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ATTITUDES AND FAMILY FARM BUSINESS PERFORMANCE

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Abstract

This study aimed to identify the top performing and the bottom performing family farm businesses based upon business performance, and then compare and contrast the perceptions and attitudes towards acquiring management skills and attributes that lead to improved business performance. Using extensive interviews data were obtained from 200 family farm businesses from New South Wales and Victoria covering a range of enterprises. The key findings were, firstly, that for all farmers the maintaining of a stable family relationship was of paramount importance in the running of the farm business. Secondly, that the Top 20% of farmers had high levels of self-efficacy and thus possessed the capability and the competence to perform tasks successfully. High performers also were more committed to the creation of long-term wealth and viewed business skills as a higher priority for training. Low performers were more highly committed to the farm's environmental health, placed a greater emphasis on production and sustainability for training and were more likely to give a lower priority to business issues. Both groups agreed that formal training that involved practical farmers with education skills providing them with tailor-made modules were best suited to their personal learning needs. The consistently high priority of family and business issues suggests that the opportunity exists to integrate the training of attitudes and skills with family, sustainable business practices and community issues. The study was funded by the Rural Industries Research & Development Corporation

Purpose

The purpose of the study was to identify the attitudes towards particular socio-economic issues that influence farm business performance. This study recognises that narrow economic models are inadequate in measuring the influence of non-economic factors that would stimulate behavioural change in farming families. A holistic study using four different measures addressed the complex question of how a relevant combination of attitudes and skills could stimulate improvement in performance.

Methodology

An existing Business Performance Indicator (BPI) instrument (Sefton 2002, unpublished) was expanded to give a more realistic measure of business performance. This BPI was used to identify the Top 20% of performers and the Bottom 20%

of performers of family farm businesses included in the study. A basic premise of the researchers was that taxable profit, or measures derived solely from financial statements, would have little relationship to either the overall business strength of farm unit or to how the respondents from that farm perceived their business and its relative performance. The intention was to find a suite of measures that accurately reflected the full spectrum of business activities that the family unit used in order to achieve their financial goals in association with their farming activities.

In order to reflect the overall business performance, measures were envisaged that would pick up on various aspects of business activities including income generation, financial performance the impact of debt and the utilisation of assets. A major departure from most business performance measures was that the researchers were looking for measures that reasonably reflected both business performance and the respondent's perceptions of their respective businesses. The decision was made to find a range of measures that obtained an overall picture of business performance across a number of financial indicators coupled to respondent assumptions as to changes in business capacity and changes to the family's overall wealth (see Table 1).

Table 1: Main study components of BPI

Descriptor	Units	Weighting
Change in net wealth (nominal)	**Percent**	**0.5**
Change in business size/ recognised liveable area	**Percent**	**1.0**
Average - Turnover on assets	**Percent**	**1.0**
Average - Earnings on capital	**Percent**	**5.0**
Average - Debt to Income ratio	**Prefix**	**-1.0**
Average - Operating costs/Income	**Percent**	**-1.0**
Average - Finance cost/Income	**Percent**	**-1.0**
Net off-farm assets/total assets	**Percent**	**-0.5**

Using extensive face-to-face interviews data were obtained from a random sample of 200 family farm businesses involving 308 individuals (100 females, 208 males), representing the farm management team, from New South Wales and Victoria covering a range of farming enterprises. The mean age of the respondents was 49.3 years for the males (median 50) and 47.8 years (median 48). Specific aspects explored in the research project were:

- Business performance
- Attitudes and values (including self-efficacy)
- Skills
- Education and training

The *t* test, was used to determine significance differences between the identified categories in the study. Chi square, a non-parametric test of significance, was used to compare those data which were in the form of frequency counts occurring in two or more mutually exclusive categories. In this study, the identified categories were the Top 20% of business performers and the Bottom 20% of business performers. Multiple regression analysis was used to relate various measures (e.g. business performance and self-efficacy) to attitudinal measures. Stepwise regression methods were used to obtain a parsimonious model in which all terms were significant.

Major findings

Success for the family farm business was seen to relate not only to the financial health of the business but also to the lifestyle or intrinsic qualities of the farm. However, not all family farm businesses are alike. Whilst most farmers have achieved the lifestyle they want and enjoy the challenge of farming, this project revealed that there were still large differences in business performances and attitudes towards achieving higher business performances. Some basic differences between the Top 20% and the Bottom 20% that emerged from this project include:

Table 2: Summary of differences between Top 20% and Bottom 20%

Top 20%	Bottom 20%
Strategic (long term) planners	Tactical (short term) planners
Proactive	Reactive
Self confident	Lacking in confidence
Creators of wealth	Seek to maximise profit
Regular social outings	Less social outings
Seek out new technology	Good relationship with suppliers
Rely on accountant or advisors	Think up new ways of doing things
Analyse production methods	Achieve profits to stay in farming
Secure long term wealth	Seek to reduce tax
Develop marketing plans	Want to improve the farm's environmental health
Achieve high sustainable production	Believe luck contributes to success
High self-efficacy	Low self-efficacy
Progressive management skills	Enjoy the challenge of farming

Attitudes and values of successful farmers

Attitudes and values of farmers play a significant role in farming. The respondents in the Top 20% and the Bottom 20% believed that two of the characteristics most important for being successful in farming were:

- a strong and supportive family, and
- the ability to plan and implement change.

Other characteristics identified included:

- Self confidence, seeking knowledge and new ideas by the Top 20%; and
- Enjoying the challenge of farming and persistence at achieving tasks by the Bottom 20%.

Intrinsic values seemed to play a significant role for the Bottom 20%. They were more likely to have a more 'lifestyle' view of farming. Social values and expressive values were important to the Top 20%. The top performing farmers who considered themselves progressive managers (the correlation between BPI and PMI resulted in significant differences between the Top 20% and the Bottom 20%) held attitudes appropriate to how they perceived progressive managers to be. The Top 20% of farmers find reward in the expression of any attribute associated with their self-concept or high self-efficacy, for example, persistence in meeting a challenge and achieving sustainable high profit production.

The instrumental values of maximising income were important to both groups but the Top 20% had a longer-term vision of wealth creation as compared to the shorter-term focus on profit held by the Bottom 20%. It is interesting to note that neither the Top 20% nor the Bottom 20% saw owning more land or expanding the business as important. The terminal values (Rokeach 1973) of family security, good health and stable relationships were very important to both groups.

Self-efficacy and BPI

Does the self-efficacy of farmers have a direct effect on farm business performance? Studies (Wood et al 1990; Wood and Bandura 1989; Wood and Locke 1990) have shown that people with a strong self-efficacy are better able to cope with setbacks and problems associated with implementing plans. On the other hand, people with low self-efficacy become "more self-doubting, set themselves lower goals and become less systematic in their appraisal and selection of plans" (Carlopio et al 1997, p 420).

When individual self-efficacy scores of the Top 20% and the Bottom 20% were correlated against their BPI scores, there was a significant difference ($p<.01$). The Top 20% average self-efficacy score was 48.91 compared to an average of 22.98 for the Bottom 20%. The Top 20% of farmers had a significantly stronger belief that they were capable of positive outcomes from their own actions. They believed that they have the capability to perform tasks, meet new challenges and

the persistence to accomplish difficult tasks (Carlopio et al 1997). The Bottom 20% was not as confident, tended to set themselves lower goals and was less likely to use analysis to assist in planning and identifying efficient production methods.

Personal priorities

Priorities towards family were of major importance to the Top 20% and the Bottom 20% as an issue that may impinge on pursuit of profits (Table 2). Business issues are clearly the second highest priority for the Top 20% who are four times more likely to choose business issues than the Bottom 20%. On the other hand, environmental and welfare issues are a higher priority for the Bottom 20%. Community and knowledge issues were the two lowest priorities for both the Top 20% and the Bottom 20%.

Table 3: Personal priorities in relation to all issues

		All respondents	Top 20%	Bottom 20%
Issues		**Rank 1**	**Rank 1**	**Rank 1**
a	Environment & welfare Issues	4.6%	1.6%	6.8%
b	Community Issues	1.0%	1.6%	1.7%
c	Knowledge Issues	3.3%	0.0%	1.7%
d	Family Issues	79.8%	75.4%	84.7%
e	Business Issues	11.3%	21.3%	5.1%
	sum	**100.0%**	**100.0%**	**100.0%**

The Top 20% put family and business issues as their main priorities (a combined total of 96.7%). Family issues are also a very high priority for the Bottom 20% but, in contrast to the top group, place environment and welfare issues second and business issues third. The concentration on family issues highlights that the farm issues are inherently family issues and family issues are inherently relationship issues. The study found that lower performing farmers not only required attitudinal changes towards business performance but also attitudinal changes towards family relationships in order to improve the family farm situation. Therefore, future education and training programs for farmers will not be just about designing curriculum for technology and production but also about designing curriculum to develop positive attitudes and maintaining family relationships.

Progressive management strategies

Due to the difficulty in assigning values to the behaviours and attitudes that reflect progressive management, the questionnaire had multiple questions that sought to explore the cognitive, reflective and behavioural reflectors of progressive management.

The progressive management index was compiled from the cumulative score of questions relating to both the operations of the farm and the behaviours and opinions of the individual. Some of the questions had multifaceted measures such as involvement in training, utilisation of advisory services, changes to management practices and perceptions as to the merits of changing management practices. The higher the score gained by a respondent the higher the demonstrated inclination toward adopting progressive management strategies.

The results showed highly significant differences ($p < .01$) based upon primary respondents, between the top and bottom groups (84.36 average for Top 20% and 55.58 for Bottom 20%). The average for "all respondents" was 65.45.

The Top 20% were more likely to attend various types of training, have undertaken formal learning, rate business issues highly, seek out new information, use consultants, see change as a positive, create their own ways, and have a good understanding of GST and its implications for their business.

Skill level and development

The high priority given to training in production technology by farmers was recognised in studies by Kilpatrick and Johns (1999). In our study "production skills" and "ability to plan" ranked as a high priority, by both the Top 20% and the Bottom 20%, for top farmers to develop. The acknowledgment of the importance of planning suggests that the survey sample was identifying that management skills are now seen to be equally important as production skills by farmers. Farmers need problem-solving skills because this is the main way of developing new knowledge and experience.

The similarities between the Top 20% and Bottom 20% in the selection of the skills required by both top line managers and 'struggling' managers suggests that training in these skill areas should be relevant to most farmers. The challenge for education providers is in designing the curriculum and the delivery methods to meet the learning needs of the individuals who participate. Farmers' participation in the learning process will be conditional upon the value they place on the learning and this may be conveyed through their own experience of that of other learners (Billet 1993). Strategies that use relevant examples and farm experiences will be especially effective. Further learning should then incorporate both formal and informal strategies.

The curriculum should also develop the metacognitive skills of proactivity, critical reflection and creativity. These metacognitive skills of 'learning how to learn' are not easy. The farmers may have to engage in the 'unlearning of longtime practices'.

"Risk taking" was perceived by the Bottom 20% as an attitude required for top line managers. The Top 20% did not rate "risk taking" as highly for top line managers. Entrepreneurial studies in non-agricultural businesses (e.g. Bird 1989) suggest that entrepreneurial managers do not view themselves as risk takers but others do. This perception could also be the case in this response, where the Top 20% appeared to accept risk taking unconsciously. The Bottom 20%, who are naturally risk averse, perceived the risk taking factor more important for top line managers than 'struggling' managers.

"Self confidence" and "enjoys the challenge of farming" were the two highest ranking attitudes identified by the Top 20% for top line farmers. The Bottom 20% identified "risk taking" and "self confidence" as their highest ranking attitudes. The attributes of self confidence and self esteem are factors that can be gained from positive work environments and professional development training programs that focus on positive thinking and leadership.

Overall, there were no significant differences ($p>.01$) between the Top 20% and Bottom 20% with the identification of attitudes and skills requirements for top farmers and "struggling" farmers.

In contrast, when it came to identifying key attitudes and skills the respondents required in order *to change current practices* the highest ranking priorities, out of a group of ten choices, for each group were:

	Top 20%		Bottom 20%
1.	Financial knowledge	1.	Financial knowledge
2.	Self confidence	2.	Record keeping
3.	Risk management, Marketing	3.	Production technology
4.	Record Keeping	4.	Self confidence; risk management; marketing

The Top 20% showed a slightly higher preference for business and management skills than the Bottom 20%. The Bottom 20% appeared to have a more balanced preference across business, technology and information recording skills. There was a significant difference placed on the "planning" skill with 16.7% of the Top 20% recognising planning as a training need but only 6.7% of the Bottom 20%.

Top farmers had a stronger business management focus than bottom farmers who saw production technology and information recording as important as financial skills.

Educational indicators

An important finding was that there was no significant difference in levels of education between the top and bottom groups of farmers. The education level was determined from a cumulative score taking in to account highest level of schooling, post secondary courses and training and ad hoc training courses. Thus acquisition of knowledge did not necessarily lead to change that would improve performance. Performance is a factor of ability and motivation and the findings indicated that attitudes (self-efficacy, self-confidence, motivation, positive thinking, proactivity, will to achieve) can enhance or inhibit the propensity to change and improve performance. Bamberry, Dunn and Lamont (1997) suggest little concise evidence exists of a strong relationship between levels of formal education and agricultural activity but, in contrast, Kilpatrick (1996) found that successful farmers were more highly educated. Barriers to further learning have been linked to low self-efficacy and esteem in that people often underestimate their own experience and knowledge and overestimate others (Johnson, Bone & Knight 1996). Farmers were often working in isolation and thus found it difficult to conceive of alternatives to their working situation.

A Training Index was composed of a suite of questions designed to assess the cumulative attitudes towards training and the individual's involvement in training. The Training Index for individual farmers resulted in significant differences between top and bottom groups ($p<0.1$). The Top 20% had an average Training Index of 35.9 and the Bottom 20% an average Training Index of 23.1. The average of all respondents was 29.3. Therefore, the Top 20% were more likely to have a more positive attitude towards training and attend more training courses than the Bottom 20%.

The analysis of sources of learning for successful farmers demonstrated a higher level of self- efficacy and self reliance gained from workplace experience for the Top 20%. The Bottom 20% ranked formal education at school and TAFE higher than the Top 20% who ranked formal education below all other sources of experiential learning. Collective learning from farmer groups ranked poorly in both groups, whereas positive family support ranked highly with both groups.

The aggregation of learning option choices confirmed a stronger preference for record keeping and analysis from the Bottom 20% and a bias for experiential learning from others with the Top 20%.

These results are consistent with the studies by Landvall (1992) on innovation that suggests that learning occurs through experience doing the job. Murray-Prior and Hart (1998) also established that farm business management activities were more likely to be successful if they focused on hands on activities with a considerable amount of interaction between the

participants. This informal learning occurs when an individual decides that they need to know something to do their job and takes steps to learn it. Informal learning is self-motivated, self-directed and purposeful. It follows that the Top 20%, with high levels of self-efficacy, are more likely to initiate informal learning opportunities in their workplace. Informal learning is predominantly experiential and non-institutional. Therefore, future education and training courses could assist this learning process by providing appropriate learning guides and mentors in order to develop attitudes and skills and produce explicit knowledge.

The Bottom 20%'s higher priority to production/sustainability compared to the Top 20% suggests that they may be less commercially oriented than the top performing farmers. The Top 20% prioritised the business topics of risk management, business expansion and business planning higher than the Bottom 20%. Popular training courses, such as financial recording and computer skills had a higher rating with the Bottom 20% than the Top 20%. The choice of training methodology produced some distinctive differences between the two groups. Firstly, both groups recognised, as a first priority, the value of proven and relevant courses. The Bottom 20% put a higher value on short, suitably timed programs and "hands on", practical experiences. The Top 20% considered quality presenters more highly than the Bottom 20%.

Industry differences

When responses by primary respondents were examined, a significant difference between industries was evident. The horticulture and dairying industries scored higher in BPI, efficacy, PMI and training than mixed farming and grazing. This is demonstrated in the Table 3 below.

There were consistent trends in three industries, i.e. dairying, mixed farming and grazing. The horticulture industry demonstrated skewed distributions in some measures; a wide spread of scores between top and bottom groups with BPI and a very narrow spread with training. The small sample in the horticulture is believed to cause this distortion. The validity of the results from the horticulture industry was questionable. Another cause of this distortion could have been the existence of a population of struggling farmers in the horticulture industry that performed poorly with the BPI measure.

Table 4: Average performance indices across industries

Industry	Measure	Top 20%	Bottom 25%
All industries	BPI	170.4	-108.5
Horticulture	BPI	319.6	-135
Mixed farming	BPI	152.1	- 92.9

Grazing	BPI	125.9	-136.6
Dairying	BPI	172.5	- 56.6
All industries	Efficacy	42.7	25.3
Horticulture	Efficacy	34.9	38.7
Mixed farming	Efficacy	35.7	21.7
Grazing	Efficacy	42.6	17.8
Dairying	Efficacy	65.9	46.7
All industries	PMI	75.6	51.4
Horticulture	PMI	94.1	72.0
Mixed farming	PMI	66.7	44.4
Grazing	PMI	70.4	46.4
Dairying	PMI	101.3	86.1
All industries	Training	35.9	23.1
Horticulture	Training	40.5	39.9
Mixed farming	Training	30.8	18.5
Grazing	Training	33.0	20.0
Dairying	Training	56.1	46.6

A higher efficacy score in the horticulture group for the Bottom 20% (38.7) as compared to the Top 20% (34.9) was against the trends in all other measures and industries. Generally, the Top 20% outperformed the Bottom 20%. This result is significant ($p<.01$). The relative poor performance of the two broadacre industries, mixed farming and grazing, suggests that the high capital investment levels of intensive industries, like horticulture and dairying, produce high levels of performance. This is particularly evident in the PMI and training measures. It is important that extensive broadacre industries do not lag behind intensive industries in the area of training as this will affect the industry's capacity to implement and manage progressive change.

Conclusion

Attitudes and the underlying values play a key role in farming. Willock *et al* (1999) indicate that success in farming involves not only the financial health of the business but also the intrinsic qualities of the farming family and the farm. Farming-related goals are not purely financial in nature. The family farm business is the place of work as well as the place of residence and therefore the "lifestyle" component of farming is very important. Stable and secure family relationships often hold the keys to success. The other key component to success in farming is having a positive attitude

and knowing you "can do it". The attitudinal aspect is paramount in understanding the decisions made by farmers. For example, understanding why some farmers participate in training and some do not; why some farmers are financially more viable than others; why some engage in progressive management strategies involving proactivity, creativity and critical reflection skills and some do not; why some are strategic planners (i.e. long term) and others are tactical operators (i.e. focus on short term); and very importantly, why some have a stronger belief in their own capabilities to control events that influence positive behaviour towards improved business performance.

The challenge for farming communities is to create higher levels of self-efficacy and self confidence in families. Farmers and families with higher efficacy scores appear to have attitudes that result in positive behaviour and acceptance of changing situations. Families with high efficacy are more self reliant and better equipped to plan and action strategies directed at improving performance across a number of business, farm, social and personal arenas.

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