

Terms of Reference

Internship with the World Bank Agriculture and Food Global Practice

Data-driven and digital agriculture team

Digital innovation system case studies

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Background

The Data-Driven Digital Agriculture Team, in the Global Engagement Unit of the Agriculture and Food Global Practice leads the global analytical and advisory work on data driven digital agriculture at the World Bank.

Digital agriculture (DA) is a catalyst with wide-ranging potential to transform food systems and affect the lives of billions. Digital technologies dramatically change the interactions between the unparalleled number of actors across the food system, comprising farmers, upstream and downstream enterprises, consumers, and public sector institutions. With a growing two-thirds of the world population having a mobile subscription and nearly half using the internet, digital technologies can offer the 570 million farmers worldwide solutions to make more precise decisions on labor, capital, and natural resource management, lower the costs of linking them to the upstream and downstream markets, increase transparency of agricultural value chains through improved access to information and product traceability, and enhance the knowledge of the world's 7.5 billion consumers on food choice aspects such as price, nutrition, production practices, climate change and environmental impacts.

The role of public sector is to maximize societal gains of improved efficiency, equity and environmental sustainability that stem from the adoption of digital agriculture, while mitigating the potential risks. Supply and use of digital technologies in agri-food systems is fundamentally a private sector activity, driven by private gains of the profit-maximizing producers and utility-maximizing consumers. However, often private economic agents may not have the right set of incentives to make rational decisions due to the existing market or policy failures, lack of public good provision, or their bounded rationality (i.e. not having enough information about the choice options and the impacts of their decisions). Some characteristics of the digital goods may also make it more challenging for private sector to supply and use of digital technologies in agricultural sector. In such cases, the entry point for public policy is to influence the incentives and decisions of private agents with the goal of maximizing efficiency gains at the societal level. In addition, the role of public sector is to maximize the societal gains that stem from the adoption of digital agriculture but may not be fully internalized by private economic agents, such as equity and environmental sustainability. The latter consists of creating a set of incentives to prompt a certain behavior among private economic agents with the goal of maximizing the societal benefits, while also mitigating potential (and sometimes unknown) risks that digital agriculture may bring.

Objective

The DD-DAT team is looking for some support for one of its priority area, looking into technological, organizational or institutional innovations supporting the development of a thriving agro-food tech

ecosystem. The objective is to develop knowledge and create guidelines about best practices and develop tools to support stakeholders cooperation throughout the agro-food value chains to foster change (governments, farmers, agribusiness, digital innovators, logistics and wholesale and retail etc.). This includes public-private cooperation but also frameworks for cooperation between stakeholders from the private sector.

The first element of this work program, is the development of a **knowledge product** gathering insights from 6 OECD countries.

The report aims to investigate the type of technological, organizational or institutional innovations used, (co-creation, data platforms, innovation labs and innovation challenges, data cooperative etc.) to support the development of an AgTech ecosystem and the adoptions of digital technologies among agro-food value chain stakeholders. The report would then identify success and the challenges and constraints in the implementation phase and develop recommendations, including on policies and the role of governments.

The chosen countries for a case study include Australia, Chile, France, Israel, Korea, and the Netherlands.

Tasks:

The DD-DAT team is looking for an intern to support:

- The research of relevant documentation about government's strategies in our case study countries and policies in relation to the digitalization of the agriculture innovation system
- Producing synthesis notes of the most relevant documents compiling findings.
- The identification of stakeholders in the agriculture innovation system and their role in the innovation system and how they cooperate in the digital space, this includes governments, research and private sector bodies participating in this innovation system. Review and document strategies of these stakeholders,
- Support the organization and attending interviews with stakeholders and producing minutes of meetings.
- Based on time permitting and duration of internship, extend this analysis to a comparison of lessons learned from case study countries.

Duration of the Internship:

Ideally, the internship would be **full or part time** and start in **November for a period of at least 3 months**. If part-time, the candidate would then have to provide an estimation of his/her availability per week. The internship would be extendable based on intern and the World Bank mutual interest in continuing the analysis.

Desired skills and qualifications:

- At least an undergraduate degree in Economics, Agronomics, Public Policy, Law; masters degree is preferred; a cross-disciplinary background in digital technologies, innovation and public policy would be highly valued
- Interest in the Agriculture and Food sector; background studies and experience on this is desirable;
- Interest in data and digital innovations; background studies and experience on this is desirable;
- Interest in public policy, particularly on innovation would be valuable;

- Ability to write and communicate confidently in English;
- Interest and knowledge in policy environment in the case study countries is helpful; as would ability to speak language of these other countries

Financial retribution

The Word Bank provides a compensation of 14-19 euros per hour according to experience.