United Nations Children's Fund

TERMS OF REFERENCE FOR INDIVIDUAL CONSULTANTS AND CONTRACTORS

Title	Duty Station:
International Contractor for Data and technology Innovation (Solution Architect) to enhance children's rights	Jakarta, Indonesia

Purpose of Activity/Assignment:

This consultancy is intended to support for designing and implementation of solutions to enhance the business performance of data and technology innovation work within UNICEF and relevant government counterparts (the AWP Outcome 7: Programme Effectiveness, Output 7.8: Data, research, and innovation).

Background

UNICEF Indonesia Country Office (ICO) has been supporting government partners in leveraging data innovation to advance sustainable development and humanitarian outcomes across the country, including COVID-19. Years of investment in various data assets, including strengthening household surveys, advocating for SDGs child-focused indicators data, deployment of real-time technology, and mainstreaming big data analysis, has put UNICEF ICO in a forefront position on data innovation to drive better results for children. The strategic positioning is maintained by upholding core principles of government ownership, demand-driven model, interoperability, capacity strengthening, and systematic knowledge capture to respond effectively to the proliferating portfolio of data innovation.

In response to the pandemic, UNICEF Indonesia Country office (ICO) has adapted flexibly to address the rising and evolving needs of the government by providing strategic technical support to improve the overall data and information system to monitor COVID-19 response and vaccination roll-out. The existing system is further adjusted to strengthen the government institutional data system and capacity, in line with the national Digital Transformation Road Map and One Data Initiative. However, the expansion has led to larger challenges for better coordination, effective knowledge sharing, building the right capacities, and establishing stronger partnerships to capitalize on UNICEF investments. Furthermore, the interconnectivity between different programs, e.g., social protection, health, education, nutrition, WASH, and beyond, has intensified the demand for data-driven innovative approaches which are applicable across multiple sectors to promote better resilience of government data and information systems.

Functional Responsibility

To anticipate the greater demand during COVID-19 and beyond, UNICEF is recruiting an international consultant (Solution Architect) for Data and Technology Innovation to contribute to enhancing children's rights in Indonesia. This role will contribute to strengthening the internal capacity of UNICEF ICO Data and Technology Innovation following the broader digital transformation by committing to support the integration of data and technology insights into decision-making processes, establishing a wider range of partnerships, and maintaining institutional agility and resilience to be able to respond swiftly to change while ensuring paths to scale and sustainability.

Under the supervision of the Data Center Specialist, the consultant will be responsible for designing and implementing solutions to enhance the business performance of data and technology innovation work within UNICEF and relevant government counterparts, particularly the Ministry of Health. The consultant will work on strategic foresight to ensure that technology risks are accounted for and the proposed solutions meet all essential requirements, including introducing and implementing new technology and translating design into operational concepts for the deployment of real-time data platforms, applied technology solutions, and big data analysis, to support cross-sectoral program interventions during development and COVID-19 situations. The consultant will work with UNICEF ICO Data Innovation Team in close coordination with cross-cluster focal points and government counterparts as well as maintain liaison with the EAPRO ICT4D Unit and NYHQ Innovation Unit, and DAPM Unit, where applicable. The role is based in Jakarta, and occasional travel and field missions may be required, as prevailing conditions allow.

The Solution Architect will work based on the following **scope of work**, which is applicable both in development and humanitarian settings, including COVID-19:

1. **Articulating and driving smart demand for and use of data and technology innovation to leverage the COVID19 data system to improve the integrated information system of the government, including in the Ministry of Health (MoH)**
   - Based on the Digital Health Transformation Roadmap, document action plans, design and optimize system architecture, and create proof of concepts to support the development of the Indonesian Health Service (HIS), in collaboration with the Data Innovation team and the Digital Transformation Office of the MoH.
   - Shape and design solutions to optimize the overall health information system by leveraging the existing COVID19 data system, including transforming the PCare platform into Sehat Bersama/ Nakes Apps, and PeduliLindungi Apps into Citizen Health Apps, in consultation with the Data Innovation team and the Digital Transformation Office of the MoH.
   - Accelerate the adoption of appropriate technology services to support UNICEF program implementation in a timely manner by establishing effective communication with all stakeholders, close monitoring and troubleshooting of issues, providing clear guidelines and sufficient training.

2. **Identifying and developing data and technology solutions for the most common challenges faced by UNICEF country offices and government counterparts in child-focused programming work, particularly due to the COVID19 situation.**
   - Develop strategic notes/ solution blueprint with the Theory of Change (TOC), recommend new technology applications, functional design and enhanced system architecture to improve the business processes and delivery of services of the government, particularly the MoH and UNICEF priority programs.
   - Conduct relevant surveys, analyses, and synthesize feedback from users systematically whilst collaborating with respective technical teams to improve the design and system performance of the 3 (three) platforms mentioned above.

3. **Mainstreaming the use of big data for the improvement of key program priorities in response to COVID19.**
   - Develop a strategic note to identify and prioritize cross-sectoral big data initiatives in collaboration with the Data Innovation team and relevant partners.
   - Develop technical concept notes on 3 key projects on big data outlining clear objectives, expected outputs, methodologies, and implementation plans.
   - Create a summary of report outlining technical advice on the design and implementation of big data analytics processes and analyze non-conventional data sources.

4. **Building and expanding the community and tools needed to support country offices and government staff in translating data innovation opportunities into results.**
   - Provide technical inputs to proposals and/or concept notes with strong business cases to influence a variety of stakeholders, including donors, to demonstrate the technology solutions are aligned with the long-term goals of UNICEF and government counterparts.
   - Develop relevant case studies and document best practices for knowledge sharing and support the development of presentation materials for regional and global meetings.
   - Facilitate capacity-building sessions, including sharing best practices, presenting at events, and running workshops for UNICEF and government staff.

5. **Provide relevant technical support to the overall Data Innovation workplan implementation based on needs.**

Note: in delivering all the work above, the consultant is expected to maintain and uphold the highest standards of Data Ethics and Data Privacy.

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*Work Assignment Overview (SMART)		
Tasks/Milestone:	Deliverables/Outputs:	Timeline
1. Develop Inception report based on agreement with UNICEF	**Deliverable 1:** • **Approved inception report** to demonstrate good understanding of task in the term of reference and to outline detail workplan activities for the period of contract is developed	(July 2022)
2. Based on the Digital Health Transformation Roadmap, document action plans, design and optimize system architecture, and create proof of concepts to support the development of the Indonesian Health Service (HIS), in consultation with the Data Innovation team and the Digital Transformation Office of the MoH	**Deliverable 2:** • **Consultation meeting organized and documented.** • **A Roadmap action plan document outlining** the optimized and functional system architectures with proof of concepts and clear mechanism to accelerate the adoption of appropriate technology.	(August 2022)
3. Provide technical support to shape and design solutions to optimize the overall health information system by leveraging the existing COVID19 data system, including transforming the PCare platform into Sehat Bersama/ Nakes Apps, and PeduliLindungi Apps into Citizen Health Apps, in consultation with the Data Innovation team and the MoH Digital Transformation Office.	**Deliverable 3:** • **Comprehensive technical documentation with a clear description of support provided, process, methodology (incl. source codes) and outputs** to ensure proper handover, migration process, and knowledge transfer.	(September2022)
4. Develop strategic notes with the theory of change (TOC) relevant recommendations for new technology applications and enhanced system architectures to improve the business processes and delivery of services of the government, particularly the MoH and UNICEF priority programs.	**Deliverable 4:** • **Strategic notes/ solution blueprint containing TOC relevant recommendations of functional design of applying new technology solution** for system enhancement, improving the MOH business processes and delivery of essential health services for mother and children.	(October 2022)
5. Gather feedback from users systematically whilst collaborating with respective technical teams to improve the design and system performance of the digital platforms.	**Deliverable 5.1:** • **Mobile surveys** to gather users' perception with the digital platforms to enhance design and optimize system performance, in consultation with technical teams. **Deliverable 5.2:** • **Analysed and synthesized Survey data report** to formulate feedback from users to improve the 3 platforms: Indonesia Health Service, Sehat Bersama Apps and Citizen Health Apps.	(November2022) (December2023)

6.	Mainstream the use of big data for the improvement of key program priorities in response to COVID19.	**Deliverable 6.1:** • **A strategic note to identify and prioritize cross-sectoral big data initiatives,** in consultation with the Data Innovation Team and government counterpart. **Deliverable 6.2:** • **Technical notes on 3 key projects on big data** with clear objectives, expected outputs, methodologies, and implementation plans. **Deliverable 6.3:** • **A summary of report outlining technical support** on the design and implementation of big data analytics processes, including analyzis of non-conventional data sources.	(Jan 2023) (Feb 2023) (March 2023)
7.	In consultation with Data Innovation team, **provide technical inputs to develop proposals or/and concept notes** with strong business cases to influence a variety of stakeholders, including donors, to demonstrate that the technology solutions are aligned with the long-term goals of UNICEF and government counterparts.	**Deliverable 7:** • **Strategic concept notes to support resource mobilization activity** for data innovation work**.** • **Technical inputs for** development of donor proposals and reports in timely manner.	(April 2023)
8.	**Develop relevant case studies and document best practices** for knowledge sharing.	**Deliverable 8:** • In consultation with Data Innovation team and the MOH, **3 case studies/ best practice documents** disseminated at national, regional, and global levels.	(May 2023)
9.	**Facilitate capacity-building sessions,** including sharing best practices, presenting at events, and running workshops for UNICEF and government staff.	**Deliverable 9:** • **1 (one) internal knowledge sharing event,** e.g., Brown Bag Lunch is facilitated • **2 (two) external trainings** for government counterparts at national and subnational levels are facilitated**.** **Deliverable 10:**	(June 2023)
10.	**Submit Final consultancy report**	• **Final consultancy report** outlining the overall support and achievement during the contract period, identified **challenges, proposed solutions and clear recommendation for way forward.**	

Supervisor: *Data Center Specialist*	**Start Date:** *15 July 2022*	**End Date:** *30 June 2023*	**Number of Days (working)** *11.5 months*

Minimum Qualifications required:	Knowledge/Expertise/Skills required:
☐ Bachelors ☒ Masters ☐ PhD ☐ Other Enter Disciplines Master's degree, technical degree, or higher in information technology, computer science, computer engineering, informatics engineering, data science, or other disciplines.	• A minimum of 5 years of relevant professional work experience in data and technology innovation and development as a Solution Architect or similar. • Experience identifying, designing, and implementing data-driven digital innovation solutions for large-scale projects with technical components is desirable • Experience with web-based technologies including the database. Familiar with the fundamentals of software architectures. • Experience in leadership or at the senior/managerial level on information, communication, and technology for development projects on a national scale. • Experience in Open Source, mobile, and emerging technology applied to the development sector is a requirement. • Exposure to UNICEF priority programs, i.e., social policy, health, nutrition, WASH, communication, child protection, and education is an advantage. • Excellent data analysis and interpretation skills • Experience dealing with big data is an asset. • Experience in providing clear/simplified training to users, with low levels of experience and comfort with data and technology. • Experience in management developing data and technology strategies for development programme is an advantage

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