Marketplace for agri-data

Prototype and user feedback

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AgriDISCRETE project
Where this work comes from

- AgriDISCRETE project
- Two years (2020-22)
- Funded by Irish Department of Agriculture, Food, and the Marine (DAFM)
- Coordinated by Walton Institute

Explore challenges for data use through increasing digitalisation of agriculture
Where this work comes from

- ICT and data science
- Social science and rural development
- Business modelling and markets
What you will see

Process...

...more important than any technology or software
Technology and data are easy.

People and relationships are hard!
...so we started with frogs

If it's your job to eat a frog, it's best to do it first thing in the morning. And if it's your job to eat two frogs, it's best to eat the biggest one first.
Basic approach

Requirements gathered via
* partner expertise
* desk-based research
* multi-actor workshops

- farmers
- tech companies
- food processors
- policy officials
- etc.

* Social sciences – e.g. level playing field for farmer when dealing with multinational companies, trust between actors, etc.

* Business modelling – e.g. enable non-academic/commercial aspects, multi-sided marketplaces, etc.

...codified into models first, and then later into software building blocks (ICT and data science)
People (data actors)

**Data Providers**
* Data owners, generators, producers
* Offer data to consumers
* Require transparency on how, when, and by whom their data is accessed

**Data Consumers**
* Need to be able to search for relevant data
* Need facility to negotiate terms for data access
People (data actors)

**Data Aggregators**
* Combine data from different providers and offer to consumers
* Can act as both data consumers and as data providers
What did the software need to do?

Theory: build in all requirements from social science and business point-of-view, taking best practice and examples from existing (non-existent?) systems

Reality: compromise, build something and get it in front of users

Python, MySQL, ...

...no graphic design or JavaScript yet
First model and wireframe
First model and wireframe

Provider home screen
First model and wireframe

Consumer search results
Enter basic details (meta data)

Name (build relationship with system and consumers)

Sector – drop-down menu
   e.g. dairy, beef, crops, fruits, etc.

Keywords – free text
   e.g. lameness, diet, animal health, grass, anthelmintic, wormer, winter feed plan, etc.

Data sample size
   e.g. 10 rows of spreadsheet file
User journey: consumer

Enter basic details (meta data)

- Name (build relationship with system and providers)
- ‘Find data’ – free text search
- View sample
- Contact provider
User trials and feedback

Repository:
Can the provider’s full data set be uploaded to the platform, rather than just a sample? This would help the provider track the data they have shared and would offer them a back-up option for data that might currently be stored locally on a laptop.

Data accuracy/integrity:
Is it within the scope of the platform to provide assurances to consumers that the data they are buying is accurate and of sufficient integrity?
User trials and feedback

Monetary exchange:

Farmers who used the platform suggested that a monetary exchange would be the most preferable form of value exchange.

They said it is not so much about the money, which they assumed would be relatively small, but more about keeping the exchange as simple as possible.

This would avoid the need for new discussions on what constitutes value (free services?) whenever a new data-for-value exchange is being negotiated. It would also allow both providers and consumers to compare the value being placed on different data sets.
User trials and feedback

Other issues:
- Instructions
- Contracts
- App for phone
- etc.
Conclusion

Start by eating the biggest frog: people and their relationships

...build the technology later

Goods and services have been traded in agriculture for hundreds of years... data will be no different
Next steps

Horizon-Europe: DIVINE


Coordinated by: ICCS

“Demonstrating the value of data sharing to boost the agri-data economy”
Thank you!

Find more:
www.waltoninstitute.ie