Knowledge + Skills + Networks = Confidence.

A suggested approach to help improve farmers' financial literacy and business management skills on-farm.

Kellogg Rural Leadership Programme

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Table of Contents **Page**

1.0 Acknowledgements

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2.0 Executive Summary

In today's society there remains a stigma around money and finances, possibly originating from a fear and lack of understanding, and historically this has been thought to have hindered farmers' ability and willingness to take control of their farming operations without understanding what the figures mean for their business. In an ever-changing world of requirements for freshwater management, biodiversity and climate change policy changes, biosecurity threats, volatile markets due to societal trends and economic fluctuations - a profitable business and a solid balance sheet is crucial in today's farming operations in order to be prepared for anything. Due to the numerous industry pressures that farmers are faced with, it is important to have a solid foundation of financial literacy and business management skills to complement the practical, industry specific skills in the Food and Fibre industry in order to run a profitable farming business.

Financial literacy generally is weak for many farmers (Speight, 2018), therefore financial literacy is a crucial element in farmer training in order to pave the way for increases in productivity, income and profitability and improved livelihoods (Musungwini, 2018). The benefits of this financial knowledge and improved livelihoods will overflow into our rural communities, leading to improved mental health in our farmers and collectively contributing to a positive future for generations to come.

Farmers running their day to day farming operations, most being defined as 'small sized businesses' in NZ, should be running their farming operations as a 'business' and farmers should be treated like business owners. This means structuring farming operations like a business, with a Trusted Team around them for support and guidance, coupled with being highly skilled in areas across the board in finance and business management. This will allow farming operations to effectively plan for the future, striving to meet performance goals and being in a position to make well informed decisions at any point in time.

With the aim of helping farmers by steering them in the right direction on their journey of improving their financial and business management capabilities, this report identifies the specific areas that require focus in order for farmers to competently and confidently run their farming operations like a business. It is essential that the farming operation and farmer's benefit is front of mind throughout the up-skilling process as this will allow control of the business operations and finances back in the farmer's hands which will hopefully be met with willingness and curiosity from the farmer. The benefits and value of the farmer taking control over the finances will be a turning point in the industry and confidence will be gained by the farmers to harness their new skills and take the reins of the direction of their farming operations into the future. It is evident there are a number of barriers to farmers' willingness and ability to up-skill in their financial and business management skills. These are; cost, lack of time, resistance to change and failing to see the value benefit of what these skills could create for them and their farming business. The overarching theme within the suggested approach to improve farmers' financial and business management capability is the need to navigate potential barriers mindfully and tailor individual farmer's needs specifically to each farmer. This will assist in broadening their knowledge and transitioning the control over the finances with guidance and support throughout, understanding that every farmer is different.

Through an analysis of data gathered from farmers in the field, from rural advisors in the industry and by carrying out a literature review across four main topics, it is evident there is definite room for improvement to raise the financial know-how of farmers in New Zealand. The positive impact of an improvement in this area will be key, to ensure the NZ Food and Fibre industry keeps up with changing demands and for farmers to be in a position with the skills and control to make informed decisions. This will allow farmers to ride the highs and endure the lows for many generations to come. It is evident that there are already steps being made in the right direction which has lead to an increase in knowledge over the past ten years, but there is an urgent need for this to continually improve given the uncertain times we find ourselves in, in a post Covid-19 world.

It is time to break down the stigma around finances and tap into farmers' financial and business capabilities. Research shows there is a large web of resources available already, for example the Dairy NZ website, the Beef & Lamb NZ website and the work that the Agri-Womens Development Trust (AWDT) is doing, for example facilitating the Understanding Your Farming Business (UYFB) course for farming women. There is a need to bring out farmers' willingness and curiosity to learn and take control of their business, which when combined with adequate and relevant training via tutors or mentors will result in a higher level of knowledge across the board. The outcome will be improved confidence in our farm operators and farmers will witness first-hand the value and reap the benefits of what having strong financial and business management skills and control over their financials could create for them.

A recommendation that would hugely benefit farmers is introducing an on-farm tutor or mentor initiative to boost confidence in their financial and business capability by educating farmers step by step through what they can do to be involved in their financial and business management. When farmers are confident in completing financial tasks efficiently themselves, using suitable farm finance software and with adequate training, they will gain control over the financials and be better poised to influence and execute effective business planning and strategic discussions. This entire package will be crucial for farmers to be up to speed at any point in time, with the knowledge to make informed decisions, the skills to implement these with a supportive and trusted team behind them and the confidence to put their best foot forward when seeking finance for business growth.

Knowledge + Skills + Networks = Confidence.

3.0 Introduction

The words “money”, “accountant”, “financial security” and “taxes” seem to create a sense of unease among many people in today’s society. The inherently taboo topic of ‘financial literacy’ or ‘financial stability’ stems from a fear of what these words actually mean. This may evolve from a lack of understanding around the implications of our actions with money, the negative connotations around taxes and the omission of financial planning in peoples’ list of priorities. Should this education begin at school curriculum level? Does this fall to the Government bodies to improve the national level of personal and business financial literacy? According to Michaud, over the last 20 years a large body of research has shown that the level of financial literacy across many countries is relatively low and that higher financial literacy is associated with better financial outcomes (Michaud, 2017). Therefore, what can we do to capitalise on this known relationship, to provide education to individuals and business owners to up-skill in order to achieve better financial outcomes and steer the New Zealand Food and Fibre sector into a long and prosperous future?

Firstly, what is understood to be meant by the term ‘Financial Literacy’?

As a result of a study by the Bank of Uganda (BOU, 2013), the term is defined as having the knowledge, skills and confidence to manage one’s finances well, taking into account one’s economic and social circumstances where;

- *Knowledge* means having an understanding of personal financial issues
- *Skills* means being able to apply that knowledge to manage one’s personal finances
- *Confidence* means feeling sufficiently self-assured to make decisions relating to one’s personal finances.

The addition of ‘Networks’ in this equation to accompany ‘Knowledge’ and ‘Skills’ is to highlight the importance of individuals and business owners connecting with others to help people gain trust in their own abilities and add to one’s learning resources. Collectively, these three components will lead to **confidence**.

To relate this to farmers and their level of financial literacy, Stuttgen (2018) alludes to the fact that the online dictionary, www.vocabulary.com, defines **farming** as “the practice of cultivating the land or raising stock”. The site goes on to state, “People often have a romantic idea of what farming is like — roosters crowing, farmers driving tractors and milking goats — although farming can be very hard work, dependent on food prices and weather” (Stuttgen, 2018).

Historically, farm workers were expected to be fit and able to complete physical jobs, and it was thought of as being an easy career path for people who finish school and, instead of going to university to get qualifications, farm hands learnt on the job from their boss or their father. In part, today’s lower level of financial literacy and business management knowledge could be due to an intergenerational progression of knowledge transfer and lack of importance placed on the financial and business management skills, with the majority of time invested in the practical on-farm tasks (Pers. Comms, Anon).

A farm is a business, in most cases in New Zealand a small business (Nick Clark, 2020), and farms need to be run as such, with a high level of business operational efficiency. Brendon Walsh of GrowFarm defines business operational literacy as “familiarity of the successful operation of the business, not just farm operations. This allows clarity about how to navigate change and challenge. It allows confidence in decision making and in the future. It reduces risk and also allows a much greater chance of consistent and highly positive results. And that is huge in terms of being in a position of strength to move forward into a bright and positive future" (Walsh, 2017).

Nick Clark, Policy Manager at Federated Farmers, alludes to the fact that farms are not typical businesses. They are price takers, at the mercy of commodity prices, exchange rates and the weather. Their cash flows can be highly seasonal and in-flows do not always match out-flows, meaning that seasonal financing and overdrafts can be necessary. Most farms are by most measures small businesses, often family owned and operated, but many have asset and debt levels of large, sophisticated corporates. Clark went on to say that it is in everyone's interests, and not just farmers' interests, that the sector was financially sound. When agriculture thrives, New Zealand thrives - $59.4b merchandise exports come from the dairy, meat and wool, horticultural and arable sectors (Nick Clark, 2020). This is imminent in the current situation that the NZ Food and Fibre sector finds itself in post Covid-19, and highlights the reasons why farmers' need to be highly skilled in all areas of business to navigate a way forward during this challenging time, now and into the future.

Recently, financial institutions have tightened their lending policies due to the Reserve Bank of New Zealand's requirement for banks to hold more equity. The rural sector has noticed this especially making it more difficult for farmers to access capital. In order to be an attractive investment for banks to lend a farm more money, being financially capable and in a sound financial position will pose a lower level of risk. To be seen as such, an improvement in financial and business management skills could be the catalyst to this change.

In twenty years' time New Zealand could be a markedly different place. The ownership structure of many farming businesses has changed in recent years due to the increasing difficulty to get into farm ownership on your own without the farm being passed down. In the coming years the world's demand for our grass-fed New Zealand meat and dairy products may escalate due to the premium product we produce and the traceability back to the animal itself, or the opposite could become a reality - plummet as a result of alternative proteins being created worldwide. There is a high level of uncertainty in the world and our New Zealand economy at present. How will farmers and businesses be poised to stay afloat and be in a position to cope with the uncertainty, with the knowledge and skills to make financially sound and well informed decisions for the future?

People who are financially literate are thought to be able to make sound financial decisions for themselves and their families, to make informed choices between different financial products and services, to budget and plan ahead, to build up savings, to protect themselves against financial risks, to invest prudently and to understand their rights and responsibilities. Financial literacy can be improved through education, information, instruction, training and advice and this report suggests an approach that may allow this to happen more effectively in order to reach our farmers and farming partners.

This report aims to paint a picture of the current level of financial and business acumen in the Food and Fibre industry and to identify crucial areas we need to get right in order for farmers to understand all components to running their farming operations like a business. This leads into a suggested approach that farmers and on-farm advisors should follow to ensure farmer benefit is front of mind. A farmer-focused approach throughout the journey will allow the control over the financials to be in the farmer's hands in order to understand all facets of their farming business. When combined with the support and guidance of their trusted network of independent advisors and family and friends - this will create a formula for success and confidence.

3.1 Objective of the research

The objective of this research is to provide a resource for farmers and on-farm advisors to steer farmers in the right direction to upskill in financial and business management knowledge.

The report aims to develop an understanding of the current level of financial skills and business acumen of New Zealand farmers, why it is at that level and how do we work to continuously improve it?

How do we break down the barriers to farmers engaging with available materials and support from financial advisors in order to improve their knowledge base and take control of their finances? How do we get farmers to see the benefit and potential value this could bring to the future of their business?

Consisting of three components; a literature review exploring a range of different perspectives and areas of importance for farmers' financial literacy, followed by a discussion around research findings from surveys carried out by farmers and rural advisors, this report concludes with a recommended approach to educate farmers on their journey to improving their financial and business management skills. The suggested approach aims to tackle the challenge of improving our farmers' skills and knowledge through tailored, on-farm support in this area which will unlock their financial and business management capability through a tutor, coach or mentor approach.

4.0 Methodology of Research

A qualitative research method was used to collect information through semi-structured interviews by way of survey questions, which was made up of a combination of multi-choice answers and freeform written answers. The survey questions were constructed to link back to the original research questions. The full list of the survey questions are included in Appendix 1 and 2.

The data collected was analysed using thematic analysis in order to identify patterned meaning across a data set.

4.1 Sample

The farmer survey was based across rural areas of New Zealand, spanning Gore to Hawke's Bay. Farmers ranged from dairy, arable, deer and sheep and beef backgrounds. The eighteen farmers surveyed were approached by phone call prior to sending the email link to the survey via Google Forms, or I approached them at Fieldays in Waimumu, or emailed the link directly to them if the farmer was known to me. There was a large mix of ages, between mid 20s to mid 60s with majority being males, and a few females completing the survey on behalf of their husband. The sample could be seen as bias as many of the surveyed farmers are in my network of friends from university and have completed bachelor's degrees prior to returning back to farming.

The results of this study cannot be taken as a complete representation of the entire agricultural industry, although they do provide a broad view and insight into the industry and help in answering the research questions.

The rural advisor survey was based across New Zealand and targeted Bank Managers, Rural Accountants and Rural Financial Advisors. In total, seven responses were gathered from professionals who have five or more years' experience in the industry.

4.2 Research Questions

From a farmer perspective, the questions included in the farmer survey were aimed to extract information to indicate the level of their involvement in the financial and business management side of running their farming operations. Questions were focused around the financial and business management tasks that are currently completed by the farmer, how well these are understood and how many farmers feel that they hold a level of knowledge to take control of their financial interests in their farming operation. Farmers were asked what they perceived their level of financial literacy to be and whether they have attended courses to up-skill in this area.

From a rural advisor perspective the questions included in the rural advisors survey targeted observations made by the advisors of the farmers' level of financial literacy currently and if they have seen an improvement during their time in the industry. Focus was placed on the barriers they believe are presently hindering farmers' ability and willingness to up-skill and their thoughts on what approach will be of most benefit to farmers to enhance their knowledge. Also included were prompting questions around how information transfer needs to be tailored towards farmers in order to get them to take control of their finances and effectively plan for the future, in order to have an impact on their financial position, business growth and profitability.

5.0 Literature Review

Key words: financial literacy, business acumen, decision making, management accounting reports, agriculture, New Zealand, financial skills, on-farm advisors, financial compliance, business management, small business, financial planning, strategic planning, compliance requirements, farming community, financial mentors, financial control, school curriculum.

5.1 What is Financial Literacy and what value does it bring to farmers?

In addition to the definition of 'financial literacy' in the introduction of this report, the data gathered by Boekhold (2016), in an article focusing on the level of financial literacy being used to facilitate access to finance in Eastern Africa, found that the concept covers a wide variety of topics. These topics include record keeping at household/individual and business level, cost benefit calculations, business plans, decision making, entrepreneurship and farming as a 'business'. There is general consensus coming through this report that financial literacy should be a basic life skill, let alone when running a business. Due to it being seen as a basic life skill, this report says it should be part of any school curriculum worldwide, falling to the responsibility of the respective governments. Boekhold touches on the fact that there needs to be a push with the meaning of what financial literacy actually means and a harmonisation of the skills being educated across the board. Once this is gained, harmonisation of the resources and the tools of what will be taught to farmers in order to improve their financial skills will be based on a harmonised set of objectives (Boekhold, 2016).

Due to the confusion of what knowledge is required of farmers, it seems too overwhelming for them, which leads to the fear and creates a barrier to farmers' willingness to up-skill. Boekhold also recommended taking a "business skills development" approach to serve as a foundation for approaching farming as a 'business'. There are resources aplenty available, eg on Dairy NZ and Beef and Lamb websites, for farmers to use but this also ties into the barriers to knowledge transfer between these resources and courses to tap into the farmer's knowledge and skill level in order to enhance their understanding to allow effective use of these resources.

It was pleasing to observe that an important set of specific skills that bring value to farmers were taught in the Understanding Your Farming Business (UYFB) course for women learning about farm finances and business planning. UYFB is a course run by the Agri Women's Development Trust (AWDT), for women involved in farming businesses. Through my participation I observed what was being taught and what was placed of high importance for farming women to develop skills in, in order to be highly valued as critical farming partners. From stock reconciliations through to communication tools to analysing financials and goal setting, this course supports women through a training program to be able to better contribute to the farming operations. AWDT have reached thousands of farming women over the lifespan of the UYFB course.

The 2020 KPMG Agribusiness Agenda Report outlined that in order to be successful, the Food and Fibre sector would need to be structured with the resilience to survive and thrive amid extreme climatic variation, global social disturbance or other unforeseen disruption. Talking specifically to lifting the level of financial literacy and business management, it was said that there is an urgent need to lift financial literacy across the sector, particularly at the producer level, so that business owners are able to make informed decisions in planning and operating their businesses. It was suggested that the delivery of targeted programmes that provide all with the skills to identify and assess risk, prepare budgets, challenge their professional advisors and make better investment decisions will lift the performance across the Food and Fibre sector.

In his 2009 Kellogg report focusing on budgeting processes in sheep and beef farming operations, Orsborn alludes to the notion that there is a great opportunity to increase profitability on sheep and beef properties, but it needs to be driven by a willingness of farmers to upskill themselves on what influences profitability. This has to be done by being informed, knowing where the business is now and then looking forward. This idea also ties into the barriers to up-skilling, as the farmers need to feel comfortable in engaging in training and support to up-skill in the first place, by seeing the benefit this may create for them. What is stopping farmers from reaching out for help in this area to become more knowledgeable and create opportunities for their farming business?

In relation to Orsborn's research conducted in 2009 into which category farmers' fit into in regards to their budgeting capabilities, the results were 5% were Expert Budgeters, 30% were Budgeters and 65% were Non-Budgeters. During the UYFB course I attended when the same question was asked if we saw ourselves as Expert Budgeters, Budgeters or Non-budgeters, the results were slightly improved compared to Orsborn's findings but still have a long way to go in this space. Results from the UYFB course showed 42.9% identifying as Non-budgeters, 28.6% were Budgeters and 28.6% were Expert Budgeters. These results highlight the urgent need to bring farmers' skills up to a higher level to be able to take the reins in preparing budgets and taking control over a realistic and meaningful budget. Having the farmer extensively involved in the planning process will generate buy-in from the farmer and accountability in seeing the budget through.

In a report by Michaud (2017) focusing on the cost and benefit of financial literacy and education for workers to help an economy, one of the take home messages is that delegating financial decisions to others could, in some circumstances, replace the need for higher financial literacy (Michaud, 2017). This is evident with rural bank managers and rural accountants who have in the past taken control of budgets and compliance tasks for farmers which in turn leads to the farmers' lack of understanding in the financials and the financial position of the business. In the long term this hinders their ability to make informed decisions in the day-to-day running of the farming operations. Another point made by Michaud was around targeting those most in need of financial literacy may be difficult because the costs and benefits of financial knowledge are heterogeneous and thus "universal knowledge" may not be desirable. This is in contrast with Boekhold's comments around the harmonisation of an approach to educate farmers' in financial literacy. A valid observation is that every farmer's situation and needs will be slightly different based on tailored goals and the future direction of the business, and this is crucial to underpin the suggested approach to improving farmers' financial literacy.

I observed a common theme whilst talking to farming women in the UYFB course; where the finances were left to their accountant, they often only had an annual meeting with their accountant and the farmers' often didn't understand anything that was said in the meeting (Pers. Comms, Anon). This highlights the need for control to be put back in the farmers' hands, and getting to a point where they have knowledge across all areas of their business, with support, guidance and services from the accountant when needed. This will allow important learnings on-farm to occur and will build up the skills and knowledge for farmers to have the information at their fingertips, to be able to make decisions on-farm at any point in time, with confidence.

In an article regarding a group who were developing a financial literacy programme for farmers, Marilyn Davies (CA) said while farmers generally managed their production well, probably only twenty percent had significant financial literacy skills. That lack of training meant they might struggle with financial management, so they often left it to their accountants. The theme here was that more knowledge means they can make better decisions and that understanding the financial drivers of their business is really important - for their own protection (Marilyn Davies, 2016).

5.2 Farmers' engagement with Rural Advisors

In an article outlining findings from a case study in the dairy sector researching how farmers and financial management advisors engage, it is evident that farmers differ greatly in the way they interact with advisors (Jansen et al. 2010, Klerkx et al. 2017). The interactions are often influenced by a farmer's willingness and openness to change and learn more. Whether learning occurs in farmer-advisor interactions depends if there is trust, credibility and empathy in the relationship (Ingram, 2008). There are also different types of advisors – depending on the agenda of the advisor, whether embedded in a banking situation with advice and goods or services, or purely advice, or government lead industry extension advice, or hybrid.

Views and expectations of the process and outcome need to be aligned across each party in order for learnings to be effective. Halabi, Barrett and Dyt reported that accounting textbooks view accounting reports as a helpful tool for clients to assess their performance for decision making purposes but that small firm owners didn't always understand their accountants verbal or written reporting (Halabi, Barrett and Dyt, 2010). Halabi and Carroll believe this could explain farmers' limited usage of accounting reports for decision making (Halabi and Carroll, 2010). A take out from this article is that rural accountants and advisors need to adapt their accounting speak to meet the level of the farmer's knowledge, otherwise the jargon goes unnoticed and misinterpreted. An interesting response received from a farmer survey was that the farmer has always struggled to understand accountants' lingo when it comes to financial statements as they are always operating from a tax and compliance point of view. This article also highlighted that farmers who have low interest in financial management also lacked financial capability and ownership of their financial situation, according to advisors. The lack of ownership and capability of farmers was also considered to influence the effectiveness of the advisor-farmer relationship (Hilkens, 2018). Advisors aren't always able to explain financial terms and financial position in a language that farmers can easily understand. This falls back into the barriers to why farmers may not gain a lot from advisors because the trust piece isn't there and the financial jargon and vocabulary that is used falls short of the farmer's limited knowledge base. This highlights the need for more focused training and education in this area to lessen the gap between farmers and their accountants.

Trust is important in relationships between advisors and clients in agriculture advisory (Fisher 2013, Kemp et al. 2000). An independent farm advisor tends to have farmers' best interests at heart, where as embedded advisors are potentially bias around selling their product (Sutherland et al. 2013, Wolf 1995). If farmers lack trust in advisors they are less likely to ask or use advice from them (Fisher 2013).

In embedded advisors, the focus is on large borrowers, they get the attention, the reporting and advice because they are bigger clients for the banks. Smaller businesses with smaller borrowing may miss out on this. This is in line with other findings from Europe which suggest access to advice is harder for small scale farmers (Labarthe and Laurent, 2013, Prager et al., 2016). A barrier here in New Zealand is that small farmers may not have a frequent visit or regular communications with their bank manager and therefore receive less guidance. In these situations the farmer would greatly benefit from up-skilling themselves and use their knowledge to progress the farming operations and lead the discussions for the future of their business.

In the UYFB course there was focus given to mapping out your farming business's 'Trusted Team' - this being your team of people who are fundamental to the farming operation's success and these people should take up seats at meetings and should be involved in both operational and strategic decision making. This trusted team is a crucial component of the equation that is alluded to throughout this report in order to be able to achieve an improvement in farmers' financial and business management capabilities.

In a report by Nuthall (2002-12) focussing on managerial competencies in primary production from consultants' and industry professionals' perspectives, he explains how primary production is based on three major resources – land, labour and capital – and highlights the importance of the fourth being managerial input. Without this, production is haphazard. Nuthall continues to say that efficiency, both in a physical and economic sense, depends on the skill of the manager in combining the resources in an appropriate and effective way. Research was also carried out into what topics the farmers would like training in. The results were computer skills, succession planning, budgeting and financial planning. This is an expected top 4 skill set and should form the basis of an approach to tutoring or mentoring programmes on-farm for our farming partners. Farmers were also asked their views on potential use of programmes for upskilling in these areas and their preferred method of delivery. A tutored system based locally scored highest, computerised self-training came second and book based self-training came in third (Nuthall, 2002-12).

The abovementioned tutor or mentor based learning on-farm is a recommended solution to combat a potential barrier to farmers' upskilling and this forms part of my suggested approach to the future of on-farm financial and business management help for farmers. Tutor or mentor based learning on-farm allows support and guidance to be catered directly to their needs in their farming operation and to have a mentor who has the farmer's best interest at heart, who will support them to get up to speed and allow control to be gained back by the farmer. Through my research survey findings, it was found that the two most preferred modes of delivery were 1 on 1 tutoring or mentoring, and farm finance software specific training. These findings align with the above findings.

Based on the top four topics identified in Nuthall's findings of which farmers would like training in, it suggests the willingness to learn that Orsborn alludes to is evident, and therefore points in the direction of the approach itself being what we need to get right for it to be effective. This was witnessed in the UYFB course - the curiosity and willingness to learn shone through all modules and highlighted that there is a definite want by farming partners to take more control over their business.

From a different perspective, in a report by Keoghan (2015) who likens a farmer to the All Blacks in the essence of both needing a coach, he explores the value that farmers get when engaging with farm consultants. In his report, Keoghan asked consultants - how do you measure the value you add to your clients? One observation that became apparent to me in this report and from Keoghan's survey data was that when the questions were asked about why they have an advisor and what areas they make the biggest impact on, only once was the answer focused around financials. There was no financial literacy education mentioned. This lack of focus on education and knowledge transfer is an area for improvement in farmer-advisor relationships and there should be a push on consultants educating our farmers in this space. This relates back to the fear or lack of knowledge around finances, whether that be personal or business finances. If the knowledge and skill level is low then confidence is low and in these cases the farmer is unlikely to initiate financial conversations. There is an opportunity for accountants and advisors to take the lead in educating their clients by coaching and mentoring farmers to take control and be involved to understand the financials as much as possible. After all, the farmers' are steering the farming ship day to day and likely know more about the ins and outs of the business than the advisors and accountant.

As a result of the rural advisor survey conducted for my research, when advisors were asked to describe the advisory relationships they have with farmers, advisor-led relationships represented 42.9% of responses versus farmer-led of 14.9% and a combination of the two was represented in 42.9% of answers. This is a wide ranging result which identifies there is a large variety of farmer involvement across the board, indicating there is a larger appetite for control over the financials from some farmers compared to others.

5.3 Farmers' uptake on technology and computer systems

In a report by Alvarez and Nuthall (2001) which focuses on farmers' adoption and use of computer information systems, two farmers' quotes illustrate the variety in how farmers feel about using technology and software applications to assist their farming operations. One farmer said "I'm perhaps spending more time on it (using the software) now. But my accountant had slightly more control over it before so I feel I'm more on top of our financial situation when I'm doing it on the financial software myself. I understand it better and I'm saving a little bit of money as well because I'm not paying the accountant to do it (GST return). . . I probably would have recovered my expenses (software cost) within eight months by doing it myself so that's not too bad'. Another farmer stated "the financial software in itself does not improve the profit - by going to discussion groups, advisory and information (people) give you the best practise; they tell you **how to improve** the profit. The financial software allows you **to measure** the profit. So, what I am saying is the ideas and the tools do not come from the financial software - the software is only a management tool, the ideas to make the profit have to come from somewhere else. By using advisory, written articles, discussion groups - they give you the ideas, you bring the figures home, introduce them to your farm, and the software basically is just the means to measure that profit. In itself it does not make the profit." A third farmer said "the benefits we gain from it (software and computer use) are quite phenomenal" (Alvarez and Nuthall, 2001).

One factor that wasn't recorded with the responses in this research was the age of the farmers. From the farmers' survey I conducted, it was found that the younger respondents who had university degrees behind them were more involved and in control of using the software and seem more curious to up-skill than the older generations. The older farmers tended to leave it all to their wives and/or accountants and thought it wasn't their domain as they will 'stick to the farming'.

In the farmers' survey, many farmers stated they were not confident using the farm finance software, and therefore not maximising the benefits. Confidence of using a programme comes back to adequate training and regular use of these programmes to instil familiarisation and confidence in using the software to its potential. Budgeting and coding needs to be kept simple and only record levels of detail which is going to be used to make decisions in the future (Orsborn, 2009). This relates back to the unnecessary complication of the reports and the language and jargon that experts use.

Frazer Weir a Chartered Accountant at BDO said that "technology does not always assist with improving financial literacy. Computers allow people to produce reports; however, often they do not actually understand the information as they do not understand the process." In Weir's view, farmers tend to "stick to their knitting" by focusing on the farming and production and trust the accountant to "bat for their side" by highlighting financial issues that need attention (Weir, 2013).

A response to the rural advisors' survey I conducted was "the demographic of our farmers is older and for a lot of them they are not interested in technology or reading the financial outputs. More prevalent in sheep, beef and deer farming than dairy farming." This suggests there is improvement needed in this space and the first step is getting farmers on the most suitable farm finance software and providing trainings on the specific farm finance software to see farmers on their journey to increasing their financial capability, to gain confidence and to take control over the business finances.

5.4 Running the farm as a 'business'

In Bruce Weir's Kellogg report (2012) focused on ownership and career paths in the dry stock industry, a key take out was that just because you have capital, does not mean you can be and/or have the ability to be part of someone's business and make it successful. Chances are that if you do not have specific skills, the business will not be as successful as it possibly can, or even fail. Weir outlined a number of attributes that successful business people should have, these include people who understand and treat farming like a business, have sound business skills, can understand a business plan, have the ability to analyse and bench mark with the ability to compare with others within the industry to constantly improve. Also in regards to finance skills, Weir touched on having a proven track record of managing money, how to look after it, know the value of a dollar and what it is like to lose it. Weir explained the importance of business skills and learning how to treat farming like a business, how to drive cash from a business and understand different ownership and legal structures (Weir, 2012).

This is a long list of attributes that Weir stipulates a farmer should inhibit, and to farmers this could seem daunting. This is a barrier as to why farmers don't commit to continuously improving their finance and business management skills as it is in the 'too hard basket', and time doesn't allow this level of input when on-farm operational tasks are required to be completed. Farmers often don't know where to start with finding time for their finance and business management skills, but with the right support and a tailored approach we can get farmers on the right path.

In Collier's Kellogg report (2002) which was focused around accountancy requirements of the primary sector, he explained that the transfer of information from accountants to farmers could improve to be more of an educational tool. He believes that financial statements are poorly utilised by most farmers for future planning purposes or as a farm management tool. This is because firstly, most farmers do not understand their accounts and secondly, farm accountants do not analyse the data in a way that provides meaningful financial relationships that separates the different aspects of their business i.e. profitability and accumulated equity growth. Financial statements that are relevant can provide an excellent starting point for the strategic planning process, if a farmer's personal and business goals have been clearly defined. Collier states “without defining a farmer's personal and business goals, the annual accounts' potential usefulness in a planning process loses their relevance” (Collier, 2002).

Many agribusiness people believe accountants are in a key pivotal position to facilitate positive strategic change for their clients. The concept of an annual general meeting between "all the team" appealed to many agribusiness people, which links back into the trusted team idea mentioned earlier. Accountants need to think strategically about their client's business so their clients can position themselves to meet their goals, and farmers’ need to lead the relationship by showing their interest, willingness and curiosity in order to start having valuable involvement in the finances on-farm.

Ross Verry (2013), previously from ANZ Bank, said “one of the problems is that we tend to think we are looking at a farmer rather than a business”. This is what needs to change. This is where the suggested approach is focused to make sure that advisory for farmers is business orientated and looking at the whole picture when planning for the future.

In a conversation with an industry professional, they highlighted the importance of getting farmers to see spending money as an investment rather than a cost. This could be a generational issue resulting from the hard times in the 70s/80s where farmers needed to think like this. Now with the current low interest rates, in order to move forward there needs to be investment. The quality of financials for farmers was mentioned and they were described as sometimes opaque documents with motivation to ‘poke’ as much through the Profit and Loss Statement as possible with the aim of paying less tax. Paying tax should be more broadly seen as a sign of success. The reality is that the bank can look at the financials and they don’t look attractive, in their view, to lend more capital to those farmers based on those documents that were aimed at paying less tax. To attract capital, there needs to be an understanding between accountants and the investment community (i.e. financial institutions) to paint a clear picture of the farming operations on the ground and the viability of further investment in the farming business to support growth (Pers. Comms, Anon, 2020).

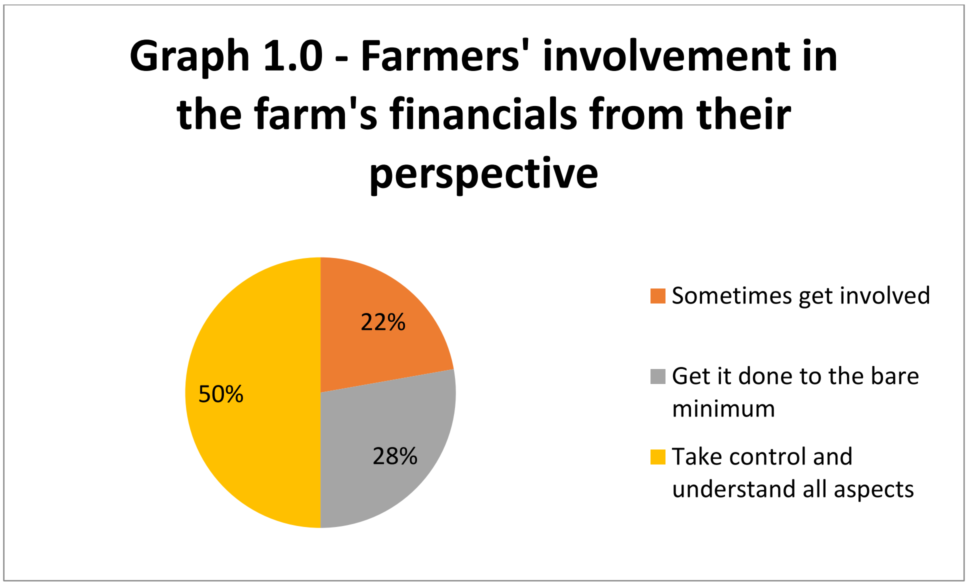
Nowadays many young people who are coming in to the Food and Fibre industry have degrees behind them (Pers. Comms, Anon, 2020). This is in line with my research survey results, with many respondents having come from university degree backgrounds. These farmers appear to be more proactive in up-skilling themselves because they are aware of the value and benefit this will bring.

The best outcome for farming businesses would be for farmers to manage their own financial software and reporting and to use these reports to have informed discussions with banking representatives regarding their business and strategic planning (Hegan, 2017). This is where the suggested approach leans towards, setting farmers up on their journey to harness their potential and up-skill in areas where they can take control over their farm’s finances.

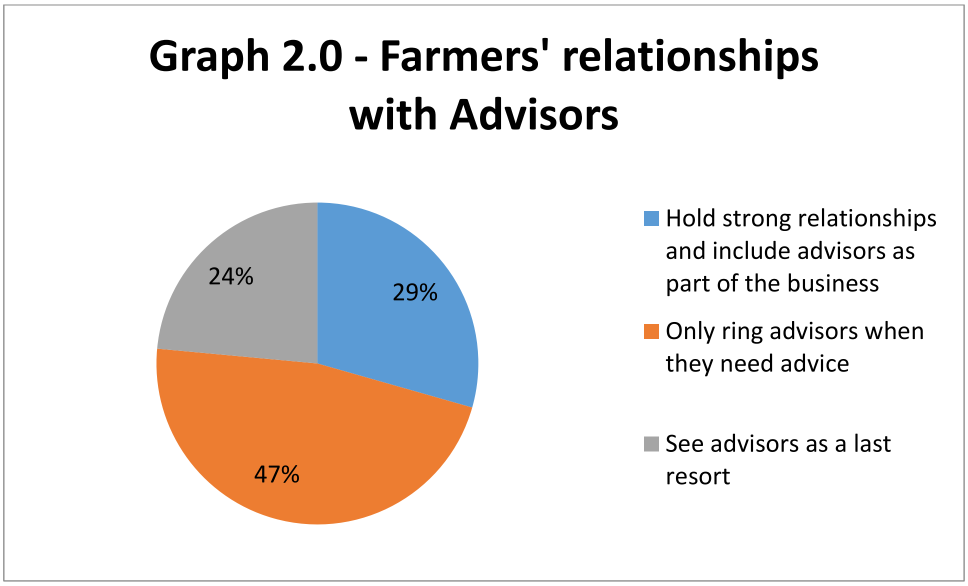
6.0 Findings

Across eighteen survey responses from farmers it was found that there is a range of approaches to on-farm financial management. In the majority of farming couples, the farmer’s partner is taking charge of completing the accounts side to farming operations. The farmer is taking charge in a few instances, in particular the BCom Ag holders, and a small portion enlist their accountant to do everything for them.

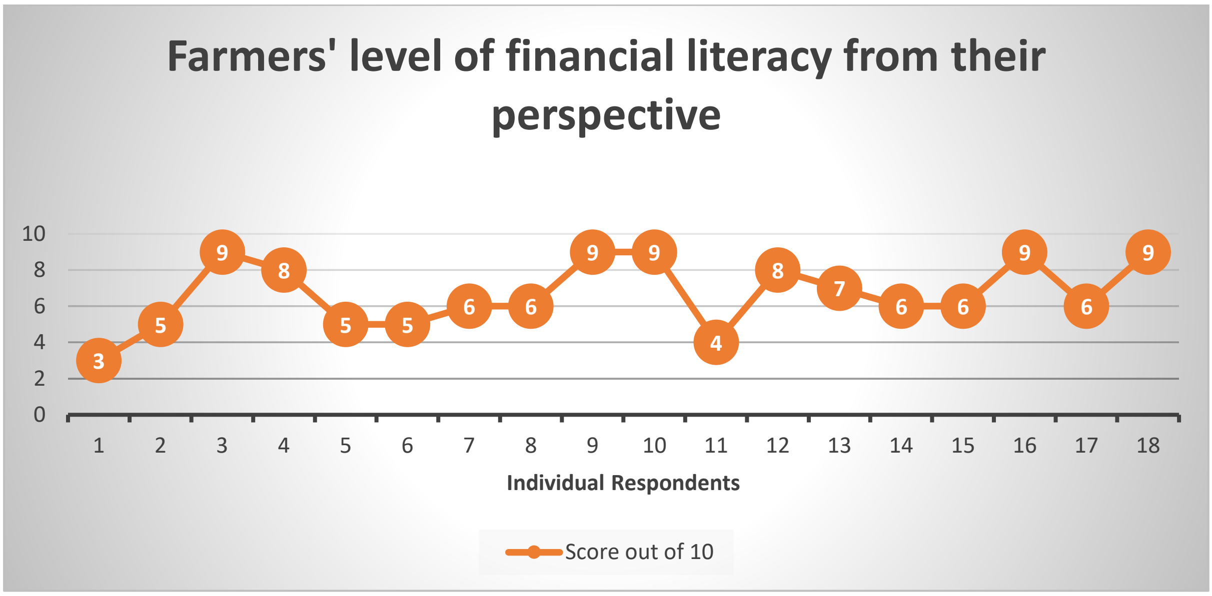
When farmers were asked to explain their level of involvement in the farm’s financials there were a range of responses. Graph 1.0 outlines the responses.



94% of farmers surveyed said they call on advice from advisors at some point during the year, but the extent of these relationships is illustrated in the graph below. Graph 2.0 indicates there is room for improvement in farmer-advisor relationships, as 24% of farmers surveyed see advisors as a last resort.

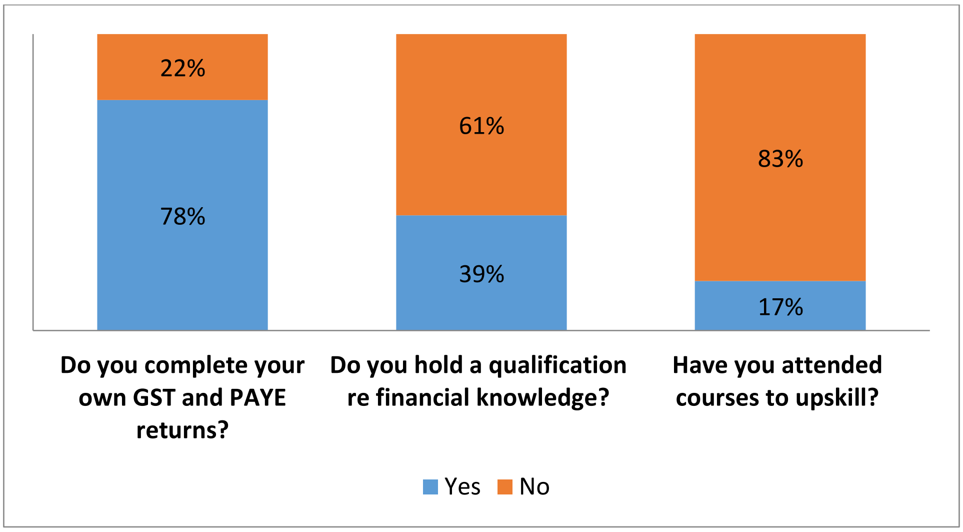


As shown in Graph 3.0 there were a range of responses as to farmers' level of perceived financial literacy skills. As a result, 72% of farmers surveyed rated their level of financial literacy a 6 out of 10 or above, and inversely, 24% of farmers surveyed said they lack the financial literacy to understand the financial accounts in detail to make fully informed decisions.



Graph 4.0 shows the spread of responses in relation to the three questions asked around individual farmers' level of involvement in on-farm financial compliance tasks, the qualifications they hold and whether they have attended courses to up-skill in this area.

Graph 4.0:



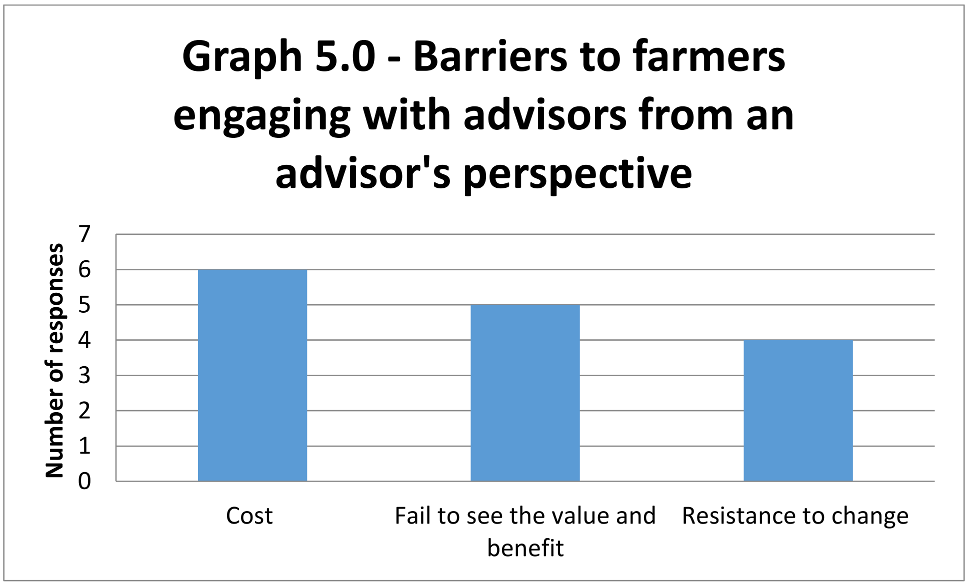
Across seven rural advisors surveyed, the overarching opinion was that the level of farmers' financial literacy is not at a sufficient level to allow farmers to take control of their finances and steer their farming business into a profitable business for generations to come – 86% answered 'No' to this question.

When asked to explain their response to the above question, the following interesting responses were received:

One advisor explained *"it is satisfactory to the level of remaining compliant but as a generalisation, it is not satisfactory in respect of the complexity and volatility of farming operations and risk involved. It tends to be short sighted and meet a minimum standard required by banks."*

One accountant said *"too many farmers - at a guess 50% in sheep and beef and 40% in dairy - are muddling along with no clear strategy or direction or financial planning. This dovetails into the looming succession issues facing farmers. They don't understand their financial position so they don't realise their business has viability issues longer term."*

The top three barriers to farmers engaging with rural advisors were cost, failing to see the value and benefit of engagement and resistance to change, as shown in Graph 5.0.



There were also two 'Other' responses defined as *"a fear of finding out their business may not be as strong as they thought"* followed by the second response of *"farmers are too busy focusing on the farm operations, they do not see a need for additional services if they perceive their business to already be ticking all the boxes."*

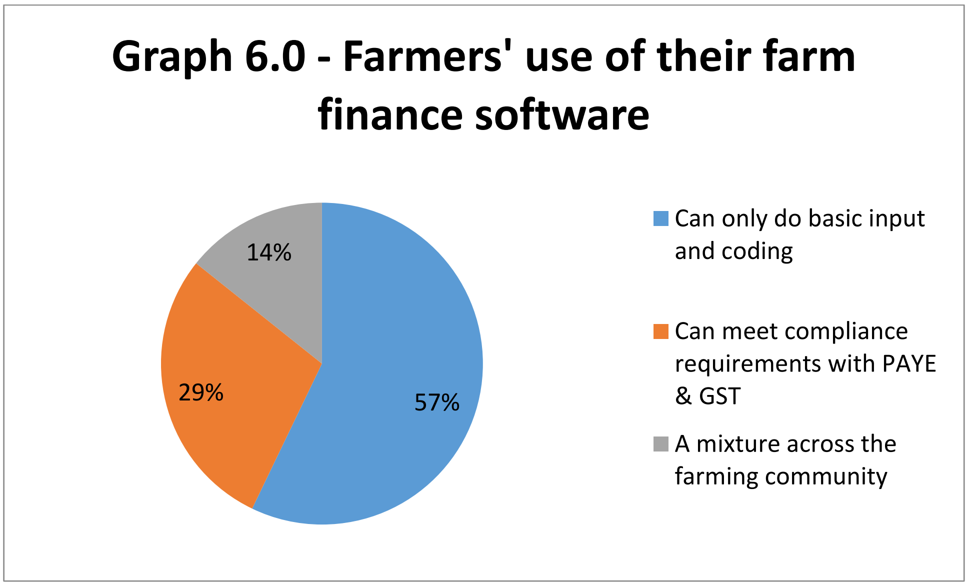
A theme throughout the rural advisor survey was that due to the banks requiring more equity and being less generous with money they lend to farmers, there will be an organic shift to farmers needing to up-skill in this area, in order to be less risky investments for the banks to lend their money to. Therefore it will become more attractive to farmers to prioritise up-skilling in order to secure lending to grow their business.

Advisor - *"As regulators of the banking industry continue to push back on banks, influencing what banks can and cannot advise on, I see that farmers will be forced to either get on board and improve their financial literacy or otherwise outsource this to trusted advisors".*

Advisor - *"The importance of getting the farmer to understand whether they are running a profitable business and realise that their historical performance plays a massive part in their ability to raise capital when required."*

Advisor - *"We've seen them (banks) go from doing the budget for the farmer (influencing cashflows to meet bank debt servicing criteria and risk rating outcome) to valuing the farmer's land (to meet bank security parameters) and then pricing access to the capital lent in a way that they met their growth targets to then be remunerated on a commission based structure – ie highly conflicted. By banks doing this for a long period of time, the farmers lost sight of the numbers as they didn't need to have control over the finances."*

It is indicative from both the farmer survey and the rural advisor survey that farmers do not use their farm finance software to its greatest capability and therefore don't get the benefit and control over the finances by understanding and using the software to its potential to gain valuable information. This is outlined in the graph below.

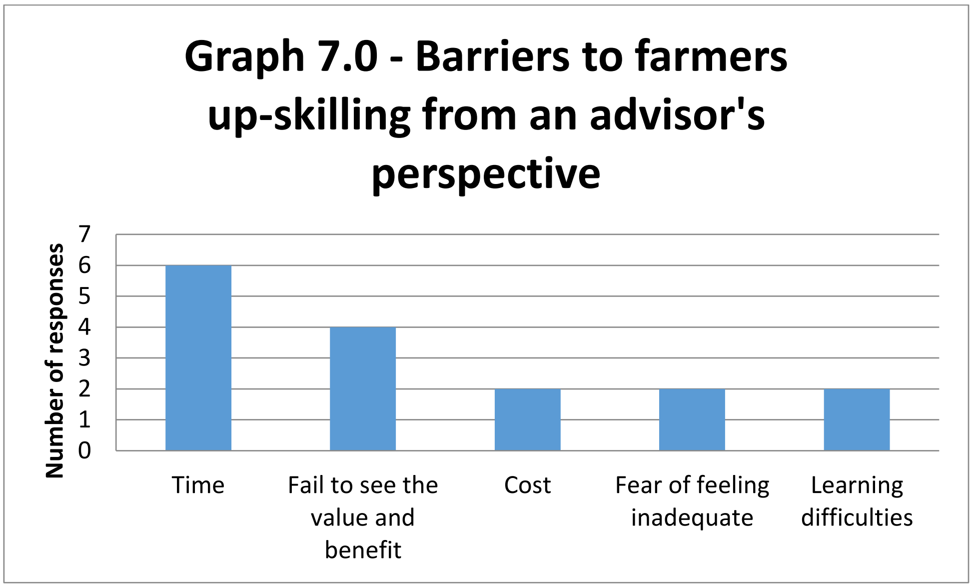


When asked which training delivery technique farmers would benefit most from, 1 on 1 mentoring/tutoring resoundingly won followed by farm finance software specific training. This links to an observation in the UYFB course that many farming women in my group were unsure if the software they are using is right for them and many indicated they don't use it to its potential. Due to this they are missing out on the ability to understand all aspects and take control over the finances and use the information to make informed decisions on-farm.

The most effective mode of communication is believed to be face to face education, followed by stepping them through a process while they do it possibly via phone conversations. Networking events also scored two out of seven responses.

The biggest barrier believed to hinder farmers taking part in courses to up-skill is that on farm duties take priority over financial up-skilling and there is no spare time for the latter. As shown in Graph 7.0 below there were other reasons identified as well – important to recognise that learning difficulties was raised because this is a crucial part to navigating the suggested approach by tailoring the trainings specific to each farmer.

Advisor - *"Farmers are traditionally farmer's first and business people second, they enjoy farming but not so much the detail of running a business. In saying that, when they know the outcome they want isn't happening they then start to focus on how to achieve it."*



There were mixed thoughts seen in the rural advisors' observations regarding whether the level of farmers' financial literacy skills had improved over time. This could be indicative of the spread of specific areas of work that the respondents work within.

7.0 Discussion

An observation in the past and possibly still now, is that farmers are farming because they want to be on the land and farming animals, not necessarily because they want to run a 'business'. There is an emotional and intergenerational connection to farming and this could partly contribute to the slow uptake and low level of financial and business skills inherent in farming communities (Pers. Comms, Anon).

Nowadays, rural accountants are more inclined to build relationships and be face to face, many realising that the days are gone of sitting behind the computer screen and churning out financial statements and tax returns, passing these on to their clients in an annual meeting and that being the extent of the relationship. There needs to be a bigger push on education and knowledge transfer from rural consultants to farmers and the continuous education needs to be encouraged. For farmers' themselves to realise the benefit and value of investing in a coach or mentor will be the turning point for many farmer-advisor relationships. The benefit of farmers being shown how to complete tasks themselves is that the new knowledge gained will give them greater control over the farm budgets they have set and they can track variances against actual. By doing this, the farmers take ownership of their plans and are invested in making decisions to ensure the business plan and overall strategy of the farming operations continue positively into the future. With a strong base of knowledge of their farming operation from a financial and business management point of view, the farmer will be confident in putting up a strong case to their lenders if they want to grow their business or diversify, and require capital to do this.

Historically, banks have possibly contributed to the lack of financial involvement and skills, as they have been known to create the cashflow budget for farmers with little input or buy-in from the farmer. This is an area that definitely needs to change so that farmers are across all aspects and know exactly what shape their business is in. This will allow the creation of realistic plans for the future which will put the farm or farmer's best foot forward in seeking finance from the bank for future growth.

In a radio interview, Scott Wishart (2020) touched on the notion that reducing debt doesn't necessarily reduce risk, the focus is learning how to manage it and taking control over the finances to be prepared for the future. Wishart, Managing Director of NZAB which is a team of independent farm lending advisors, says farmers with a good business plan and cashflow are likely to be supported by banks. In order for farmers to put their best foot forward they need to have control over the farm finances. NZAB are working to bridge the gap between farmers and their banks to get the best outcome for the farmer, helping farmers take control of their finances, providing independent advice to help clients make decisions and to protect banks from risk.

One survey response from a rural advisor was that the concerning low level of financial literacy among farmers may take care of itself as farmers will quickly realise that they need to up-skill in this area and take control if they want the banks to see them as a viable investment. Due to farms no longer banking on the capital gains on land value, this removes the safety net to fall back on the expectation that the farm's value will go up. It is important that banks relinquish control over the farm budgets and instead they should continue to educate and support farmers to take control by understanding all aspects of their business to build their capabilities and become more attractive borrowers.

It is evident there are more people on farms with qualifications nowadays, younger generations are more inclined to get educated on running a business and sometimes are more entrepreneurial and tech savvy so they can see the benefit of technology and the value an independent advisor can bring to the table. Many of the surveyed farmers are well educated and have university agriculture degrees behind them, but one farmer said his agricultural commerce degree didn't cover the financial side enough and he would like to up-skill further.

Throughout the research conducted, a strong theme that came through is the significant barriers that restrict farmers' from upskilling in financial and business management skills. These barriers are explored further below.

Cost – there needs to be movement towards improving the cost-benefit relationship, where the cost of up-skilling and the cost of software programs is not seen to outweigh the benefit to farmers of having the knowledge skills and confidence to make informed decisions for their farming business. As mentioned earlier, one farmer stated he saved money by doing his own GST and by doing this he has taken control of the numbers and inputs into the reports. Spending money on a relevant software program and seeking adequate and relevant training to know how to use it to its potential will create phenomenal value, as stated by another farmer. Investing in a well suited software program will pay for itself with the benefit it will create for the farmer and the visibility of information they never had before will open up questions to work towards solutions for.

In the rural advisor survey, the greatest barrier to farmers engaging with advisors regularly was cost, backed up by farmers failing to see the value and benefit from it, and this was followed by farmers' resistance to change. A comment made in the rural advisors' survey alluded to the fact the training seminars for software have less uptake than they used to because some farmers prefer to pay others to do the administration tasks for them to save time. This leads into the main barrier to farmers' up-skilling and being involved in the finances being lack of time.

A farmer's perception is that budgeting takes a lot of time. Farmers generally set aside the evening for budgeting time, as it is most often not perceived as working nor contributing to the generation of profits. Physical work such as fixing fences, dagging sheep and moving stock are seen as the drivers of profitability which is true, but it needs to be in conjunction with financial planning. All financiers and farmers stated that good planning and budgeting means more timely decisions which flows through to greater profit (Orsborn, 2009). Time restraints are still evident as a huge barrier today – when advisors were asked what barriers are holding farmers back from up-skilling and taking part in courses to upskill, time was the resounding answer.

Communication is another key factor in running a business. If the farmer's partner is doing the accounts side of the business, the farmer needs to be communicated with to understand what the accounts are showing at any point in time. This will ensure that the farmer is making informed decisions in day-to-day operations on the farm based on the information in the financials. This cannot be seen as two separate roles because they are interrelated. Marilyn Davies suggested there should be more discussion between the person recording the financial transactions and the person managing the farm's production - usually the husband - and there needs to be a conversation between those two people about the day-to-day decisions on the farm (Marilyn Davies, 2016). This idea was also touched upon in the rural advisor survey, noting that where farmers are using farm finance software it is usually only one person in the couple using it and there are varied degrees of competency. The UYFB course also taught women how to be confident in conversing with farming partners to have valuable input into the future direction of the farming operations, and getting on top of understanding the financials would be a step in the right direction to beginning this communication. Linking into communication, as mentioned previously, rural advisors and accountants need to use plain English as farmers often struggle to understand the jargon used in conversation and the figures in the financial reports. This misunderstanding tends to land it in the 'too hard basket' and farmers choose to stick to what they know on-farm. In order to foster a willingness in farmers to improve their financial skills to complete tasks themselves, when they can pay someone else to do it due to practical tasks on farm taking priority over 'paper tasks', a mentor or tutor could be an invaluable tool to teach the farmers the skills they require, in a way that they can relate by ensuring it is relevant and tailored to their own farm operations. A 1 on 1 mentor or tutor who will tailor training and learnings specific to the farmer will be hugely beneficial and will help unlock farmers' confidence by giving them the knowledge and skills to take control.

Building trust and robust relationships is an important component when engaging with advisors and this can be a large barrier to farmers' willingness to enlist in support and guidance from external advisors. Convincing farmers that by creating lasting relationships with a common goal of helping the farm and farmer succeed is an important first step to building trust. Allowing and trusting coaches, mentors, bank managers, rural advisors and rural accountants to be immersed in the farming business and to educate the farmers who are on the ground and in the thick of the day to day operations of the business will allow the farmer to reap the benefits. When farmers trust their financial business partners' advice and see the positive results when working towards set goals, they will value them as an integral part of their business and see them as a valuable component of their trusted team.

The importance of building a team with your trusted advisors around you, which may include bank manager, seed or fertiliser reps and financial advisors, will bring together the collective skills and interests of everyone with the common goal of seeing the farm operation prosper in the future, progressing in the right direction.

The low level of financial literacy that is seen in the NZ Food and Fibre industry could also be linked to farming communities being somewhat remotely located in some regions, and this is indicative of the lack of uptake of formal qualifications by farmers due to sometimes having to go to the city to complete formal training.

8.0 Conclusions

This research suggests the current level of financial literacy and business capability among farmers could be improved to give more control over the financials to our farmers, to allow them to understand the figures and have the ability and confidence to make informed decisions that will carry farming operations and businesses into the future. It is evident that the willingness from our farmers and farming partners is there, it is the approach that needs to be fine-tuned to tap into our farmers' capability and give them the skills and confidence to take control over their on-farm finances. The overall level of skills and knowledge required in modern farming is vast, and farmers who inhibit a broad skillset will be best poised to navigate a fluctuating economy to keep up with compliance requirements to adhere to government regulations and remain profitable despite the volatility in the market. An improvement in financial and business management skills will lead to reaching long term financial goals by making sound decisions based on their own financial skills and/or enlisting the support from their financial business partners and building networks to include them as part of their trusted team.

Engaging regularly with a tutor, coach or mentor to assist farmers in running their farm like a business will allow farmers to take control of their farming operations. This will uncover an array of helpful information for the farmers' to have at their fingertips. The farmers will learn the skills to act on this wealth of knowledge by implementing changes to their day-to-day business and making informed decisions. This will feed into the continuation of a thriving Food and Fibre industry and farming communities here in New Zealand.

Research conducted into online websites shows that there is already a suite of resources available to help farmers navigate through tasks required on-farm to help them up-skill, but farmers need to be willing, have the time prioritised and hold the confidence to tap into their skills and ability in order to use these tools to work for them. Farmers need to understand what the resources mean and then implement them into their business as a non-negotiable, regularly reviewing these areas of their business to keep a finger on the pulse at all times.

Collectively, we need to aim to bridge the gap between on-farm advisors and rural accountants with farmers, and progressing to a point where farmers are open to building relationships with their advisors, sharing their goals, working together in a coaching or mentoring capacity to ensure their financial statements reflect what their actual day-to-day operations are. This will result in farming operations' balance sheets showing a true picture of the business position in order to work towards goals to improve the financial position and if required, working with banks to get access to more capital. A key process is understanding the goal and working out a plan of how to get there.

Farmers worldwide face an increasingly turbulent environment. Successful farmers are those that adapt to shifts in the environment to capture the opportunities from such disturbance and outperform those who do not adapt. This is especially evident in the current times in a new normal, post Covid-19 world and this highlights the need for a focus on the financial literacy and business management skills of our farmers.

The journey can begin and take shape by following the suggested approach in the recommendations which follow.

9.0 Recommendations

9.1 Part One – Suggested approach to follow

A beneficial next step to help farmers on their journey of building their confidence, taking into account the information gathered and analysed in this report, is to follow a suggested approach. This approach will tap into farmers' skills and knowledge and create trusted networks to offer support and guidance on the journey. The combination of these crucial components will allow farmers to take control of their farming business's financials with a newfound confidence.

1. Establish the farming operation on the most suitable farm finance software, tailored specifically to the farming operation.
2. Engage in adequate training on the chosen farm finance software from an expert. This might be an accountant or software representative.
3. Invest in a mentor or tutor, or friend, to support and guide you through the day-to-day use of the software and take control of the financial compliance tasks, e.g. GST returns. Remember - the software in itself does not improve the profit, it allows you to measure the profit.
4. As the farmer's knowledge, skills and confidence grow, begin taking control and regularly run relevant reports from the farm finance software. Learn to analyse the figures and what they mean, with guidance from the mentor or tutor. This will allow the farmer to identify areas to improve and create goals to work towards.
5. Create and make known the farming operation's Trusted Team – this could be a combination of family, independent advisors, accountant, bank manager and agribusiness representatives who are crucial to business performance and the future.
6. Work together to make informed decisions using analysis of the information gathered and having discussions with your Trusted team to put these decisions into action.
7. Use the new financial and business management skills gained from steps 1 – 4 to regularly keep track of the finances and continuously refer back to progress against business plans and goals.
8. Keep in contact with the Trusted Team, organise quarterly meetings to stay on track and communicate.
9. Commit to continuously learning and up-skilling.

9.2 Part Two – Further Recommendations

Here follows a broader set of recommendations which require buy-in from external parties. These initiatives would be hugely beneficial for the Food and Fibre sector to boost the skills, knowledge, networks and confidence of our farming operators.

- Promotion of and access to the practical use, training and visibility of Beef and Lamb and Dairy NZ resources online.
- Schools should include personal and business financial skills in the curriculum. There is an opportunity to go into rural schools, high school Agriculture classes and Vocational Studies to up-skill school age children who aren't going to university, to ensure school leavers have learnt the required skills and knowledge to take straight back to the farm.
- The Understanding Your Farming Business (UYFB) Course is aimed at women - there could be huge benefit in facilitating a similar course targeted to men on-farm.

- There is an opportunity to introduce a requirement for people wanting to get into farming to complete rural financial and business management courses specific to farming, possibly facilitated through rural banks, as a prerequisite of receiving lending from the bank.
- When succession is taking place or when new entrants to the farm are coming on board, there is an opportunity to set them up with the skills needed to run the finances and business as well as the practical on-farm tasks. This could be seen as a formal business role handover – to overcome intergenerational passing on of information. This could be worked in cohesion with banks, insurance providers and farmers to mitigate the risks associated with lending, insurance and on-farm operations.

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11.0 Appendices

11.1 Farmer Survey questions

11.2 Rural Advisor Survey questions