



Enhancing Efficiency of the United Nations System-Wide Action Plan on Gender Equality (UN-SWAP) Through Tech-Based Solutions

Capstone Project, Spring Semester 2025

School of International and Public Affairs

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Executive Summary

This report has been developed by Columbia University’s School of International and Public Affairs (SIPA) Capstone team¹ to support the UN Women's UN System-Wide Action Plan (UN-SWAP) 3.0 Secretariat in improving their reporting and analysis efficiency, by seeking and testing a range of cost-effective tech-enabled solutions. Following the desk and data review and interviews with the UN-SWAP Secretariat and the UN entity Focal Points (FP), the Capstone team revealed such efficiency gaps as fragmented data systems, inconsistent interpretation of UN-SWAP Performance Indicators (PI), and time-consuming manual reporting and data analysis processes against the escalating volume of quantitative and qualitative data.

These challenges result in limited capacity of the UN-SWAP Secretariat for real-time and in-depth analysis of the performance submissions, timely feedback to the FPs, and the UN-SWAP portal usability issues.

To address them, the Capstone team proposes three core technology-enabled solutions: (1) a Retrieval-Augmented Generation (RAG)-based Artificial Intelligence (AI) chatbot to help draft data-grounded analytical narrative reports, (2) a RAG chatbot grounded on the UN-SWAP Technical Note and tailored responses to frequently asked questions to assist focal points during reporting, and (3) integration of Power BI with the Structured Query Language (SQL) database to enable real-time, automated, and interactive visualizations. All solutions are designed to function within the UN Women’s Microsoft Azure infrastructure to ensure security, cost-effectiveness, and scalability, ultimately freeing up the Secretariat’s capacity for higher-value analysis and recommendations

To support these changes, the report recommends a series of ‘quick wins’, including the appointment of a “Data Steward” within the Secretariat to oversee the data management efficiency, instituting biannual performance check-ins with the entities, and standardizing document naming and tagging in the Knowledge Hub to prevent further data duplication. However, in the long run a more targeted solution must be sought to clean and organize the existing files in the Knowledge Hub to increase its usability.

Although the initial piloting of the AI tools and the PowerBI dashboard was conducted on limited data, the Capstone team is confident that, with further refinement and testing on the whole set of clean data, they will be instrumental in addressing the urgent and long term needs of the UN-SWAP Secretariat. Ultimately, successful implementation will require continuous experimentation and fine-tuning of the tools with robust output validation mechanisms, matched by upskilling the UN-SWAP team with data science capacity, continued collaboration with the UN Women IT team, user training, and alignment with emerging UN AI governance frameworks.

¹ A capstone is a live consulting project with an external client outside of SIPA. Each workshop partners a team of about six graduate students with a faculty advisor. The goal is to provide clients with innovative analysis and practical recommendations while SIPA students gain experience by working on a real-world problem. For bios of students involved in this capstone, please refer to the Annex.