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On-line learning, micro-credentialing and the flipped classroom – new arenas for professional development in extension?

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Aim

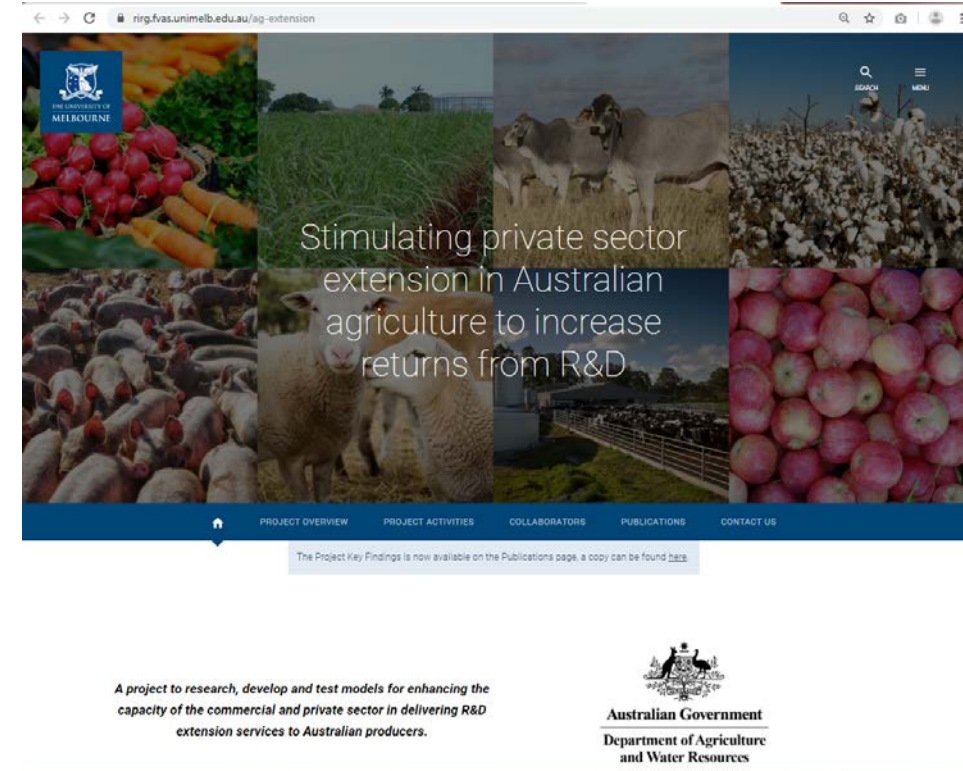
1. What are the issues related to building extension capability in privatised agricultural extension systems?
2. What were the results from piloting cross-sectoral, on-line, post-graduate education modules in agricultural extension in Australia?
3. What are the recommend pathways for building extension capability to benefit the agricultural RD&E system?



1. The issues

- Who provides agricultural extension services these days?
- What is their background and capability?
- Where do they receive their education and professional development?

We have insight to the answers to these questions from the farmer and advisor perspective



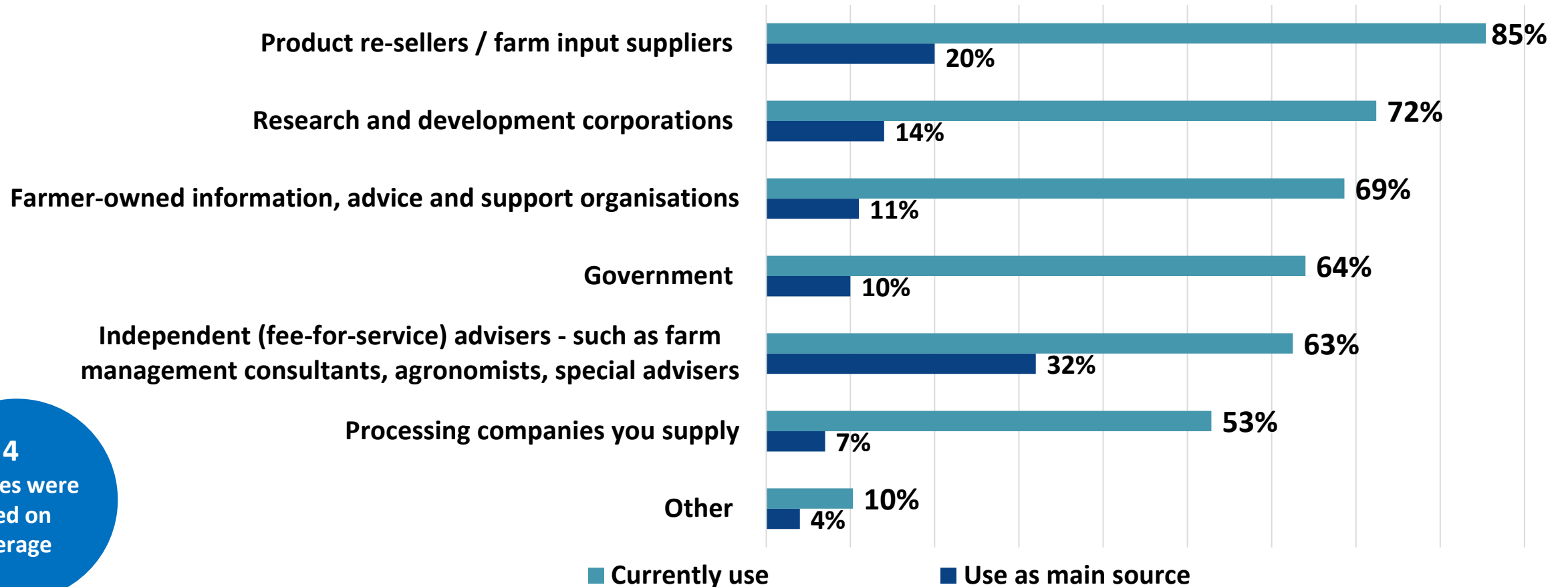
<http://rimg.fvas.unimelb.edu.au/ag-extension>



Organisations Australian farmers use for information, advice and support

<http://rirg.fvas.unimelb.edu.au/ag-extension>

Sources where farmers obtained information, advice or support (all n=1003; main source n=978)

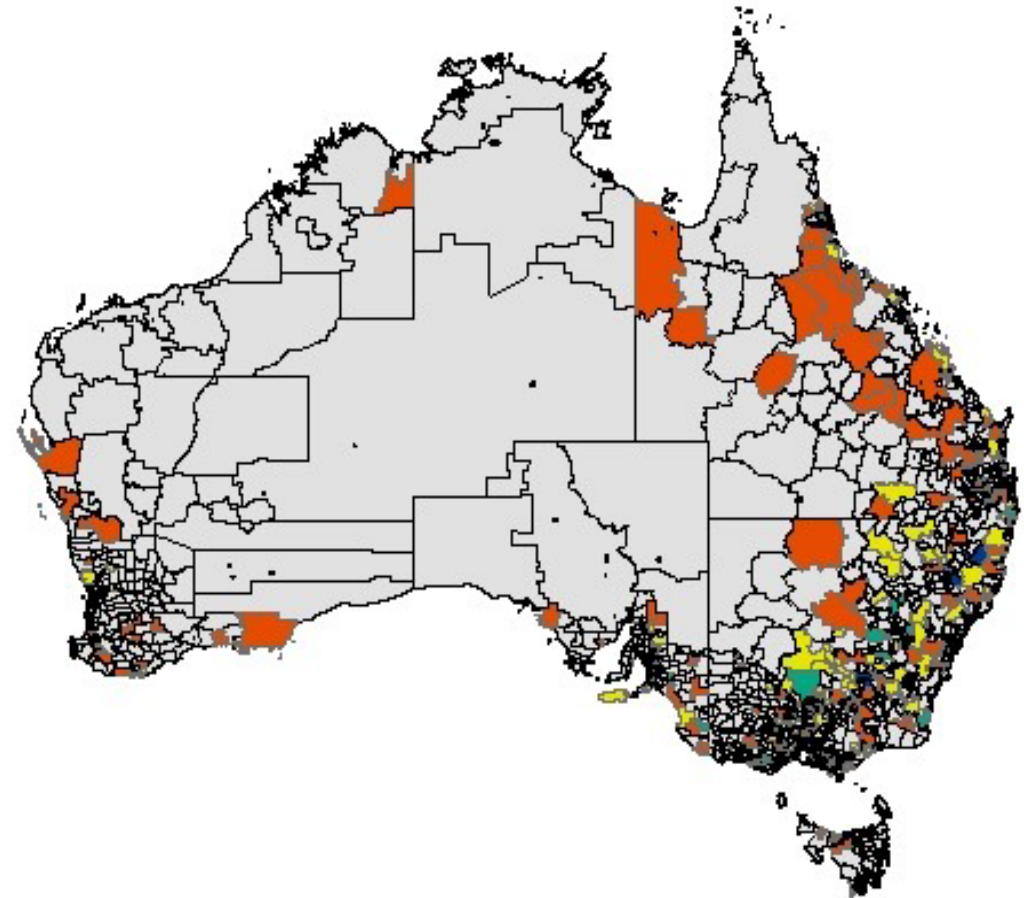
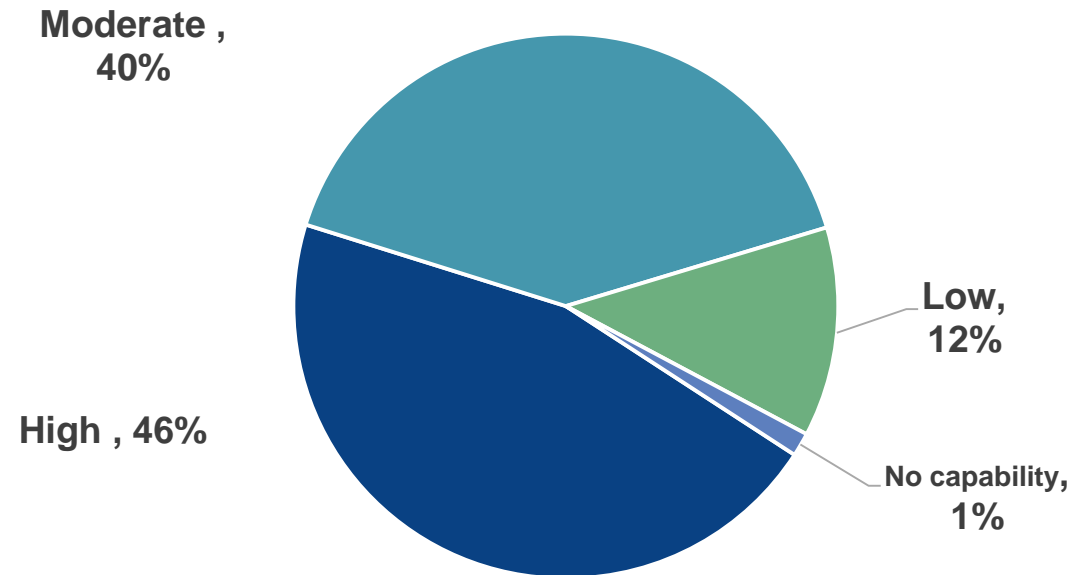


4 sources were used on average



Self-reported capability of these organizations & advisors to provide extension (from national advisor survey)

Capability of organisation to provide extension services now:



Q44 - What is the capability of your organisation to provide extension services now?
 Q46 - In which of the following areas are you at least moderately strong?
 Base: All Owner / Leads (n=290)



Current capability and professional development needs of advisors to farmers (from national advisor survey)

- Half of advisors had received professional development or training in agricultural extension in the past 12 months

Industry organisations / associations were far more likely to have received PD or training (73%) than other organizations. Sole operators were significantly less likely to have received training (27%).

- 43% of advisors noted they received their training 'in-house'
- Industry and private training organisations were the most prominent training providers



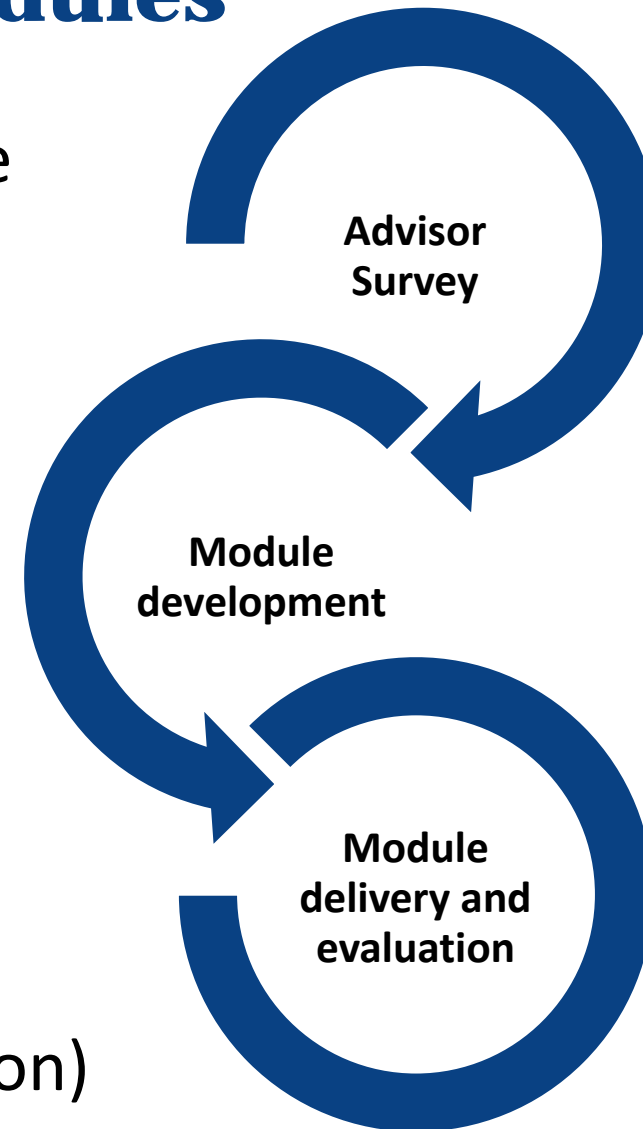
What does this mean?

1. Limited cross-sectoral opportunity to undertake education/PD
2. Different professional demands and capability requirements between public and private sector
3. Limited time to undertake fully accredited post-graduate courses
4. No agreed accreditation criteria for extension capability



Building the pilot modules

- The 'needed capabilities' formed the content of modules.
- A module is short-format learning (1 module=1/4 of a subject at Masters-level)
- Modules were also mapped to 2 subjects:
 1. Advisory practice and theory
 2. Agricultural extension (policy, design, delivery, evaluation)

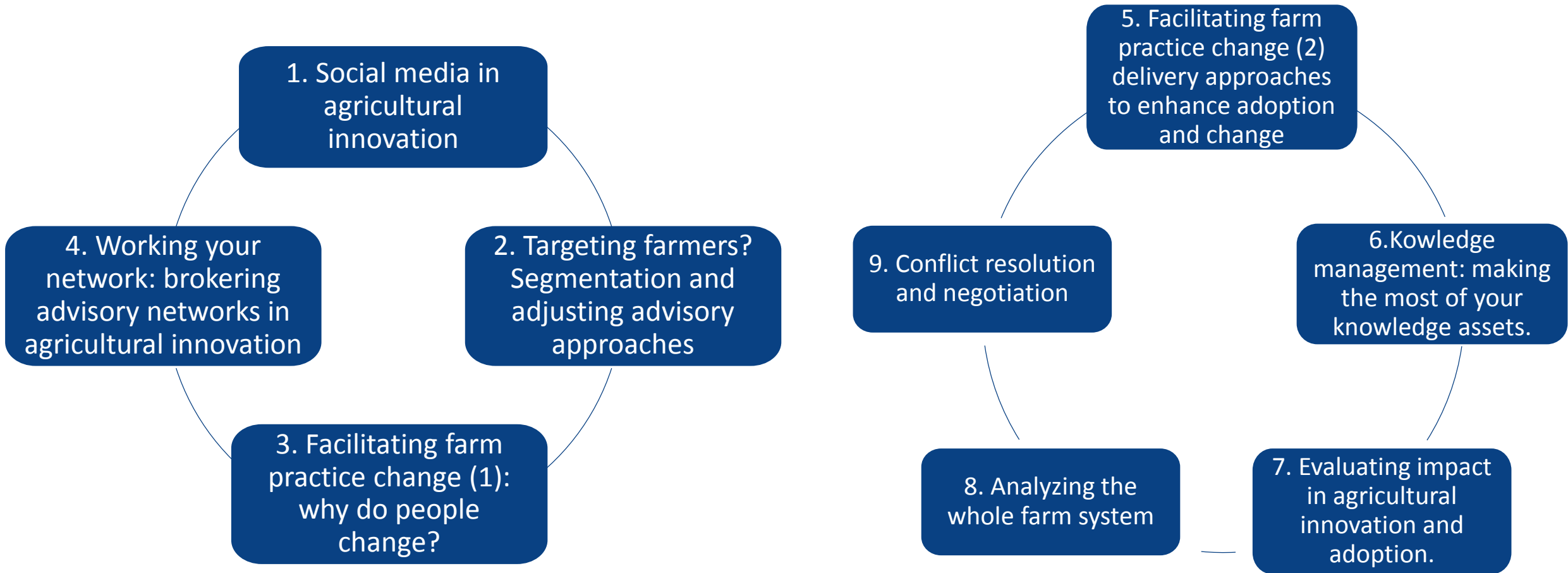


Educational philosophies:

- Community of Practice
- Reflective practice
- Flipped classroom



The pilot on-line modules:





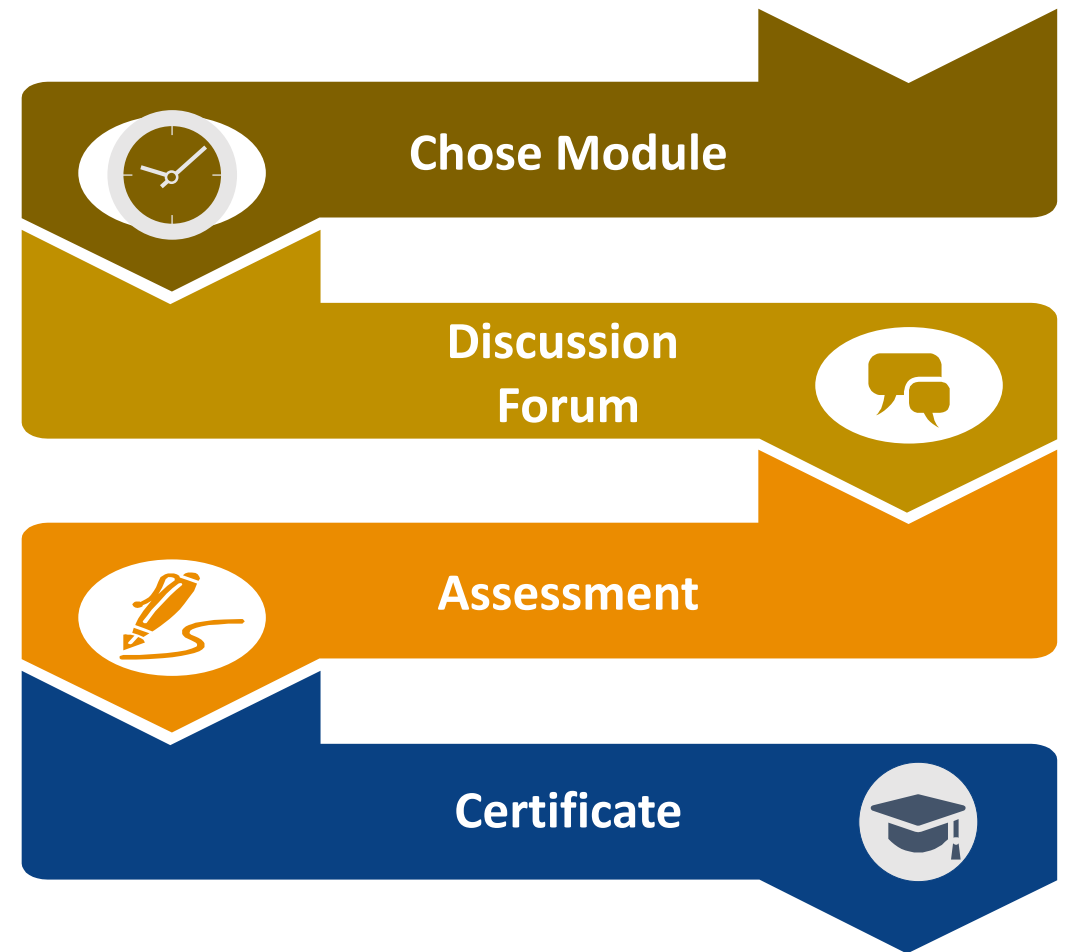
Pilot participants (n=62)

- Offered to organizations involved in the national project
- Participants could self-select modules to complete.
- Enrolments ranged from 2 to 12 participants per module.
- Advisors from a range of private sector organisations including:
 - farm management consulting firms,
 - industry R&D organisations,
 - processing companies (milk, meat), and
 - commercial farm input companies (seed, feed, fertiliser, etc).



The 'modules': delivery in the pilots

- **Open for 8 weeks;
2 modules open at
each time.**
- **Participants chose relevant
modules to complete.**





What happened?

a) Despite self-nominating interest, some individuals dropped out or found it difficult to complete modules.

‘struggled to commit and connect to the course’,

‘unable to participate in the discussion forum’.

Some were not able to submit their written assessment or withdrew because of illness or lack of time to complete outside work hours

- Flexible completion dates assisted in some instances



b) Benefits reported from participation

1. Learning from other industries and contexts,
2. Time to reflect on their practice and introduce new ideas,
3. Greater rigour in planning extension and sharing of approaches with their wider work teams.



Benefits, changes, impacts

Social media module:

(Industry participant) 'applied the technique of utilising the analytics' and this was 'extremely useful'
(Commercial firm participant) 'doing the digital communication strategy for assessment was 'very practical' and 'highly appropriate for tying in all the knowledge' and of 'tangible benefit' in their business.

Targeting farmers module:

'a chance to reflect on how I apply segmentation to current projects' and be 'more purposeful in considering segmentation as part of project monitoring and evaluation',
(commercial firm) : the theory 'gave more structure to the informal segmentation work' being undertaken within their advisory business.



What did we learn?

1. Managing diversity of advisors is challenging:
 - the work context (e.g. commercial or industry body);
 - the variation in level of knowledge and experience in extension theories and methods; such as co-innovation and network building
 - the framing of professional development as individual learning; and,
 - the level of work-load support for advisors from their organisation in completing PD ‘outside the firm’.



What did we learn?

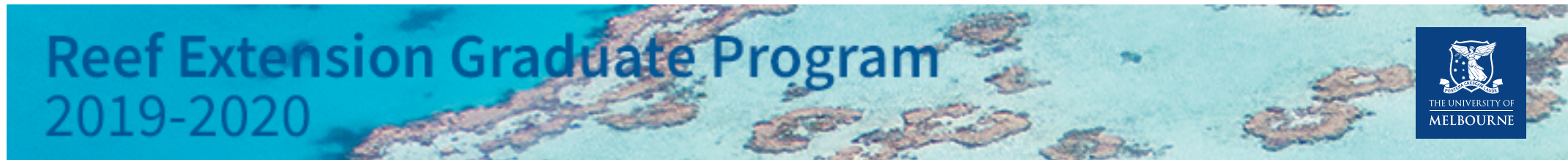
2. Short format, on-line learning mode had some strengths:
- If participants engage in discussion forum
 - Some limitations however in developing strong reflective practice, collective learning.
 - Could be demand for micro-credentialling

There is a need to foster collective learning to counter a strong internal logic of individual learning amongst many practitioners



Where to next?

Tailored collaborations



Qualifications





3. Recommendations

Whilst on-line learning, micro-credentialing and the flipped classroom provide strong foundations for capacity building in extension, this doesn't address the collective governance issues relating to building capacity for the RD&E system overall.

This needs:

- Cross-sector and cross-organization (private/public) collective investment and commitment to capacity building in extension.

There is a clear role of industry & government in supporting this as part of addressing challenges in Australian agriculture.



Key references

Gormon, M. (2018). Becoming an agricultural advisor – the rationale, the plan and the implementation of a model of reflective practice in extension and higher education. *The Journal of Agricultural Education and Extension*, 25:2, 179-191.

Keevey, J. and Chakroun, B. (2018). Digital Credentialing: Implications for the recognition of learning across borders, Education 2030 Summit, UNESCO

Landini, F., Brites, W., Ines, M., Rebole, M. (2017). Towards a new paradigm for rural extensionists' in-service training. *Journal of Rural Studies*, 51, Pages 158-167

Murphy, C., Nettle, R. and Paine, M. (2013). The evolving extension environment: implications for dairy scientists. *Animal Production Science* 53(9): 917-923. At: <http://doi.org/10.1071/AN12347>.

Nettle, R., Crawford, A., Brightling, P. (2018). How private-sector farm advisors change their practices: An Australian case study. *Journal of Rural Studies*, Volume 58, Pages 20-27

<https://doi.org/10.1016/j.jrurstud.2017.12.027>

Paschen, J-A., Reichelt, N., King, B., Ayre, M., Nettle, R. (2017). Enrolling advisers in governing privatised agricultural extension in Australia: challenges and opportunities for the innovation system, *The Journal of Agricultural Education and Extension* 23:3, 265-282 <http://dx.doi.org/10.1080/1389224X.2017.1320642>.