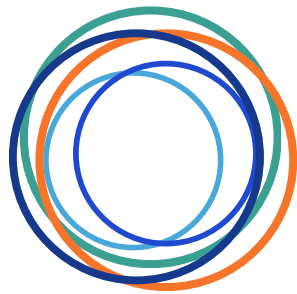# DATA ONTOLOGY FOR BETTER IMPACT MEASUREMENT

Data ontologies are a crucial part of the **digital infrastructure** needed to improve impact measurement by facilitating **interoperability among standards**, generating **efficiencies in impact measurement and management**, and **elevating transparency**.

COMMON APPROACH
TO IMPACT MEASUREMENT

WHAT IS A DATA ONTOLOGY?

If you already understand what a vocabulary (sometimes called a data vocabulary or a glossary) and a taxonomy is, you're on your way to understanding what a data ontology is!

PILEATED WOODPECKER

GREY EASTERN SQUIRREL

RED FOX

KINGDOM — Animalia — RED FOX, GREY EASTERN SQUIRREL, PILEATED WOODPECKER

PHYLUM — Chordata — RED FOX, GREY EASTERN SQUIRREL, PILEATED WOODPECKER

CLASS — Mammalia: GREY EASTERN SQUIRREL, RED FOX; Aves: PILEATED WOODPECKER

ORDER — Rodentia: GREY EASTERN SQUIRREL; Carnivora: RED FOX

has habitat / part of / produced by / eats

VOCABULARY

The names and terms for things. It ensures that the meaning of the data is clear, explicit, and consistent across users.

The example vocabulary shows the names of three animals.

TAXONOMY

A set of data classification rules that organizes data by shared characteristics into hierarchies.

The example taxonomy shows the classification of a pileated woodpecker, red fox and grey eastern squirrel.

ONTOLOGY

Concepts and categories that show the properties and relations between data. It connects data taxonomies and vocabularies.

The example ontology maps relationships between animals, including habitat and food web.

Existing impact measurement standards are either vocabularies or taxonomies.
Each plays an important role in defining terms.
We need an impact ontology to knit the vocabularies and taxonomies together.

WHAT · WHO · HOW MUCH · CONTRIBUTION · RISK

IMPACT CATEGORY
IMPACT THEME
Examples: Delivery Models
STRATEGIC GOAL
CORE METRICS SETS

contributes to — Target Stakeholder Spending: Housing (IRIS PI 1409) — has impact dimension — What (Impact Norms: Dimensions of Impact)

UN SDG Target 11.1 — 11 SUSTAINABLE CITIES AND COMMUNITIES

informed by — GRI G3 Materiality Topics — analyses — Housing-related expenditure of households (HC1.1 OECD)

Examples of vocabularies in impact measurement include Impact Management Norms' 5 dimensions of impact (pictured above*), the 17 goals of the UN SDGs, and the IRIS+ metrics.

Impact Norms 5 Dimensions of Impact, from Impact Frontiers

Examples of taxonomies in impact measurement include the IRIS+ system (categories connected to themes, goals and metrics, pictured above*) and UN Sustainable Development Goals goals connected to targets and indicators.

IRIS+ Thematic Taxonomy, page 4.

An ontology would link vocabularies (e.g. IRIS metric PI 1409) to similar indicators (e.g. OECD HC1.1), vocabularies (e.g. Impact Norms) and taxonomies (e.g. SDG 11) and process standards (e.g. GRI 3), as pictured above.
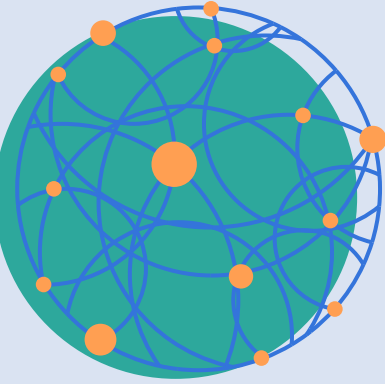
ONTOLOGIES ARE BETTER AT CAPTURING CONTEXT.

An impact ontology can do more than just knit standards together. It can also provide context data like methods, benchmarks, and data sources, giving greater meaning to data points. It can help illuminate relationships from activities to impact. Itcan enable funders and investors to trace impact through funds to underlying assets and affected stakeholders.

In short, impact ontologies are better for more complex and more voluminous impact data in ways that illuminate connections and insights, including across disparate standards and metrics.

THE EASIEST WAY TO USE A DATA ONTOLOGY IS TO USE A SOFTWARE PLATFORM THAT HAS BUILT THE ONTOLOGY INTO THE BACKEND.

"Data ontology" is a computer science term for the conceptual scaffolding that maps how data is organized. It sits behind the software platforms that funders and their investees and grantees use to collect, store, analyze, and share impact data. Investors and investees use a data standard by using an aligned software platform.

An example of an impact ontology is the
Common Impact Data Standard

Yes, this means giving up your spreadsheets!

Future-you is not nearly as excited about your impact measurement spreadsheet as today-you.

Impact data is a web of many-to-many relationships. Spreadsheets do not store this data well. Their format limits the complexity of data that can be stored, which limits the analysis that can be done.

A well-developed software platform solves these problems.

WHAT PROBLEMS CAN A DATA ONTOLOGY HELP SOLVE?

Reduce the tedium and repetition of collecting and sharing impact data, which burdens funders and investees/grantees alike.

Allow funders and investors to reconcile different impact measurement standards used by investees/grantees without imposing metrics on them.

Specific toinvestors, provide a method for fund-of-funds to gain insights into underlying assets, enabling aggregate impact data across many funds.
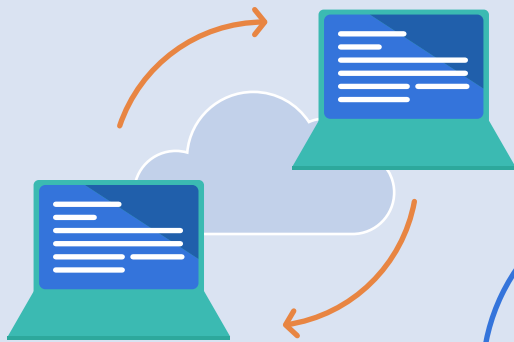
Learn more about how ontologies support better impact investing at
WWW.COMMONAPPROACH.ORG/IMPACTONTOLOGY