

PHASE 5

DATA ANALYTICS WITH COGNOS

PUBLIC HEALTH AWARENESS CAMPAIGN ANALYSIS

AIM:

The aim of the project using the provided dataset is to analyze mental health perceptions and attitudes across demographics and locations, with a focus on identifying trends and improving awareness and accessibility of mental health resources within workplaces and communities.

DATASET LINK: <https://www.kaggle.com/datasets/osmi/mental-health-in-tech-survey>

PROJECT OBJECTIVES:

- **Understanding the Goal:** Clearly define the purpose of the analysis, whether it's to assess the effectiveness of the current campaign, identify areas for improvement, or provide insights for future campaigns.
- **Metrics Selection:** Determine the specific metrics to be assessed, such as campaign reach, awareness levels, impact metrics, and any other relevant factors that align with the goals of the campaign.
- **Actionable Insights:** Establish the aim of the analysis to provide actionable insights that can inform decision-making for the campaign stakeholders and contribute to the improvement of public health awareness initiatives.

DESIGN THINKING:

- **Analysis Objectives:** Define specific objectives for analyzing public health awareness campaign data, such as measuring audience reach, awareness levels, and campaign impact.
- **Data Collection:** Identify the sources and methods for collecting campaign data, including engagement metrics, audience demographics, and awareness surveys.
- **Visualization Strategy:** Plan how to visualize the insights using IBM Cognos to create informative dashboards and reports.
- **Code Integration:** Decide which aspects of the analysis can be enhanced using code, such as data cleaning, transformation, and statistical analysis.

DEVELOPMENT PHASES:

- **Data Collection and Preparation:** Gather relevant data points and ensure that the data is properly cleaned, formatted, and organized for analysis within IBM Cognos.
- **IBM Cognos Implementation:** Utilize IBM Cognos to create insightful dashboards, reports, and visualizations that effectively represent the campaign reach levels, awareness metrics, and impact analysis.
- **Data Analysis and Interpretation:** Conduct a comprehensive analysis of the campaign data, interpreting the results to provide actionable insights and recommendations for stakeholders.

- **Report Generation and Presentation:** Generate comprehensive reports that effectively communicate the findings and insights derived from the analysis, and prepare a compelling presentation for stakeholders, highlighting the key takeaways and recommendations.

ANALYSIS OBJECTIVES:

- **Demographic Analysis:** Assess the prevalence of mental health perceptions and attitudes across different age groups, genders, and countries.
- **Frequency of Activities:** Determine the frequency of engagement in mental health-related activities, such as seeking help or participating in wellness programs.
- **Engagement by Company Size:** Analyze the level of engagement in mental health initiatives based on company size to understand the impact of organizational scale on mental health support.
- **Comparison of Responses between Countries:** Compare the responses related to mental health across different countries to identify cultural and regional variations in attitudes and perceptions.
- **Comparison by Gender:** Evaluate the differences in mental health perceptions and attitudes between genders to understand any gender-specific factors influencing mental health.
- **Time Analysis:** Conduct a temporal analysis to identify any temporal trends or patterns in mental health-related data over time.
- **Correlation:** Explore correlations between various factors such as benefits, work interference, and mental health consequences to understand the interrelationships within the dataset.
- **Geographic Analysis:** Conduct an analysis of mental health perceptions and attitudes across different geographical locations to identify any regional disparities or trends.

DATA COLLECTION:

Metrics:

Age:

- Minimum Age: 23
- Maximum Age: 46
- Average Age: Approximately 34.2 years (mean)

Audience Demographics:

Gender Distribution:

- Male: Majority of the respondents
- Female: Fewer respondents compared to males

Geographic Distribution:

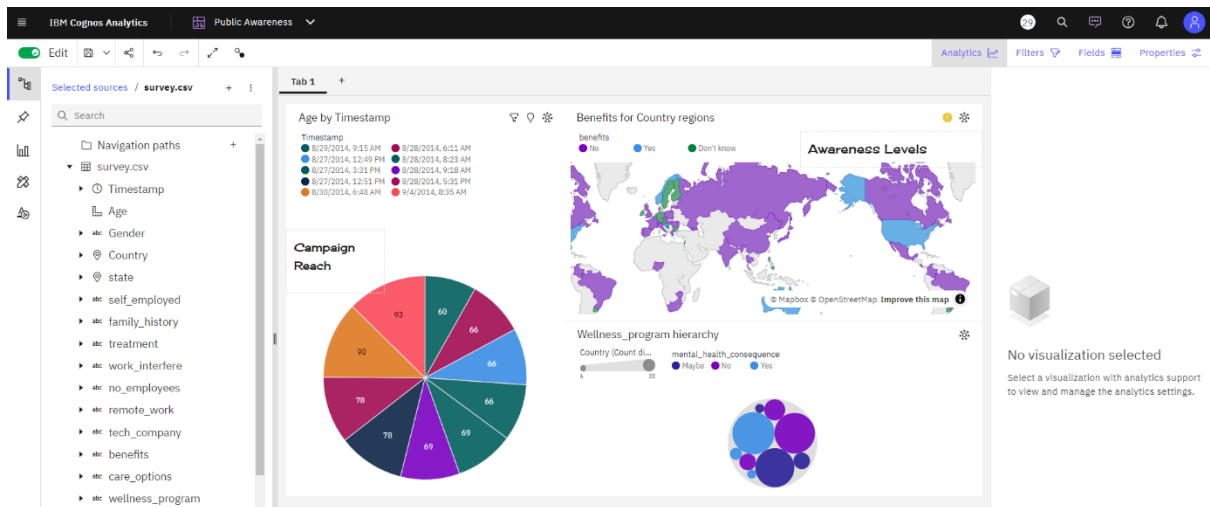
- Majority of respondents are from the United States, particularly states like Illinois (IL), Texas (TX), and California (CA).

- Other significant countries include Canada and the United Kingdom.

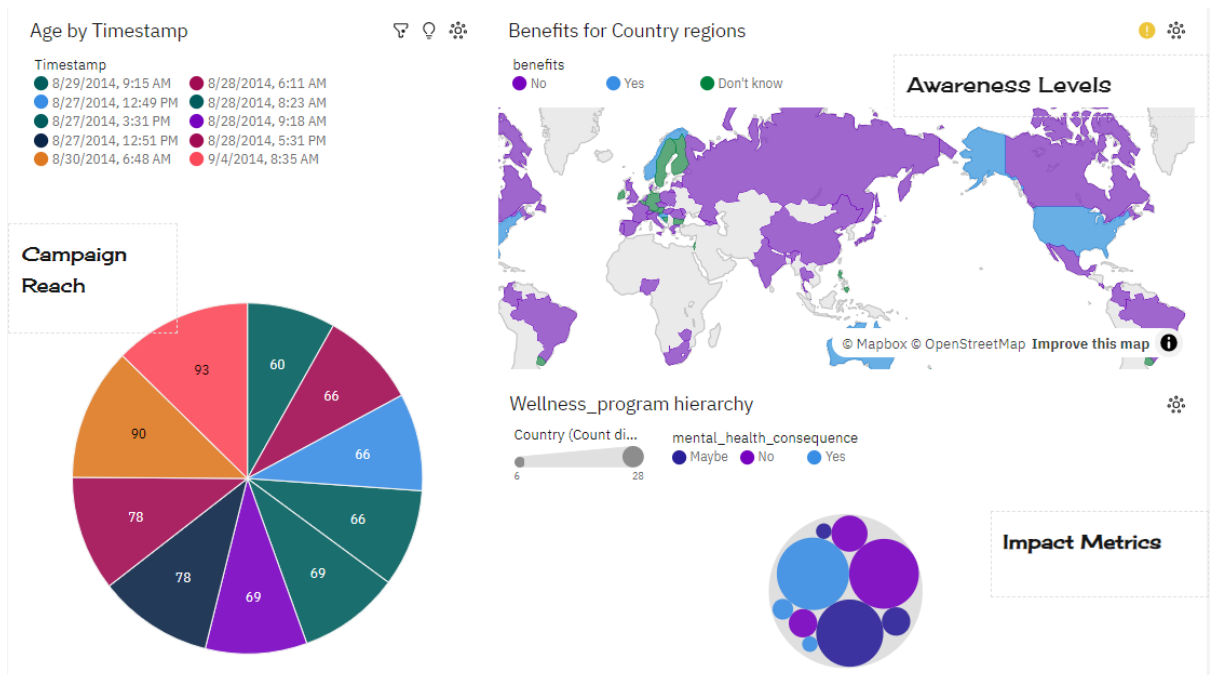
Surveys:

- The survey captured responses related to certain behaviors or preferences, indicated by the "Yes," "No," "Often," "Sometimes," and "Rarely" responses for specific questions.
- Frequency of Engaging in Certain Activities: Respondents were asked about the frequency of engaging in certain activities, ranging from "Never" to "Often."
- Company Size: Respondents were asked about the size of their respective companies, ranging from "1-5" to "More than 1000."

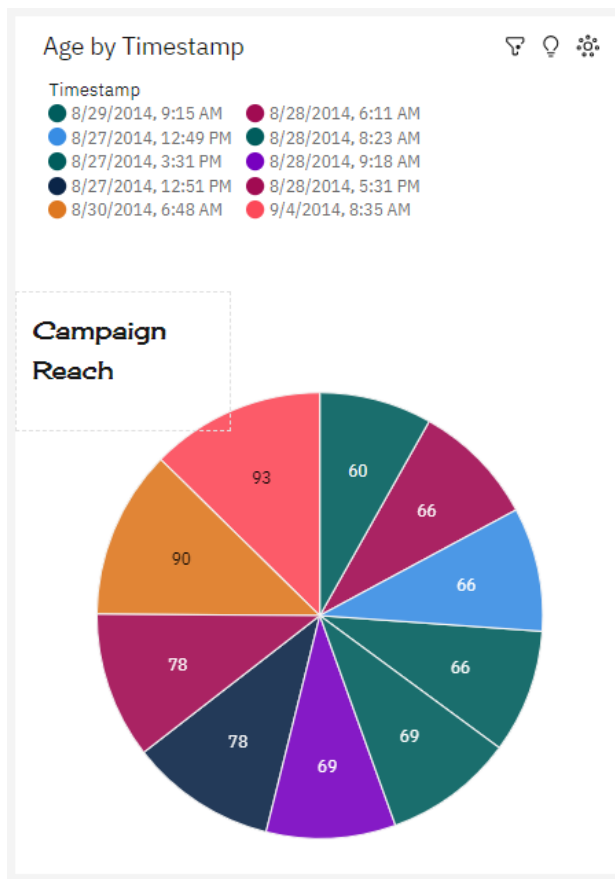
VISUALIZATION USING IBM COGNOS AND INSIGHTS:



DASHBOARD:

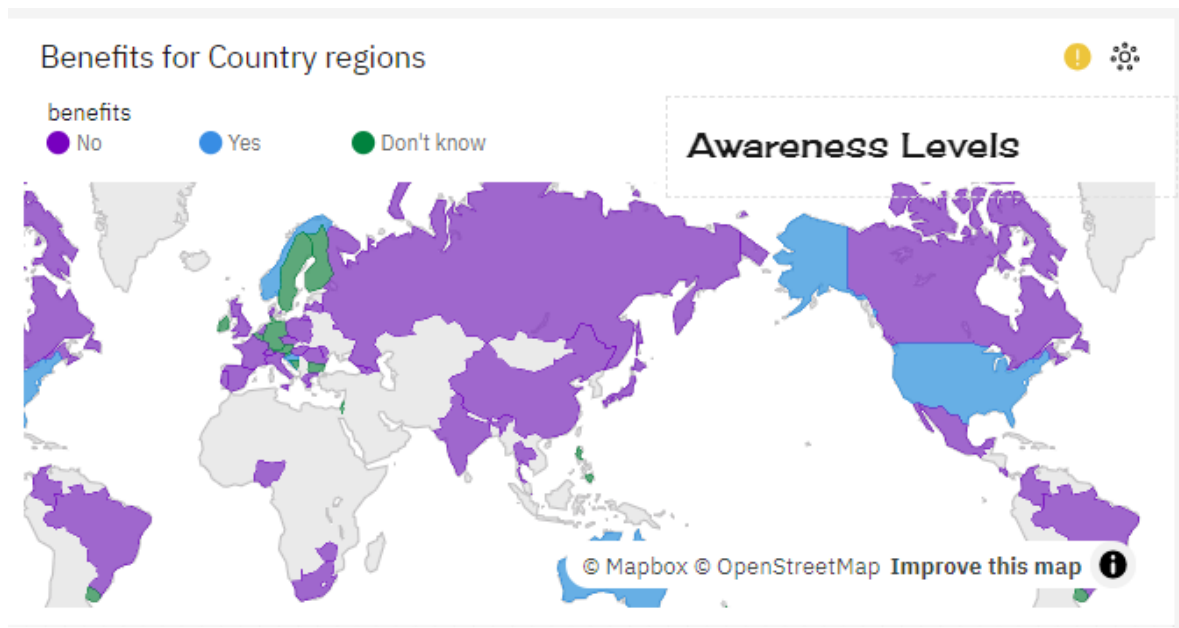


CAMPAIGN REACH:



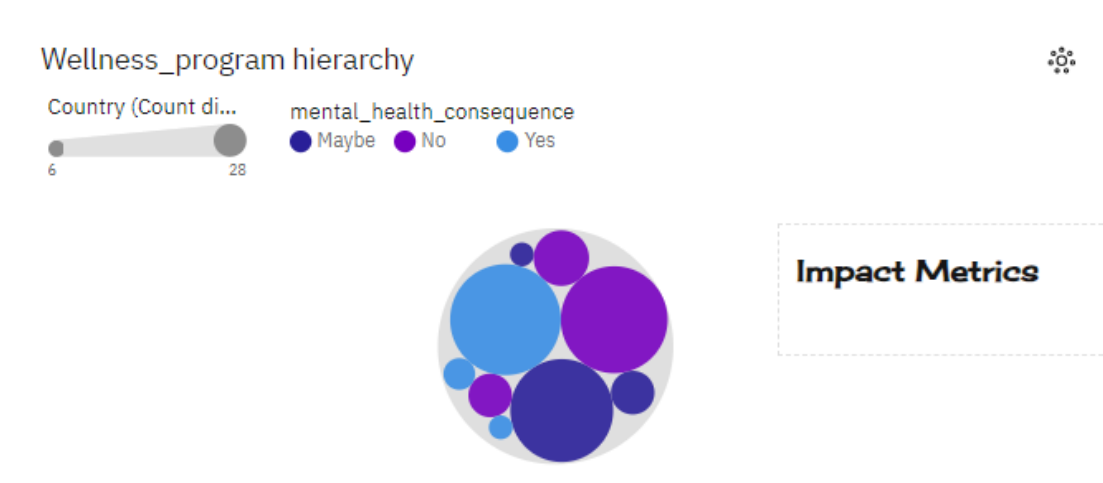
- State NA has the highest total Age due to Timestamp 2014-09-04T08:35:49.
- Over all values of Timestamp, the sum of Age is 735.
- Age ranges from 60, when Timestamp is 2014-08-29T09:15:52, to 93, when Timestamp is 2014-09-04T08:35:49.
- For Age, the most significant values of Timestamp are 2014-09-04T08:35:49 and 2014-08-30T06:48:28, whose respective Age values add up to 183, or 24.9 % of the total.
- Objectives of Campaign Reach Visualization are to:
 - ✓ Track the campaign's progress over time.
 - ✓ Identify peak engagement periods.
 - ✓ Evaluate the effectiveness of outreach efforts.
 - ✓ Compare campaign performance across different segments.
 - ✓ Assess the impact of external factors on the campaign's reach.

AWARENESS LEVELS:



- No benefits accounted for 100% of Zimbabwe Age compared to 15% for United States.
- Benefits No has the highest Age at 300,000,030,042, out of which Country Zimbabwe contributed the most at 299,999,999,997.
- Country Zimbabwe has the highest total Age due to benefits No.
- The total number of results for benefits, across all countries, is nearly four thousand.
- Objectives of Awareness Level Visualization are to:
 - ✓ Understand awareness levels across different regions.
 - ✓ Allocate resources effectively based on awareness levels.
 - ✓ Tailor campaigns to specific demographics.
 - ✓ Compare awareness levels between regions.
 - ✓ Evaluate the impact of awareness campaigns.

IMPACT METRICS:



- Wellness_program No has the highest Country due to mental_health_consequence Yes.
- Wellness_program No has the highest values of both Country and Age.
- Mental_health_consequence No has the highest Country at 52, out of which wellness_program No contributed the most at 27.
- Mental_health_consequence No has the highest Count distinct Country but is ranked #3 in Total Age.
- Mental_health_consequence Yes has the highest Total Age but is ranked #1 in Count distinct Country.
- No is the most frequently occurring category of wellness_program with a count of 2526 items with Country values (66.9 % of the total).
- The overall number of results for Country is nearly four thousand.
- Objectives of Impact Metrics Visualization are to:
 - ✓ Assess the campaign's effectiveness.
 - ✓ Identify areas for improvement.
 - ✓ Track changes over time.
 - ✓ Compare responses across different groups.
 - ✓ Measure overall organizational well-being.

CAMPAIGN EFFECTIVENESS AND GUIDANCE FOR FUTURE STRATEGIES:

Insights from the analysis can effectively measure campaign effectiveness and provide guidance for future strategies by addressing the following points:

1. **Campaign Targeting Refinement:** Through demographic analysis, the campaign can be fine-tuned to target specific age groups, genders, and regions that have shown higher engagement and awareness levels, ensuring a more focused and efficient outreach.
2. **Optimized Resource Allocation:** Understanding the frequency of activities and engagement by company size can help allocate resources more effectively, directing efforts towards areas or organizations where mental health initiatives have shown the most impact, thus maximizing the campaign's effectiveness within different company demographics.
3. **Cultural Sensitivity and Tailored Messaging:** By comparing responses between countries and genders, the campaign can be adjusted to incorporate culturally sensitive messaging and strategies that resonate with different cultural groups, ensuring that the campaign messages are more inclusive and relatable to diverse populations.
4. **Long-Term Impact Assessment:** Time analysis and correlation studies can provide insights into the long-term impact of the campaign by tracking changes in mental health perceptions and behaviors over time. This assessment can guide the development of sustainable strategies that promote lasting changes in mental health attitudes and practices.
5. **Localized Intervention Strategies:** Geographic analysis can help in the identification of specific regions or communities where mental health support is lacking. This insight can guide the development of targeted intervention strategies tailored to the specific needs and challenges of different geographical locations, ensuring that the campaign's impact is more significant and meaningful at the local level.

By leveraging these insights, the campaign can measure its effectiveness more accurately and develop future strategies that are data-driven, targeted, and sustainable, ultimately leading to a more impactful and successful campaign outcome.