**Communications and Data Visualization**

BUS 5400

Final Project

**Canada's Quality of Life Framework: Insights Through Power BI**

**Group:** 6

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**Dashboard Link:** [**QoL Dashboard**](https://humberital-my.sharepoint.com/:u:/r/personal/n01607218_humber_ca/Documents/Group6_QoL_FinalProject.pbix?csf=1&web=1&e=Yfruwg)

**Video Presentation Link:** [**Presentation Recording**](https://teams.microsoft.com/l/meetingrecap?driveId=b%21hyCXiKkrUkOe2fO__tVFF-UxocwAAEtPrY6Z1dbDWEc9LhjTkSqyS6zK3FFfcKdd&driveItemId=017JI7KPH7DUX7GQZT6FGK3EDFE3GPZIBH&sitePath=https%3A%2F%2Fhumberital-my.sharepoint.com%2F%3Av%3A%2Fg%2Fpersonal%2Fn01653502_humber_ca%2FEf8dL_NDM_FMrZBlJsz8oCcBVbaAmOmjFsglF0JTZvwc3g&fileUrl=https%3A%2F%2Fhumberital-my.sharepoint.com%2Fpersonal%2Fn01653502_humber_ca%2FDocuments%2FRecordings%2FCall%2520with%2520Christina%2520and%25204%2520others-20250406_172819-Meeting%2520Recording.mp4%3Fweb%3D1&threadId=19%3Ac94370102f17462dad1036960646d8e8%40thread.v2&callId=71ac11cc-b4f4-49e8-8b02-5b94702a6703&threadType=GroupChat&meetingType=Unknown&subType=RecapSharingLink_RecapCore) **(See Part 4)**

**Submission date:** 6 April 2025

**Gantt Chart**

A screenshot of a graph

AI-generated content may be incorrect.

**DAX codes and Dashboard Screenshots for each domain:**

Summary page

*Dashboard Screenshot*

A diagram of quality of life

AI-generated content may be incorrect.

1- Prosperity[[1]](#footnote-2)

*DAX Codes*

*Table: Life Satisfaction*

*promoted headers:*

= Table.PromoteHeaders(Source, [PromoteAllScalars=true])

*changed type:*

= Table.TransformColumnTypes(#"Promoted Headers",{{"REF\_DATE", type date}, {"GEO", type text}, {"DGUID", type text}, {"Gender", type text}, {"Indicators", type text}, {"Statistics", type text}, {"UOM", type text}, {"UOM\_ID", Int64.Type}, {"SCALAR\_FACTOR", type text}, {"SCALAR\_ID", Int64.Type}, {"VECTOR", type text}, {"COORDINATE", type text}, {"VALUE", type number}, {"STATUS", type text}, {"SYMBOL", type text}, {"TERMINATED", type text}, {"DECIMALS", Int64.Type}})

*Table: Sense of Meaning of Purpose*

*promoted headers:*

= Table.PromoteHeaders(Source, [PromoteAllScalars=true])

*changed type:*

= Table.TransformColumnTypes(#"Promoted Headers",{{"REF\_DATE", type date}, {"GEO", type text}, {"DGUID", type text}, {"Gender", type text}, {"Indicators", type text}, {"Statistics", type text}, {"UOM", type text}, {"UOM\_ID", Int64.Type}, {"SCALAR\_FACTOR", type text}, {"SCALAR\_ID", Int64.Type}, {"VECTOR", type text}, {"COORDINATE", type text}, {"VALUE", type number}, {"STATUS", type text}, {"SYMBOL", type text}, {"TERMINATED", type text}, {"DECIMALS", Int64.Type}})

*Dashboard Screenshot*

A screenshot of a graph

AI-generated content may be incorrect.

2- Health[[2]](#footnote-3)

*DAX Codes*

*Table: Perceived Health Over Time*

*promoted headers:*

= Table.PromoteHeaders(Source, [PromoteAllScalars=true])

*changed type:*

= Table.TransformColumnTypes(#"Promoted Headers",{{"REF\_DATE", Int64.Type}, {"GEO", type text}, {"DGUID", type text}, {"Age group", type text}, {"Sex", type text}, {"Indicators", type text}, {"Characteristics", type text}, {"UOM", type text}, {"UOM\_ID", Int64.Type}, {"SCALAR\_FACTOR", type text}, {"SCALAR\_ID", Int64.Type}, {"VECTOR", type text}, {"COORDINATE", type text}, {"VALUE", Int64.Type}, {"STATUS", type text}, {"SYMBOL", type text}, {"TERMINATED", type text}, {"DECIMALS", Int64.Type}})

*removed columns:*

= Table.RemoveColumns(#"Changed Type",{"DGUID", "Sex", "UOM\_ID", "UOM", "SCALAR\_ID", "VECTOR", "COORDINATE", "STATUS", "SYMBOL", "TERMINATED", "DECIMALS"})

*Table: Mental Health*

*promoted headers:*

= Table.PromoteHeaders(Source, [PromoteAllScalars=true])

*changed type:*

= Table.TransformColumnTypes(#"Promoted Headers",{{"REF\_DATE", type date}, {"GEO", type text}, {"DGUID", type text}, {"Gender", type text}, {"Sociodemographic characteristics", type text}, {"Indicators", type text}, {"Statistics", type text}, {"UOM", type text}, {"UOM\_ID", Int64.Type}, {"SCALAR\_FACTOR", type text}, {"SCALAR\_ID", Int64.Type}, {"VECTOR", type text}, {"COORDINATE", type text}, {"VALUE", type number}, {"STATUS", type text}, {"SYMBOL", type text}, {"TERMINATED", type text}, {"DECIMALS", Int64.Type}})

*removed columns:*

= Table.RemoveColumns(#"Changed Type",{"Statistics", "UOM\_ID", "SCALAR\_ID", "VECTOR", "COORDINATE", "STATUS", "SYMBOL", "TERMINATED", "SCALAR\_FACTOR", "DECIMALS"})

*Table: Life Expectancy*

*promoted headers:*

= Table.PromoteHeaders(Source, [PromoteAllScalars=true])

*changed type:*

= Table.TransformColumnTypes(#"Promoted Headers",{{"REF\_DATE", type text}, {"GEO", type text}, {"DGUID", type text}, {"Age group", type text}, {"Sex", type text}, {"Income group", type text}, {"Characteristics", type text}, {"UOM", type text}, {"UOM\_ID", Int64.Type}, {"SCALAR\_FACTOR", type text}, {"SCALAR\_ID", Int64.Type}, {"VECTOR", type text}, {"COORDINATE", type text}, {"VALUE", type number}, {"STATUS", type text}, {"SYMBOL", type text}, {"TERMINATED", type text}, {"DECIMALS", Int64.Type}})

*removed columns:*

= Table.RemoveColumns(#"Changed Type",{"SCALAR\_ID", "VECTOR", "COORDINATE", "UOM\_ID", "DGUID", "STATUS", "SYMBOL", "TERMINATED", "DECIMALS"})

*Dashboard Screenshot*

A close-up of a graph

AI-generated content may be incorrect.

3- Society[[3]](#footnote-4)

*DAX Codes*

*promoted headers:*

= Table.PromoteHeaders(Source, [PromoteAllScalars=true])

*data types:*

= Table.TransformColumnTypes(#"Promoted Headers",{{"REF\_DATE", type date}, {"GEO", type text}, {"DGUID", type text}, {"Gender", type text}, {"Sociodemographic characteristics", type text}, {"Indicators", type text}, {"Statistics", type text}, {"UOM", type text}, {"UOM\_ID", Int64.Type}, {"SCALAR\_FACTOR", type text}, {"SCALAR\_ID", Int64.Type}, {"VECTOR", type text}, {"COORDINATE", type text}, {"VALUE", type number}, {"STATUS", type text}, {"SYMBOL", type text}, {"TERMINATED", type text}, {"DECIMALS", Int64.Type}})

*remove empty rows:*

= Table.RemoveLastN(#"Changed Type",2)

*remove columns:*

= Table.RemoveColumns(#"Removed Bottom Rows",{"GEO", "DGUID", "Statistics", "UOM", "UOM\_ID", "SCALAR\_FACTOR", "SCALAR\_ID", "VECTOR", "COORDINATE", "STATUS", "SYMBOL", "TERMINATED", "DECIMALS"})

*filter rows (data in columns):*

= Table.SelectRows(#"Removed Columns", each ([Gender] <> "Total, all persons") and ([Sociodemographic characteristics] <> "Total, 15 years and over" and [Sociodemographic characteristics] <> "Total, by immigrant status" and [Sociodemographic characteristics] <> "Total, by Indigenous identity" and [Sociodemographic characteristics] <> "Total, by main activity" and [Sociodemographic characteristics] <> "Total, by visible minority group" and [Sociodemographic characteristics] <> "Total, highest certificate, diploma or degree" and [Sociodemographic characteristics] <> "Total, LGBTQ2+ and non-LGBTQ2+ people" and [Sociodemographic characteristics] <> "Total, persons with and without a disability, difficulty or long-term condition" and [Sociodemographic characteristics] <> "Total, urban and rural areas"))

*pivoted column:*

= Table.Pivot(#"Filtered Rows", List.Distinct(#"Filtered Rows"[Indicators]), "Indicators", "VALUE", List.Sum)

*rename columns:*

= Table.RenameColumns(#"Pivoted Column",{{"Always or often has people to depend on when needed", "Always or often"}, {"Sometimes has people to depend on when needed", "Sometimes"}, {"Rarely or never has people to depend on when needed", "Rarely or never"}})

*Dashboard Screenshot*

A screenshot of a graph

AI-generated content may be incorrect.

4- Environment[[4]](#footnote-5)

*DAX Codes*

*Table:* *Satisfaction With Local environment including socio- demographics*

*Promoted headers:*

= Table.PromoteHeaders(Source, [PromoteAllScalars=true

*Changed type:*

=Table.TransformColumnTypes(#"Promoted Headers",{{"REF\_DATE", type date}, {"GEO", type text}, {"DGUID", type text}, {"Gender", type text}, {"Sociodemographic characteristics", type text}, {"Indicators", type text}, {"Statistics", type text}, {"UOM", type text}, {"UOM\_ID", Int64.Type}, {"SCALAR\_FACTOR", type text}, {"SCALAR\_ID", Int64.Type}, {"VECTOR", type text}, {"COORDINATE", type text}, {"VALUE", type number}, {"STATUS", type text}, {"SYMBOL", type text}, {"TERMINATED", type text}, {"DECIMALS", Int64.Type}})

*Removed columns:*

= Table.RemoveColumns(#"Changed Type",{"DECIMALS", "TERMINATED", "SYMBOL", "STATUS"})

*Changed type1:*

= Table.TransformColumnTypes(#"Removed Columns",{{"VALUE", type number}})

*Removed columns1:*

= Table.RemoveColumns(#"Changed Type1",{"COORDINATE", "VECTOR", "SCALAR\_ID", "SCALAR\_FACTOR", "UOM\_ID", "UOM"})

*Filtered rows:*

= Table.SelectRows(#"Removed Columns1", each ([Sociodemographic characteristics] = "15 to 24 years" or [Sociodemographic characteristics] = "25 to 54 years" or [Sociodemographic characteristics] = "55 to 64 years" or [Sociodemographic characteristics] = "65 years and over"))

*Renamed columns:*

= Table.RenameColumns(#"Filtered Rows",{{"Sociodemographic characteristics", "Age Category"}})

*filtered rows1:*

= Table.SelectRows(#"Renamed Columns", each ([REF\_DATE] = #date(2024, 1, 1) or [REF\_DATE] = #date(2024, 4, 1) or [REF\_DATE] = #date(2024, 7, 1) or [REF\_DATE] = #date(2024, 10, 1)))

*Added Custom column:*

=Table.AddColumn(#"Filtered Rows1", "Satisfaction Level ", each if Text.Contains([Indicators], "between 0 and 5") then "Low Satisfaction"

else if Text.Contains([Indicators], "6 or 7") then "Medium Satisfaction"

else if Text.Contains([Indicators], "8, 9 or 10") then "High Satisfaction"

else null)

*Table: Access To Transportation*

*Promoted headers:*

= Table.PromoteHeaders(Source, [PromoteAllScalars=true])

*Changed type:*

= Table.TransformColumnTypes(#"Promoted Headers",{{"REF\_DATE", Int64.Type}, {"GEO", type text}, {"DGUID", type text}, {"Demographic and geodemographic", type text}, {"UOM", type text}, {"UOM\_ID", Int64.Type}, {"SCALAR\_FACTOR", type text}, {"SCALAR\_ID", Int64.Type}, {"VECTOR", type text}, {"COORDINATE", type number}, {"VALUE", type number}, {"STATUS", type text}, {"SYMBOL", type text}, {"TERMINATED", type text}, {"DECIMALS", Int64.Type}})

*Removed column:*

= Table.RemoveColumns(#"Changed Type",{"DECIMALS", "TERMINATED", "SYMBOL", "STATUS", "COORDINATE", "VECTOR", "SCALAR\_ID", "SCALAR\_FACTOR", "UOM\_ID"})

*Renamed columns:*

= Table.RenameColumns(#"Removed Columns",{{"VALUE", "Number of Persons"}})

*Filtered rows:*

= Table.SelectRows(#"Renamed Columns", each ([Demographic and geodemographic] <> "Disaggregation by age (0 to 14 years)" and [Demographic and geodemographic] <> "Disaggregation by age (15 to 64 years)" and [Demographic and geodemographic] <> "Disaggregation by age (65 years and over)" and [Demographic and geodemographic] <> "Disaggregation by gender (men+)" and [Demographic and geodemographic] <> "Disaggregation by gender (women+)"))

*Removed columns1:*

= Table.RemoveColumns(#"Filtered Rows",{"UOM"})

*Renamed columns1:*

= Table.RenameColumns(#"Removed Columns1",{{"GEO", "Municipality"}})

*Added Custom Column:*

= Table.AddColumn(#"Renamed Columns1", "Provinces", each if [Municipality] = "Abbotsford - Mission" then "British Columbia"

else if [Municipality] = "Barrie" then "Ontario"

else if [Municipality] = "Belleville - Quinte West" then "Ontario"

else if [Municipality] = "Brantford" then "Ontario"

else if [Municipality] = "Calgary" then "Alberta"

else if [Municipality] = "Chilliwack" then "British Columbia"

else if [Municipality] = "Drummondville" then "Quebec"

else if [Municipality] = "Edmonton" then "Alberta"

else if [Municipality] = "Fredericton" then "New Brunswick"

else if [Municipality] = "Greater Sudbury / Grand Sudbury" then "Ontario"

else if [Municipality] = "Guelph" then "Ontario"

else if [Municipality] = "Halifax" then "Nova Scotia"

else if [Municipality] = "Hamilton" then "Ontario"

else if [Municipality] = "Kamloops" then "British Columbia"

else if [Municipality] = "Kelowna" then "British Columbia"

else if [Municipality] = "Kingston" then "Ontario"

else if [Municipality] = "Kitchener - Cambridge - Waterloo" then "Ontario"

else if [Municipality] = "Lethbridge" then "Alberta"

else if [Municipality] = "London" then "Ontario"

else if [Municipality] = "Moncton" then "New Brunswick"

else if [Municipality] = "Montréal" then "Quebec"

else if [Municipality] = "Nanaimo" then "British Columbia"

else if [Municipality] = "Oshawa" then "Ontario"

else if [Municipality] = "Ottawa - Gatineau (Ontario part / partie de l'Ontario)" then "Ontario"

else if [Municipality] = "Ottawa - Gatineau (partie du Québec / Quebec part)" then "Quebec"

else if [Municipality] = "Peterborough" then "Ontario"

else if [Municipality] = "Québec" then "Quebec"

else if [Municipality] = "Red Deer" then "Alberta"

else if [Municipality] = "Regina" then "Saskatchewan"

else if [Municipality] = "Saguenay" then "Quebec"

else if [Municipality] = "Saint John" then "New Brunswick"

else if [Municipality] = "Saskatoon" then "Saskatchewan"

else if [Municipality] = "Sherbrooke" then "Quebec"

else if [Municipality] = "St. Catharines - Niagara" then "Ontario"

else if [Municipality] = "St. John's" then "Newfoundland and Labrador"

else if [Municipality] = "Thunder Bay" then "Ontario"

else if [Municipality] = "Toronto" then "Ontario"

else if [Municipality] = "Trois-Rivières" then "Quebec"

else if [Municipality] = "Vancouver" then "British Columbia"

else if [Municipality] = "Victoria" then "British Columbia"

else if [Municipality] = "Windsor" then "Ontario"

else if [Municipality] = "Winnipeg" then "Manitoba"

else null)

*Table: Factored Climate Change Adaptation*

*Promoted headers:*

= Table.PromoteHeaders(Source, [PromoteAllScalars=true])

*Changed type:*

=Table.TransformColumnTypes(#"Promoted Headers",{{"REF\_DATE", Int64.Type}, {"GEO", type text}, {"DGUID", type text}, {"Core public infrastructure assets", type text}, {"Type of municipality by population size", type text}, {"UOM", type text}, {"UOM\_ID", Int64.Type}, {"SCALAR\_FACTOR", type text}, {"SCALAR\_ID", Int64.Type}, {"VECTOR", type text}, {"COORDINATE", type date}, {"VALUE", Int64.Type}, {"STATUS", type text}, {"SYMBOL", type text}, {"TERMINATED", type text}, {"DECIMALS", Int64.Type}})

*Removed columns:*

=Table.RemoveColumns(#"Changed Type",{"DECIMALS", "TERMINATED", "SYMBOL", "STATUS", "COORDINATE", "VECTOR", "SCALAR\_ID", "SCALAR\_FACTOR", "UOM\_ID"})

*Renamed columns:*

= Table.RenameColumns(#"Removed Columns",{{"REF\_DATE", "Year"}, {"Core public infrastructure assets", "Infrastructure Assets"}})

*Filtered rows:*

= Table.SelectRows(#"Renamed Columns", each ([Infrastructure Assets] <> "Bridges and tunnels" and [Infrastructure Assets] <> "Culture, recreation and sports facilities" and [Infrastructure Assets] <> "Roads" and [Infrastructure Assets] <> "Social and affordable housing") and ([Type of municipality by population size] <> "All municipalities") and ([GEO] = "Canada"))

*Dashboard Screenshot*

A screenshot of a graph

AI-generated content may be incorrect.

5- Good Governance[[5]](#footnote-6)

*DAX Codes*

*data types:*

*Table: Confidence in Institutions*

= Table.TransformColumnTypes(#"Promoted Headers",{{"REF\_DATE", type date}, {"GEO", type text}, {"DGUID", type text}, {"Gender", type text}, {"Sociodemographic characteristics", type text}, {"Indicators", type text}, {"Statistics", type text}, {"UOM", type text}, {"UOM\_ID", Int64.Type}, {"SCALAR\_FACTOR", type text}, {"SCALAR\_ID", Int64.Type}, {"VECTOR", type text}, {"COORDINATE", type text}, {"VALUE", type number}, {"STATUS", type text}, {"SYMBOL", type text}, {"TERMINATED", type text}, {"DECIMALS", Int64.Type}})

*Table: Crime Severity Index*

= Table.TransformColumnTypes(#"Promoted Headers",{{"REF\_DATE", Int64.Type}, {"GEO", type text}, {"DGUID", type text}, {"Statistics", type text}, {"UOM", type text}, {"UOM\_ID", Int64.Type}, {"SCALAR\_FACTOR", type text}, {"SCALAR\_ID", Int64.Type}, {"VECTOR", type text}, {"COORDINATE", type number}, {"VALUE", type number}, {"STATUS", type text}, {"SYMBOL", type text}, {"TERMINATED", type text}, {"DECIMALS", Int64.Type}})

*Table: Discrimination & Unfair Treatment*

= Table.TransformColumnTypes(#"Promoted Headers",{{"REF\_DATE", Int64.Type}, {"GEO", type text}, {"DGUID", type text}, {"Visible minority", type text}, {"Selected sociodemographic characteristics", type text}, {"Indicators", type text}, {"Statistics", type text}, {"UOM", type text}, {"UOM\_ID", Int64.Type}, {"SCALAR\_FACTOR", type text}, {"SCALAR\_ID", Int64.Type}, {"VECTOR", type text}, {"COORDINATE", type text}, {"VALUE", type number}, {"STATUS", type text}, {"SYMBOL", type text}, {"TERMINATED", type text}, {"DECIMALS", Int64.Type}})

*Dashboard Screenshot*

A graph of different types of data

AI-generated content may be incorrect.

**Challenges**

During our Power BI group assignment, one of the biggest challenges was making sure everyone was on the same page. Since each person worked on a different part, it took a lot of time to make sure our sections were consistent in design and storytelling. We ended up spending more time in meetings than we planned. Another issue was the limitations of the free version of Power BI, which made it hard for us to easily share dashboards with each other. This added to the time it took to finish the project.

**Conclusion**

In conclusion, our team’s Power BI project, based on Canada’s Quality of Life Framework, provides a comprehensive visualization of the key areas that shape the well-being of Canadians. By analyzing data from domains such as prosperity, health, society, environment, and governance, we have gained valuable insights into the current state of life in Canada. This project not only highlights the strengths but also identifies areas for improvement in the quality of life across different communities and regions. The data-driven approach we have taken allows for a clearer picture of the evolving trends and the potential impacts these trends may have in the future.

**Reference**

Statistics Canada. (2025, February 26). Quality of Life Hub. Government of Canada. <https://www160.statcan.gc.ca/index-eng.htm>

1. The data for this section was downloaded from:

   Life Satisfaction: <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1310084301&cubeTimeFrame.startMonth=01&cubeTimeFrame.startYear=2024&cubeTimeFrame.endMonth=10&cubeTimeFrame.endYear=2024&referencePeriods=20240101%2C20241001>

   Sense of Meaning of Purpose: <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1310084601> [↑](#footnote-ref-2)
2. The data for this section was downloaded from:

   Perceived Health Over Time: <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=4510007901&cubeTimeFrame.startMonth=01&cubeTimeFrame.startYear=2023&cubeTimeFrame.endMonth=07&cubeTimeFrame.endYear=2023&referencePeriods=20230101%2C20230701>

   Mental Health: <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1310088001>

   Life Expectancy: <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1310037001> [↑](#footnote-ref-3)
3. The data for this section was downloaded from: <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=4510005101> [↑](#footnote-ref-4)
4. The data for this section was downloaded from:

   Satisfaction With Local environment including socio- demographics: <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=4510006901>

   Access To Transportation: <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=2310030901>

   Factored Climate Change Adaptation: <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3410027701> [↑](#footnote-ref-5)
5. The data for this section was downloaded from

   Crime severity Index: <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3510002601>

   Discrimination & Unfair treatment: <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=4310006101>

   Confidence in Institutions: <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=4510007401> [↑](#footnote-ref-6)