Big data cooperatives in the United States

If trends observed in the United States (US) are any indication, we may soon be seeing the establishment of farm data cooperatives in Australia. A recent trip to the US, investigating digital agriculture and big data for the Precision to Decision (P2D) Rural Research and Development for Profit program found that several data cooperatives have emerged as a response to farmers wanting to have greater control over how their data is being used.

The Precision to Decision project is funded by the Australian Government and all 15 of the rural research and development corporations and has the goal of developing a big data solution for Australian agriculture. Recently, Richard Heath travelled to the US on behalf of the project to investigate how the digital agriculture and big data environment is evolving.

In the context of the P2D project agricultural big data is defined as being the collection and analysis of extremely large datasets derived from digital information systems from multiple farms. The analysis of the data generally occurs through probabilistic decision-support tools which help users make management decisions.

New technology which automates the collection of data from monitors and sensors and delivers that data to the cloud using wireless connectivity is making available the volume and velocity of data that big data analytics relies on. Most farmers acknowledge the potential insights that big data analytics will deliver to their business, however they are also expressing concern that they are potentially losing control over their own data. Most machinery companies and data analytics platforms have now adopted policies that explicitly state that farmers retain ownership and control of their data however there remains a desire amongst large sections of the farming community to develop structures and platforms that leave no doubt as to who is gaining value from farm data.

Data cooperatives are one response to the desire to have more control over how farm data is used. Three organisations that have emerged recently in the US with platforms that are being promoted as data cooperatives are: The Ag Data Coalition (http://agdatacoalition.org/); Grower Information Services Cooperative (www.gisc.coop); and Farmers Business Network (www.farmersbusinessnetwork.com).

The Ag Data Coalition (ADC) is a partnership between a number of US universities, machinery companies and the American Farm Bureau. Its mission is focused on designing, creating and managing a central data repository where farmers can store their information and control how it is accessed. The ADC does not provide an analytics platform but instead provides a repository where farmers can store all their data then decide which platforms, researchers or agencies they would like to share their data with.

The Grower Information Services Cooperative (GiSC) also provides a central repository for farm data with the primary purpose of negotiating with customers, vendors and government agencies on behalf of the data owners for the control and use of the data. The GiSC also performs data analytics to provide the data owners with management insights and negotiates opportunities to monetise the data on behalf of the owners.

The Farmers Business Network (FBN) is a cooperative-like structure where members pay a subscription (US$500/year) to be able to place their data on the FBN platform. The value that farmers get in return for their participation is benchmarking of the accumulated data for management insights and analytics on things like hybrid performance, yield by soil type, yield by fertiliser regime and price comparisons on agricultural inputs. FBN is not dissimilar to some commercial platforms such as Climate Fieldview however as with the ADC and GiSC, FBN's major selling point is that they are an independent 'Farmer First' organisation not connected to any machinery, seed or fertiliser companies.

The market for agricultural big data products is extremely dynamic with many new products emerging. There are significant trust issues however, for some farmers in adopting cloud based data analytics platforms. Agricultural data cooperatives are emerging as a mechanism to address these trust issues.