

Using COVID-19 Examples in Business Analytics

Dr. Janet Fraser

Teaching in the New Normal

5/22/2020

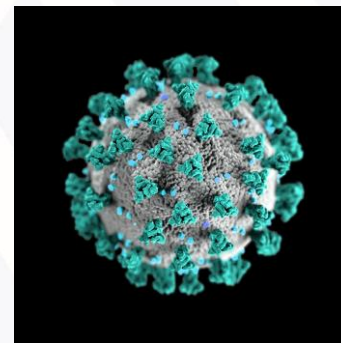
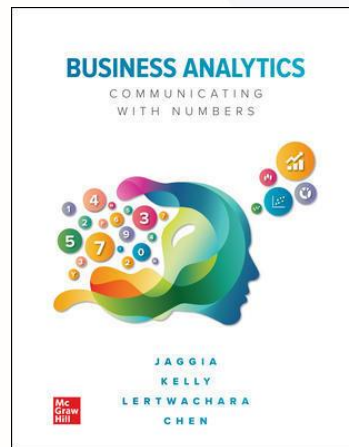
Things Change

- 75% of offerings hybrid or online
- Students have mixed feelings
- Living on the edge
- Engaging with the changes



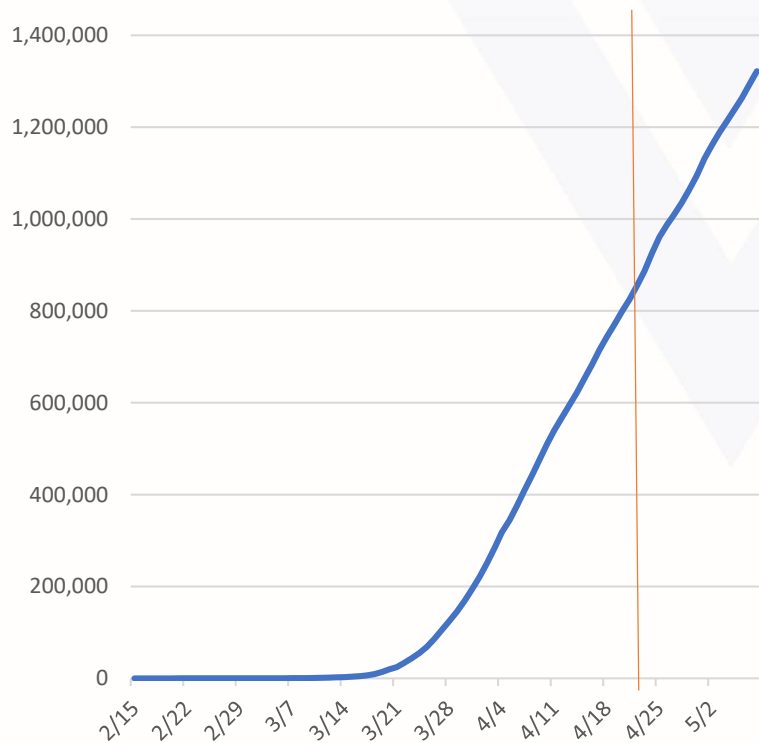
COVID-19 in the Coursework

- BADM 556: Data Analytics for Management
- BUDA 452/BUDA 545: Business Data Simulation
- BADM 611: Business Research Methods

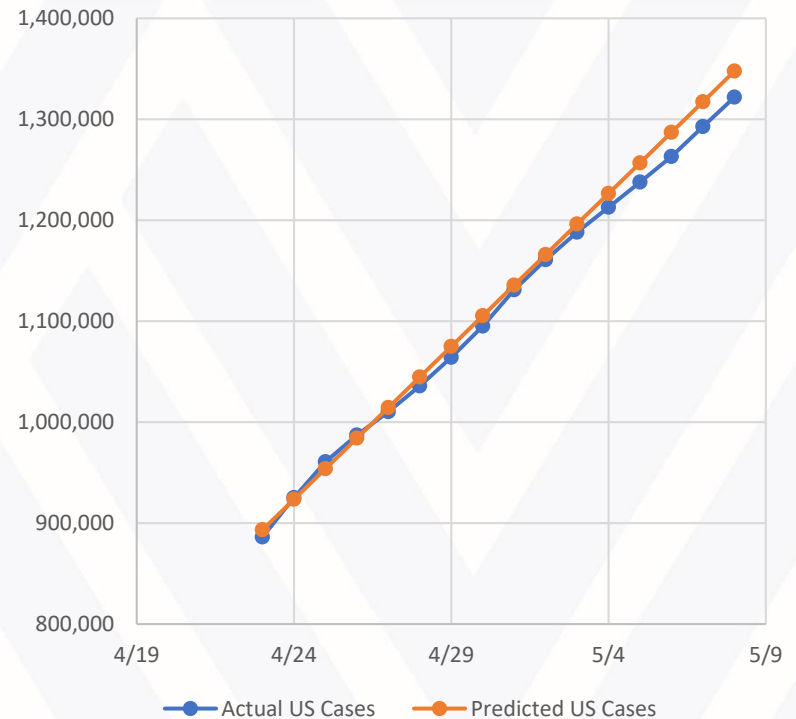


Data Analytics for Management

Actual US Cases

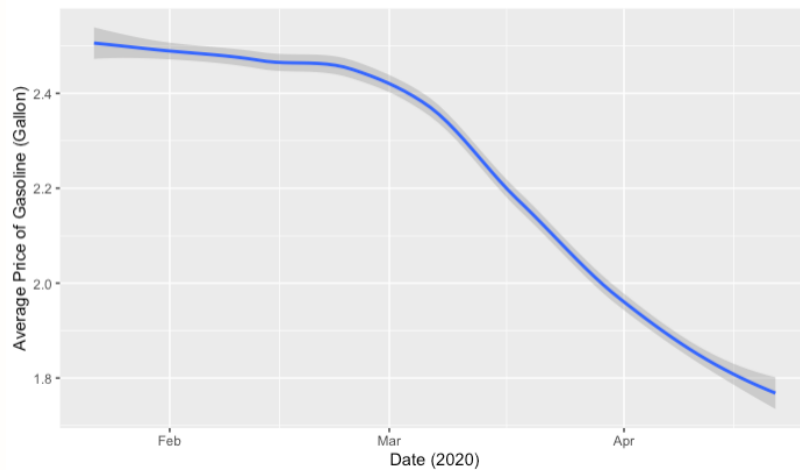


Actual and Predicted COVID-19 Cases

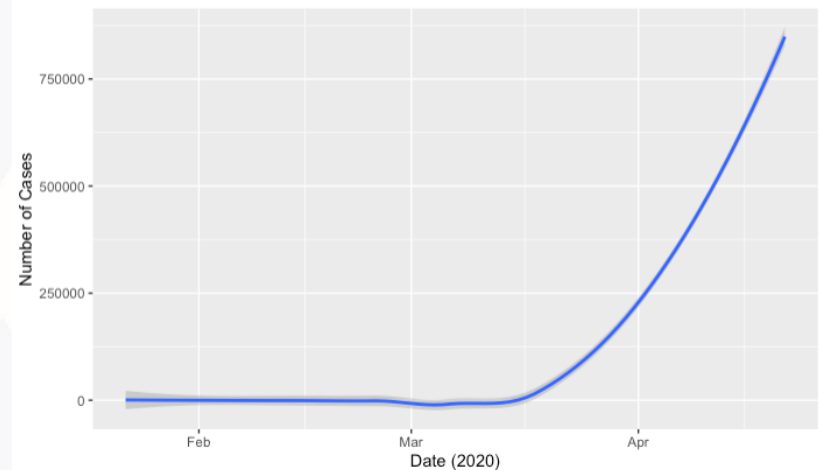


Data Analytics for Management

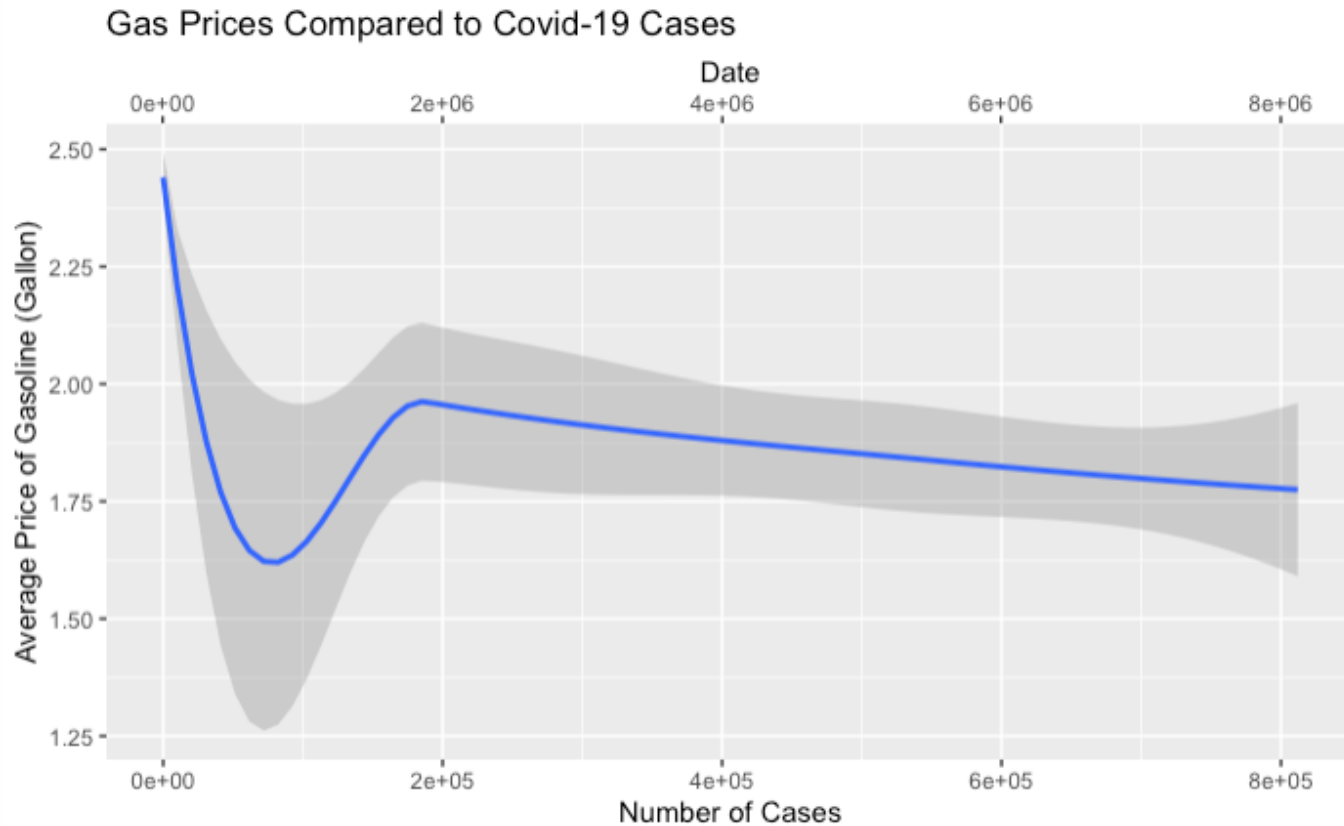
Price of Gas Over Time



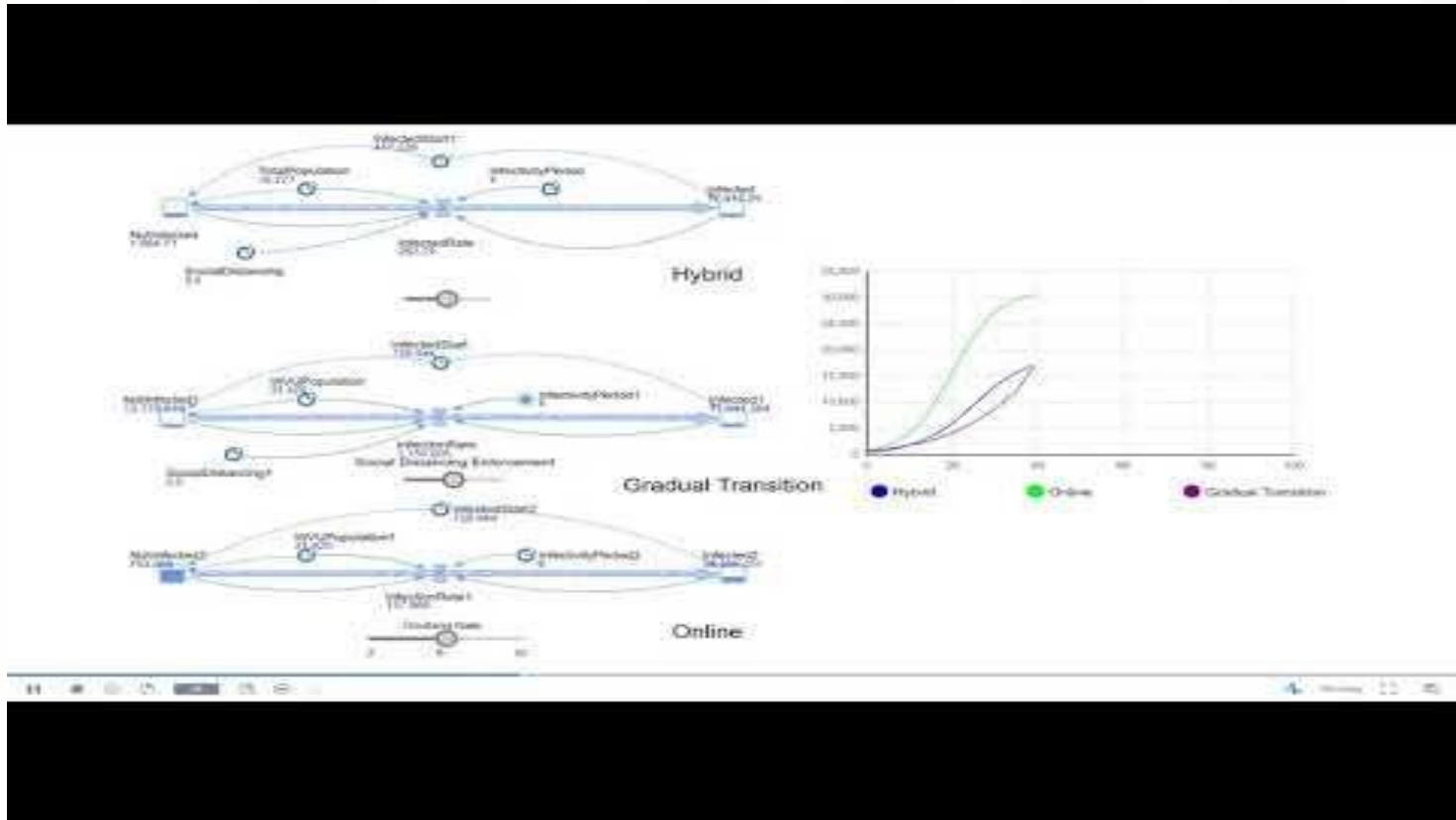
U.S. Covid-19 Cases Over Time



Data Analytics for Management

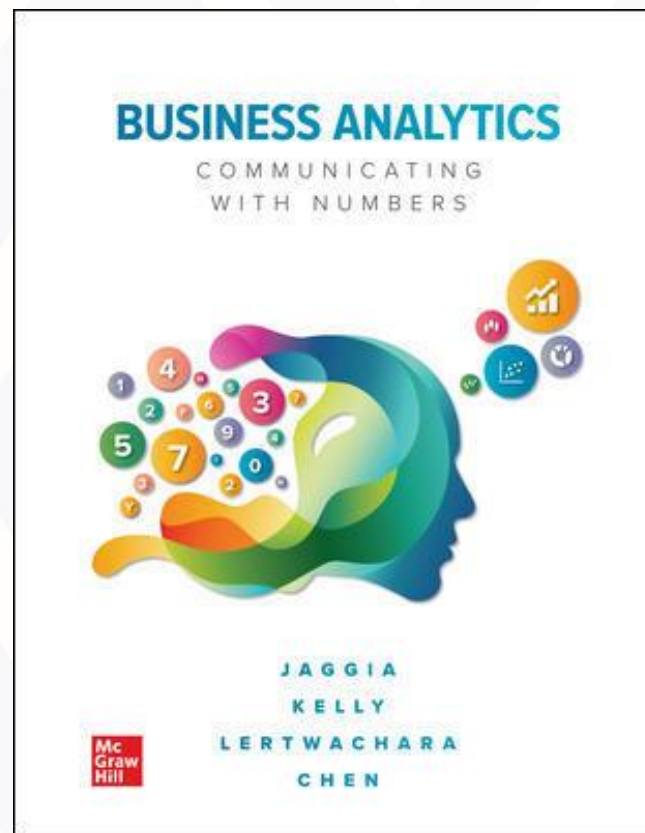


Business Data Simulation



Business Research Methods

- Chapter 1: Introduction to Business Analytics
- Chapter 2: Data Management and Wrangling
- Chapter 3: Data Visualization and Summary Measures
- Chapter 5: Statistical Inference
- Chapter 6: Regression Analysis
- Chapter 7: Advanced Regression Analysis
- Chapter 12: Forecasting with Time Series Data
- Chapter 8: Introduction to Data Mining
- *Chapter 10: Supervised Data Mining: Decision Trees*



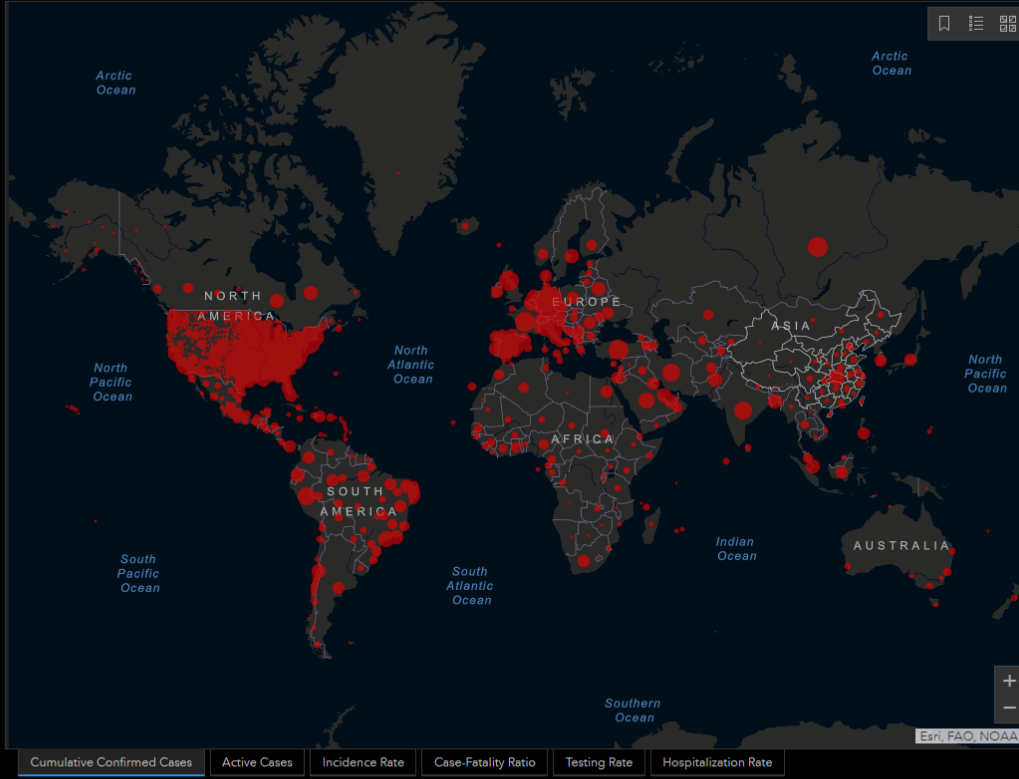
Total Confirmed
5,027,732

Confirmed Cases by Country/Region/Sovereignty

- 1,552,594 US
- 317,554 Russia
- 291,579 Brazil
- 249,619 United Kingdom
- 232,555 Spain
- 227,364 Italy
- 181,700 France
- 178,748 Germany
- 152,587 Turkey
- 129,341 Iran
- 113,461 India
- 104,020 Peru
- 84,063 China
- 81,575 Canada
- 65,077 Saudi Arabia
- 56,594 Mexico
- 56,235 Belgium
- 53,617 Chile
- 48,091 Pakistan

Admin0 Admin1 Admin2

Last Updated at (M/D/YYYY)
5/21/2020, 9:32:48 AM



Cumulative Confirmed Cases Active Cases Incidence Rate Case-Fatality Ratio Testing Rate Hospitalization Rate

188
countries/regions

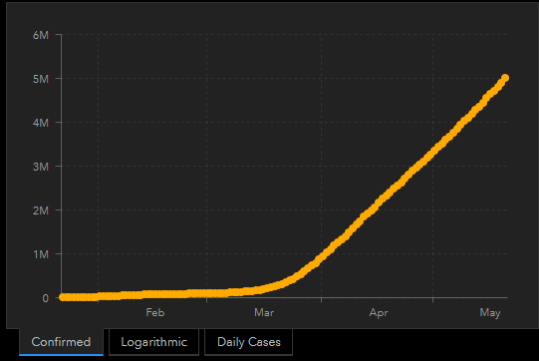
Lancet Inf Dis Article: [Here](#). Mobile Version: [Here](#).
Lead by JHU CSSE. Automation Support: [Esri Living Atlas team](#) and [JHU APL](#). [Contact US](#). [FAQ](#). Read more in this [blog](#).
Data sources: [WHO](#), [CDC](#), [ECDC](#), [NHC](#), [DXY](#), [1point3acres](#), [Worldometers.info](#), [the COVID Tracking Project](#) (testing and hospitalizations), and city, county, state and national public health departments. Full list of sources available [here](#).

Global Deaths
328,730

93,471 deaths	US
35,786 deaths	United Kingdom
32,330 deaths	Italy
28,135 deaths	France
27,888 deaths	Spain
18,859 deaths	Brazil
9,186 deaths	Belgium
8,195 deaths	Germany
7,249 deaths	Global Deaths

US State Level Deaths, Recovered

28,636 deaths, 61,886 recovered	New York US
10,749 deaths, 23,945 recovered	New Jersey US
6,066 deaths, recovered	Massachusetts US
5,060 deaths, 28,234 recovered	Michigan US
4,770 deaths, recovered	Pennsylvania US
4,525 deaths, recovered	Illinois US
3,529 deaths, 6,264 recovered	Connecticut US
3,501 deaths, recovered	California US
2,608 deaths, 26,249 recovered	US Deaths, Recovered



Confirmed Logarithmic Daily Cases

[Google Cloud Platform: COVID-19 Public Datasets](#)

Applications

- Five applications of COVID-19 alongside Business Analytics:
 1. Apply concepts of data wrangling
 2. Identify different types of variables (e.g. continuous, discrete, binary, categorical)
 3. Learn methods to evaluate different types of variables and when each method is appropriate
 4. Develop and use time series models to predict the number of future cases of COVID-19
 5. Develop and use logistic regression to evaluate an individual's risk of contracting COVID-19

Questions and ideas