Building a healthy data ecosystem

Course Overview

Summary

In order to unlock the full potential of data we must understand the data ecosystem and how to build a strong and supported data infrastructure. In this course you will upskill in the foundations of data and learn how to embed a robust and efficient data infrastructure, and learn how to unlock the full value of data so that your organisation is primed for success.

Learning Outcomes

The aim of this module is to introduce data, why it exists on a spectrum, and how to build a strong data infrastructure to support unlocking the full value from data.

To achieve this, you will:

- Define what data is, explore how it exists on a spectrum and explain how it used to construct insights and evidence for new concepts and ideas
- Explore the history of data journalism and storytelling, and contextualise data storytelling and how you use it in your professional practice
- Examine the concept of 'data is infrastructure' and how this analogy enables you to understand the need for positive and sustainable investment in open data practices through the use of real-world examples
- Explore a number of measures of success for building a healthy data ecosystem and some of the barriers that could prevent the full value of data being realised.
- Evaluate your own practices and how data is used in your organisation

Learning Experience

Number of modules	5 (+ reflective workbook)
Modality	Asynchronous / Self-directed / Online
Notional learning hours	2.5 hours (total)
Assessment	Formative
Certificate	Certificate of completion

Each module contains learning content that introduces the key concepts in the module, providing examples and case studies that demonstrate these concepts in practice. Each module contains a series of formative questions to support your learning. Learning is applied in activities throughout, and guides learners through developing their understanding of data and the ecosystem in which it exists, examining the barriers to success and how success can be measured.

Module Summary

Module Name	Description
What is data?	Data is a material. On its own it doesn't mean anything, but when we combine it with our prior experiences and prior knowledge, we are able to construct insights. These insights provide evidence for new hypotheses. From there, we make decisions on how to act on data. In this section we will explore the following: • What is data, information, knowledge and wisdom? • How do they differ from one another? • Why does knowing this difference ensure we can use data appropriately to create value?
Why does data exist on a spectrum?	Data exists on a spectrum, from closed, to shared, to open. In this section, we explore these three types of data, how to go about classifying data and the role of a balancing test in making the best decision. During this section consider what data you use in your professional practice: is it closed, shared or open? Are there benefits to increasing the openness of the data you use, or do the risks outweigh the benefits? Would it be inappropriate to share the data beyond the named users? In this section, we explore: • open, shared and closed data • the ODI Data Spectrum • why we need open, shared and closed data • how to classify your data performing a balancing test
How data has changed the way we find and tell stories	In order to make data more understandable, we need to be able to present findings and insight from data. To further drive positive change, we need to be able to

	clearly communicate to senior level decision-makers. A key part of this is being able to tell powerful stories. No field is more experienced at finding and telling stories than journalism, and likewise no field is better at using data than data science. Here, we look at what both fields can learn from each other, and what you can learn from them, in order to find and tell compelling stories with data. In this section we will explore the following: ● How data has changed the way we find and tell stories ● The history of data journalism and storytelling ● How you use stories in your professional practice to communicate and generate buy-in
Is your data infrastructure ready?	To truly harness the potential of data, we should regard it as a form of infrastructure. It holds equal importance to our road, electricity, and water networks, serving as a fundamental resource from which we can all benefit. Data infrastructure is made up of data assets, standards, technologies, policies and the organisations that steward and contribute to them. At the ODI, we use the analogy that 'Data is infrastructure' - by that, we mean it is not a commodity, like oil. Instead, it is a necessary framework that facilitates the creation and delivery of services and products across all sectors and industries. In order for the value of data to be realised, it needs resources, investment and management. This module will introduce: ● The concept of 'data is infrastructure' ● What is open data? ● What makes data open and why do we need open data?
Measuring success	In this module we have explored what data is, and what value it has. We've examined the history and application of data journalism through the use of storytelling using

	Florence Nightingale and John Snow as historical examples to demonstrate how effectively sharing data and insights helps individuals and organisations to make better, more informed decisions. One way of maximising the value of data is by opening it up and investing in data as infrastructure. In doing so, we must understand the limitations of what we can and can't share, but also the most appropriate ways to share it. We can use the Data Spectrum as a guide to understand what constitutes Open Data, and the Theory of Change to explore the risks associated within our professional practice. In this module, you will explore: ● How we measure the success of data and open data ● Your own practices and how data is used in your organisation
Barriers to success	At the ODI, we have a Theory of Change. This Theory promotes collaboration and trust between organisations, governments and individuals. We want those who steward data and those who create information from this data to act in ways that lead to the best social and economic outcomes for everyone. Our Theory of Change explores: 1. the balance of trust and openness to create positive impact and 2. the dystopian scenarios that could emerge if barriers are not addressed. As you are developing your understanding of the Theory of Change, consider what data you create and steward. Think about how you build trust within your professional practice, and how open you and your organisation are. How does this affect the positive outcomes you deliver? This module explores: ● The ODI's Theory of Change ● How value is created from data ● What happens when we hoard data

	● What happens when we are fearful of data