

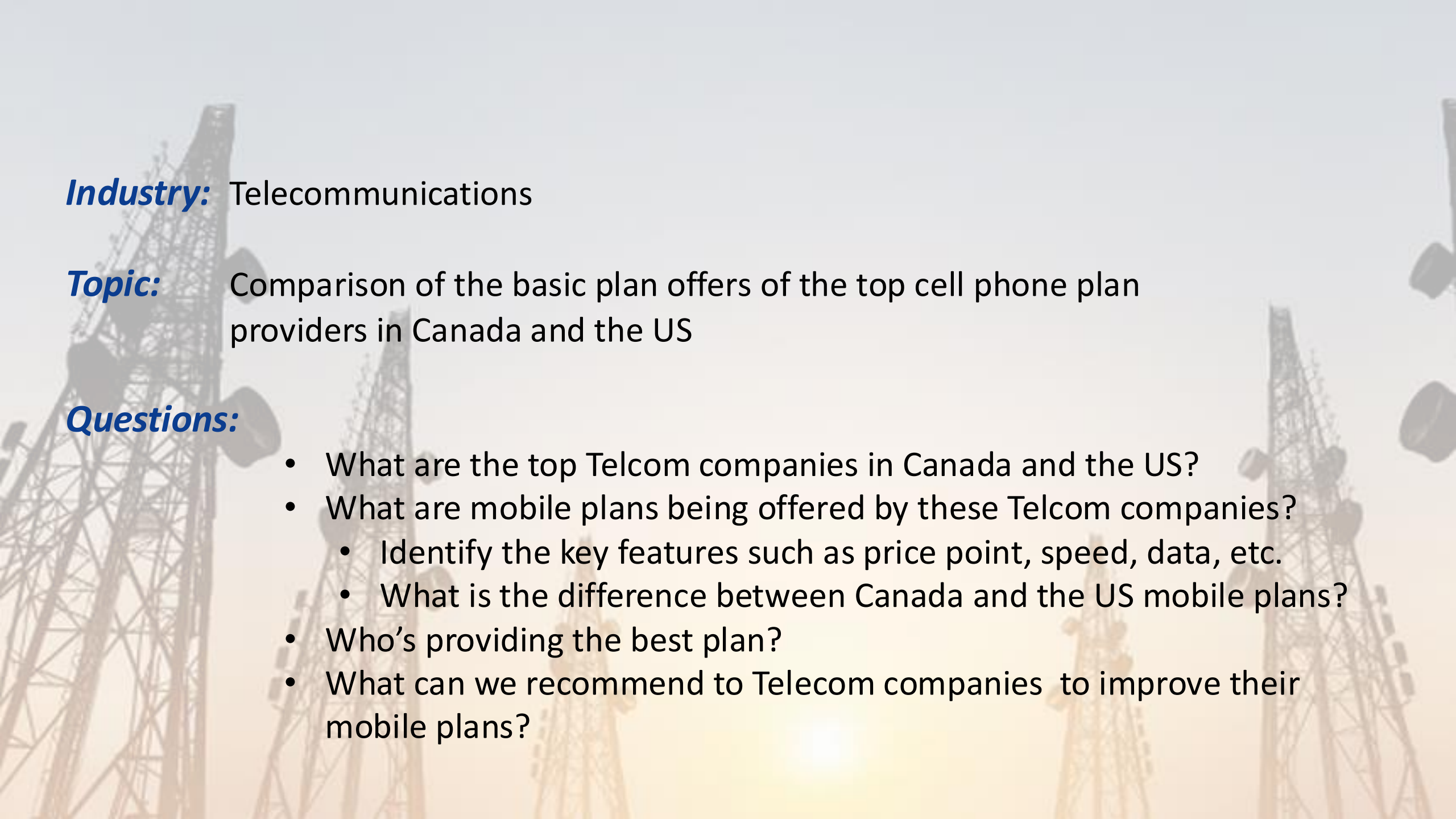
# **BAN240 – Business Analytics Consulting Capstone Project**

## **Group 4 Members**

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**Date** April 7, 2022



**Industry:** Telecommunications

**Topic:** Comparison of the basic plan offers of the top cell phone plan providers in Canada and the US

**Questions:**

- What are the top Telcom companies in Canada and the US?
- What are mobile plans being offered by these Telcom companies?
  - Identify the key features such as price point, speed, data, etc.
  - What is the difference between Canada and the US mobile plans?
- Who's providing the best plan?
- What can we recommend to Telecom companies to improve their mobile plans?

# Background

- Canada's cell phone plans is the most expensive in the world.
- *By how much?*
  - 25% more compared to other countries
  - between **15%-40% more** compared to the US.
- The Big 3 **Canadian** telecom companies (Bell, Rogers and Telus) own 90% of the market and charge higher prices due to a lack of competition.
- *Why:*
  1. Expensive to start & operate
  2. very restrictive licensing policies





# Background

- Recognizing this issue, in 2019, the Government of Canada released a policy to drive down the prices.
- By January 2022, they successfully reduced mid-range wireless plans by 25% over two years.
- They will still continue to rigorously push the reduction of prices of telecom services.



# Background

**WHAT:** This study will compare the cell phone plan offers of the top plan providers in Canada and the US.

**HOW:** By looking into details using a standard criterion to determine which plan offers the best value for money.

By drilling down what features to utilize, the impediments of the review, what to focus on, and other significant elements.

**WHY:** To determine which plan offers the best value for money.

To show which aspects the business can focus on to be more competitive.

To give suggestions on how the government and the business can lower their prices.

# Data Collection and Description

## Semi-structured dataset

- ✓ Self-describing – carries info about what its schema
- ✓ Loosely-coupled data
- ✓ Flexibility in adding new attributes and relationship

Citation: Wilkerson, Margaret. "Semistructured-Data model".

<https://slideplayer.com/slide/13318356/>



**Common source:** *Whistle-out* - most recent available plans offered to consumers. Foundation for analysis of performances of network service providers across the United States and Canada.

**Existing** and **open to public** information hence it is easily accessible, and the **accuracy is very high**.

whistleOut

# Data Collection and Description

- ❑ Identified key features included in a plan
- ❑ Filtered numerous phone plans offered by the identified US & Canadian wireless telecommunication companies

## Selected companies

US – Verizon, USCellular, T-Mobile, Sprint, AT&T

CA – Bell, Rogers, Telus, Freedom, Virgin Plus, Fido



Features	Description
Company	Selected Canada and US telecom provider
Plan	Description of mobile data plan offering
Price	Mobile data plans monthly fee in USD and CAD
Promotion	Promotion that can be avail during mobile data plan activation or sign-up
Fees	Activation fee or Sign-up fee
Local Minutes	Nationwide call duration inclusive in mobile data plan
International Minutes	International call duration inclusive in mobile data plan
Messages Type	Type of text plan included in the mobile data plan
Messages	Number of outgoing messages in the included text plan
Data	How much mobile data the user can access, usually per month, for a specific fee.
Speed/bandwidth	Maximum amount of data transmitted over an internet connection in a given amount of time
Contract	Stated duration or service term of mobile data plan
Availability	Location to where the mobile data plan can be purchased
Coverage	Stated locations of mobile carrier's network coverage



# Methodology

## The Model

Each plan then is evaluated and given a score by multiplying each normalized factor with how important it is to the Canadian consumer.

The Model score is between 0 and 100, the higher the better.

Plan Score

=

$$\sum \text{Normalized Factor}_i \times \text{Factor Importance}_i$$

Company	Plan	Model Score
Fido	\$15 Basic Plan with 100 Minutes + 250MB	52.7
Fido	By the Month \$15 Plan	50.9
Fido	By the Month \$25 Plan	50.0
Fido	\$30 Talk & Text Plan	51.3
Fido	\$35 Basic Plan with Unltd Minutes + 3GB	53.2
Fido	By the Month 35 Plan	48.8
Fido	\$37.50 Data, Talk & Text Plan with 2GB	53.2
Fido	\$41.25 Data, Talk & Text Plan with 4GB	53.5
Fido	\$45 Data, Talk & Text Plan with 6GB	53.9
Fido	\$50 Data, Talk & Text Plan with 10GB	55.3
Fido	\$55 Data, Talk & Text Plan with 15GB	57.3
Fido	\$55 Data, Talk & Text Plan with 10GB	54.0
Fido	By the Month \$55 Plan	45.5



# Most Influential Factors

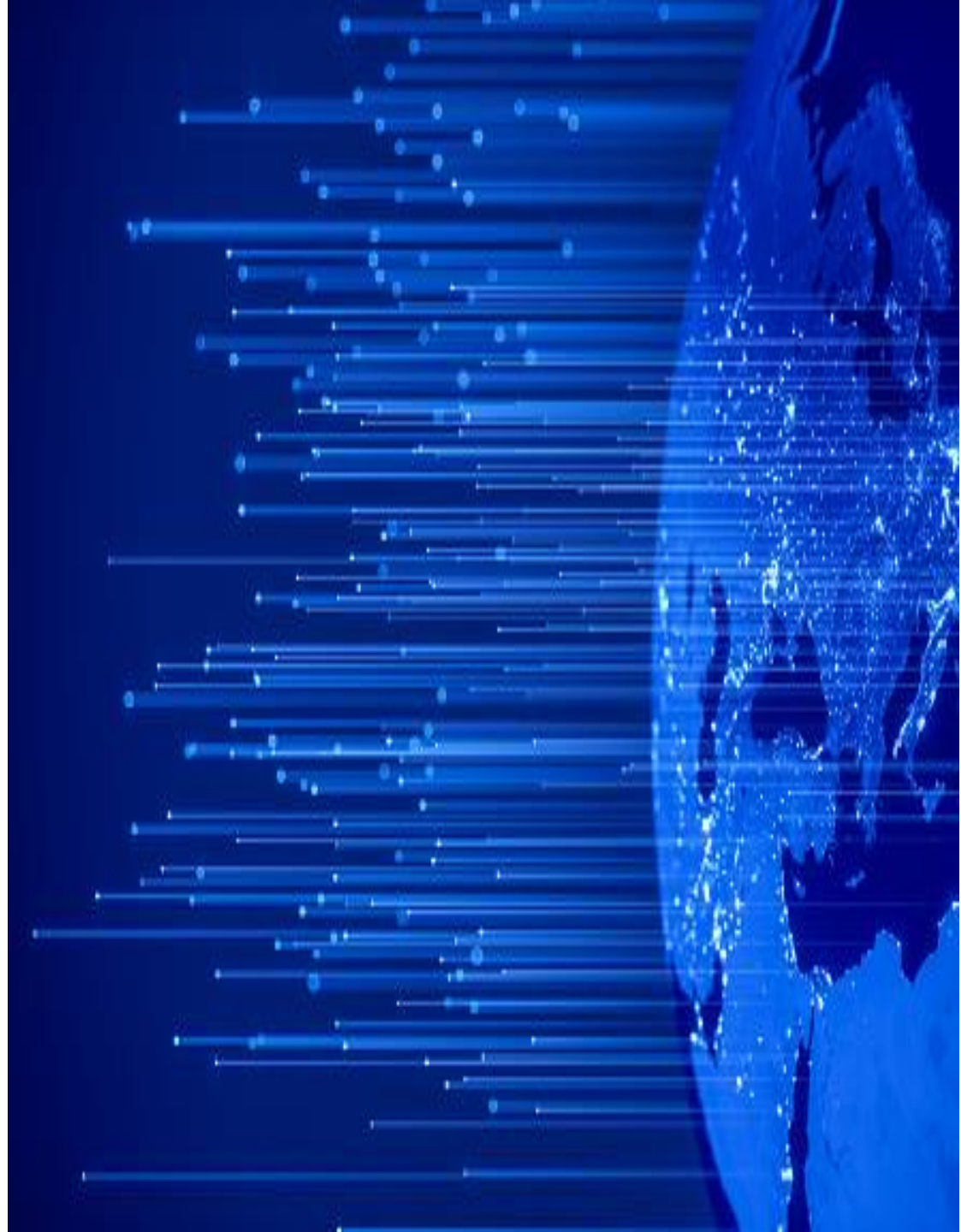
- Plan Price
- Data Allowance
- Speed/Bandwidth
- Coverage
- Talk & Text



# Normalizing Factors

Factors are normalized to a scale from 0 to 1 using the formula:

$$\frac{Factor - \text{Mean}(Factor)}{\text{Max}(Factor) - \text{Min}(Factor)}$$



# Factor Importance

Based on the CRTC report the following importance points were given to each Factor

- Plan Price 40
- Data Allowance 32.5
- Speed/Bandwidth 10
- Coverage 10
- Talk & Text 5



# Findings

Model Score Per Country

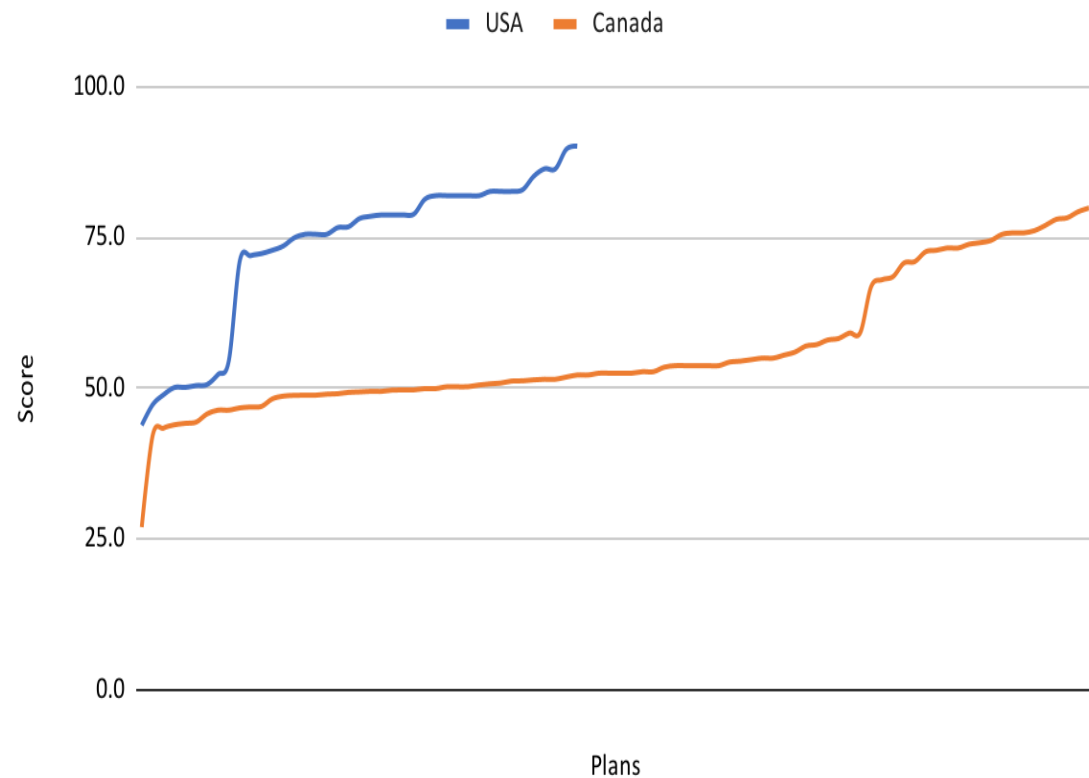
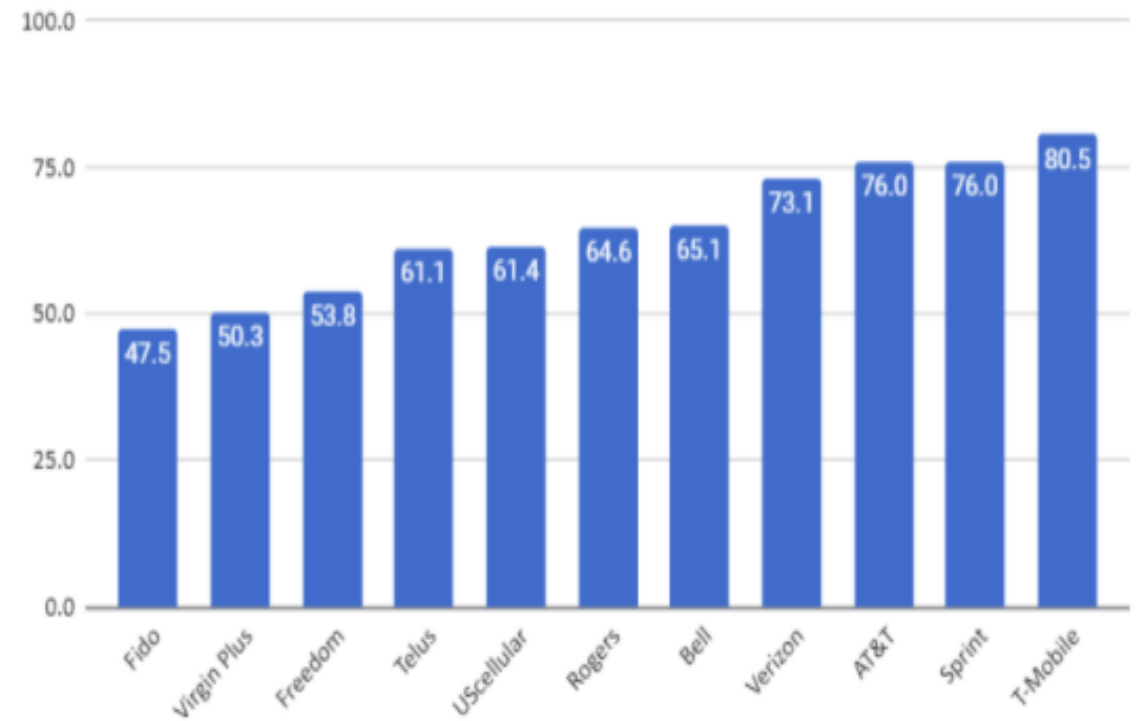


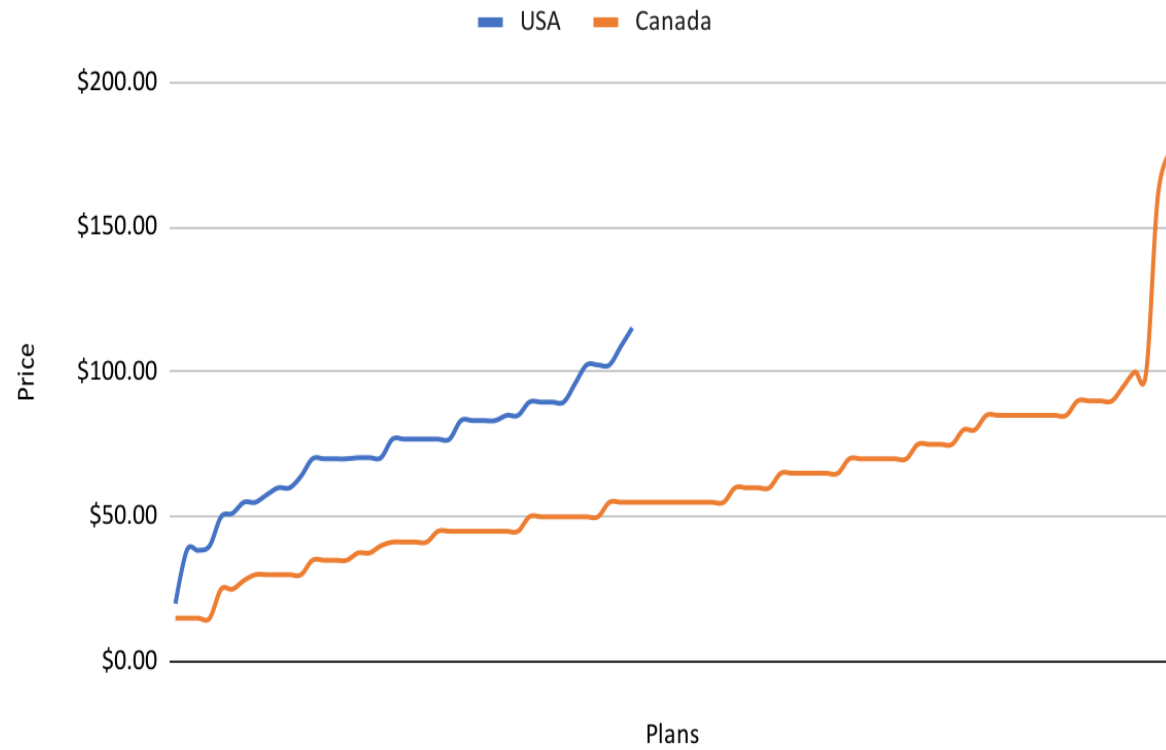
Fig. 6: Average Model Score per Provider



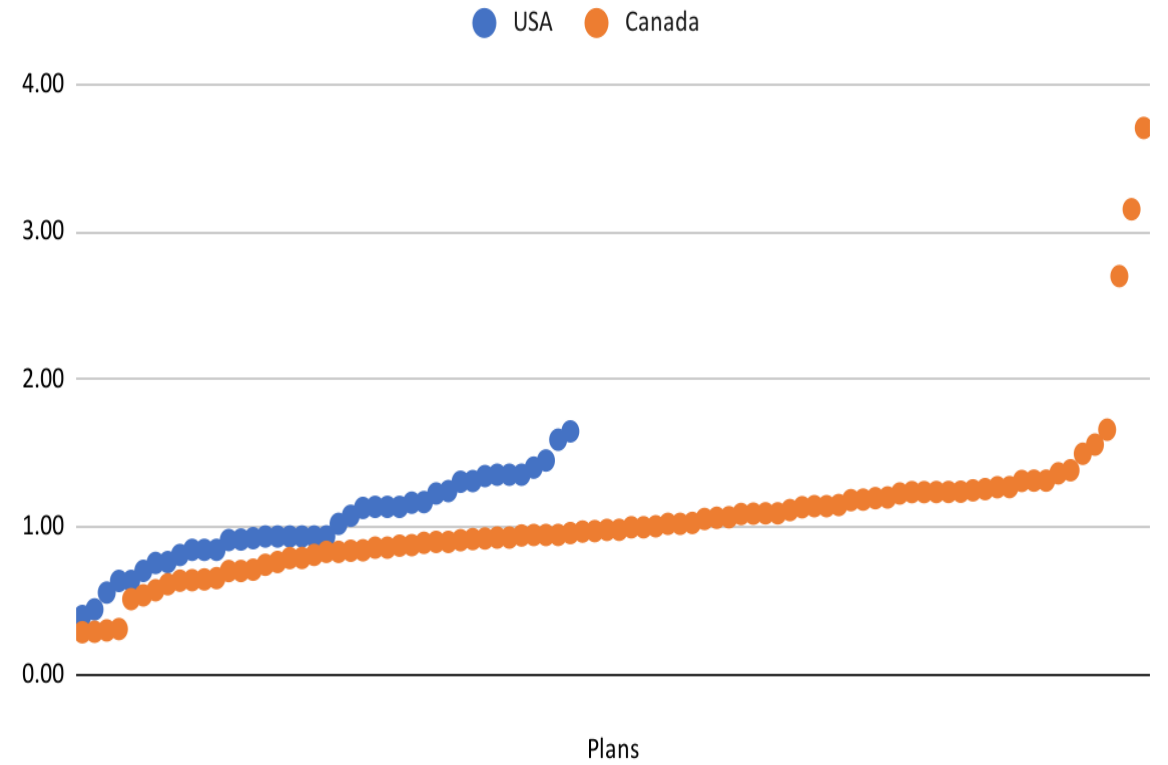


# Findings

Price/USA vs. Price/Canada



Points Per Dollar



# Limitations of the Study



- Selected Mobile Services or Network Providers
- Analysis of data was based on feature selection
- Current sentiments through Survey - suggested approach for relevant features
- Analysis was based on postpaid plans under Bring your own device scheme
- Flanker brands for analysis of Canadian Mobile Service providers

# Recommendations

**For BA Managers:** Data-driven approach → Better Strategic Decisions

**For Telco Companies:** Improve plan packages → Improve market share/  
gain new revenue stream

**For Other Researchers:** Know current state → find a purpose for study  
Standardize data → easier to process  
Use of scope of limitation → more focused study



# Conclusion

Based on data from the telecommunications industries in Canada and the United States, Canadian telecommunications still have a long way to go, with considerable infrastructure to be created in order to provide better services. Furthermore, rather than focusing just on reducing the prices, the government should look for methods to ease the restrictive policies that prohibit new competitors from joining the market.







# **THANK YOU!**

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