

## **TERMS OF REFERENCE FOR INDIVIDUAL CONSULTANT TECHNICAL ASSISTANCE IN THE EXPANSION OF THE SOCIAL MEDIA DATA ANALYSIS OF THE BIG DATA PLATFORM**

### **Background:**

The United Nations Population Fund (UNFPA) Philippines Country Office (CO) was one of the UNFPA Global Innovation Challenge 2019 winners, and in 2020, completed the development of an online platform capable of collecting social media data that can be used in sentiment analysis on the topic of Family Planning. It is capable of scraping both publicly available Twitter data and data from pre-identified public Facebook pages. This data is then analyzed for positive, neutral and negative sentiment on Family Planning using a machine learning algorithm. The platform can be modified to capture a wider array of topics, including COVID-19 related social media data, and thus can be directed to meet the needs of implementing partners and local government institutions.

Within the Philippines CO, the ongoing sentiment analysis on family planning (FP) social media posts aims to provide guidance to FP programme managers and decision-makers in their planning and programming – as well as strengthen their communication and advocacy efforts by leveraging the use of social media data. The design of the platform is also flexible in that the data sets generated by the scraping can be downloaded and analyzed using various methodologies for unstructured data.

Thus far, the phases of the Big Data project have progressed from design, to achieving a minimum viable product. Currently, the platform scrapes and analyzes social media data from the Philippines in five languages: English, Filipino, Cebuano, Ilonggo and Bikolano. The next phase focuses on developing actual test cases and conducting quantitative and qualitative analysis on available social media data. In line with the Philippine Legislators Committee on Population and Development (PLCPD)'s demographic dividend-related advocacy, UNFPA sees the opportunity to harness this data and its subsequent analysis in order to look at granular data on the quality, accessibility, awareness and inclusivity of existing Reproductive Health services. Furthermore, the social media data may be able to provide clues regarding the responsiveness, targeting and impact of policies, programmes and advocacies among users of these Reproductive Health resources.

In line with this, UNFPA needs additional expertise through a consultant who can help apply academic rigor in the field of data science, with the goal of integrating an improved data science approach to the platform and its data. In retrospect, the lack of expertise in taxonomy and analysis of unstructured data at the onset of the project has limited the direct applicability of the data amassed by the platform. While the platform itself can perform sentiment analysis (supported by its machine learning algorithm), topic analysis and social media reach tracking, what is needed now is to apply these capabilities to scrape and analyze data from two of UNFPA's implementing partners' social media pages, namely Philippine Society for Responsible Parenthood (PSRP) and Commission on Population and Development (POPCOM).

### **Purpose:**

This consultancy aims to provide technical assistance to the UNFPA and PLCPD in the process of conducting quantitative, sentiment and thematic analysis on its 2020 social media data.

### **Objective:**

In pursuance of the purpose of the consultancy, the technical consultant will be required to:

1. Advise UNFPA and PLCPD on quantitative analysis methods. This will deal mostly with the analysis of the following data from the aforementioned social media pages:
  - Online social media engagement metrics (including, but not limited to: number of overall and active members, number of posts, number of comments, average number of comments, demographic data of members)

- Number of mentions per specific topic - mainly family planning methods; subthemes/subtopics discussed regarding family planning methods (i.e. side effects, affordability, accessibility, availability, effectivity, etc.)
  - Co-occurrence of specified keywords with family planning methods and family planning-adjacent terminology
2. Provide qualitative analysis expertise to the team. This will be the main focus of the technical consultant, focusing on two main methods:
    - Sentiment analysis on specific family planning methods, family planning-adjacent terminology and specified social media campaigns (hashtags)
    - Thematic analysis - identification of recurring themes in the social media discussion; identification of areas of significance, guiding further probing into the data
  3. Co-write the resulting technical data analysis paper in cooperation with UNFPA and PLCPD, discussing the findings of the aforementioned analysis methods, including recommendations to further refine the Social Media data collection and analysis methods of the UNFPA and PLCPD.

Scope of work:

*(Description of services, activities, or outputs)*

The detailed activities for each output are as follows:

| Outputs  | Activities   |
|--|--|
| 1. Advise UNFPA and PLCPD on quantitative analysis methods.                              | <ul style="list-style-type: none"> <li>• Provide advice on various quantitative analysis methodologies to maximize the use of the available social media data.</li> </ul>  |
| 2. Advise the team in performing qualitative analysis on the social media data available | <ul style="list-style-type: none"> <li>• Provide advice on various qualitative research methodologies in analyzing the available social media data (from two specified FaceBook pages).</li> <li>• Perform both sentiment analysis and thematic analysis in coordination with the UNFPA and PLCPD.</li> </ul>  |
| 3. Co-writing of a technical data analysis paper   | <ul style="list-style-type: none"> <li>• Writing of report in four intervals (Initial report, two interim reports and final data analysis report)</li> <li>• Work with the UNFPA and PLCPD in ensuring the timely and complete submission of these reports.</li> <li>• Make recommendations on improvements on social media data collection and analysis by the UNFPA CO.</li> </ul> |

Time Frame

The Technical Consultant will be engaged for 90 working days spread over the period from 1 August 2021 to 31 December 2021, based on the following activities. Please refer to the indicative time frame below.

Travel Requirements

The consultant will be expected to work remotely, to attend online meetings as necessary, and to submit their deliverables to Philippine Legislators' Committee on Population and Development (PLCPD) via online means. After the traffic restrictions due to COVID-19 community quarantine are lifted, the consultant may be requested to be at the office for meetings and collaborative work once a week or as required.

Outputs, deliverables, how work will be delivered (e.g. electronic, hard copy etc.):

The consultant will be paid in four (4) tranches after approval of key deliverables, as shown below.

| Key Deliverables                                   | Payment schedule/amounts |
|--|--------------------------|
| 1. Completed data analysis plan and initial report | August 31, 2021 (22.22%) |

|  |                             |
|--|-----------------------------|
| 2. 3Q accomplishment report and data analysis progress report                    | September 30, 2021 (22.22%) |
| 3. Updated data analysis report (first draft) and interim accomplishment report. | October 31, 2021 (22.22%)   |
| 4. Approved final report   | December 15, 2021 (33.34%)  |

Supervisory arrangements:

While the consultant is expected to work independently, they will work under the overall supervision of PLCPD.

Required expertise, qualifications and competencies, including language requirements:

**Job requirements of Consultant:**

- Advanced degree in Medicine, Public Health, Health Policy, Management or Public Administration is required;
- Degree and training in health information management and/or data analytics is desirable;
- Prior experience in health policy and research is desirable;
- With at least 5 years' experience working in similar capacity;
- History of working with the Department of Health is desirable;
- Strong analytical and strategic thinking and a commitment to results;
- Ability to organize work effectively and to meet planned deadlines;
- Good interpersonal, convening, and negotiation skills.

**Core Competencies of Consultant:**

- Values / Guiding Principles
  - Integrity
  - Commitment to the organization and its mandate
  - Cultural sensitivity and valuing diversity;
- Developing People
  - Developing People / Coaching and mentoring
  - Building and managing relationships; and,
  - Performance Management
  - Fostering Innovation and Empowerment
- Building and managing relationships
  - Rapport building
  - Facilitation skills
  - Designing joint initiatives

**Functional Competencies of Consultant:**

- Analytical and conceptual thinking
- Communication, decisiveness, influence, networking, setting standards and monitoring work
- Technical knowledge on relevant fields
- Highly organized and process-oriented.