

Prepared for:



Non-formal and Informal Learning in the Food and Fibre Sector

Market research report

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Executive summary

The purpose of the non-formal and informal learning project was to evaluate the opportunity to better integrate the non-formal, informal and formal learning systems, and to identify potential solutions either for integration, or to better recognise skills gained through non-formal and informal learning.

A desk research phase was completed in early May 2023, the findings of which have informed the development of the market research phase. The initial intention was to develop one concept for exploration through the market research phase. However, on reviewing the desk research findings and after discussion with the steering group, five concepts were found to warrant further consideration. There was a decision made to focus on employee and employer demand for the concepts; four of the concepts were brought forward into the market research phase.

This report presents the findings of this work, and answers the following questions:

- In what ways, and for whom, would each of the concepts be valuable and relevant?
- What might be the benefits of implementing each of the concepts?
- What might be the challenges of implementing each of the concepts?
- What potential (unintended) consequences might there be of implementing each of the concepts?
- What are the preferred options for implementation (i.e., concept vs. status quo or (where relevant) concept vs. concept)?

Methodology

To answer these questions, 20 semi-structured scenario-based interviews were conducted with employers, employees and catchment group leaders in the dairying, sheep and beef, and horticulture industries. Separate scenarios were created for each role and each industry using industry-specific language (e.g., roles, training providers, skills, etc.).

Findings

The findings confirm that continuous learning / upskilling is valued by at least some parts of the food and fibre sector and is not limited to the attainment of formal qualifications. Hands-on, timely, relevant learning is a preferred approach as it fits seasonal workflows and the time commitment is acceptable.

There was no single concept that stood out for interviewees as meeting their needs – all concepts had some appeal and an identifiable value proposition. Equally so, they identified challenges and areas of confusion. The development of infrastructure will also be required for any concept(s) selected.

Overall concept feasibility

We combined these findings with other evidence and information (target audience, market size, strength of value proposition, required behaviour and system change, projected impact, investment needed, and challenges to overcome) to provide an assessment of each concept's overall feasibility.

Concept 1: Validating existing knowledge (overall feasibility rated at 2 / 5)

Validating people's existing experience and knowledge would likely cost less than the other concepts but is judged less likely to unlock significant value. We assume that the main purpose of recognising

current capability is to unlock demand for further training (c.f. simply offering recognition as a service in its own right). Only a small proportion of people with relevant experience see value in acquiring formal qualifications for themselves. Within this group, the proportion that are put off enrolling by the lack of a pathway to recognise existing skills is also small – possibly very small. In part this is because the absence of formal course prerequisites means that a simple alternative exists – to enrol in a higher level of qualification. The opportunity to grow demand for training by offering RPL pathways or accelerated programmes therefore appears very limited.

Concept 2: Badging (overall feasibility rated at 3.5 / 5)

Badging to show mastery of certain skills has appeal for the food and fibre sector workforce but is reliant on attaining a critical mass of users – both employees and employers. Employers have indicated that this system would complement rather than replace existing tools that inform their hiring decisions. It would likely be of lesser value to those employing few people, in industries with a lot of casual work or for work that is contracted out. The investment (financial and other resources) required to establish and deliver a badging system that would work sector-wide would be significant. Nevertheless, this concept, more than any of the others, has the potential to unlock substantial new demand for training of all types. If a badging system became established across the industry, it could provide widespread transparency about skills gaps, potentially leading to demand to close those gaps.

Concept 3: Integrating non-formal modules (overall feasibility rated at 3 / 5)

Including non-formal learning modules within formal qualifications has broad appeal. Non-formal modules are perceived to be more hands-on and practical than a traditional formal qualification, and therefore more directly useful to work in the food and fibre sector. The cost of implementing this concept compared to others is likely to be less. However, it requires formal and non-formal training providers to agree on which courses can be included, and to develop funding mechanisms to ensure that these non-formal courses have permanence. More fundamentally, it requires that credits, and potentially funding, be awarded for participation in non-formal courses. This will require agreement from NZQA, providers and TEC to support a different interpretation of formal training.

Concept 4: Farmer-led learning (overall feasibility rated at 3.5 / 5)

There is an appetite for quality peer-to-peer and / or face-to-face learning amongst farmer-led groups such as catchment groups. This learning needs to be tailored to meet the needs and goals of the group and be flexible, timely and relevant to farming / growing business. If it were possible to create formal learning products that could provide this level of responsiveness, it may be possible to substitute formal learning for some proportion of current non-formal learning and extension. There would need to be a sustainable funding mechanism put in place, and considerable investment in the development and delivery of individualised programmes for each interested catchment group.

Conclusion

The market research phase has identified potential opportunities for implementing each of the concepts, although some are more realistic than others, and some are more likely to achieve transformational change in the food and fibre sector than others. Validation of existing knowledge, in any form, is unlikely to achieve change at scale (i.e., notable increase uptake of formal training).

Badging has the potential to be transformational but requires a high level of support across the sector. There is value in pursuing it as an approach, but this would be a high cost and high-risk option.

Integration of non-formal modules and farmer-led formal learning both show enough promise to consider pursuing as pilots, as they appear most likely to meet the needs of the sector for high quality, relevant, hands-on and timely learning. However, neither concept would be straightforward to pilot nor implement more widely.

Recommendations

The decision to change the status quo will be driven by the sector based on their priorities and goals. Next steps will be for the FFCoVE, in partnership with Muka Tangata, to agree on which concept(s) to develop into pilots in the next phase of the NFIL project. Options for pilot development are presented for each concept should the FFCoVE decide to take one or more concepts forward to Phase two.

Glossary

Some terms used in this report can have multiple or context-specific meanings. For the purpose of consensus, and in the context of this research and report, the following definitions have been used:

Badging *see Concept 2: Badging page 10.*

Catchment groups are groups of people, working together, who identify with a geographical area, usually based on a river or lake catchment or who connect socially within a farming district. They are communities of interest (see below). A catchment is an area of land where rain flows into a common river, lake or other body of water.

Certification is the act or process of providing one with an official document as evidence of attainment of a level of achievement.

Communities of interest are networks of people who share common interests and practices and exchange information in pursuit of shared goals. Catchment groups (see above) are communities of interest.

Formal learning is learning that takes place through a formal training provider and results in a NZQF-registered qualification with a credit value or an equivalent overseas qualification. Includes formal micro-credentials.

Informal learning is learning that happens with no assigned credit value and no certification of achievement. Examples include on-the-job training through buddying with a more experienced worker, guidance via a mentoring system, self-education, 'school of hard knocks' through multiple years of doing the job.

Non-formal learning includes compliance training, industry-developed and assured in-house training, badging and seals along with industry-recognised and purchased vendor training credentials not registered on the NZQF but some may have acknowledged equivalence by formal training providers (e.g., towards specified or unspecified credits against a formal qualification).

Qualification is official completion of a course or learning programme that confers status as a recognised practitioner of an activity.

Recognition is the acknowledgement of the existence of something, of one having achieved something or reaching a certain level of proficiency.

Recognition of Prior Learning (RPL) *see Concept 1: Validating existing knowledge page 9.*

Validation means receiving official / formal recognition or affirmation that one's learning or experience is worthwhile and has value.

Introduction

This document

Purpose

The purpose of this document is to present the findings from the market research activities, synthesize information gathered through the desk and market research as well as from previous work and reports, and present recommendations for a potential next phase of this project.

Structure

This document contains the following sections:

- Glossary
- Introduction (*this section*)
- Research methodology
- Interview findings
- Assessment of concepts
- Recommendations
- Phase two options
- Appendices

Context

The food and fibre sector must meet quality standards set by the domestic and international markets. The sector must ensure that its workforce is productive and suitably skilled. It must also both attract and retain workers by providing appealing career paths and opportunities.

Formal learning has traditionally been seen as the most appropriate way to demonstrate a specific level of knowledge and / or practical competency in a specified subject area. However, not all workers in the food and fibre sector hold a formal qualification – nor are they necessarily interested in attaining one. The food and fibre sector has a high number of workers with no formal post-secondary qualification and the sector has lower levels of formal qualifications than the overall New Zealand population¹.

In contrast, on-the-job learning ('informal learning') is widespread. This is particularly attractive to the workforce when there is no viable formal equivalent available, or when there is a formal equivalent available but its value proposition is not strong enough to entice learners. For example, in the early stages of their career much of the workforce will learn through shadowing and mentoring. Many will also participate in (and learn from) workshops, field days, farmer groups and communities of interest (e.g., catchment groups, regenerative agriculture networks) – these are considered 'non-formal

¹ Food and fibre workforce: snapshot – Te hunga kaimahi, kai me te muka: he tirohanga prepared by Primary Sector Workforce Dataset and Forecasting Working Group, published in April 2022

learning’ and are popular with the food and fibre sector workforce as they are perceived to be more relevant and hands-on.

Project vision

Muka Tangata and the Food and Fibre Centre of Vocational Excellence (FFCoVE) envisage a food and fibre sector where non-formal and informal learning can be consistently and confidently recognised across sectors and employers; as well as reliably and fairly transferred to the formal system, where appropriate. This project evaluates the value proposition of better integrating the learning systems and identifying potential solutions for either integration, or for better recognition of non-formal and informal learning.

Background

In the second half of 2022, the FFCoVE commissioned ‘The non-formal informal learning project’ (NFIL) – an initial piece of research into the possible reconciliation of the three learning systems.

This project involved:

- **Desk research** - A series of desk research activities, which involved learning from previous projects and existing data on non-formal learning opportunities to identify the value proposition of these different systems and their integration to learners, employers, and providers, as well as their trade-offs and barriers. A desk research report was written outlining the findings. For reference, key findings are included in Appendix 1 page 65.
- **Market research** – Interviews with learners and employers to test which learning concepts they would choose, when also needing to consider the accompanying trade-offs and barriers. **This report focuses on the findings from this market research phase.**
- **Options for a next phase** – Options and guidelines for taking forward each concept, should the FFCoVE and project steering group agree this is the right course of action, are provided.

Desk research findings

Key findings from the desk research informed the design of the market research:

- **All learning is valuable and has its place.** Formal, non-formal and informal learning meet different needs and are all relevant and fit-for-purpose in different contexts. The knowledge needs of the food and fibre workforce are met through the combination of the different learning models.
 - ➔ Transitioning non-formal / informal learning into formal learning needs not be the desired outcome.
- **Connecting non-formal short courses and formal programmes may generate desirable educational and social returns on investment, but the economic return will likely be low.** Non-formal short courses lack durability, are generally very short and fragmented, rarely align with competency frameworks and / or existing formal programmes and are attended only by a very small fraction of the food and fibre sector workforce.
 - ➔ While at face value it may not appear worthwhile to better connect non-formal short courses and formal programmes, the educational and social return on investment and

value proposition to employers and employees might make this worth considering and requires further investigation.

- **Based on estimates, extension programmes and catchment group learning opportunities appear to be well-attended, particularly by managers, and the related volume of learning is sizeable.** Non-formal short courses are often front of mind when discussing non-formal learning, however, other learning opportunities fall under the non-formal umbrella such as extension programmes (industry-led) and communities of interests (e.g., catchment groups).
 - ➔ Extension activities and catchment groups might be perceived as ‘easier’ or more ‘logical’ targets for developing initiatives to better connect formal and non-formal learning systems due to their size and volume, but such initiatives aren’t necessarily desired by these groups.
- **No single concept that could seamlessly connect the formal and non-formal learning systems has been identified.** There is too much variability across and within the learning systems, and across and within the food and fibre sector, for one concept to meet the needs of all audiences in any context.
 - ➔ It is possible that a suite of concepts, each applicable to a different context, could be considered if it can be done without negatively impacting the current value of each learning system.

Concept development

Initially, the goal of the market research phase was to develop and investigate one concept. The desk research concluded there was no one-size-fits-all concept that could seamlessly connect the formal and non-formal learning systems. A more appropriate approach was instead to seek feedback on a suite of five concepts during the market research phase.

Findings from the desk research phase were used to develop the initial concepts.

- **Concept 1:** Validating existing knowledge (transfer to the formal system)
- **Concept 2:** Badging non-formal and informal learning and competencies
- **Concept 3:** Integrating non-formal modules into formal qualifications
- **Concept 4:** Adapting formal learning to be farmer-led
- **Concept 5:** Staircasing across formal and non-formal systems

After discussion with the steering group in May 2023 the market research phase was focussed on employer and learner demand for each concept. The staircasing concept was excluded as the steering group believed it would be well-received by both employers and learners, and that the key audiences to consult were supply-side (providers and industry organisations) rather than demand-side. Staircasing remains worthy of consideration but is not covered in this report.

Concept 1: Validating existing knowledge

Individuals with work experience who are interested in obtaining a formal qualification, or signing up to a formal programme without the pre-requisite unit / skill standards or qualification, are given the opportunity to ‘level up’ through one of three options:

- **Recognition of prior learning (portfolio) aka RPL** – Individuals put together a portfolio of evidence (e.g., videos of themselves doing tasks, plans they have developed for various business activities) to demonstrate their competencies and knowledge. The evidence is assessed against the learning outcomes for a formal qualification (or part thereof), and, if found satisfactory, applicants are awarded the qualification (or part thereof). If not entirely satisfactory, they may be required to provide additional evidence or may need to complete one or more course(s) to meet the requirements.
- **Challenge assessment** – Individuals can sit a summative assessment covering all learning outcomes from a formal qualification (or part thereof) to demonstrate their knowledge. If they pass the assessment, they will be awarded the formal qualification (or part thereof). If they do not pass, they may sit the assessment one further time.
- **Accelerated learning** – Individuals can complete an accelerated learning programme if their work experience is found suitable by an advisor from the training provider. The learning would be intensive with facilitators spending less time on each learning outcome based on the assumption that learners are already knowledgeable. Thus, the qualification would be completed in less time than the traditional delivery mode.

In any of these three approaches it assumed that the primary value to the industry comes about by unlocking latent demand for training, c.f. recognition of competency as a service in it is own right.

Concept 2: Badging

An online system allows individuals to acquire badges for attending non-formal learning opportunities (e.g., short courses, workshops, conferences, field days) and / or for demonstrating proficiency in certain tasks. There could potentially be different types of badges based on who awards them, and what knowledge or skill level has been demonstrated. For example, badges could be awarded for attending events, completing courses that include assessment/proof of learning, or when an employer validates that a staff member has reached a certain level of proficiency in a task. Individuals can share their online badging passport with potential employers. Employers can access the profiles of candidates and employees and, in some cases, award badges.

A badging scheme has the potential to unlock a lot of demand for training, by clearly identifying skills gaps and (potentially) provide a platform for training providers to advertise through.

Concept 3: Integrating non-formal modules into formal qualifications

Learners can include quality-assured, but not individually assessed, non-formal modules in their formal qualification. Learners can choose from a list of approved courses and participation opportunities from industry training providers (e.g., DairyNZ, No8HR) that, if completed, will allow them to gain credits towards their formal qualification.

The value of this concept would lie in creating a form of formal training that has more appeal than a traditional programme in which all modules are assessed.

Concept 4: Farmer-led formal learning

Extension, catchment and other community of interest groups (farmer-led groups) could, within a broad framework, build their own curriculum into a formal learning programme to meet their desired outcomes. This would require that farmer-led groups had access to a very flexible qualification or micro-credential that they could utilise for their own purpose. A (loose) analogy here is the 'white-label'

bottles of wine that winemakers offer their customers to brand in their own name. It will be important that participating farmers feel that they own the design of the programme for this concept to succeed.

Farmers would receive development and facilitation support from tertiary education providers, who would also provide quality assurance. Funding would be available from the tertiary system like traditional formal programmes (e.g., micro-credentials) and group members who meet the learning outcomes can obtain a formal certification (albeit this is unlikely to be a drawback for most participants).

The value of this concept would be to increase:

- The number of farmer-led groups that initiate capability-building programmes – which will need to grow in future years if agribusinesses are to remain profitable while working within environmental limits.
- The financial sustainability of existing programmes – which currently rely mainly on short-lived project funding.
- The rigour and quality of existing programmes – which currently vary widely.

Market research questions

Initial research questions were crafted for the business case and were refined upon completion of the desk research. As the project progressed, the decision was made to focus the market research on the demand for each concept. The original questions would have centred on the need to integrate the learning systems, which became moot given the decision made by the FFCoVE and the project steering group to proceed with the draft concepts.

Consequently, the market research phase sought to answer the following questions:

- In what ways, and for whom, would each of the concepts be valuable and relevant?
- What might be the benefits of implementing each of the concepts?
- What might be the challenges of implementing each of the concepts?
- What potential (unintended) consequences might there be of implementing each of the concepts?
- What are the preferred options for implementation (i.e., concept vs. status quo or (where relevant) concept vs. concept)?

Hypotheses / what we knew already

The concepts tested in the market research phase were not entirely new. Most existed before and have been trialled and tested in some capacity. Some hypotheses and insights were taken forward into this research:

- Recognition of Prior Learning has ‘worked’ for a small number of people. Each of the three options (portfolio, challenge assessment and accelerated learning programme) have existed in the past but in known cases have failed to attract sufficient people to warrant their continuation. These include efforts to undertake RPL for the Diploma in Agribusiness Management (now the Diploma in Primary Industry Business Management) via portfolio development or coaching models. Funding has been an issue with a lack of access to TEC funding making it difficult to test the idea more widely. Although based on evidence from trials

in Australia, funding providers for RPL did not result in notable increase in numbers. Thus, only if more interest / demand could be found potential funding options could mitigate barriers at the provider level.

- Badging at a food and fibre sector-wide level has been discussed for some time. Smaller and more homogeneous badging systems exist already, such as the GoHort system for new entrants in the horticulture sector. A significant barrier to progressing the idea of a food and fibre sector-wide badging system was the assessment of demand from farmers, growers, and their employers for such a system before more was invested into the idea.
- It is understood that integrating non-formal and formal programmes has been trialled in some instances, however it is unclear how this has worked in terms of recognising the completion and / or assessment of non-formal learning outcomes within a formal programme. Further investigation and assessment of interest for this was required.
- Variants on the farmer-led formal learning concept have been trialled in the dairy industry, with communities of interest working together to achieve recognition and funding for the development of Farm Environment Plans. It was of interest to see whether this could be taken further within the wider food and fibre sector or applied to different goals.

Methodology

Approach

Scarlatti used a qualitative approach to answer the market research questions (see page 11), because it allowed interviewees to get a nuanced understanding of workforce responses to the concepts. Focusing on the demand side, we identified that key audiences would include:

- Employers
- Employees
- Communities of interest

Not all audiences needed to provide feedback on all concepts to gather the information needed. Table 1 shows which concepts were discussed with which audience.

Table 1: Concepts and audiences

Audience	Validating existing knowledge	Badging	Integration of non-formal modules	Farmer-led learning
Employers		✓		
Employees	✓	✓	✓	
Communities of interest				✓

Interview design and analysis

Scenario-based interviews are a valuable tool to obtain insights into how people are likely to respond to a particular hypothetical concept, and into the reasons for their response. They are often used to help convey complex concepts in a relatable way and put all respondents on an equal footing. The interview progresses through the hypothetical scenario in stages, asking questions at appropriate points. Interviewees' insights can then be used to guide decision-making about which concept to implement.^{2,3}

In the current project, a scenario was presented to interviewees for four concepts under investigation: separate scenarios were created for each role and each industry using industry-specific language (e.g., roles, training providers, skills, etc.). A semi-structured approach allowed some flexibility and scope for interviewees to explore their ideas while keeping the conversation focused. Interview guides were developed to ensure consistency between the three researchers carrying out the interviews.

² van Notten, P.W.F., Rotmans, J., van Asselt, M.B.A., & Rothman, D.S. (2003). An updated scenario typology. *Futures*, 35(5), 423-443.

³ Jenkins, N., Bloor, M., Fischer, J., Berney, L., & Neale, J. (2010). Putting it in context: the use of vignettes in qualitative interviewing. *Qualitative Research*, 10(2), 175-198.

For each concept, interviewees were asked:

- If they could identify with the scenario presented (for themselves or someone they know)
- What the benefits of the concept would be
- What the disadvantages and challenges of the concept would be
- What additional information they would need about the concept to feel confident giving a recommendation
- What they would likely say if someone asked for their opinion

For each concept, respondents were asked to rate on a scale of 1 (very unlikely) to 5 (definitely) whether they would recommend the option to someone and whether they would consider it for themselves. They were also asked to choose between the concept and the current status quo (i.e., doing something or doing nothing).

Interviews ranged in length from 12 to 26 minutes for employers, 28 to 50 minutes for employees, and 22 to 36 minutes for catchment groups. All interviews were carried out either via phone or Microsoft Teams. They were recorded with permission and (if using MS Teams) were automatically transcribed. To complement the recordings / transcript and act as a prompt during later analysis, comprehensive notes were also taken by the researchers during interviews.

Three members of the Scarlatti research team independently identified themes in each interview they had conducted. They then came together to discuss the themes and provide a cross-check over all interviews. Interview quotes were used to provide evidence of each theme and support recommendations.

Interviewees

Purposeful sampling was used to recruit interviewees. The dairy farming, sheep and beef, and horticulture industries were the focus as these are the largest employers in the food and fibre sector⁴. Snowball sampling was initially trialled through Scarlatti and steering group contacts, and this was followed by targeted advertising via Facebook with a Prezzy voucher (either \$50 or \$75 depending on interview length) to incentivise participation.

A diverse range of perspectives was sought, with interviewees representing different size businesses, locations, roles and length of industry experience, and demographic characteristics such as gender, age, ethnicity and education. Prospective interviewees were provided with an information sheet explaining the purpose of the research, their rights and data privacy and confidentiality. They were asked to confirm that they had read and understood it prior to the interview. Interview responses have been deidentified to preserve anonymity.

A total of 20 interviews were carried out. Interviewees were predominantly from the dairy farming sector. Length of industry experience ranged from 5 to 58 years for employers, and from 2.5 to 22 years for employees. Three interviewees (two employers and one employee) were international immigrants with English as a second language but with a good level of fluency.

Table 2 shows the initial target and actual number of interviews completed. Recruiting workers from the sheep and beef and horticulture industries was challenging, and the number of completed

⁴ Data for year ended 31 March 2020 ([All sectors » Food and fibre workforce insights](#))

interviews is lower than intended. To overcome this limitation, some employers were asked to provide feedback on the validating existing knowledge and integrating non-formal modules concepts as well.

Table 2: Interview target and actual numbers

Industry	Audiences					
	Employers		Employees		Catchment group leaders	
	Target	Actual	Target	Actual	Target	Actual
Dairy	2	4	2	5	4	6
Sheep and Beef	2	2	2	0		
Horticulture	2	2	2	1		

The number of interviews was determined through monitoring and was deemed adequate when no new information was being obtained (i.e., saturation was reached).

Limitations

Sampling limitations

Due to resource constraints and deadlines, the sample of interviewees has some limitations. We were unable to specifically target individuals identifying as Māori, although we did not aim to exclude them. Scarlatti considered specific recruitment efforts targeted at Māori groups and farms / horticulture businesses but did not implement them due to the lack of time to establish meaningful relationships.

In addition, individuals who face literacy and numeracy challenges, and those with English as a second language who are not fluent speakers (e.g., new migrants), are not included in the final sample. Anecdotally, interviewees told us that these groups can face barriers in identifying and completing training opportunities, both formal and non-formal. Moving forward the steering group should consider these groups and how to best connect with them and provide accessible learning opportunities to them.

Mātauranga Māori limitations

Due to resource constraints, we were not able to explore the use of mātauranga Māori (Māori knowledge) in the food and fibre sector. Mātauranga Māori is sacred, often passed down through generations, and should not be quantified. A kaupapa Māori approach is required (by Māori for Māori) to explore this knowledge. Scarlatti has recently hired a Māori social researcher to expand the company's capability in this space. If the FFCoVE decide to proceed with Phase two of this research, Scarlatti recommends early and meaningful engagement with Māori. This should be informed by the following core Māori values:

- Manaakitanga (service mentality, add value)
- Whanaungatanga (connection and relationships)
- Mana tūtuku (recognise the uniqueness of each tribe and their knowledge).

Abstract concepts limitations

Because the market research phase involved four concepts instead of one, it was not possible to engage in full consultation with all involved stakeholders to fully define the format and content of each concept. This meant that in some instances, interviewees had questions for which answers could only be suggested. This was particularly noticeable for the farmer-led formal learning concept.

Limitations from the abstract concepts will be addressed through any potential Phase two pilot.

Interview findings

This section presents key themes identified for each concept when analysing the interviews. The section starts with overall findings that crossed over concepts, then each concept is presented with findings specific to that concept. A key finding sub-section provides summaries of the important benefits and challenges for each concept.

Please note that the views presented in this section are those of the interviewees only.

Findings that apply across all concepts

Interviewees made it apparent that learning, upskilling and increasing one's knowledge related to work on the farm or orchard was an expectation for the food and fibre workforce. This expectation was not limited to attaining entry-level qualifications and completing an apprenticeship. Continuous learning is key for any active member of the workforce to remain relevant and employable or maintain business compliance and profitability.

The workforce needs skills and knowledge, but learning opportunities need to be suitable, appealing and meet the needs of the workforce. Interviewees believe that farmers and growers prefer is for short, hands-on, immediately relevant learning. They feel that many farmers and growers are attracted to the food and fibre sector in part because of their preference for manual and outdoor labour. A classroom or online learning setting might therefore be unappealing at best, and entirely out of the question at worst.

There appear to be two different viewpoints on the worth of formal qualifications. Some respondents thought that formal qualifications had little intrinsic value compared to on-the-job or non-formal, more practical learning.

For me personally, if I had to employ someone and they didn't have these qualifications, but they were good at their job and I was confident they would be good at their job, then I wouldn't worry about it. (Horticulture employee)

However, other respondents noted that “*qualifications are expected*”, particularly for younger people entering the sector. Those who thought formal qualification had little value were more likely to hold negative attitudes towards tertiary education providers. They believe formal education might be irrelevant and too theoretical to be of use “in the field”.

I just think they go down this pathway, like you get deep into a certain role within the kiwifruit industry, for example, especially in the post-harvest side of things, and there's no real relevant qualification – you're a specialist and no one's going to really teach you about your role any further than you could learn by talking to people around you. There's no university lecturer that's going to probably improve your knowledge in that particular subject. (Horticulture employer)

On the other hand, there are perceived risks if formal learning is not being undertaken at all. For example, there are health and safety risks in not understanding the theory or reasoning behind certain processes and procedures, and in managers training staff “their way”.

When the interviewees discussed combining full-time work and learning or studying, many commented this can be difficult. Work in the food and fibre sector can be physically and mentally demanding, which leaves individuals with little time, energy, or motivation for “after hours” learning. They can also face

challenges through geographic location, which may mean having to travel to attend block courses, or a poor internet connection that makes online learning difficult. In addition, priorities can change quickly. Interviewees explained that these were reasons why learning opportunities could receive little commitment and completion, even when there was initial interest. This leads to a preference for bite-size learning opportunities.

In addition, numerous interviewees explained that some members of the workforce face literacy and numeracy issues and that training, particularly formal training, can be challenging for them.

Level of literacy might hold some people back, and it makes it difficult for them to go through that process, but it doesn't necessarily mean that they're not capable. (Horticulture employer)

Lastly, a few interviewees noted that while an employer would ideally check a job applicant's qualifications, skills, and references, in practice employers often rely on who they know, word of mouth, and who is available in the area. Personal recommendations and a positive attitude go a long way in the food and fibre sector for workers looking for employment. Many employers indicated that applicants can be scarce, meaning that the person who is hired is the one that is available, rather than the one who is perfect. This will influence if and how employers value concepts such as badging.

Concept 1: Validating existing knowledge

Respondents want work experience and knowledge to be recognised

It would be a useful validation

Interviewees were supportive of recognising work experience and knowledge on the farm / orchard with a formal certification. They thought that they or someone they knew would likely be interested in this option.

Someone who has so many years of experience, to get a qualification quickly, it's different but they have been working on it. They just haven't had a chance to get to the study. Just because you prefer to work and not be in a class. (Dairy employee)

There was a belief that receiving a formal certification would emphasise the feeling of being validated. It could also allow those without a formal qualification to "level up" with their formally educated counterparts. Some interviewees thought that it might be helpful for those interested in transitioning to other roles or looking for career progression.

If that person wants to become an orchard manager, it would depend on what qualification those people that are going to give him a job are looking for. (Horticulture employee)

Sometimes those people [with no qualification] end up being somewhat taken advantage of by their employers [...] So I think it might be that sort of employee empowerment type situation, and equally if they don't have the skills required, they can kind of get some tangible thing to aim for, you know, where to improve and how to improve. (Horticulture employer)

However, it is the learning aspect that remains more valuable

For this concept, respondents were presented with three different options: recognition of prior learning (portfolio); challenge assessment; and accelerated learning.

After being introduced to each option through a scenario, interviewees were asked to indicate their preferred validation option. Of eight respondents who answered this question:

- Five chose the accelerated learning option and would ‘definitely’ or ‘likely’ recommend it to others and / or use it themselves
- Three chose the RPL (portfolio) option and would ‘definitely’ recommend it to others and / or use it themselves
- No one chose the challenge assessment.

The preference for the accelerated learning indicates interviewees preference for learning to occur, rather than solely for a certification to be obtained.

They were uncertain about the value of formal validation

A certification is not enough motivation

A common consensus among interviewees was that there is no need for certification once one has enough work experience.

Yes [it would be a good idea] if it helped the person progress in the industry, but if they’ve got all that experience then it’s not 100 percent necessary. (Dairy employee)

It’s important to have both. But people always have references. If you have 12 years of experience and no qualification, you will be employed because of your references. Because farmers here know each other. (Dairy employee)

The concept was mostly seen by respondents as a way of obtaining credits or a formal certification. The respondents did not perceive it as providing an improved learning experience or opening the door to new learning opportunities. The former might be achieved by enabling a learner to skip over some foundational courses that form part of a qualification for example, and only attend the more advanced courses. The latter would occur if a learner did not meet the pre-requisite to register for a higher-level qualification (e.g., Level 5 or 6).

Thus, for validating existing knowledge to have a strong value proposition, the workforce needs better clarity about its benefits by offering them learning options that may not have been accessible before.

It is not worth paying for

Pricing information changed the respondents’ perceptions of which option was better. When discussing each option, prior to pricing information being introduced, the challenge assessment received the most negative feedback of all three options. Respondents said that it sounded risky, and that applicants would struggle with the assessment format. There was a perceived financial risk because there was no certainty that the learner would pass the assessment.

[The challenge assessment], some people are not that good at reading and writing and some of that test stuff might be a bit hard for them. It doesn’t mean they don’t have the skills to receive the diploma. They probably would get through okay if they came to the course. But if they just have to turn up one day and do a test they might not. (Horticulture employee)

However, some changed their opinions based on the new information that the proposed price was the lowest of all three options.

People would just pick the cheapest one. It sounds easy the way you ask me. Not many people would pick [portfolio] or [accelerated]. Just for the money. Everybody would get the same in the end but [challenge assessment] is cheaper. (Dairy employee)

Interviewees were often taken aback when fees were discussed. Compared to non-formal and informal learning, formal learning is perceived as expensive and thus the workforce is looking for a strong return on their investment.

It is hard to get people to do formal quals once they're working. Especially if they're paying for it themselves – they're not going to do it. (Sheep and Beef employer)

They were concerned about how learners would “make it work”

Concerns about how to “make it work” for learners highlight the need for all learning opportunities targeted at the food and fibre workforce to fit around seasonal demands and work responsibilities, as well as the need for strong personal motivation to commit to, and complete, a learning programme.

The downside I suppose it would be time, it would be time with studying, farming and just trying to get everything done. It's pretty time consuming with farming and trying to study. (Dairy employee)

Time commitment was on respondents' minds for all options; however, they perceived that the portfolio option would not require as much time, particularly if there were opportunities to meet with an assessor to discuss one's experience or have them come on site for an assessment on the ground.

Note: We know that in reality RPL is time-consuming – during the desk research phase, feedback from CapableNZ included an acknowledgement that many applicants struggled for time, and that time was the most commonly cited reason for people abandoning the programme.

While the challenge assessment itself would be short, several respondents acknowledged that applicants would need to study beforehand.

In the case of the accelerated learning option, several interviewees also explained that the timing of the courses would be an important factor in someone's decision to register for a programme.

How much time would they have to take out to attend courses or be on Zoom or whatever? And in terms of the effect on an employer, because if it was accelerated then I'm assuming it would still be running through spring a little bit, and yeah...like they often change dates and times and all that kind of thing, and sometimes that can even be hard from the employer's perspective, just as in they are doing the rosters three or four months out. (Dairy employee)

In addition, a few respondents were concerned about the fairness and consistency of the system when different assessors are involved, and they need to assess specialised skills. This reduced the perceived value of the concept.

Key insights

Potential benefits

- It would be nice to have one's skills, knowledge and accomplishments validated
- Obtaining a certification without having to sit through what one already knows is appealing
- The accelerated learning option was preferred because it enabled learning to occur, rather than simply offering confirmation that learning had occurred previously

Potential risks

- There is currently little appetite for certification once one has enough work experience, unless required by an employer or industry
- The value proposition of the concept related to improved access to learning opportunities and improved learning experiences is not clear and would need to be clarified and promoted
- Challenge assessment would not be suitable to many people unfamiliar with the formal education system, or with literacy or numeracy issues, regardless of their work competencies
- Application fees are a barrier and drive decision-making, with people often opting for the cheapest option rather than the most suitable option

What was confusing

- Can accelerated learning practically fit around a full-time work schedule and adapt to farm / growing calendars?
- Can the opportunities offered by validation of existing knowledge beyond obtaining a certification be clarified and promoted to increase its value proposition?

Concept 2: Badging

Badges could capture achievements and increase motivation

There was clear support for the badging concept, highlighted by interviewees' willingness to pay for it. Employers and learners indicated that the suggested cost proposed for the badging concept (\$20 per badge for individuals, \$100 annual fee for employers) was acceptable. Several employers (generally those recruiting more often) indicated that \$500 would still be worth the investment for them.

I think the badging one is probably the one with the simplest most applicable kind of outcomes right now, for immediate improvements to what's going on in the hort industry. (Horticulture employer)

Of the respondents who were asked, most said they would be likely to recommend and use a badging system. There was strong interest in validating non-formal learning and competencies acquired on-the-job.

I suppose there's a lot of different options for people to go out and get diplomas and bits and pieces that in my mind are often largely irrelevant or they become quite broad and like once you get into a specific industry, they you need to develop skills specific to that industry. If THOSE skills could be ticked off, and I suppose that's where the badging comes in, I think it could be really relevant. (Horticulture employer)

Potential benefits that respondents perceived could be realised through a badging system included:

- Making learning pathways explicit by showing "next steps" to furthering one's career or knowledge gaps to address to increase one's performance
- I think the majority, you know, enjoy feeling like they're progressing. (Horticulture employer)*
- Motivating employees who receive badges to complete further training or apply themselves more at work

I am a person who like to fix things that are not good about myself. I ask for suggestions and see if I can fix it to get better. (Dairy employee)

- Assisting employers in providing feedback and allowing them to track employees' progress

However, the latter was also a source of concern linked to feedback systems and performance tracking (i.e., subjectivity, misuse, resentment, etc.).

If you are honest then the person might be pissed off, and if they are still working with you then you're going to have a conflict, so probably instead of being honest I would prefer not to do anything and not put a score. Maybe it should be confidential., but then it may not be fair for the person who is receiving the score. (Dairy employer)

A badging system would complement current hiring and job application processes

For employers, the prospect of increased efficiency when hiring was appealing. Benefits mentioned included:

- Making initial screening of candidates faster
- Making comparisons between candidates easier
- Being able to cherry-pick candidates with specific skills
- Being able to reach out to people with the right skills (potentially)
- Increasing confidence that candidates have the right skills/knowledge

So if someone becomes proficient at managing this spray system and [...] they've got their GrowSafe and they can also notify neighbours and do all of those things proficiently, and they had a badge and you can see that they might have done that in the apple industry down in Hastings, but they've obviously got the capacity to replicate that in this role [with us], I think that would be really good. (Horticulture employer)

It would add, I guess another layer of fact checking to a point, which is what we're doing when we're recruiting, whether it's reference checking or asking questions or whatever, we're just verifying or confirming fact that they've given us and so [...] I might use it as a screening tool. (Horticulture employer)

All employers interviewed explained that a badging system would be a complementary tool and would not replace or eliminate any of the current hiring process.

I wouldn't fully rely on something like that. It would be a nice side option. (Dairy employer)

You'd look at it, but I'm not sure how much faith you'd put into it. (Sheep and Beef employer)

But I wouldn't use it as the absolute truth I guess, because it's reliant on the people who are making those comments to be not their friends. (Horticulture employer)

For employees interviewed, a badging system would offer an opportunity to stand out through their badges, highlighting their skills and knowledge.

Let's say there is one guy looking for a job, and he's good at grazing, people looking for those skills will be able to favour him based on his qualifications and skills. (Dairy employer)

There are also limits to a badging system. Several respondents explained that hiring and job application in the food and fibre sector often is often based on availability (e.g., there might only be one person applying for a role) and personal connections, which would decrease the value of the badging system.

Asking the neighbours if they know anyone looking for work or farms around us it probably our best bet in getting staff at the moment. (Dairy employer)

It's a relationship industry. Yeah, it's often the 'who you know' and having those networks and relationships that kind of gets you your different, different ways or means. (Horticulture employer)

A number of employers noted that badges could not capture attitudes, personal qualities and soft skills which are very important when employing workers in the sector.

But critical mass is required for these benefits to be realised

A key point that emerged from the interviews was that critical mass is essential to a badging system. The system would only be relevant and valuable if used by a large majority of workers and employers in the sector.

If there's not a big pool of candidates, then it doesn't have significant value – there are other tools that you can probably use that get you the same information. (Horticulture employer)

Achieving critical mass could be a challenge because:

- The appeal of a badging system for employees would vary depending on personal characteristics (e.g., life and career stage, location)
- Not all industries and operations have the same hiring needs and skill / knowledge requirements

If critical mass is reached, a badging system could disadvantage some workforce groups that sit outside the majority such as:

- Those who are not technologically proficient
- Those with literacy / numeracy challenges
- Those who have recently immigrated or returned from a long period working overseas

A rigorous system and quality assurance process would be needed

Several respondents had reservations about the badging concept because of uncertainty about:

- The trustworthiness of the system (i.e., can they be confident that all badges on someone's passport are 'real'?)
- The rigour of the system (i.e., is there a third-party quality assurance process for badges awarded?)
- The accuracy of the system (i.e., does it capture the difference between evidence of attendance vs. evidence of learning?)

For some, the value of a badging system decreases if individuals only receive badges for attending learning opportunities but there is no evaluation of them learning something from the opportunity

Because you could go to a field day, sit at the back, have your lunch and go home and not learn anything if you don't want to. So, you would need to be able to demonstrate an understanding of the concepts discussed at the field day. (Horticulture employee)

A few interviewees were specifically concerned about employer-awarded badges. They were unsure of their trustworthiness, as they could be subjective rather than the result of a rigorous assessment. The context in which an employer badge would be awarded would need to be captured to increase relevance (e.g., industry, size of operation, level of responsibility, etc.).

I think it could be beneficial, but you would need quite a lot of rigour around who does the checking, to make sure that the manager is not handing them out willy-nilly. I still think you need a third-party person, education facility or something like that to check all this. Maybe the manager can say yes, this person is really good at this job, here is a video of them doing it, and upload it [somewhere]. And then someone checks it and can sign it off. But I think you just can't have people willy-nilly awarding badges to people, without someone independent checking them. (Horticulture employee)

Consistency between people awarding badges would be a problem – how qualified are the people dishing out the badges? (Sheep and Beef employer)

Key insights

Potential benefits

- A streamlined hiring tool offering employers increased efficiency and simple fact-checking
- A way for job applicants to stand out and promote their continuous learning
- Can increase an individual's motivation to learn and to perform well in their job
- Enough perceived value that most respondents are not deterred by a proposed fee

Potential risk

- The concept's potential benefits can only be realised if critical mass is achieved

What was confusing

- Can the system be rigorous and accurate enough for it to be reliable and provide true value-add compared to the current tools?
- How trustworthy, and thus relevant, would employer-awarded badges be?

Concept 3: Integrating non-formal modules

Non-formal modules would make qualifications more relevant and easier

Interviewees believed that integrating non-formal modules into formal qualifications could make them more relevant, faster and easier to achieve for learners. While some respondents shared the sentiment that qualifications are often not needed or relevant, others thought that formal learning has value. In some cases, qualifications might be expected or preferred by employers, and not everything can be learned well on the job. Non-formal modules might meet this need:

It would probably encourage people, you know, they'll be more likely to take it on if they could look and say, like, oh, look, I've already achieved four of these things. I'll just do this and then I'll have my certificate. (Horticulture employer)

Eight out of nine interviewees would prefer integrated programmes to current fully formal programmes. All respondents who were asked the question said they would “definitely” or “likely” recommend (n=8) and use (n=4) a formal programme integrating non-formal courses and electives. Four respondents said that they would not be interested in such a programme because they already had qualifications and thought this concept was not applicable to them.

Non-formal learning is preferred to formal learning by many

Interviewees liked the idea of giving non-formal and on the job learning formal equivalence that could then count towards qualifications. For many, non-formal learning opportunities are more enjoyable, provide a learning environment they like better, and are perceived as more relevant to day-to-day work.

I think it would be good, I go to a lot of training days, I find them better than Primary ITO – bit more hands on. (Dairy employee)

Formal courses were sometimes seen by interviewees as overly theoretical and generalist, while non-formal courses and workshops, as well as field days, offered more specific and relevant learning opportunities.

Don't go and do that Level 6 Fruition course because that's probably beneficial for Fruition for an income source, but maybe not for you because you'll learn a lot of stuff that that isn't necessarily relevant. I think going through and spending more time to find some specific business management type electives you can do, do all the GrowSafes and do all that sort of stuff. [...] Every horticultural business is extremely unique. Going and trying to put a broad-brush qualification over it, it's pretty difficult. (Horticulture employer)

There was a perception among interviewees that because non-formal learning could be immediately valuable, employers would be more likely to be supportive of staff undertaking qualifications this way. It could also increase uptake of non-formal opportunities and increase workforce skills and knowledge.

Respondents were concerned about how it would be implemented

Like the accelerated learning concept, interviewees had concerns about the time and effort required to combine work and study. While an integrated qualification might be perceived as better and maybe easier, the delivery would need to be flexible to fit around work responsibilities.

I would say, when and how it would happen. You know, farming is really busy during calving and after calving you have mating, and then you're milking and then dry-off. So you would have to be able to fit around. (Dairy employee)

There was some uncertainty around which non-formal options would be available for inclusion in a formal qualification e, g., short courses, workshops, field days, on farm learning days, etc.

[What about] grey areas and how relevant certain information is, you know, would a forklift course count? The list goes on and on – people might have done some other non-formal course that they feel is relevant and it's not counted. (Horticulture employer)

Including hands-on workshops and field days as part of formal qualifications was appealing however it also made respondents wonder how attendance at non-formal events would be verified as well as whether and how learning outcomes would be assessed.

You want to make sure people are actually going to the [non-formal] sessions and actually learning from it. You would need a framework around that. (Horticulture employee)

In addition, respondents thought this concept did not go far enough to mitigate the lack of accessibility of formal qualifications for individuals with literacy and numeracy challenges,

Most people that I know that are farming, some of them they turn to farming because you don't require a qualification as such to be a farmer. You just need to have a bit of knowledge. But some people don't even know basic math, or don't know how to spell. I work with someone he couldn't read numbers. So that could be a challenge. Some people would need help with basic learning. (Dairy employee)

Key insights

Potential benefits

- Ideal combination of hands-on, relevant non-formal learning with a certified formal qualification which would cover the necessary theoretical learning
- Would make qualifications more appealing and relevant and could increase uptake
- Might increase employer support for employees to complete qualifications

Potential risks

- Time and effort required by learners to successfully combine work and study
- May not increase uptake of formal qualifications (even if it improves learning experience and attitudes)

What was confusing

- Which non-formal learning opportunities would be suitable for inclusion, and would any informal learning be suitable?
- Would non-formal learning be assessed by providers or would attendance be enough?

Concept 4: Farmer-led formal learning

Respondents thought quality learning opportunities would be beneficial and increase credibility

Good quality training supports business outcomes

According to the catchment group leaders we interviewed, there is a notable interest from farmers and growers for continuous improvement and acquiring new skills and knowledge that could be useful for their role and business. When motivated, they will find or create the right learning opportunities that meet their needs.

They are after learning and we see that that farmer-to-farmer, on the ground, work-based learning works really well for them.

However, from the interviews, there is little evidence that formal learning is front of mind for many in this continuous improvement journey. Several respondents indicated that certifications and credits in and of themselves would be unlikely to motivate uptake of a learning opportunity.

This assumption that having a degree will make everybody so much more intelligent and actually, a lot of the people who informally learn, they find the information they want, they look into the stuff that interest them.

My thoughts are, having discussed that particularly with our farmers, I don't think formal qualifications are a driver. It's not what they seek. Some understanding yes, but they don't care if they get a qualification.

This concept was appealing because it could be a chance for more “good quality” learning opportunities which, according to interviewees, means being:

- Practical and relevant to the immediate needs of the farmers and growers
- Designed and/or delivered by trusted and certified providers with quality assurance processes
- Recognised through a certification.

According to one respondent, this is “something that doesn't currently exist”.

It can be an advantage for catchment groups

In addition, several respondents emphasised the need for farmers and growers, as well as catchment groups, to increase their credibility. Giving stakeholders the confidence that the food and fibre workforce has the “right” skills and a consistent set of skills across communities, can be an advantage. They thought it could help command respect when working with third parties, in particular government and regulatory entities. The proposed concept could support increasing credibility in this context.

I think when it came to farm planning and being respected and [...] having more informed discussions with the likes of governmental policymakers, [...] have a recognition that they have done that would be really good, coming from a recognised provider.

The concept might also support farm managers who are interested in divesting staff training to gain in efficiency and quality.

But the certification itself is not a motivation for most

For younger employees in particular, obtaining certification and proof of learning can be beneficial. It would likely have lower perceived value for more experienced farmers and growers, as their interest lies in the learning itself.

I think it would be good for younger farmers. It would give them an opportunity to come and learn and gain a qualification to then grow in the industry. I don't think you'd get the generational farmers that would want to do it for qualification's sake. They do it a lot of the time for just pure learning and information to be put back onto their farm.

Other groups that respondents thought would be most interested by obtaining certifications and completing formal qualifications included new migrants and those with special interests (e.g.,

environmental science). New regulations (e.g., freshwater plans) might also be a driver for catchment groups to look at providing learning opportunities through this proposed concept.

However, all interviewees emphasised the lack of homogeneity within catchment groups and clearly stated that it would be impossible to expect all members of a catchment group engage with the same learning opportunity, whatever that opportunity was. Thus, expectations regarding participation rates should be lowered.

You've got to be careful about seeing catchment groups as homogeneous groups of people. Because that's exactly what they're not. They've got a range of views, from one end to the scale to the other, and a range of engagement, and a range of personalities, and qualifications, etc.

The relationship between tertiary education providers and catchment groups could be mutually beneficial

It would be an asset for some catchment groups and support farmer-led learning

Interviewees thought that catchment groups would mostly have no issues working with tertiary education providers (three respondents said that catchment groups were “likely” or “definitely” have successful relationships with tertiary education providers, while one thought it was “unlikely”, and one was neutral) and would welcome the opportunity.

The essence of catchment groups is collaborative – it is a core principle. My sense would be that there wouldn't necessarily be pushback to working with providers – it would just need a clear value proposition.

Half of the respondents noted that well structured and supported catchment groups would be better placed to take up an opportunity such as this and develop a curriculum along with a tertiary education provider. This meant that smaller or less organised catchment groups, or groups from industries that offer less support (traditionally dairy and sheep and beef receive more support than horticulture), might be at a disadvantage and less able to participate in farmer-led formal learning.

Respondents anticipated that the relationship would be beneficial for catchment groups by ensuring that training was professionally developed and delivered and could reduce volunteer burnout. The service provision from tertiary education providers could include developing relevant curricula but also extend to project management, monitoring of outcomes related to the training, etc., which would increase the potential benefits for catchment groups.

It's kind of service offering to a catchment group. This is what we do, this is what we can help you deliver, we can help you build a plan, we can help you understand, we can show you the template and the way to do it.

A strong appeal of the proposed concept was that it was farmer-led and customised to a catchment group's desired outcomes. While individual catchment members could opt to complete the training or not, the focus of learning programmes should be on catchment outcomes which needed to be self-driven to be meaningful.

We know that farming groups, areas, regions, everyone is so different, and they need to go there on their own rather than being pushed to get there.

Tertiary education providers could also benefit with the right approach

There were concerns about the apparent disconnect between tertiary education providers and farmers / growers, with respondents wondering if tertiary education providers could be flexible enough to meet the needs of farmers and growers. One respondent indicated that the proposed concept could be an opportunity for tertiary education providers to learn more about the aspirations of farmers / growers and catchment groups and that this knowledge might inform overall training provision of these tertiary education providers.

It's probably going to be harder for an education provider to work around the way they think. Because it's going to be about them changing the way they work with the catchment, rather than the catchment group having to work with the education provider.

My experience with education providers, especially those that focus on the agricultural sector is that there is a disconnect between practice and what the education provider offers. Whether that be that the curriculum just doesn't actually have a clue of how things are implemented, or that it's not quite focused on the thing that is the real issue, not sure.

In addition, the lack of homogeneity across catchment groups, regions and industries within the food and fibre sector might prevent streamlining and replicability of curricula developed through this concept. Respondents wondered if this would be a barrier for tertiary education providers as developing customised programmes might be too resource intensive.

My point with catchment groups is that they are incredibly diverse. They are a group of people that come together and may or may not have a clear outcome or output in mind. Often they don't have a clear goal.

Funding would appeal to groups but there is a risk that it would distract them

Through this proposed concept, funding would be available to those communities of interest with farmers and growers who register for formal courses and credits. Interviewees saw the appeal for catchment groups to access funding but raised concerns about it.

This funding would be limited (compared to large, multi-year funding sometimes available through MPI, MoE, TLAs, etc.). In this case, the funding would only be for the purpose of delivering a given training opportunity. It was perceived to provide limited sustainability for communities of interest.

The training side and the learning has been something that has been pushed by other players. And catchment groups are learning to be a little more nimble so they can access funding. But then it takes them in routes that they were not necessarily ever envisaging going towards.

In addition, three respondents explained that funding can be a distraction. In some cases, catchment groups do not have clear goals and objectives. In other cases, they might have goals but the search for funding might influence whether and how these goals are pursued. In both cases, catchment groups might eventually find (in hindsight) that the funding led them to spend resources or focus on areas that were not what their priorities ought to have been.

There's never enough money – if the qualification is the enabler to get the funding – does it become a distraction, or does it support the direction of travel?

Putting everyone else aside, and trying to just look at the catchment group, funding can be a distraction and quite often is. You put funding in front of someone and you go "oh this looks great, and we'll do this" and you spend a few years doing it and you realise at the end of it,

how did this set the group up? What were the outcomes? It's quite hard for that process to be properly worked through.

Respondents were hesitant but interested

There was a lack of clarity

When respondents were asked if they would recommend this concept to a catchment group, three out of six said they would be “very unlikely” or “unlikely” to do so, and two more were undecided and non-committal. However, four out of five respondents who were asked the question said that the concept was worth investigating further.

All respondents struggled with this concept (which was not the case for other concepts) due to the lack of detail. Respondents would have liked to know more about expected outcomes, how the funding system might work, what type of training or qualification might be available, etc. The lack of clarity meant that respondents were unwilling to offer more definitive answers.

Which turned into many suggestions

Interviewees provided a number of suggestions and recommendations for ways the likelihood of success of the concept could be improved. This indicates that despite the lack of clarity, they could see potential for the concept. Some suggestions are included here.

- Planning
 - Farmers / growers and catchment groups are often busy and their resources are stretched, which will influence interest and availability
 - Flexibility is essential, as farmers and growers face changing priorities which are impacted by external events
 - Registration will be based on individual motivation and catchment group members should not be mandatory
- Delivery
 - Scheduling should align with seasonal work calendars, which can be complex in areas with different types of operations (e.g., sheep and beef, dairy, arable, horticulture etc.)
 - Bite-size and hands-on learning opportunities are preferred, which might be different to tertiary education providers’ traditional modes of delivery
 - Small modules that can be combined based on individual needs (i.e., micro-credentials) would be more relevant than longer qualifications
 - Facilitator(s) should be able to connect with farmers and growers and establish meaningful relationships
- Assessment
 - The evidence collection system should be rigorous and secure, so participants can be confident that individual and farm data will not be shared externally

Clear risks about attendance and fees were noted

Several respondents who have worked with different catchment groups over time said that low attendance and completion rates can be expected. Changing priorities and staff turnover can affect interest and completion rates.

The challenge is getting enough farmers who are keen to stick out the whole thing. Even with the programmes we've had, the first couple of sessions you get high attendance. To get them completed you need to work with people individually.

We had the opportunity to fund farmers to do a formal qualification through [a provider] and we got two responses out of our 320 members and then I think one of them pulled out when they saw the workload.

Respondents were divided when learner fees were discussed. Some said small fees for short courses would be fine, whereas others felt that any fee would be a barrier.

We run CG programmes, extension stuff, where our farmers have said that... You look at all the research, there's been plenty of examples where there's been lot of value added, and it's been genuinely quantified, and then you ask someone to pay for it and they say no.

Key insights

Potential benefits

- Many farmers and growers are committed to continuous learning
- Supporting farmer-led formal learning would be beneficial for the sector
- Obtaining a certification for the learning attained would benefit some farmers and growers
- Completing quality training offered by tertiary education providers can increase consistency and credibility among communities of interest
- Communities of interest are likely to be interested in accessing professional support from tertiary education providers

Potential risks

- Funding can be a distraction and might push groups into areas that may not be in their best interest
- The disconnect between tertiary education providers and farmers / growers might be hard to overcome
- Lack of homogeneity across communities of interest will impact engagement and replicability
- Value to communities of interest would centre around the customised curricula, but this will likely be a challenge for tertiary education providers

What was confusing

- What would the learning opportunity content / format be, and can it provide true value-add?
- Would tertiary education providers be available and flexible enough to adapt to each community of interest within their operating constraints?

Assessment of the concepts

This section presents an assessment of each concept's overall feasibility.

Assessment methodology

The overall assessment of each concept was completed using what is known about each of the investigated concepts from previous research, discussions with subject matter experts (e.g., steering group), desk research and market research findings.

Each section includes a summary of the concept's:

1. Target audience, market size and respective value proposition

A table presents key workforce audiences, an estimated population size, the characteristics of those who would be interested in the concept, the concept's value proposition in this context, and estimated market size, including the assumptions used to calculate it

Audience	Population size	Interests	Value proposition	Market size
Food and fibre sector employees (1) employees and non-employees	1,230,000 (15,000)	<ul style="list-style-type: none"> • Employees and non-employees with high recognition for on-site learning and assessment tools • Staff interested in professional development and career progress 	A cost-effective tool to help with recognition for an on-site non-thesis experience in their own workplace. The tool can be used for assessing performance and providing feedback, as well as identifying ongoing requirements.	<ul style="list-style-type: none"> • 15% of 1,230,000 population = 1,845,000 • 20% of 1,845,000 = 369,000
Food and fibre sector employees (2) employees and non-employees	1,230,000 (15,000)	<ul style="list-style-type: none"> • Staff interested in professional development and career progress 	Capable work portfolio and knowledge acquired through the formal, non-thesis and informal learning, as well as on-site learning, to demonstrate ongoing learning efforts.	
Food and fibre sector employees (3) employees and non-employees	1,230,000 (15,000)	<ul style="list-style-type: none"> • Staff interested in professional development and career progress 	Capable work portfolio and knowledge acquired through the formal, non-thesis and informal learning, as well as on-site learning, to demonstrate ongoing learning efforts.	
Food and fibre sector employees (4) employees and non-employees	1,230,000 (15,000)	<ul style="list-style-type: none"> • Staff interested in professional development and career progress 	Capable work portfolio and knowledge acquired through the formal, non-thesis and informal learning, as well as on-site learning, to demonstrate ongoing learning efforts.	

2. Required behaviour and system changes
3. Anticipated impact
4. Significant challenges

Behaviour and system changes required

- Formal training providers would need to collaborate with non-formal training providers across the food and fibre sector to agree on equivalence and develop a list of approved, quality assured courses and participation opportunities for inclusion in formal qualification programmes.
- Non-formal training providers would need to collaborate with formal training providers to administer assessments and / or comply with different requirements.

Anticipated impact

Educational

- Employers may be more supportive of staff enrolling in a formal qualification
- Learners could choose the courses that were most relevant to their situation and needs

Social

- Attending industry training workshops or on-farm learning days allows learners to network with others in person (as going courses for formal qualifications are only delivered online)

Significant challenges

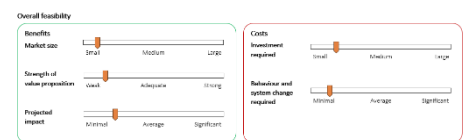
- Formal and non-formal providers unable to agree on equivalence
- Non-formal providers not able to meet requirements from formal providers
- Non-formal providers' catalogue and schedule not flexible enough to be included in formal qualification
- Unlikely to markedly increase enrolment in formal qualifications

5. Overall feasibility

A concept's overall feasibility is based on the following equation:

$$\text{(Market size } \times \text{ value proposition strength } \times \text{ projected impact)}$$

$$\text{(Investment required } + \text{ Amount of behaviour and system change needed)}$$



This concept requires an infrastructure to be developed which, relative to other concepts, would likely cost less. However, formal qualifications and of limited perceived value amongst the experienced food and fibre workers, the market of senior, experienced workers with interest could be relatively small and finite. The infrastructure investment may be significant, while the workplace learning programme requires a level of commitment that may prove difficult to maintain.

The overall feasibility of this concept is therefore rated at 2 / 5.

Champions

Lester Heenan and Geoff Taylor



Validating existing knowledge

Target audiences, value propositions and market size

Audience	Population size	Persona	Value proposition	Market size
Food and fibre sector employer [3 employees and more]	5,000 to 15,000	<ul style="list-style-type: none"> Unlikely to have a formal qualification Want recognition and validation for their experience Interest in advanced qualifications but may not meet pre-requisites 	Achieve formal recognition for years of experience in the sector; allow registration to advanced qualification. Cheaper than completing the 'normal' qualification, less time commitment.	50 to 100 per year <i>Assumptions:</i> <ul style="list-style-type: none"> 1,000-2,000 people per year complete a L5 and up agribusiness qualification⁵ 5-10% more could be encouraged into formal training if efficient recognition options were available
Food and fibre sector employer [2 employees and less]	30,000 to 70,000			
Food and fibre sector employees [entry to mid-career]	30,000 to 70,000		<i>It is unlikely that an entry-level employee would have enough experience to make the validation of existing knowledge worth the effort and cost</i>	
Food and fibre sector employees [mid-career and up]	30,000 to 70,000	<ul style="list-style-type: none"> Unlikely to have a formal qualification Interest in career progression Want recognition for their experience Interest in advanced qualifications but may not meet pre-requisites 	Achieve formal recognition for years of experience in the sector to support career progression and job search; allow registration to advanced qualification. Cheaper than completing the 'normal' qualification, less time commitment.	500 to 1,000 per year <i>Assumptions:</i> <ul style="list-style-type: none"> 5,000 people per year complete a L4 agriculture qualification⁵ 10-20% more could be encouraged into formal training if efficient recognition options were available

⁵ Source: Education Counts

Behaviour and system changes required

RPL (Portfolio) option:

- Formal providers would need to develop simplified submission and assessment processes
- A strong learner support system would need to exist within tertiary education providers
- A framework for assessing evidence against learning outcomes would need to be developed to increase consistency

Challenge assessment option:

- Formal providers would need to develop appropriate summative assessments for qualifications (or parts thereof) along with the infrastructure to allow learners to enrol and complete these assessments

Accelerated learning option:

- Formal providers would need to develop accelerated learning curricula based on demand (i.e., not all programmes would require accelerated versions)
- Formal providers would need to develop processes to assess work experience and suitability of learner for accelerated programme

Anticipated impact

Educational

- More food and fibre sector workers with a formal qualification
- Increased interest and uptake of higher-level qualifications

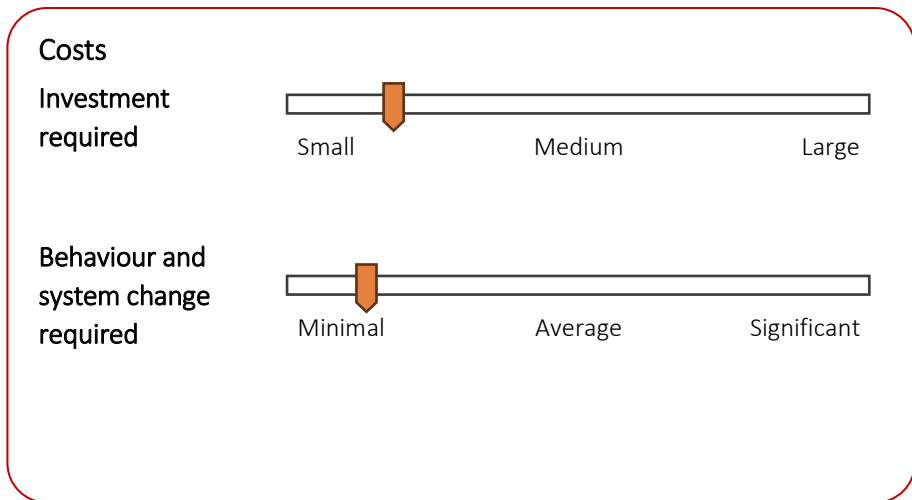
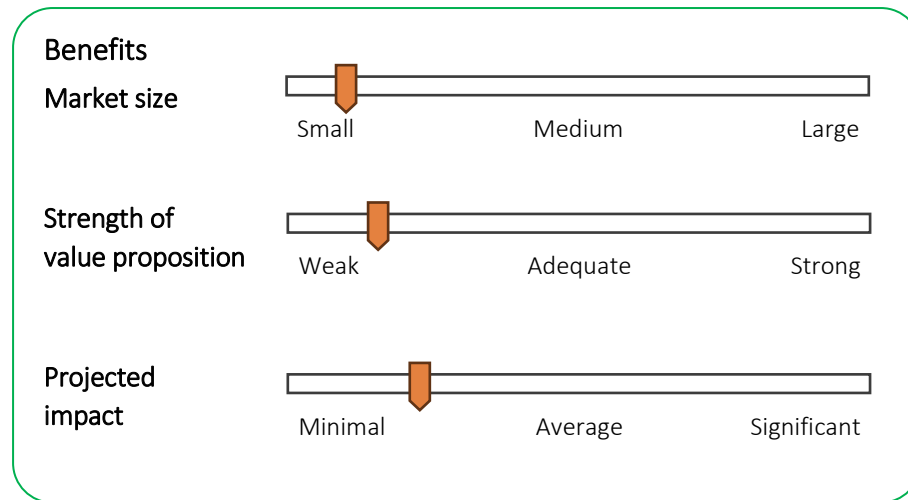
Social

- Senior food and fibre sector workers are recognised for the skills, knowledge and experience they have gained through years of working
- Having a formal qualification may provide opportunities for career progression

Significant challenges

- Many food and fibre sector workers have negative attitudes towards the formal education system
- There is currently limited appetite from experienced food and fibre sector workers for formal certification (i.e., once a certain level of professional experience has been gained, a certification has no value-add when looking for employment)
- The market (particularly for the portfolio option) is finite, so demand will taper off over time
- The academic nature of summative assessment may prove intimidating and challenging for workers unfamiliar with (or with negative past experience of) the formal education system
- Time and effort commitment required (particularly for accelerated learning) will be a barrier to commitment and completion
- Perceived excessive learner fees (combined with the risk of losing the fee)

Overall feasibility



This concept requires an infrastructure to be developed which, relative to other concepts, would likely cost less. However, formal qualifications are of limited perceived value amongst experienced food and fibre workers. The market of senior, experienced workers with interest would be relatively small and finite. The summative assessment may be intimidating, while the accelerated learning programme requires a level of commitment that may prove difficult to overcome.

The overall feasibility of this concept is therefore rated at 2 / 5.

Champions

Lester Hoare and Geoff Taylor



Badging

Target audiences, value propositions and market size

Audience	Population size	Persona	Value proposition	Market size
Food and fibre sector employer [3 employees and more]	5,000 to 15,000	Want: <ul style="list-style-type: none"> Efficiency and confidence when hiring Recognition for on-the-job learning and achievements for staff Staff motivated for professional development and career progression 	A cost-effective tool to help with recruitment for an annual fee – allows employers to screen and compare applicants and look for specific skills. The tool can be used for assessing performance and providing feedback, as well as identifying upskilling requirements.	<i>If free: 50-80% of population</i> 2,500 to 13,000 <i>\$100/year fee: 20-50% of population</i> 1,000 to 2,500
Food and fibre sector employer [2 employees and less]	30,000 to 70,000			<i>If free: 50-80% of population</i> 6,000 to 35,000 <i>\$100/year fee: 20-50% of population</i> 0 to 7,000
Food and fibre sector employees [entry to mid-career]	30,000 to 70,000	Want: <ul style="list-style-type: none"> Way to promote themselves for new roles / new employers by highlighting their skills and knowledge Validation and recognition of their competence to increase transferability Record of learning completed to demonstrate on-going upskilling efforts Clarity on what the 'next step' on the pathway to their next role would be 	Capture work-related skills and knowledge acquired through the formal, non-formal and informal systems, to demonstrate competence and proficiency to potential employers. Useful for identifying learning and career pathways ahead.	<i>If free: 50-80% of population</i> 35,000 to 56,000 (50-80% of population) <i>\$20/badge: 10-30% of population</i> 3,000 to 21,000
Food and fibre sector employees [mid-career and up]	30,000 to 70,000	Want <ul style="list-style-type: none"> Performance record that can be shared with potential employers Record of learning completed to demonstrate on-going upskilling efforts Recommendations for new learning opportunities 	Capture work performance record and track record of on-going upskilling efforts, demonstrating work ethics and professional attitude.	<i>If free: 30-60% of population</i> 9,000 to 42,000 <i>\$20/badge: 0-10% of population</i> 0 to 7,000

Behaviour and system changes required

- Employers using badging system during recruitment
- Employers using badging system to check performance, identify training / skills gaps and provide feedback to staff
- Workforce using badging passport and keeping their online profile current
- Training providers, facilitators and event organisers awarding badges

Anticipated impact

Educational

- Increased motivation to pursue upskilling opportunities
- Learning and career pathways are more explicit
- May function as a tool to provide systematic feedback to workers

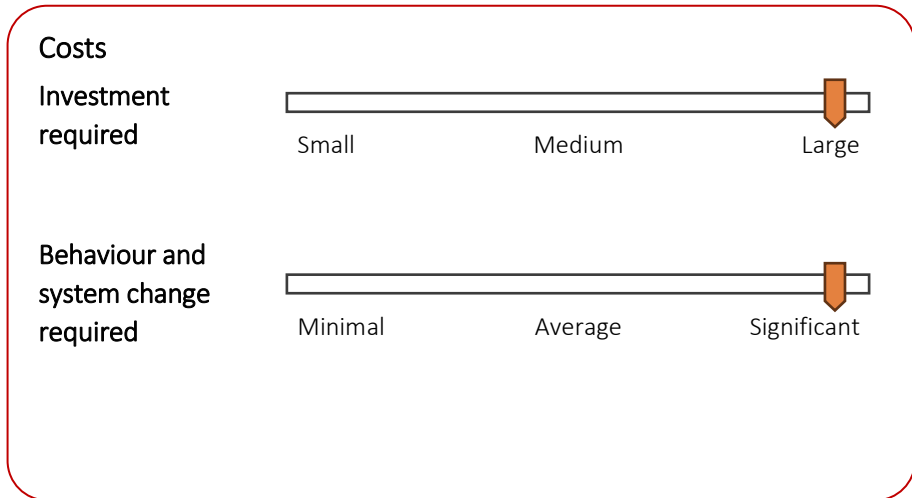
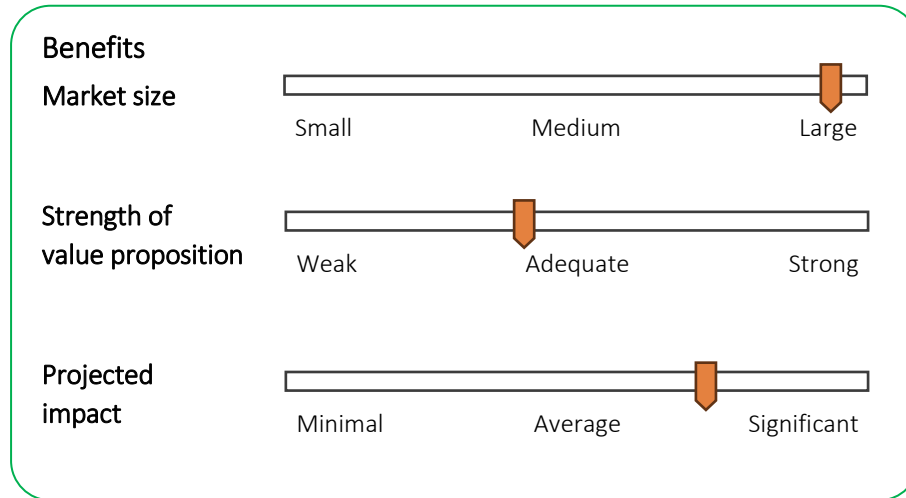
Social

- Workforce can more easily transfer across employers and industries
- Employees feel validated for their performance and competencies and can showcase them
- Increased visibility of non-formal and on-the-job learning

Significant challenges

- Needs critical mass for benefits to be realised
- Lower value for small employers than large employers who hire more frequently and may have more formalised recruitment processes
- More value to younger / newer entrants to food and fibre sector – those with more experience would be less likely to use
- Could create a negative bias toward less technologically savvy workers or new migrants who would not have badging passports
- Lack of quality control and third-party audit would reduce confidence in employer-awarded badges
- Differences within and between sectors (e.g. dairy farming vs orchard, West Coast dairy farm vs Northland dairy farm) may mean badges are context-specific (reduced relevance and transferability)

Overall feasibility



This idea is appealing to the food and fibre sector workforce, especially those early to mid-career. It could have a transformative impact on the sector is successfully rolled out. However, it is reliant on attaining critical mass of users – both workers and employers. It would also be of lesser value for those employing few people, those in sectors with a lot of casual work or where work is often contracted out. Some aspects might also be of lesser value for employees with extensive experience and current performance record. The investment (financial and other resources) required to establish and deliver a badging system that would work sector-wide would be significant.

The overall feasibility of this concept is therefore rated at 3.5 / 5.

Champion

Paul Hollings



Integrating non-formal modules

Target audiences, value propositions and market size

Audience	Population size	Persona	Value proposition	Market size
Food and fibre sector employer [3 employees and more]	5,000 to 15,000	<ul style="list-style-type: none"> Like hands-on, practical learning Consider a formal qualification but would like the ability to pick and choose courses that are relevant to their situation and needs Want to be recognised for the non-formal learning that they may already be engaged in as part of their job 	Formal qualification that incorporates practical and hands-on courses delivered by different industry providers, leading to a qualification which is more relevant and offers a combination of theoretical and practical skills.	100 to 600 per year <i>Assumptions:</i> <ul style="list-style-type: none"> 1,000-2,000 people per year complete a L5 and up agribusiness qualification⁶ 10-30% more could be encouraged into formal training if it integrated non-formal modules
Food and fibre sector employer [2 employees and less]	30,000 to 70,000			1,500 to 4,500 <i>Assumptions:</i> <ul style="list-style-type: none"> 15,000 per people per year complete L2/L3 agriculture qualification⁶ 10-30% more could be encouraged into formal training if it integrated non-formal modules
Food and fibre sector employees [entry to mid-career]	30,000 to 70,000			500 to 1,500 per year <i>Assumptions:</i> <ul style="list-style-type: none"> 5,000 people per year complete L4 agriculture qualification⁶ 10-30% more could be encouraged into formal training if it integrated non-formal modules
Food and fibre sector employees [mid-career and up]	30,000 to 70,000			

⁶ Source: Education Counts

Behaviour and system changes required

- Formal training providers would need to collaborate with non-formal training providers across the food and fibre sector to agree on equivalence and develop a list of approved, quality assured courses and participation opportunities for inclusion in formal qualification programmes
- Non-formal training providers would need to collaborate with formal training providers to administer assessments and / or comply with different requirements

Anticipated impact

Educational

- Employers may be more supportive of staff enrolling in a formal qualification
- Learners could choose the courses that were most relevant to their situation and needs

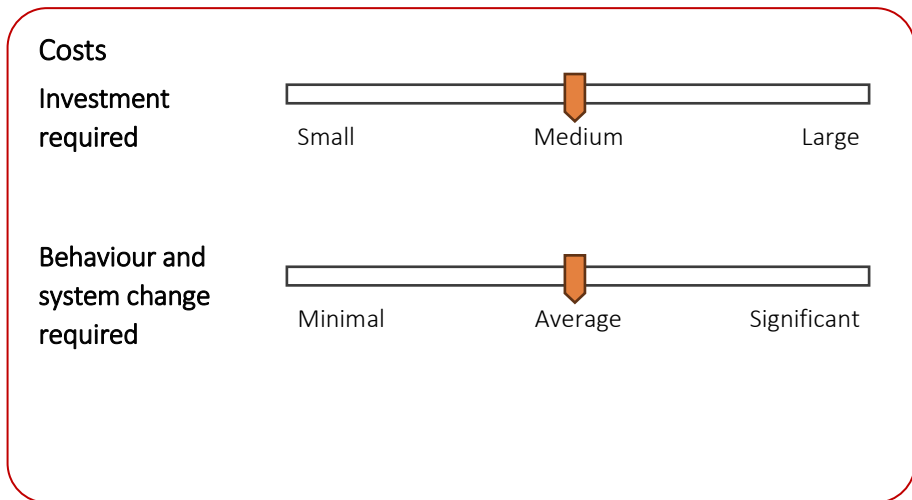
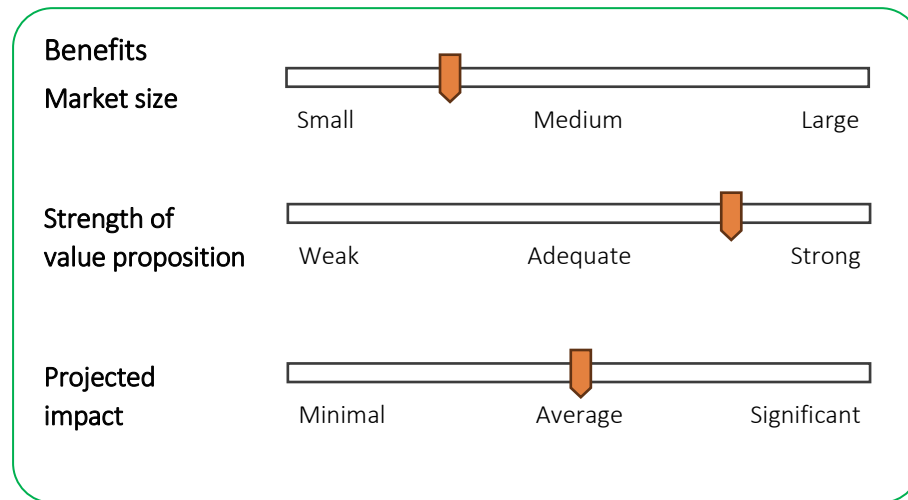
Social

- Attending industry training workshops or on-farm learning days allows learners to network with others in person (c.f. some courses for formal qualifications that are only delivered online)

Significant challenges

- Formal and non-formal providers unable to agree on equivalence
- Non-formal providers not able to meet requirements from formal providers
- Non-formal providers' catalogue and schedule not durable enough to be included in formal qualification
- Unlikely to markedly increase enrolment in formal qualifications

Overall feasibility



This concept has broad appeal for learners, as it is perceived to be more hands-on and practical than a traditional formal qualification, and therefore more directly useful to their work in the food and fibre sector. The cost of implementing this concept, compared to others, is likely to be less. However, it requires formal and non-formal training providers to agree on which courses can be included, and to develop funding mechanisms to ensure that these non-formal courses have permanence.

The overall feasibility of this concept is therefore rated 3 / 5.



Champion

None identified.

Farmer-led formal learning

Target audiences, value propositions and market size

Audience	Population size	Persona	Value proposition	Market size
Food and fibre sector employer / manager of staff [3 employees and more]	5,000 to 15,000	<ul style="list-style-type: none"> Look for efficiency and affordability Focused on the success of the business Want to meet regulations in a way that benefits the business Prefer face-to-face learning from peers 	Relevant and accessible learning opportunities that have evident benefits for the farming/growing business and that are delivered in a convenient way by trusted facilitators and providers.	600 to 2,500 <i>Assumptions:</i> <ul style="list-style-type: none"> 15% of employers involved in collective groups 5-20% of current collective group learning could be transferred to a formal system
Food and fibre sector employer / manager of staff [2 employees and less]	30,000 to 70,000			
Food and fibre sector employees [entry to mid-career]	30,000 to 70,000	<ul style="list-style-type: none"> Want just in time learning to make sure they have the right skills Look for efficiency and affordability Prefer local, face-to-face learning from trusted provider / facilitator 	Learning opportunities to acquire the 'right' skills and increase their knowledge of specific topics when immediately relevant for the farming / growing business. Comes with a certification that supports career progression, and mitigates on-farm training bias and risks.	TBD 150 to 1,000 <i>Assumptions:</i> <ul style="list-style-type: none"> 0-2% of employees involved in collective groups 30-50% of current collective group learning could be transferred to a formal system
Food and fibre sector employees [mid-career and up]	30,000 to 70,000			

Note that for this concept, catchment group leaders would be a key audience and they would lead the collaboration with tertiary education providers and develop the curriculum based on the needs of members. The value proposition for catchment groups would be in the support provided by tertiary education providers in developing and delivering relevant training opportunities for catchment members.

Behaviour and system changes required

- Catchment groups and formal providers would need to establish relationships and work together
- Tertiary system would need to fund 'open-ended' micro-credential / courses
- Catchment groups and farmers / growers should be able and willing to meet formal provider requirements (e.g., registration, assessment of learning outcomes)

Anticipated impact

Educational

- Increased quality learning in catchment groups (collective learning)
- Farmers and growers benefiting from locally delivered and relevant certified learning opportunities

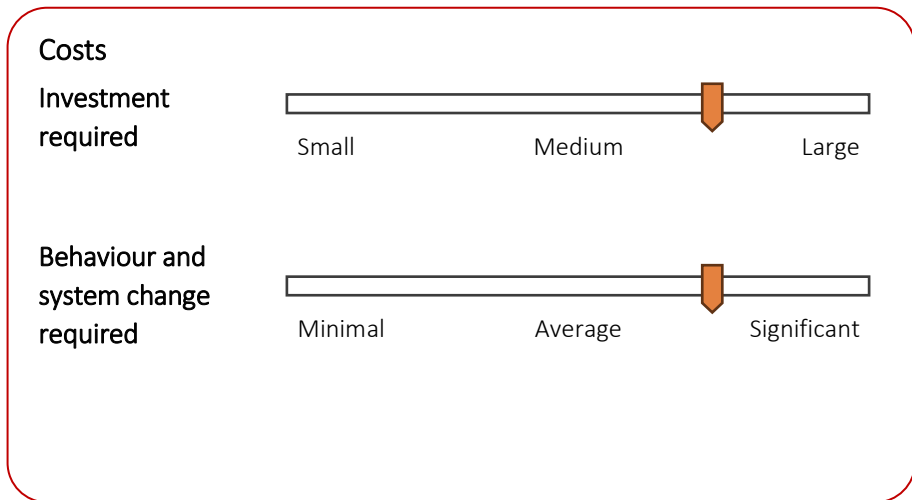
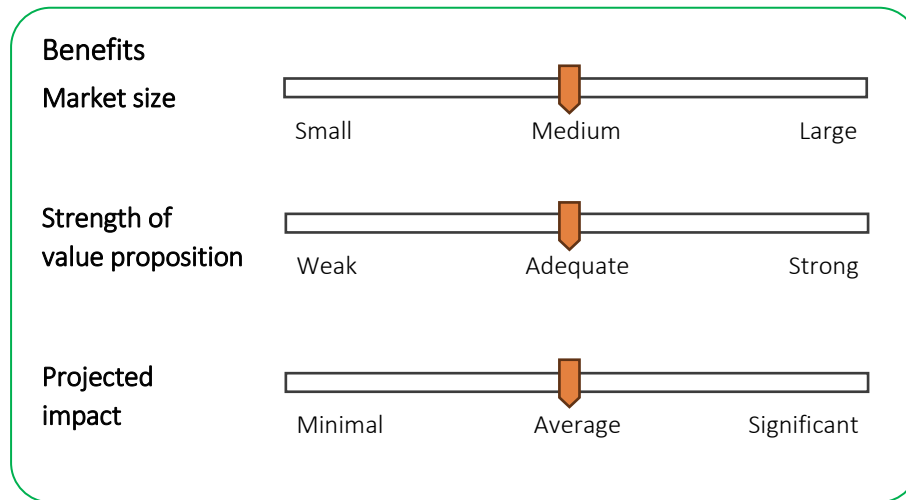
Social

- Farmer-led knowledge is valued and recognised
- Increased credibility of farmers / growers and catchment groups
- Increased independence catchment groups

Significant challenges

- Formal providers not being flexible enough to meet catchment group requirements
- Negative attitudes towards formal education / providers
- Funding availability can distract catchment groups
- Attendance dependent on timing and flexibility of delivery
- Formal certification is not a driver for many in the food and fibre sector workforce

Overall feasibility



There is an appetite for quality peer-to-peer and / or face-to-face learning amongst members of catchment groups. This learning needs to be tailored to meet the needs and goals of the group and be flexible, timely and relevant to farming / growing business. However, there would need to be a sustainable funding mechanism put in place, and considerable investment in the development and delivery of individualised programmes for each interested catchment group.

The overall feasibility of this concept is therefore rated 3.5 stars.



Champion

Adam Barker

Recommendations and next steps

Key insights and recommendations

Based on the findings from the desk research and market research reports completed during the course of the NFIL project and taking into consideration the context of the food and fibre sector, Scarlatti has found that:

- Each concept has some merit
- For the most part respondents could identify the value proposition.
- ... but when we drilled down with interviewees, fishhooks emerged.

Therefore, Scarlatti is proposing the following recommendations to the FFCoVE.

Validating existing knowledge

Three options for how validation of existing knowledge for the purpose of transferring it into a formal system were explored with respondents, each of which already exist, or has been trialled before in some capacity.

The idea of work-based learning being formally validated is appealing. Intuitively, it makes sense for someone to achieve recognition for learning that has occurred. However, our findings confirmed many of the previously known barriers, with an emphasis on the lack of 'need' for certification once one has attained a certain level of professional experience.

Scarlatti acknowledges that these barriers might be successfully mitigated through, for example, better promotion of opportunities, streamlined processes and championing from providers. However, we estimate the target market for validating existing knowledge is relatively small. Even with potential modifications, the different options are unlikely to be relevant or attractive for a majority of the food and fibre workforce.

Done well, simplified and well promoted ways of validating existing knowledge for the purpose of learners accessing formal training that matches their knowledge and skills could improve learning experience, employability, transferability, etc. Clarifying the value proposition to learners would be crucial to generating interest.

Recommendation: We anticipate that pursuing variants of validating existing knowledge by formal providers is unlikely to achieve change at scale (i.e., notable increase uptake of formal training). Only a small portion of people with relevant experience see enough value in formal qualifications to consider obtaining one. Of these, another small portion again would only consider enrolling if their current knowledge and skills were validated. However, it may improve attitudes toward tertiary education providers.

Badging

The badging concept received good support during the interviews. Its value proposition seemed straightforward and both employers and employees could see benefits in it. However, there are considerable factors for its value proposition to be achieved; most importantly, achieving critical mass.

We believe that a food and fibre sector-wide badging system could encourage the uptake of learning across the sector, as employees sought to achieve badges to recognise learning that had occurred and

demonstrate skills to potential employers. Learning and career pathways could also be made explicit which could support upskilling and retention. It is anticipated that such a system could lift the sector's capability in a way that meets the needs of employers and learners.

Recommendation: A badging system has the potential to be transformational for the sector. However, to create such a system at the scale required to achieve its full potential, an immense commitment (both hearts and minds, and financial) would be required from the food and fibre sector. Thus, the pursuit of a badging system should be conditional on obtaining unwavering support from all key stakeholders.

Integrating non-formal modules into formal qualifications

Integration received plenty of interest and support during the interviews. This was largely due to the preference for practical, hands-on, just-in-time, and relevant non-formal learning opportunities over formal courses. However, barriers were raised, including the lack of perceived 'need' for formal qualification, the prohibitive cost, and concerns about timing and delivery.

Changing the make-up of a formal qualification to include some non-formal courses would require significant collaboration between non-formal and formal providers across the sector. In addition, non-formal learning opportunities have been found less durable than formal ones in general, which could impact the feasibility and sustainability of this concept.

What is more, it is uncertain such a change would in fact be motivating for enough farmers / growers to engage in learning opportunities they might not otherwise have considered. A soft launch of the concept may be required to assess the ability for this concept to have that outcome.

Recommendation: Integration is a concept worth pursuing in the future with the understanding that it would require substantial system changes and might, initially at least, generate a low return on investment. We anticipate that the number of people interested in an integrated qualification who would not have enrolled in a 'traditional' formal qualification will be relatively small. However, additional outcomes could potentially be achieved, such as improved learner experiences and attitudes towards formal education.

Adapting formal learning to be farmer-led

The idea of adapting formal learning to be farmer-led, and for community of interest groups to be supported by formal providers in developing and delivering learning opportunities received interest but limited outright support during the interviews. The concept is innovative but, at this stage, was too vague for respondents to provide more definitive feedback.

Despite concerns raised during interviews, there was an appeal in farmer-led learning being supported, as well as some interest in the formal education system linking into catchment groups to facilitate high-quality learning programmes. It is also likely that the appeal of funding would tempt many communities of interest.

Recommendation: This concept merits consideration as an opportunity to improve the quality and consistency of farmer-led learning and supporting communities of interest in meeting their outcomes. However, substantial system changes would be required for the formal education providers to be able to have the flexibility required for the benefits to be realised without diminishing the current benefits of collective learning happening through these groups.

Next steps

There is no easy answer

None of the concepts investigated in this research project would offer an easy win for the sector. There has been no evidence of easy transformational opportunities or value propositions so compelling that a decision for a Phase two would be straightforward. However, none of the concepts can be dismissed outright for lack of potential.

This means that any progress in trying to further connect the formal learning system with the non-formal and informal learning systems will include trials and errors. It will require experimenting and present a risk of failure as well as a potential for success.

In the next section, we propose what Phase two for each of the concepts might look like, if the FFCoVE and Muka Tangata are interested in taking that particular path.

Considerations to keep in mind to help decision-making

The FFCoVE and NFIL project steering group will be deciding which concept(s), if any, are being further investigated during a Phase two of the NFIL project. Below are some considerations for this decision-making process.

It will be industry-driven

The food and fibre workforce is not pushing for the learning systems to change or to be connected in new ways – at least not in consistent ways. There is a view that all learning is valuable and has its place. From the perspective of the workforce, deficiencies of one system can be alleviated through another.

Thus, the decision to act and change the status quo will be industry-driven, based on the sector's priorities and strategic goals.

It carries the risk to decrease current perceived value of learning opportunities

Modifying formal learning to increase appeal and uptake could be limited due to tertiary system constraints which cannot be overcome. It also carries the risk of diminishing the value of qualifications and negatively affecting providers.

Modifying non-formal learning opportunities, even minimally, for the purpose of linking them to the formal system or providing some certification (e.g., by requiring assessments), carries the risk of negative impact on providers through decrease uptake and durability.

Attempting to regulate informal learning or put managers and employers in the role of competency assessor beyond the immediate context of their workplace, for the same purpose, carries the risk of managers and employers not being equipped for these responsibilities and thus of mishandling and potential bias affecting employees.

Therefore, a system thinking approach should be used when designing and evaluating the impact of potential pilots.

It requires clarity of outcomes sought

The evidence suggests that each has the potential to lead to positive change, however their direct return on investment might be minimal, at least in the short to medium term.

Nevertheless, prospective outcomes are not necessarily quantitative and limited to increased uptake or certification. Potential qualitative outcomes might include improved learning experiences, prioritisation of professional development in the sector, attitudes toward the formal learning system, etc.

Therefore, clarifying desired outcomes, both qualitative and quantitative, should precede decision-making. Different complementary concepts might be combined to achieve wider-ranging outcomes.

It should be co-designed with Māori

Mātauranga Māori is a knowledge system that was built upon a unique understanding of the whenua. This type of knowledge is particularly relevant to the Food and Fibre sector.

Co-designing programmes with Māori will also help to ensure that Mātauranga Māori is appropriately acknowledged and captured in a way that is tika.

This means allowing time and having the right people to build the right relationships from the start.

Potential Phase two options

Some concepts are innovative and require further negotiating particulars (e.g., farmer-led learning) to be pilot-ready. Other concepts might require going down roads that have been explored without success necessarily and identifying ways they can be improved (e.g., RPL).

Some of the concepts are closer to being pilot-ready than others. However, each will involve a preparation phase for the concept be further developed into being pilot-ready.

Pilot a validation of existing knowledge (RPL and accelerated learning) programme

What would success look like?

- The aim of this programme is to reduce a barrier to individuals acquiring a formal qualification that matches their knowledge and skills, thereby contributing to their employability, transferability, self-esteem, etc.
- To achieve significant change requires the programme to be well framed and supported for providers and individuals to appreciate its potential.

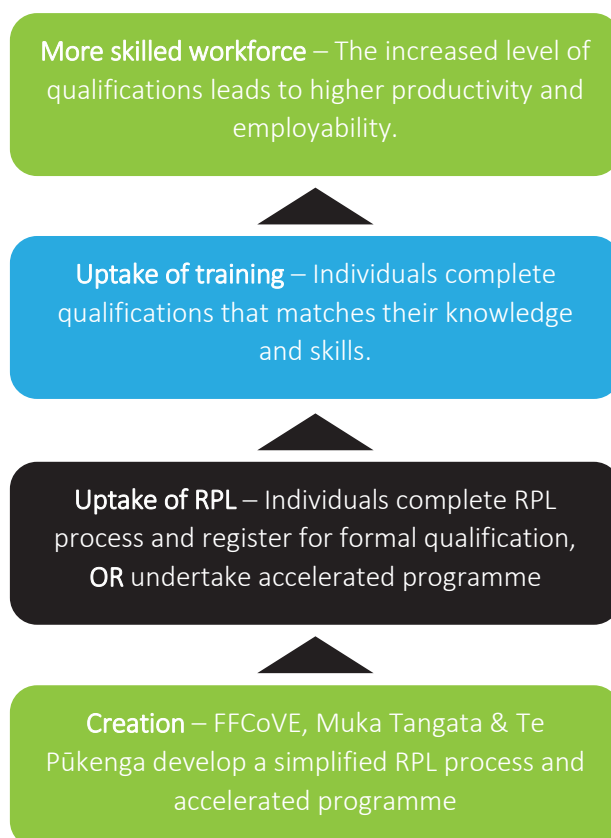


Figure 1 Validation of existing knowledge pilot logic model

What would a pilot project look like?

Overall comments

- A dual pilot project is proposed that aims to test both a simplified version of RPL and an accelerated learning programme – it is possible to complete either or both.
- A pilot for validating existing knowledge for the purpose of awarding formal credits or qualifications will require monitoring and involvement from NZQA and TEC to ensure compliance.
- The approach needs to allow for trials and ongoing learning. Therefore, the pilot needs to budget time and funding to allow for monitoring and iterations.

Activities within a RPL pilot project

- Identify a provider willing to participate in the pilot and select a formal qualification. Considerations when selecting the qualification would include:
 - A level that is suitable for RPL (i.e., not entry-level) but still would have a large enough target audience (i.e., not so advanced that only a few individuals would be interested and meet the requirements)
 - An industry and addressing a topic which would be relevant to a large enough audience and for which there is likely to be perceived value in attending formal training
- Develop a ‘soft’ RPL approach with a lower level of quality control to allow people to register for a programme without having to complete lower-level courses or pre-requisites. This would carry a low level of risk as individuals will be more ‘accurately’ assessed later on through the courses they will attend. The advantages of developing a ‘soft’ approach are:
 - Simplified process which...
 - Is less resource intensive for the providers...
 - And requires less time and effort commitment for individuals

NZQA would need to be consulted and approve the ‘soft’ approach for the potential participants to be eligible to obtain the qualification.

- Develop a trial simplified RPL process with a capstone mindset. This would mean forgoing a strict assessment of each unit standard, an instead having a more holistic “this is what one ought know / be able to do at this level” review. This will involve developing a learning outcome-based framework which will capture expected skills and knowledge at various levels throughout the qualification. Based on the assessment, everyone applying for RPL would be attributed a level of existing knowledge. They would then be allowed to only complete courses above that level, with the assumption that if they failed these courses they would not receive credits for the lower ones either.

This phase should use a co-design approach with relevant stakeholders and representatives from the sector, which might include:

- FFCoVE
- Muka Tangata

- Te Pūkenga / Wānanga
- Industry organisations (DairyNZ, B+LNZ, Horticulture NZ, etc.)
- Workforce representatives
- ...
- Develop a framework for eligibility and assessment which the provider can use with confidence. The assessment process would involve:
 - One or more assessor(s) with relevant industry experience and knowledge of the qualification
 - Face to face conversations
 - Evidence of competency and knowledge, which could include examples of work outputs (e.g., documents, performance records, etc.), recommendations from employers / managers, photos and videos.

The assessment will be result-dependent – if an individual fails courses which they are allowed to enrol for, not credits will be awarded for those courses they were initially allowed to skip. They will be given the opportunity to complete lower-level courses and stay enrolled in the qualification.

- Recruit a cohort of interested and eligible people and have them assessed for their knowledge to be validated. It is acknowledged that participation might need to be incentivised to increase interest in participating in a pilot project with uncertain outcomes and which will demand some of their time for evaluation purpose. Eligibility criteria should include:
 - People with the right skills and knowledge
 - With appetite for formal qualification
 - Availability and ability to commit to the qualification
- Monitor the assessment outcomes, informed by the providers and learners. Identify opportunities for improvement and, if needed, iterate the assessment process between individual participants.
- Allow time for participants to complete the qualification
- Evaluate learner success and satisfaction, as well as provider outcomes.

Activities within an accelerated learning pilot project

- Identify a provider willing to participate in the pilot and select a formal qualification. Considerations when selecting the qualification would include:
 - A level that is suitable for accelerated learning (i.e., not entry-level) but still would have a large enough target audience (i.e., not so advanced that only a few individuals would be interested and meet the entry requirements)
 - An industry and addressing a topic which would be relevant to a large enough audience and for which there is likely to be perceived value in attending formal training

- Develop an accelerated programme which provides a high-level overview of the key learning outcomes assuming that participants will have the baseline knowledge to “fill the gaps”. This phase should use a co-design approach with relevant stakeholders and representatives from the sector, which might include:
 - FFCoVE
 - Muka Tangata
 - Te Pūkenga / Wānanga
 - Industry organisations (DairyNZ, B+LNZ, Horticulture NZ, etc.)
 - Workforce representatives
 - ...
- Develop a framework for eligibility and assessment which the provider can use with confidence. The assessment process would involve:
 - One or more assessor(s) with relevant industry experience and knowledge of the qualification
 - Face to face conversations where applicants’ expectations are managed
- Recruit a cohort of interested and eligible people and have them assessed for their knowledge to be validated. It is acknowledged that participation might need to be incentivised to increase interest in participating in a pilot project with uncertain outcomes and which will demand some of their time for evaluation purpose. Eligibility criteria should include:
 - People with the right skills and knowledge
 - With appetite for formal qualification
 - Availability and ability to commit to the qualification
- Monitor the assessment outcomes, informed by the providers and learners. Identify opportunities for improvement and, if needed, iterate the assessment process between individual participants.
- Allow time for participants to complete the accelerated learning programme
- Evaluate learner success and satisfaction, as well as provider outcomes.

What would the pathway from pilot to implementation be?

- Promote the success of the RPL / accelerated learning pilot(s) through in-depth case studies
- Work with Te Pūkenga to create a standardised procedure for validating existing knowledge (RPL assessment / eligibility for accelerated learning)
- Create a process to help providers in creating accelerated programmes. This could be supported by FFCoVE / Te Pūkenga.
- Put in place a funding model that can support RPL / accelerated programmes and be attractive to both providers and learners.

- Put in place ongoing governance and management responsibilities.

What are the risks of this and how can these be mitigated?

Risks	Mitigation
No buy-in as people do not see the value in obtaining a formal qualification.	Incentivise participation and support them to complete the process. This pilot has the potential to change people’s view of formal training, or at least fill in some knowledge gaps.
Framework for RPL eligibility assessment becomes too complex and deters potential applicants.	Focus on simple pre-assessment criteria with the assurance that qualification is results dependent. Work with providers to ensure assessors have existing knowledge of the sector.
Accelerated learning is too intensive and learners might drop-out	Manage expectations of learners entering the programme and carefully assess entry requirements. Accelerated learning programme design should follow education best practices. Provide on-going learner support and allow learners to transfer to another, more suitable, programme.

Pilot a badging programme

What would success look like?

- The aim of a badging programme is to drive demand for further learning – formal, nonformal and informal – by allowing both employers and employees to understand skills gaps and create an appetite to address these.
- To get to this point, both employers and employees must adopt the badging scheme widely enough that it becomes a commonly used tool within the industry.

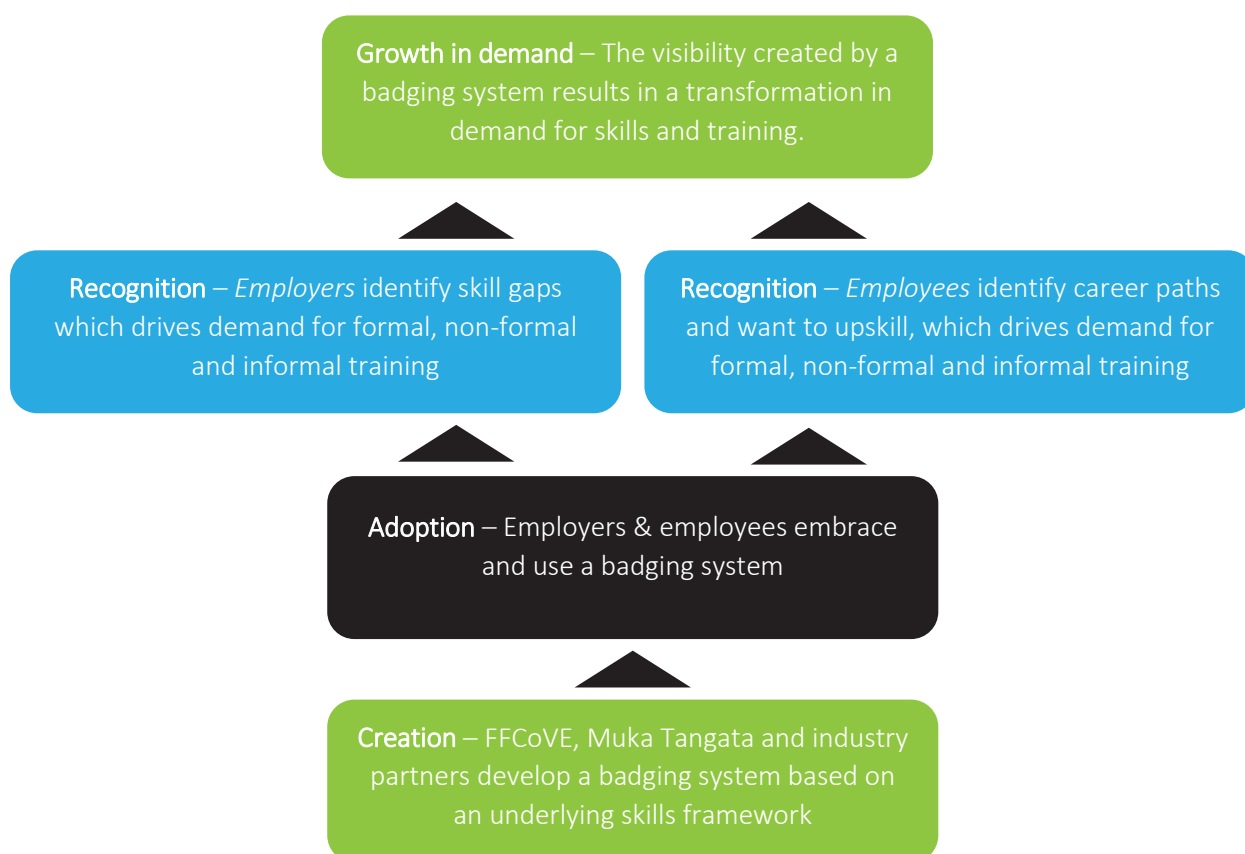


Figure 2 Badging system pilot logic model

What would a pilot project look like?

Overall comments

- A badging programme is different to other pilot options in the NFIL research in that it is hard to test without ‘doing it for real’. Therefore, the proposal here is not a pilot *per se* but rather proposes the first stage of an approach leading to full implementation of a badging system.
- The investment in both time and cost for this ‘pilot’ is high. However, the payback is potentially equally high.

- The approach needs to allow for iteration and ongoing learning. It is unlikely that an initial design of badging approach will perform from the start. Therefore, the pilot needs to budget time and funding to allow for several iterations of “plan, develop, implement, test”.

Activities within a pilot project

- Develop a skills framework that can be used to classify skills. Ideally the same framework would also underpin the development of future formal and non-formal training by Muka Tangata, providers, industry bodies and any other developers of training.
- Develop a prototype badging tool – probably a phone app – that allows employees to create a record of skill badges and employers to view and edit it (by awarding badges). To facilitate implementation and limit costs, the initial scope of the tool should be limited to:
 - One type of badge e.g., employer assessment of competency (c.f., record of participation in non-formal training, more formal RPL assessments, record of formal learning, self-assessment, etc.)
 - Entry-level employee skills
 - One to two industries
- Recruit an initial group of employers and employees to start using the tool. For a wide enough uptake, the pilot would require:
 - A critical mass of employees and employers within a labour market e.g., 20-50% of dairy farmers in Taranaki, 50% of apple and pear growers in the Hawkes Bay, etc.
 - Probably an incentive for participation considering:
 - It won't have the critical mass initially to be useful
 - It won't be known
 - It (probably) won't work well at the start
 - We want to have the pilot group contribute to the research by providing feedback and we need to compensate their time for this.
- Evaluate the design of the badging programme by analysing usage data and gathering employer and employee feedback on:
 - the value proposition,
 - the app usability,
 - the underlying skills framework,
 - the behavioural dynamics – e.g., what happens when we ask employers to assess employees' skills in workplaces that don't have good existing performance reviews or similar processes?
- Refine and iterate the design of the badging tool to address the issues / opportunities / ideas resulting from the above and repeat the process.
- Test ongoing funding options, which would include considering:

- How much funding could be attracted through advertising?
- Will employers / employees be willing to pay? If so, how much?
- What is the business case for government and / or industry body funding?

What would the pathway from pilot to implementation be?

- Gradually increase the scope and functionality of the badging programme:
 - More regional coverage of initial industries
 - More industry coverage
 - Move roles levels – ultimately all the way up to business owners and managers
 - More types of badges (record of participation in non-formal training, more formal RPL assessments, record of formal learning, self-assessment, etc.)
 - Introduce connections to the training system e.g., providers can advertise training opportunities through the badging programme
- Put in place sustainable funding
- Put in place ongoing governance and management responsibilities.

What are the risks of this and how can these be mitigated?

Risks	Mitigation
Employers / employees don't trust / agree with the assessment of competency provided by employers for 'employer assessment of competency' badges	Provide good guidelines and support tools, and potentially some training, to help employers make good assessments and have employees understand them
The programme is too complicated / too user unfriendly to provide a good user experience	Be prepared to invest in the development of good user interface and user experience and allocate time and budget to test this
No buy-in from employers and employees	Incentivise participation and listen to feedback to improve the programme so participants become champions for a wider roll out.

Pilot an integration of non-formal modules into a formal training programme

What would success look like?

- The aim of this programme is to increase the level of relevance and / or practical application of current formal training, which would increase the uptake for formal qualifications (and thus increase workforce capability).
- For this change to be realised, formal and non-formal providers will need to work together and collaborate on the design of the programme and identify how to share funding. Learners would need to be made aware of their options within the programme.

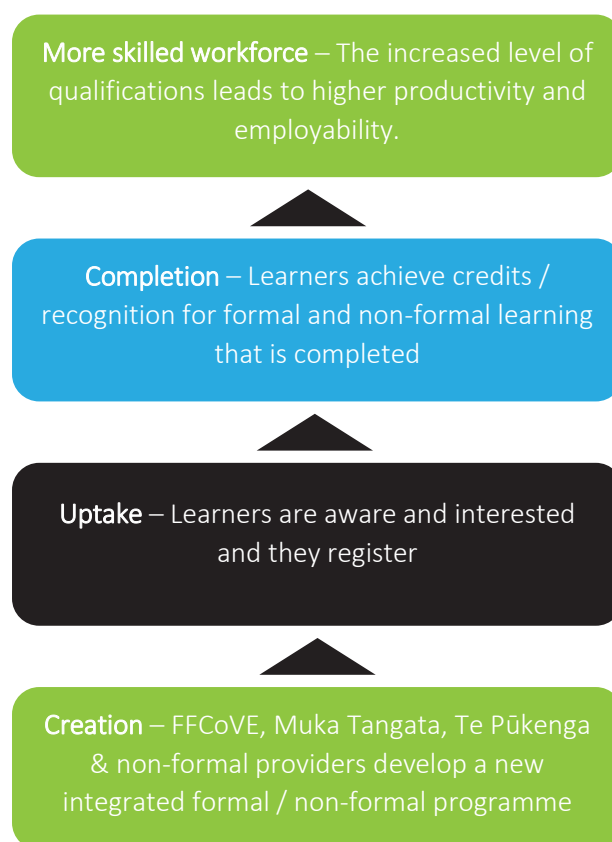


Figure 3 Integration of non-formal modules into formal training programme pilot logic model

What would a pilot project look like?

Overall comments

- To test this integrated concept, a new programme will need to be developed, rather than modifying an existing formal programme to allow for non-formal modules to be recognised.
- The new programme would be developed to include both formal and non-formal components.
- The way in which this newly developed programme is designed would ideally be scalable for other programmes as the concept is rolled out more widely.

Activities within a pilot project

- Identify a suitable context for an integrated programme. Considerations for selection would include:
 - Which industry / topic is best suited for combining formal and non-formal modules? – this would be informed by what formal and non-formal training is currently available and could be included within the integrated programme
 - What region(s) might these opportunities be available in?
 - Which level is better suited? i.e., where a combination of practical and theoretical learning is relevant
- Develop a new programme that includes both formal and non-formal modules. This phase should use a co-design approach with relevant providers and representatives from the sector, which might include:
 - FFCoVE
 - Muka Tangata
 - Te Pūkenga / Wānanga
 - Industry organisations (DairyNZ, B+LNZ, Horticulture NZ, etc.)
 - Workforce representatives
 - ...
- With the same stakeholders, develop an assessment framework to confirm that learning outcomes are being met through both formal and non-formal modules.
- Collaborate with TEC and NZQA to ensure that the programme meets credit / skill standards requirements and that learners can be awarded a qualification upon completion.
- Recruit learners to be involved in the pilot programme. These would need to be motivated to partake in a full learning programme. It is acknowledged that participation might need to be incentivised to increase interest in participating in a pilot project with uncertain outcomes and which will demand some of their time for evaluation purpose.
- Deliver the integrated programme.
- Monitor the programme outcomes, informed by the providers and learners. Identify opportunities for improvement and, if needed, iterate the programme content / delivery.
- Identify an ongoing funding model that considers and supports both non-formal and formal providers

What would the pathway from pilot to implementation be?

- Promote the success of the pilot integrated programme through in-depth case studies
- Create a process that is easy to replicate to empower providers to create their own integrated programmes. This could be supported by FFCoVE / Te Pūkenga.
- Scale up funding model.

- Put in place ongoing governance and management responsibilities.

What are the risks of this and how can these be mitigated?

Risks	Mitigation
Lack of buy-in from education providers, industry experts and potential participants.	Engage with stakeholders early and clearly articulate the rationale for the programme. Offer opportunity to co-design the programme to ensure all stakeholder needs and aspirations are accounted for.
No sustainable funding model that can support both formal and non-formal providers	The success of the pilot generates enough attention by funding bodies to lead to system change
NZQA is not able to accept training delivered through non-approved providers	The formal provider will oversee the overall programme content and delivery. The non-formal providers will be sub-contracted by the formal provider.

Pilot a farmer-led formal learning programme

What would success look like?

- Farmer-led initiatives like catchment groups and extension programmes would become more self-sustaining and therefore the benefits of these programme would be greater. Examples of programmes that have not been self-sustaining include:
 - Many catchment groups – which rely on project funding that is both fickle and not well-aligned with farmer goals.
 - The Action Network – an extension programme initially funded by the Red Meat Profit Partnership, then B+LNZ, but which has now reached the end of its funding.

It seems likely that government funding for extension programmes and catchment groups will become increasingly more targeted over time and therefore less well-aligned with farmer / grower goals. This concept provides some ability to address the need for programmes that are fully aligned to these goals.

- More farmer-led groups would benefit from the increased rigour and quality provided by alignment with the formal training system, albeit not all farmer-led groups will be willing to bound by the constraints that the formal system requires.

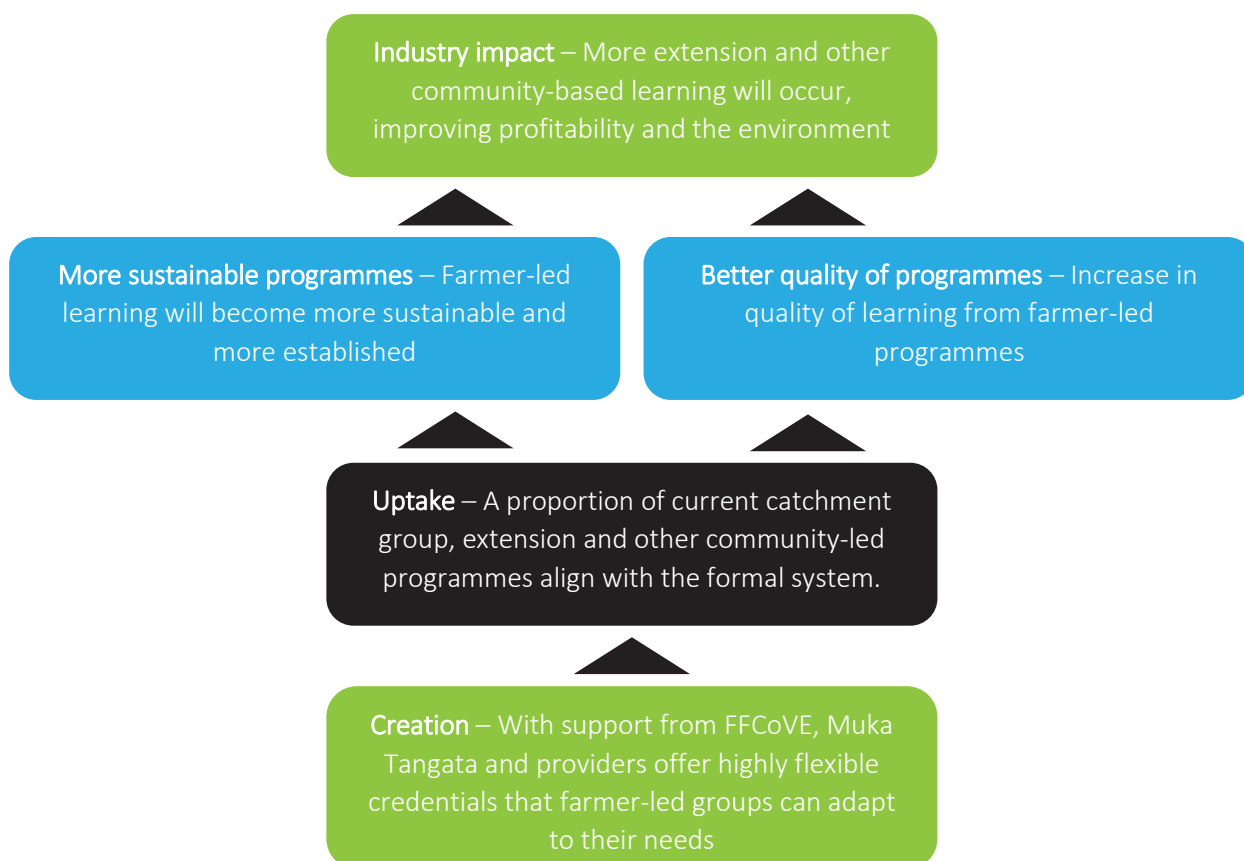


Figure 4 Farmer-led formal programme pilot logic model

What would a pilot project look like?

Overall comments

- While this concept is the most novel of the four presented here, it is, arguably, the one that is most cleanly encapsulated in a self-contained pilot.

Activities within a pilot project

- Build a team to work on this concept together. This should include:
 - FFCoVE and Muka Tangata
 - 2-3 current farmer-led programme leaders
 - 1-2 providers
- Design the framework of flexible credentials – possibly a suite of micro-credentials that stack to a full qualification. At this stage do *not* apply for these to go on the NZQA framework – see below.
- Support the 2-3 farmer-led groups to develop their own programmes using the flexible credential framework.
- Support the 2-3 farmer-led groups to deliver and implement their programmes.
- Evaluate how the approach work including:
 - How well are participants adapting to the constraints imposed by the formal system – such as the need to enrol.
 - What are the costs for all parties and how well could these be funded in an ongoing model.
- Adapt the design of the framework of flexible credentials to reflect the experiences learnt from the pilot.

What would the pathway from pilot to implementation be?

- Apply to NZQA / Muka Tangata to put the flexible credentials onto the NZQA framework.
- Apply for TEC funding (by providers) to support farmer-led groups.
- Promote the availability of the concept and the flexible credentials to farmer-led groups.
- Gradually expand the number of farmer-led groups working with the concept.
- Continue to monitor the concept and adapt it as required.

What are the risks of this and how can these be mitigated?

Risks	Mitigation
Farmer-led group leaders are not prepared to invest the time to work to with providers to develop programmes because the perceived costs / barriers of working within the formal system are too high.	Be upfront with farmer-led group leaders about the costs and barriers and look for ways to mitigate these with them.
Participants in farmer-led groups do not complete the activities needed to provide the 'assessments' needed	Be clear about the expectations for funding support and get written commitment from participants at the start of programmes.

Do nothing: No pilot is implemented

What would it look like?

- Food and fibre sector stakeholders and workforce are free to explore other options to resolve the risks separately
- FFCoVE resources are available to focus on other priorities

What are the risks of this and how can these be mitigated?

Risks	Mitigation
Continued challenges in attracting and retaining the workforce	Consider alternative options and explore their potential benefits and limitations
Employees' skills don't match industry demand, resulting in low employability and transferability	
Employers' confidence in the skill and knowledge level of potential employees remains unchanged	
Continued lack of funding sustainability for, and permanence of, non-formal learning provision	

Conclusion

The FFCoVE, Muka Tangata and the project steering group reviewed the findings and recommendations presented in this report in July 2023. Each concept and potential pilot option was discussed, opportunities and challenges were weighted. This was followed by internal discussions at the FFCoVE.

The decision was made that the FFCoVE would not pursue a Phase two for the NFIL project. Instead, a new project, the 21st Century Delivery and Assessment project, has been initiated. That project will investigate whether delivery, assessment and RPL in the Food and Fibre vocational education are relevant for the 21st century and meeting learner and industry needs. Findings and insights from this report and the desk research report for the NFIL project will be relevant to shape the planning and implementation of the 21st Century Delivery and Assessment project.

Appendices

Appendix 1: Key findings from the desk research

- All learning is valuable and has its place
 - Formal, non-formal and informal learning meet different needs and are all relevant and fit-for-purpose in different contexts
 - The knowledge needs of the food and fibre workforce are met through the combination of the different learning models
 - The current landscape does not need “fixing” but maximising the interconnection of the learning systems could lift the sector's capability in a way that meets the needs of employers and learners IF it can be done without negatively impacting the current value of each learning system.
- A large part of non-formal learning is undertaken by managers via extension programmes and communities of interest (catchment and community groups), which should inform future recommendations about connection concepts
- There is no single concept that could seamlessly connect the formal and non-formal learning system. However, different concepts could be relevant in different contexts.