OCTD

Oxford Centre for Technology and Development

Data Management Platform

Overcome **Data Scarcity**

Strengthen and Diversify **Data Quality**

Measure **Impact**

THE CHALLENGE

Despite the prevalence of big data in the digital world, progress and investment in emerging markets are prohibited by data scarcity.

- Inconsistent data collection standards,

- Lack of proper training

- Digital inequality

- Privacy concerns and regulations

Businesses, investors and institutions are unable to measure their **impact**.

The demand for **more robust, granular and frequent effectiveness measurement** is growing every day.

OVERCOMING DATA SCARCITY

Oxford Centre for Technology and Development (OCTD) has developed **novel methods** to overcome data scarcity in emerging markets.

With initial "seed funding" of £ 600,000, OCTD has conducted market research, formed an outstanding team, and developed novel methods for overcoming data scarcity.

Our expert researchers provide **tailored approaches** to each assignment, analysing accessible datasets, identifying missing data, and providing alternative solutions to fill in the gaps.

These tailored solutions support investors, corporations, UN agencies, and government bodies to **monitor, track and measure the impact** of their investments, supply chains and projects.

Our partners and clients include **Google**, **WFP**, **UNICEF**, **Meta**, and many more.

AN OUTSTANDING TEAM

Dr Emre Eren Korkmaz

Emre is the Director of OCTD.

He is an academic at the University of Oxford's Department of International Development.

Dr Jason Bell

Jason is a senior marketing and data scarcity researcher at OCTD.

He is an associate professor at the University of Oxford, Said Business School

Dr Tuba Bircan

Tuba is a senior computational social scientist at OCTD.

She is an associate professor at the University of Cambridge.

Dr Merih Angin

Merih is a senior computational social scientist at OCTD.

She is an associate professor at Koç University (Istanbul).

Thomas Serban von Davier

Thomas is a senior Artificial Intelligence researcher at OCTD.

He is a DPhil candidate at the University of Oxford's Computer Science Department.

Jacob Stein

Jacob is a senior Artificial Intelligence researcher at OCTD.

He is a DPhil candidate at the University of Oxford's Computer Science Department.

Michael King

Michael is a qualitative researcher at OCTD.

He is a graduate of MSc Migration Studies at the University of Oxford.

Mehmet Ali Demir

Mehmet Ali is a quantitative researcher at OCTD.

DELIVERING VALUE TO PARTNERS

Our team strengthens data quality to support businesses and institutions to **deliver services with greater impact**.

Google, 09/2022 – 06/2023

Addressing Data Scarcity, Case Studies and Methods to Access Marketing Data

Nominated by Google for [prestigious marketing award](#).

EBRD, 07/2020 – 07/2022

Addressing "Grey Areas" in Regulations for the Financial Inclusion of Refugee Entrepreneurs and Digital Identity/Digital Credit Solutions

World Food Programme, 09/2023-ongoing

Using Data Analysis and AI/ML Techniques for Vulnerability Assessment, Targeting and Assurance in Humanitarian Action.

Other partners include:

TESTED ON THE GROUND

Our novel methods have been **tested worldwide with excellent results**:

International Organisation for Migration — Mongolia

Worked with IOM and Mongolian government to use mobile phone data to track mobility and improve delivery of services

Red Cross — Kenya

Identified the challenges, opportunities and impact of blockchain technology in cash transfer for humanitarian aid when there is limited or no access to internet.

World Food Programme — Jordan

Analysed skillsets of migrant workforce in Jordan trough alternative data sources and compared the reasons of employability of migrant and refugee workforces.

OCTD is now working on **overcoming data scarcity in five countries in Africa and the Middle East**, funded by the World Food Programme.

We have ongoing consultancy in the **private sector**, working with impact measurement companies to measure the impact of investment in infrastructure projects in the UK and Turkey.

OUR APPROACH & METHODOLOGY

We are experts in handling **less-than-ideal datasets**.

Our methods are tailored to context, strategy, and aims, broadly categorised into three approaches:

More Efficient Use of Existing Data

● Interpolation (synthetic interpolation)

● Pooling approaches (e.g., hierarchical models)

● Regularisation and informative priors (academic and industry literature)

● Inertia (an empirical heuristic)

Augment Existing Data

● Data fusion (micro/macro, intertemporal)

● Surrogate models (short and long term)

● Leading indicator data (search interest, social mentions)

● Data enrichment through expert elicitation

Risk Mitigation

● Uncertainty quantification (probabilistic estimates)

● Loss function integration (from "most likely" to "most important")

SCALING IMPACT & SUCCESS

Demand is rocketing across the public and private sector, from tech giants to local infrastructure projects, INGOs and impact investors, for a solution to overcome data scarcity.

OCTD is providing a body of methods as a interdisciplinary toolkit tailorable to project goals.

- Our technology **tracks and compares** country rankings under four main headings (Demographics, Economics, Governance and Environment) with at least 38 sub-indicators.
- Our expert team identifies **missing indicators** and determines a **strategical approach** to apply its **novel methods** to overcome data scarcity and strengthen the data quality.

In each partner project, we invest in our own services and technology, growing our toolkit to overcome data scarcity in emerging markets to generate greater impact and progress worldwide.

Oxford Center for Technology and Development

We are an Oxford-based research and consultancy company.

We research, manage projects, and provide training on issues related to technology and development.

Google, Meta, Red Cross, EBRD, IOM, World Food Programme, and UNICEF are among our clients.

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