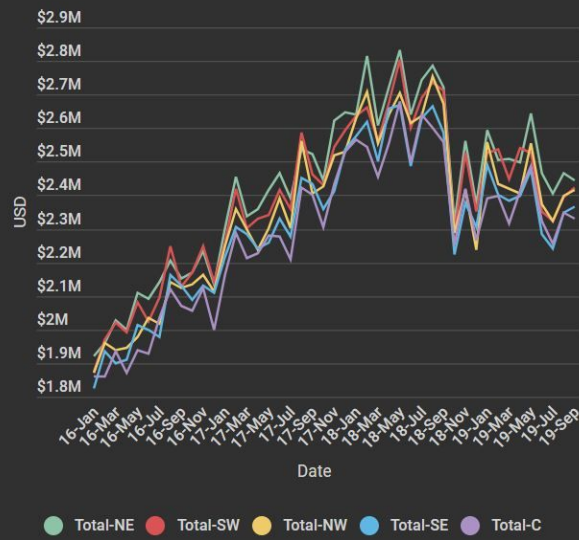
August 2019 (about \$7.190M) to September 2019 (about \$7.142M). The downward trend of sales of hamburgers occurring simultaneously with the continued upward trend of sales of both chicken fillets and fish fillets may indicate that consumers have shifted their eating habits/preferences towards healthier options, especially since competitors, such as Burger King, have released their own healthier food options, such as the Impossible Burger. In addition, you can see that hamburgers are more popular during the months with colder weather (December, January) and sales decrease during the months with warmer weather (June, July, August). Below are the bar charts for sales of each of the three items at McDonald's.



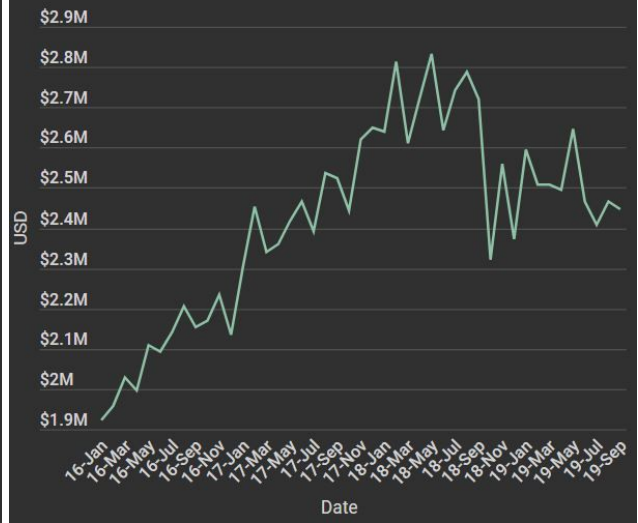
Another interesting insight is shown when looking at each of the five regions: North East (NE), North West (NW), South East (SE), South West (SW), and Central (C). Similarly to looking at the data per item, we see that, according to the data per region, we see that since Burger King's introduction of the Impossible Burger in October 2018, the amount of money spent in all 5 regions at McDonald's has significantly decreased. After performing some mathematical calculations, we see that from September to October 2018 (Burger King's introduction of the Impossible Burger), the amount of money spent at McDonald's were impacted by the following amounts: about a 14.690% decrease for NE (from about \$2.72M to about \$2.32M), about a 14.301% decrease for NW (from about \$2.67M to about \$2.28M), about a 14.022% decrease for SE (from about \$2.58M to about \$2.22M), about a 15.549% decrease for SW (from about \$2.71M to about \$2.28M), and about a 12.015% decrease for C (from about \$2.55M to about \$2.25M). Similarly to looking at the data per item, when looking at the data per region, sales of all 5 regions at McDonald's increased and peaked again specifically at January and June 2019 before declining again in July 2019.

Another interesting insight is that sales in the SW, NW, and SE at McDonald's have increased from July to September 2019. Specifically, sales in the SW increased about 4.211% from July 2019 (about \$2.32M) to September 2019 (about \$2.42M), sales in the NW increased about 3.805% from July 2019 (about \$2.32M) to September 2019 (about \$2.41M), and sales in the SE increased about 5.348% from July 2019 (about \$2.24M) to September 2019 (about \$2.36M). While the sales in these three regions have increased since July 2019, the sales in the NE and C have actually decreased from August to September 2019. Specifically, sales in the NE decreased about 0.790% from August 2019 (about \$2.465M) to September 2019 (about \$2.445M), and sales in the C decreased about 0.7809% from August 2019 (about \$2.347M) to September 2019 (about \$2.328M). The downward trend of sales in the NE and C occurring simultaneously with the continued upward trend of sales in the SW, NW, and SE may indicate that consumers in the SW, NW, and SE have shifted their eating habits/preferences towards healthier options, especially since competitors, such as Burger King, have released their own healthier food options, such as the Impossible Burger. Below are the charts for sales in each of the five regions at McDonald's.

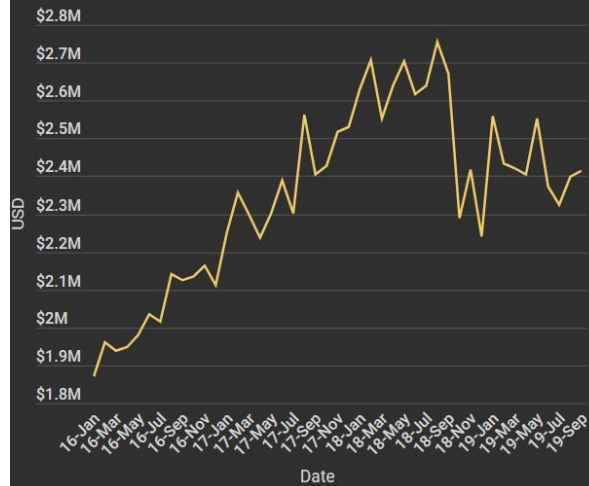
Amount Sold (USD) vs. Date By Region



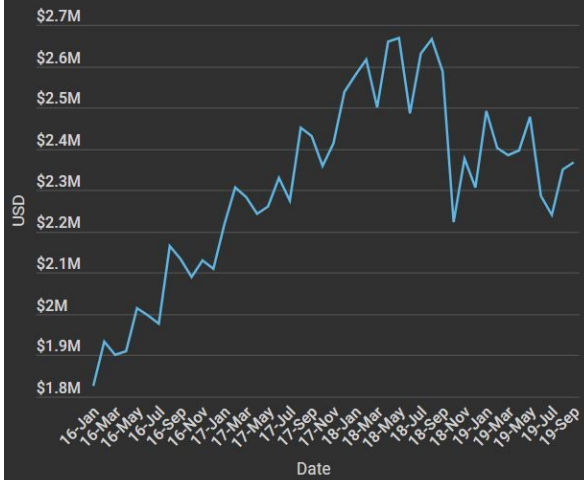
Amount Sold (USD) vs. Date For NE

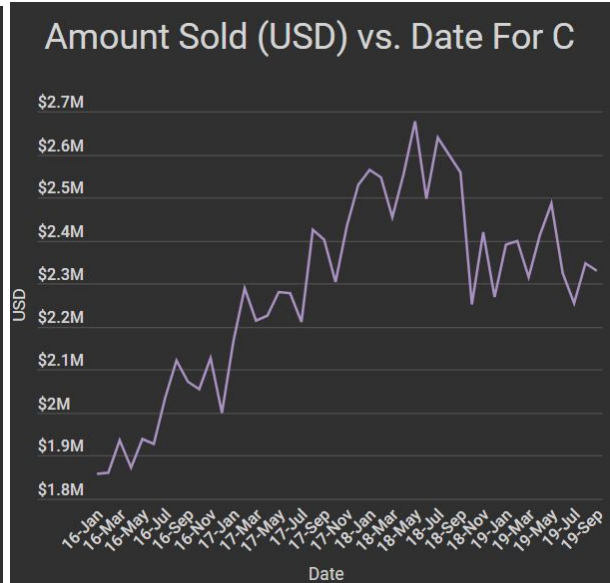
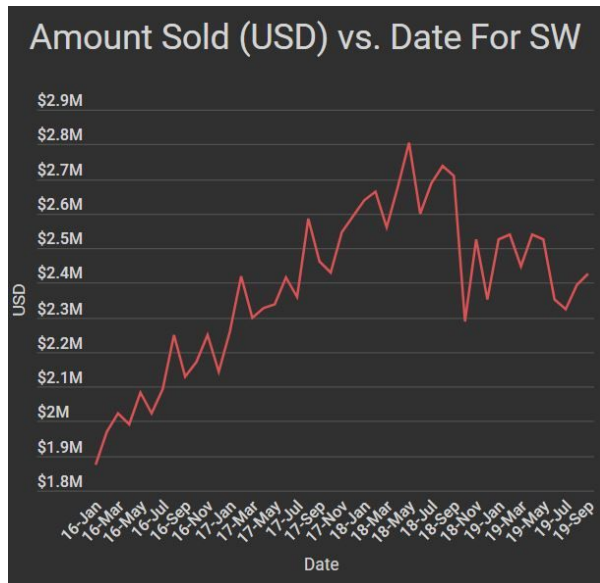


Amount Sold (USD) vs. Date For NW

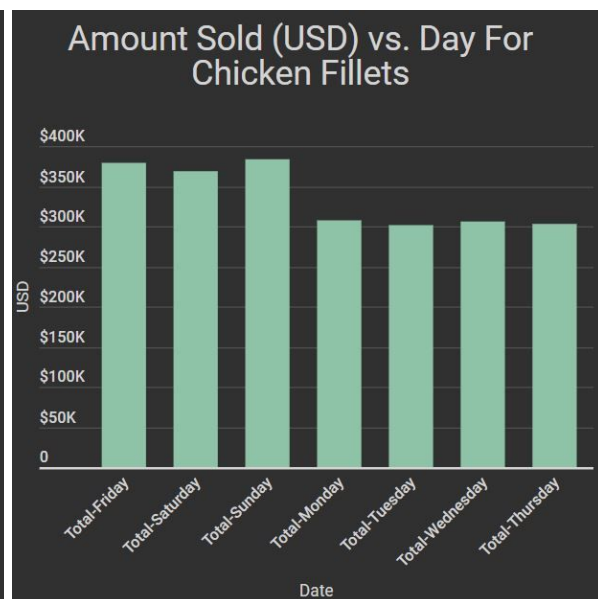
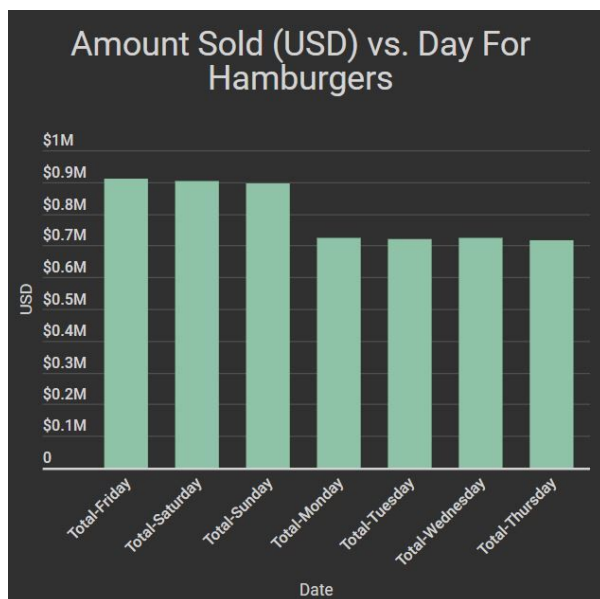


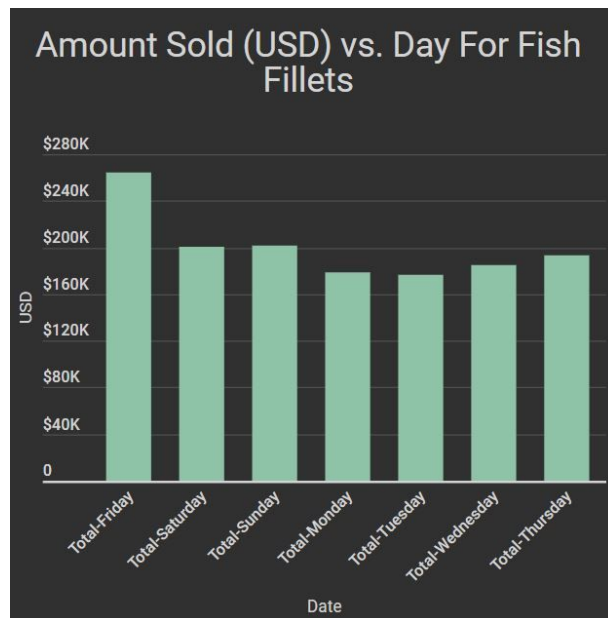
Amount Sold (USD) vs. Date For SE





Another interesting insight is that when using the provided daily sales data and grouping the data by weekday, we see that the days with the highest amount of sales are Friday, Saturday, and Sunday, which intuitively makes sense since Fridays are paydays for most workers, so consumers are more likely to spend their money right after getting paid and on Fridays and weekends (Saturdays and Sundays) when they have free time to hang out with friends and family. Interestingly, sales of hamburgers stay relatively the same from Friday to Sunday, sales of chicken fillets dip a little on Saturday then peak on Sunday, and sales of fish fillets peak on Friday then decrease substantially on Saturday and Sunday. Below are the charts of each weekday per item at McDonald's.





To stay competitive and increase overall sales, one recommendation I would have for McDonald's is to create their own health-conscious burger, particularly with a competitor to Impossible Foods (the company that created the Impossible Burger), such as Beyond Meat, since Impossible Foods may have an exclusive deal with Burger King. Even if that deal is not exclusive, McDonald's should still consider partnering with a competitor to Impossible Foods, such as Beyond Meat, since a partnership with Beyond Meat is more likely to be less expensive than a partnership with Impossible Foods since Impossible Foods already has that business partnership with Burger King while Beyond Meat has no such business partnership. So, Beyond Meat would be willing to create a partnership for a lower price than Impossible Foods.

Another recommendation I would have for McDonald's is to increase their marketing and research and development (R&D) for their line of chicken and fish products. The downward trend of sales of hamburgers occurring simultaneously with the continued upward trend of sales of both chicken fillets and fish fillets may indicate that consumers have shifted their eating habits/preferences towards healthier options, especially since competitors, such as Burger King, have released their own healthier food options, such as the Impossible Burger. Because of this continued upward trend for sales of healthier food options, McDonald's would benefit from creating new and fresh healthier food options, such as chicken fingers and fish sticks, since there are more people who are health-conscious and prefer healthier food options. McDonald's would also benefit from increasing their marketing of their existing healthier food options, such as their

McChicken, Artisan Grilled Chicken Sandwich, Buttermilk Crispy Chicken Sandwich, Filet-O-Fish, and their multiple salads, such as the Southwest Grilled Chicken Salad. An increase in marketing of these healthier food options would increase consumers' awareness of McDonald's healthier food options, which may impact whether they choose to eat (for example, eating at McDonald's vs. Burger King vs. In-N-Out vs. Chick-fil-A, etc). McDonald's should pay particularly close attention to their line of chicken products since there is very steep competition from other fast food places offering chicken products, such as Chick-Fil-A, Popeyes, and Shake Shack.

A third recommendation that I would have for McDonald's is to run targeted advertisements on various social media platforms, such as Facebook, Instagram, and Twitter, to consumers at each of the five regions to increase awareness of McDonald's premium line of healthier food options and to personalize the advertisement to fit within each region's culture and nuance. I would also recommend to run targeted advertisements primarily in the NE and C since sales in those two regions have declined from August to September 2019, which indicates that consumers in these regions are eating less at McDonald's.

Another recommendation that I would have for McDonald's is to have deals/bundles exclusively for Fridays and weekends to capitalize on the popularity and increased sales at McDonald's during the weekends. For fish fillets in particular, I would recommend to McDonald's to have special deals/bundles with fish fillets on Fridays to capitalize on the increased demand/sales of fish fillets on Fridays and on weekends to increase demand/sales of fish fillets on weekends. However, a potential pitfall of this recommendation is that this recommendation is only based on one month's worth of daily sales data. So, to substantiate or refute this recommendation, we would need access to more months of daily sales data and perform data analysis and create data visualizations.

Another potential pitfall or need of clarification is that just by using the provided data, there is no inherent reason as to why sales at McDonald's increased in January 2019 and June 2019. To figure out this trend, we would need more context on the provided data and possibly more data from other time periods.

Links:

- Website: <https://sites.google.com/view/mcdonalds-insights/home>
- CEO's PDF: <https://drive.google.com/open?id=1F2RGRI3dQSDckHXcPKh9VXh6AECBGWCj>
- Source Code: https://github.com/allstonfojas/dsc106_a2
- Interactive Charts: <https://infogram.com/mcdonalds-insights-1hxj48z9g8lr4vg?live>