Ciara Hickey

(B. Agr. Sc)

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A study of the factors which influence business satisfaction amongst dairy farm households: A case study of dairy farmers in Co. Kilkenny

A thesis submitted to University College Dublin in partial fulfilment of the requirements for the degree of Masters

Supervisor of Research

Prof Jim Kinsella

School of Agriculture & Food Science,

University College Dublin,

Belfield,

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Declaration

I declare that this thesis has not previously been submitted as an exercise for a degree at the National University of Ireland, or any other university, and I further declare that the work embodied in it is my own.

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Ciara Hickey

Abstract

The objective of this study was to establish farmers' understanding of business satisfaction, taking into consideration different factors which influenced it. Information from 35 dairy farmers was collected through the completion of questionnaires which included questions based on basic personal information, plans for the farm in the next five years, most important achievements in their farming year and farming activities that gave most and least personal satisfaction. Following analysis of the questionnaires farmers were categorised based on stage in lifecycle; farmers early in their lifecycle are defined as having a family that depend on the farm income and farmers late in their life cycle having a family with decreasing dependency on the farm income. From this, three farmers were selected to complete a case study interview. Farmers' business satisfaction is determined by a number of factors which are highlighted in this study. One important factor identified was the farmer's stage in their lifecycle. Farmers at an early stage of their family life aimed to increase farm production and profit to ensure a comfortable lifestyle for their families. This group of farmers were willing to take risk and were motivated to adopt new innovations to increase profitability on their farms. Farmers' attitudes to taking risk and adopting innovations were connected to their dependency on the farming income. Farmers at a later stage of their family life were less dependent on the farm income therefore their aim was to reduce their workload on the farm and to identify and encourage their successor to further improve the farm business. The study indicated that farmers, depending on their stage of life were motivated by a combination of pecuniary and non-pecuniary measures. It was also found that in recent year's education and the opportunities young people had were having a positive effect on the farming community. Young people who had the choice to pursue a career in farming were motivated to make the most of the opportunity and treat the farm as a business developing a plan for the farm with realistic goals. Some of the older generation of farmers felt obliged to pursue a career in farming at an early age so therefore this lack of career choice may have caused a lack of motivation in these farmers to continue to improve their farm system and adopt to new practises.

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Introduction

The McSharry Reform in 1992 aimed to reduce over dependence on traditional farming by introducing voluntary schemes to encourage farmers to move their business towards forestry, retail and nature reserves (Burton, 2004). This reform was met with limited interest due to a number of reasons including the concern from the farmers', that they would lose their identity in the community as producers and lose the sense of achievement in his/ her life (Burton, 2004). This resistance to measures outside common farming practises is a detrimental factor in development of the agricultural sector in terms of Common Agricultural Policy (Burton, 2004) (Lapple, et al., 2015). The EU's Common Agriculture Policy and the Irish Governments FoodWise 2025 strategy aim to increase sustainability on farms. At times however, this causes conflicting competition between economic and environmental targets; the increasing pressure to feed the rapidly growing world population while also following strict environmental constraints to slow down the effects of global warming (Lapple, et al., 2015). In order to help farmers meet the targets of FoodWise 2025 much more needs to be uncovered about the symbolic meanings associated with traditional farming practises. Modern farming consists of meaning and personal victory through the performance of everyday farming tasks (Burton, 2004).

There is huge diversity between farmers and their farming systems; full time, part time, early in life cycle, late in life cycle, innovators and laggard (Vanclay, 2004) (Howley, 2015). Whether a farmer is motivated to expand and adapt to new innovations or happy to continue with practises they are comfortable with the farming lifestyle compensates for the low farm income (Howley, 2015) (Vanclay, 2004). Hansson's study (2013) indicated that farmers aim to reduce risk in their farm business as a secure lifestyle is priority for the farm family. One of the farmer's main aims is to develop the farm as a place his/her children will want to work in the future (Vanclay, 2004). Hansson (2013) believes that rural policy was built on too simplistic an approach and that farmers' main aim is to generate profit. A farm is not just an object it expresses the farmer and his/her families' identity (Burton, 2004). However in this study it was found that farmers' goals for their farm business depend on their stage of life. Farmers at an early stage of their career aim to increase profit and production and therefore take risks to reach these targets. McDonald (2013) found that a number of factors including farmers' age and importance of succession influenced their decision making in terms of increasing production on the farm. Young farmers had higher expectations for their farm and

envisaged themselves working on the farm in the future which encourages them to increase investment on the farm. McDonald (2013) found that young farmers were 11 times more likely to adopt to new technologies compared to older farmers.

The farmer's stage of life determines the amount of risk he/she is willing to take in an investment which is depending on the amount of disposable income that is required for the family (Vanclay, 2004) (Lapple, et al., 2015). A young farmer with a young family has the room to invest to ensure there is disposable income available for the family in the future. An older farmer with a mature family may have less family members depending on the farm income and may be happy to continue practices he/she are comfortable with and not look at changing or increasing production (Vanclay, 2004). In a study carried out by Lapple, et al., (2015), young farmers were more inclined to partake in profit making activities such as increasing production. Farmers at the early stages of life realised that they must generate profit from the farm to ensure financial security and to maintain preferable lifestyle.

Howley (2015) found that farmers may partake in loss making activities to attain non-pecuniary benefits of farming which included working outdoors, being your own boss and raising a family in the countryside. These benefits may make a decision more or less attractive to a farmer regardless of the financial benefits. The farmer may object to changing a farm practice even if it has financial benefits if it means losing their current desirable lifestyle (Howley, 2015) (Creighton, 2011). This was supported in this study as farmers in the late stage of their lifecycle felt more satisfaction from non-pecuniary measures compared to farmers in the early stage who focus on the pecuniary measures while developing their farm business in the attempt to feel the benefits of the non-pecuniary measures in the future. Non-pecuniary events such as work satisfaction has a lasting effect on happiness compared to non-pecuniary measures such as winning the lotto which will have a short term effect on happiness (Easterlin, 2003).

Job satisfaction is negatively related to depression, anxiety and burnout (Fisher, 2010). The work carried out by (Fisher, 2010) on happiness at the workplace can be related to the farming community and how people are happier in work when they feel they are in control and have a connection with their job. Farmers are so familiar and comfortable with their own farm system and this has a positive effect on their performance on their farm (Fisher, 2010) (Easterlin, 2003). Fisher (2010) explains to find satisfaction in work one must adapt their role

to feel connection and control of their tasks. To feel this connection Fisher (2003) explains how you must realise your strengths then design a career that you can then work with these strengths. This can help to explain farmers' satisfaction with on-farm work as they have the freedom to take control and adapt their farm to their way of working.

Graham (2005) explained that the 'Economics of Happiness' is an approach to assessing welfare. He studied cases similar to those developed by the Bhutanese government to help measure wellbeing and the importance of non-financial factors of thousands of individuals across the world. Graham (2005) explained that focusing purely on income can miss key elements of human welfare. The 'Economics of Happiness' reports that people may choose lower paying but more personally rewarding jobs. A number of authors, including Graham (2005), Lapple et al., (2015) and Vanclay (2004) explain how non-pecuniary changes in our lives such as marriage is harder to adapt to but will have a lasting effect on our well-being compared to a pecuniary change such as winning the lotto where people usually adapt to and will return to their initial state of happiness and will lose the sense of satisfaction.

Past research has tended to undervalue the importance of happiness in the workplace and its consequences on a person's performance (Fisher, 2010) (Easterlin, 2003). Research by Fisher (2010) explains that job satisfaction results in an increase in profit, superior performance and also has a positive effect on personal factors such as marriage and lifestyle (Easterlin, 2003). As seen at farm level Fisher (2010) explains how people are happier in work when they feel they are in control and have a connection with their job. Scale of farm, intensity, access to credit and agricultural education were factors found to motivate farmers. It was also found that increasing age and off-farm employment were identified as 'barriers to innovation' (Lapple, et al., 2015). McDonald (2013) found there was a positive relationship between education and productivity. As the level of education the farmer had increased so too did the productivity on the farm.

Methodology

This study focused on a non-probability sample of dairy farmers in North County Kilkenny. Data was collected between May and August of 2017. During the period the research was carried out in, the researcher was working closely with three discussion groups. Therefore due to the limited timeframe these three discussion groups were selected to take part in the study. The three discussion groups amounted to 44 farmers. To collect data the researcher compiled a questionnaire; this questionnaire was completed by all group members during a two hour discussion group meeting. A total of 35 farmers responded to the questionnaire and these farmers became the research population. A mixed method approached was used to carry out this research.

Instrument 1: Secondary Data

Secondary data was collected from the 35 farmers through profit monitor data they had provided for 2016 using the Teagasc eProfit Monitor online financial analysis tool that is available to Teagasc clients. The groups average herd size, whole farm stocking rate (LU/Ha), farm size (Ha), milking platform size (Ha) and milk solids produced per hectare was compared to the national average eProfit Monitor results published by Teagasc (Teagasc, 2017).

Instrument 2: Questionnaire

In the second phase of data collection, the thirty five farmers were asked to complete a structured questionnaire during their monthly meeting. Questions varied from general personal information such as family background, plans for the farm in the next five years and farming activities that give most and least personal satisfaction (Appendix 1). An explanation of each question was given by the researcher while the farmers completed the questionnaire. This approach reduced misinterpretation of questions and ensured a high response rate. Questionnaire data was inputted and analysed using SPSS.

A correlation analysis was run to identify the relationship between dependent variables: farmers' plans for their farm in the next five years in terms of land area, herd size and infrastructure; farmers' priorities for their business; and the farmers' target achievements for 2017 and the independent variables; farmers age and number of children the farmer had under the age of 18 years.

Instrument 3: Case Study Interviews

The final phase of data collection involved three semi structured interviews (Appendix 2) after interpreting the questionnaire results three case study farmers were selected. Each of the three farmers was chosen as they were identified to be at different stages of life and their career as well as being at different stages of happiness.

Results

The aim of this research is to establish and examine the factors, as perceived by farmers themselves, which influence business satisfaction amongst dairy farmers in County Kilkenny. The sample consisted of 35 dairy farmers each being a member of a dairy discussion group in the North Kilkenny area. Data ranged from farm and farm family characteristics to future plans for the farm, achievements for the farm business and day to day farming activities. Limitations of this study included the relatively small sample size (n=35) and its relevancy to one area of the country (North Kilkenny). All respondents were male, dairy farmers and members of a discussion group. Therefore this study is not a representative group nationally. Due to the short timeframe this study was carried out in (January 2017-September 2017) these limitations could not be avoided. The study depended on a population that was easily accessible.

The average age of respondents was 43 years with a range of 23 to 59 years. This was below the national average as the National Farm Survey Preliminary Results for 2016 revealed that the average age of dairy farmers in Ireland was 51 (Teagasc, 2017). All farmers in this study were male and considering the Teagasc client list for the region, this was the norm. It was found that out of the 156 Teagasc client's only three farmers were female farmers and a further five females were on a joint herd number. Twenty five respondents (69%) were married this is below the national average of 83% (Teagasc, 2017) the majority of which (72%) had children. Out of these, 61% had dependent children (under the age of 18), 25% having up to three children under the age of 18 (n=35).

Comparing this group of farmers to the national average revealed that they had similar sized holdings to the national average. The average farm size for the respondents was 77.25Ha and a milking platform of 44.7Ha slightly below the national average of 52Ha (Teagasc, 2017). Average herd size of the three groups was 111 cows also slightly below the national average of 115 cows (Teagasc, 2017). Their average whole farm stocking rate of 2.3 LU/Ha was just above national average at 2.24 LU/Ha. This group excelled in terms of production at 1093kgMS/ha above the national average of 954kgMS/ha and just slightly below the top 25% farms in the country at 1181kg MS/Ha (Teagasc, 2017).

The first question asked was what the farmer's opinion on expansion of their farms and herds. Sixty four per cent of farmers were satisfied with their land area with the remaining interested in increasing land farmed. The majority of farmers (58%) would like to increase their cow

numbers with the remaining farmers happy to continue with existing cow numbers. In terms of farm infrastructure in the next five years 53% of farmers aimed to improve existing infrastructure and 42% were willing to invest in new infrastructure while just one farmer was satisfied with existing farm infrastructure.

The farmers were asked to rank the priorities for their farm business in the next five years. They were given a list of five different factors and were asked to rank from highest to lowest priority. The list included expansion of farm, improve current farm system, reduce length of working day, increase farm profit and spend more time with family and friends. The results are illustrated in Figure 1.

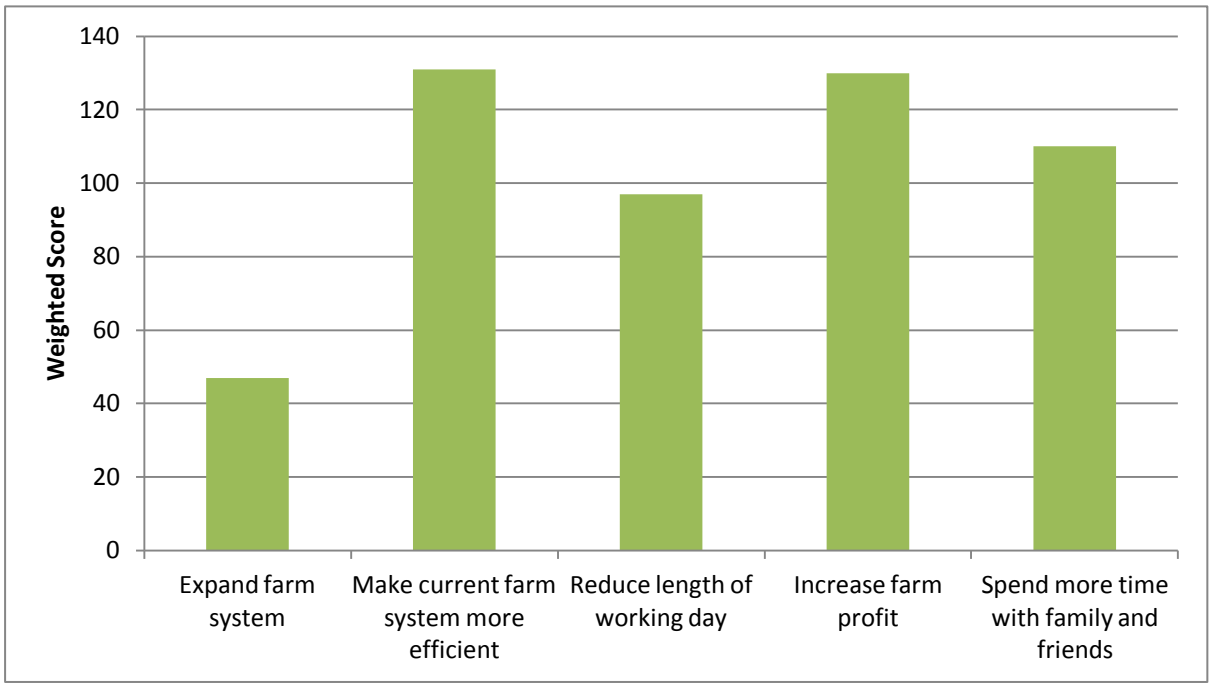

Figure 1: Distribution of scored priorities identified by the farmers for their farm businesses (n=35)

The five options were ranked and given a weighted score. A ranked score of five (most popular answer) was given a weighted score of five and in ascending order a score of one (least popular answer) got a weighted score of one. Improvements to current farm system and increase to farm profit were highest priorities with only one score between them. Spending more time with family and friends was ranked third, only 20 marks behind the top two options. Reducing the length of working day was ranked fourth. Finally the lowest ranked priority was expansion of the farm business; fifty marks below reducing the length of the working day.

The farmers were then asked to rank their most important farming achievements from the previous year (2016). They were given a series of options listed in Figure 2 and were asked to rank their top three. Again the top three answers for each respondent were given a weighted score.

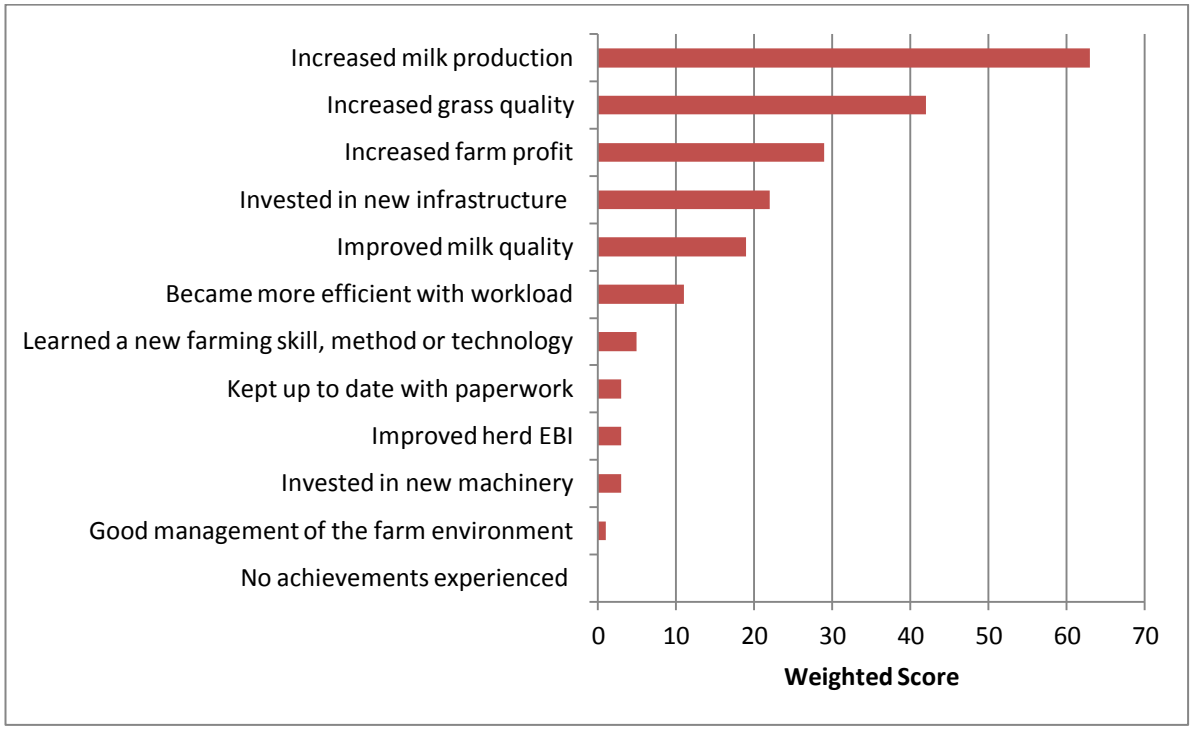

Figure 2:Distribution of farmers by perceived most important farming achievement in 2016 (n=35)

The highest ranked achievement was the improvement they made to milk production in terms of milk volume and solids. The second highest ranked achievement was the improvement this group made on grass quality and tonnage of grass grown. The third most important achievement was the increase in farm profit.

Illustrated in Figure 3 are the farmer's target achievements to accomplish this year (2017). They were asked again to rank their top three from the same list as the previous question. Answers were given weighted score similar to previous questions.

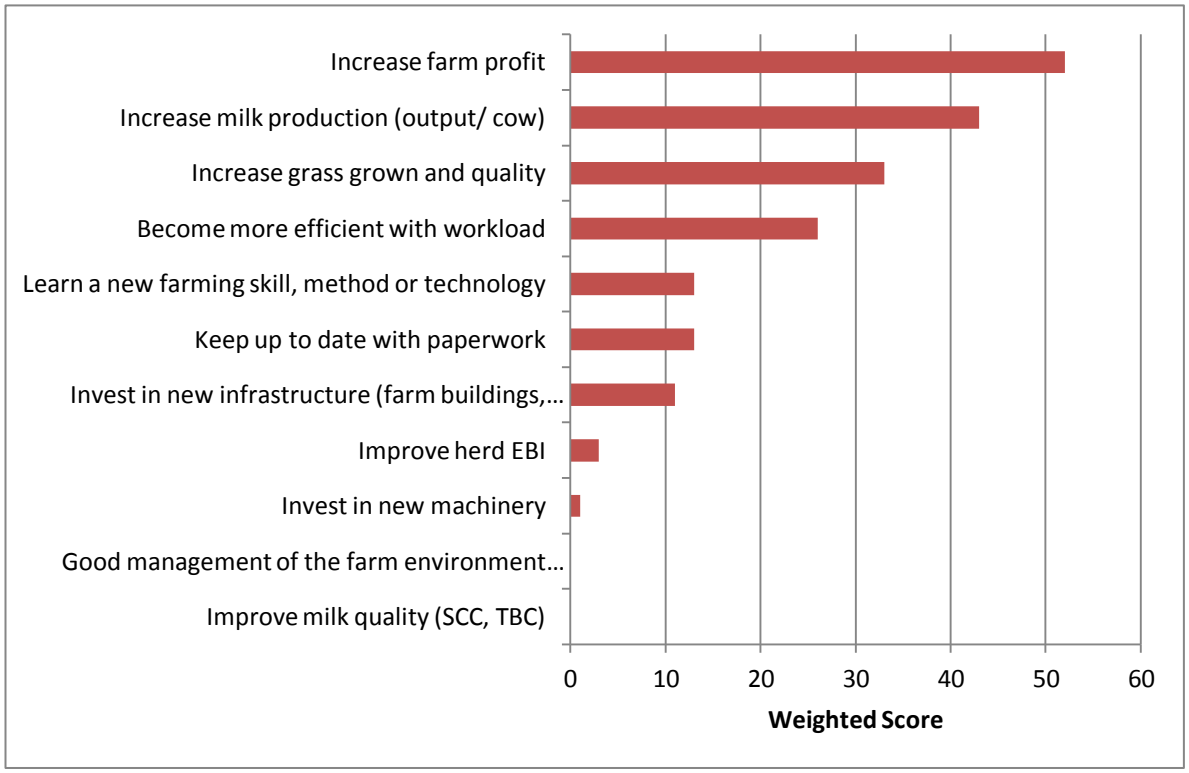

Figure 3: Percentage Distribution of farmers by perceived most important farming achievement in 2017 (n= 35)

Increase farm profit ranked the highest; second highest was to continue to increase and improve milk production and third highest was to continue to improve grass utilisation and quality. The lowest ranked aims were similar to the least popular achievements in 2016 investing in new machinery; good management of farm environment and improvement to milk quality.

The group of farmers were asked to rank the day to day activities that give most personal satisfaction. They were asked to rank their top 3 options from figure 4 below: Answers were given weighted score similar to previous questions.

Figure 4:Distribution of farmers by perceived day to day activities that gave most personal satisfaction (n=35)

Milking cows was identified as the farming activity that gave most personal satisfaction with a score of sixty eight while grassland management was the second most satisfactory activity and breeding season third with a score of twenty three (Figure 4).

Ninety two per cent of the farmers reported attendance at agricultural events such as the National Ploughing Championships, discussion group meetings and farm walks or open days (Figure 5).

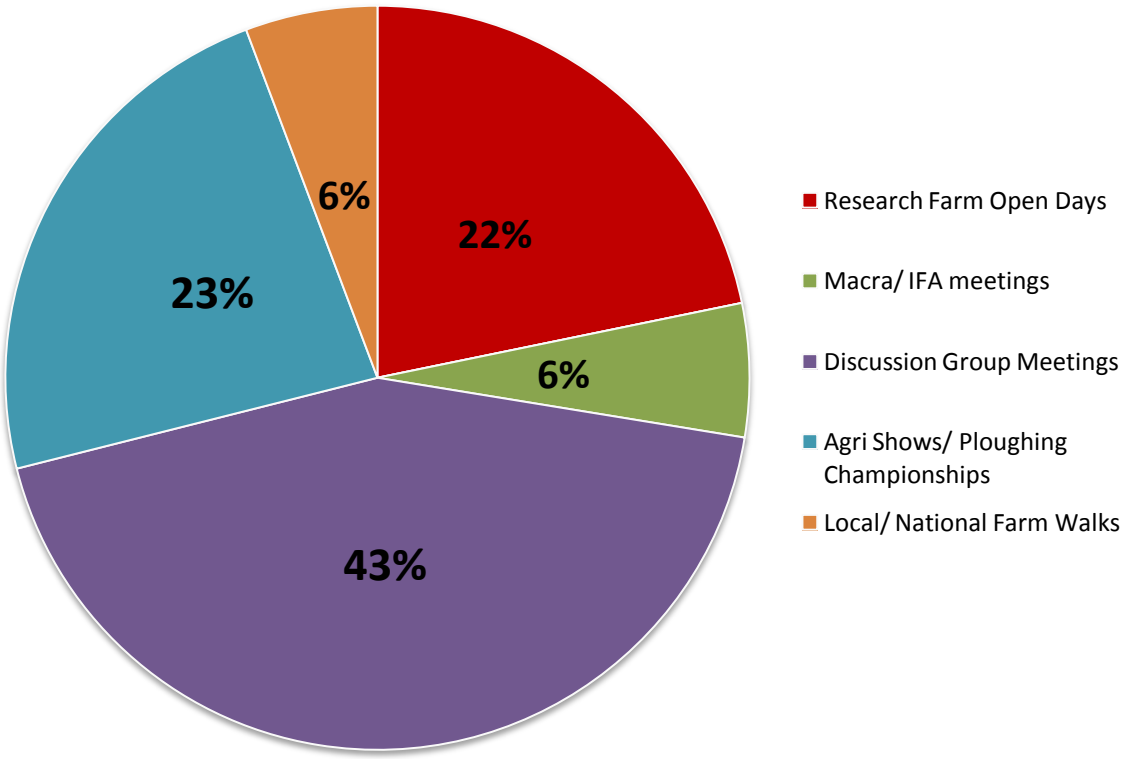

Figure 5: Percentage of farmers interest in off farm events (n=35)

Discussion group meetings were the most popular event attended by farmers with 83% of farmers answering 'yes' to attending discussion group meetings; followed by the 'National Ploughing Championship' and agricultural shows (44%) and research farm open days (42%). Local and national farm walks and Macra/IFA meetings scored lowest both scoring 11% and no farmers were interested in attending breed society livestock shows.

The reasons given by farmers for attending these agricultural events was for their educational value with a score of 63 and the social element with a score of 62. Enjoying the day as a family day out ranked lowest with a score of 3.

The respondents were asked what their preferred farming season was and these options are illustrated in Figure 6:

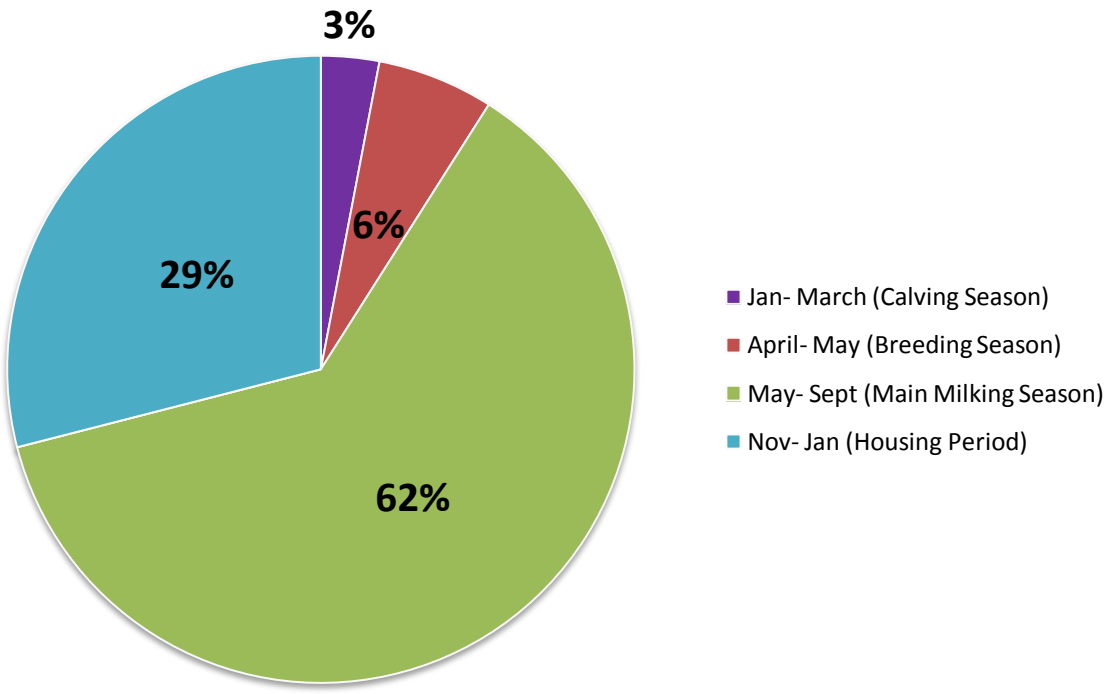

Figure 6: Percentage of farmers preferred farming season (n=35)

The main milking season from May to September was the preferred time of year for farmers. This reflects on the farmers preferred farming activities (milking cows and grassland management) and when their least preferred farming activities (rearing calves, calving cows) are finished.

The reasons for selecting these options were being the quietest time of year and feeling most business satisfaction during this period. One respondent who selected the breeding season as their favourite season chose this because they explained that it sets up their future business and most effort is required during this period.

The last question asked was what farming activity farmers disliked the most. Figure 7 below illustrates the farmer's top 3 from the same list as the activities that they found most business satisfaction from.

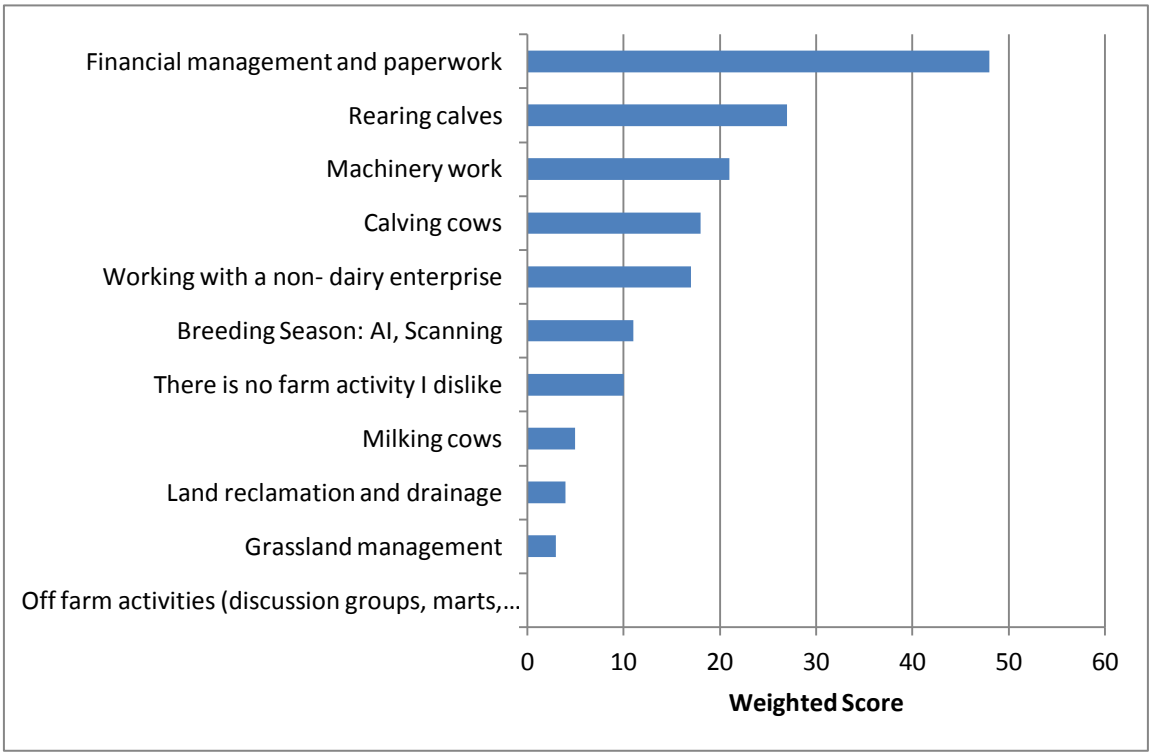

Figure 7: Distribution of farmers by perceived day to day activities that give least personal satisfaction (n= 35)

The highest ranked option was financial management and paperwork with a score of 48 followed by rearing calves with a score of 27 and finally machinery work with a score of 21 and calving cows at 18. Four farmers selected the option that they didn't dislike any farming activities.

The effect farmers age and family background have on aims for farm business

For the 35 farmers surveyed a Pearson's correlation was run between the three dependent variables: Target for the farm in the next five years in terms of land area, herd size and infrastructure improvement (Table 1), achievements for the farm in 2017 (Table 2) and priorities for the farm in the next five years (Table 3) with the independent variables; age of farmer and number of children the farmer had under the age of eighteen. This correlation was run to see how farmer's age and the number of children the farmer had under the age of eighteen influences the farmers plans for their farm in the next five years as well as the achievements for their farm in 2017.

The farmers' priorities for their farm in the next 5 years were correlated with farmers' age and the number of children the farmer had under the age of 18.

Table 1: Correlation between targets for the next five years and age of farmer and number of children the farmer has under the age of eighteen

Targets for farm, next 5 years		**Age (years)**	**No. of children <18**
Land farmed: Increase, decrease or remain the same	Pearson Correlation	-.404*	.019
	Sig (2- tailed)	.018	.917
	N	34	32
Herd size: Increase, decrease or remain the same	Pearson Correlation	-.488**	-.187
	Sig (2- tailed)	.003	.298
	N	35	33
Infrastructure: Improve current, invest in new or no change	Pearson Correlation	-.149	-.075
	Sig (2- tailed)	.394	.678
	N	35	33

Note: ** = strong statistically significant relationship (Sig = <0.005)

The farmers' priorities for their farm in the next 5 years were correlated with farmers' age and the number of children the farmer had under the age of 18. This suggested that the number of children the farmer had under the age of 18 had no effect on his plan for his farm in terms of changing the herd size and land area and improving or investing in infrastructure. However the Pearson's *r* revealed a strong negative statistically significant correlation *(r = -.488, sig= 0.003)* between farmer's age and their plan for herd size (Table 1) and also a significant correlation was found between farmers age and land area *(r= -0.404, sig= 0.018)*.That is, younger farmers were more inclined to expansion of herd and farm size.

The farmers' priorities for their farm in the next 5 years were correlated with farmers' age and the number of children the farmer had under the age of 18.

Table 2: Correlation between priority for farm in next 5 years and age of farmer and number of children the farmer has under the age of 18

Priority for farm in next 5 years		**Age (years)**	**No of children <18**
Expand farm system	Pearson Correlation	-.014	.059
	Sig (2- tailed)	.934	.745
	N	35	33
Make current farming system more efficient	Pearson Correlation	-.032	.000
	Sig (2- tailed)	.858	1.00
	N	34	32
Reduce the length of the working day	Pearson Correlation	.293	.408*
	Sig (2- tailed)	.088	.018
	N	35	33
Increase farm profit	Pearson Correlation	-.166	-.027
	Sig (2- tailed)	.349	.884
	N	34	32
Spend more time with friends and family	Pearson Correlation	.113	.371*
	Sig (2- tailed)	.525	.037
	N	34	32

Note: * = statistically significant relationship (Sig <0.05)

A Pearson's *r* data analysis revealed no statistically significant relationship between the age of the farmer and the priorities for his farm in the next five years. Therefore as illustrated in Table 2 farmer's priority for the farm was not determined by the farmer's age. There is however a positive statistically significant correlation *(p= 0.408, sig=0.018)* between the number of children the farmer has under the age of 18 and the importance of reducing the length of the working day and also a positive correlation *(p=-0.371, sig= 0.037)* between the number of children the farmer has under the 18 and spending more time with family and friends (n=32). This indicates that farmers with children prioritised reducing their working hours on the farm and spending more time with family and friends.

The farmers target achievements for this year (2017) were correlated with the age of the farmer and number of children the farmer had under the age of 18

Table 3: Correlation between priority for farms in next five years and age of farmer and number of children the farmer has under the age of 18

Target for 2017		Age	No child <18
Increase milk production	Pearson Correlation	.014	.360*
	Sig (2- tailed)	.935	.040
	N	35	33
Improve EBI	Pearson Correlation	-.370*	-.370
	Sig (2- tailed)	.029	.029
	N	35	35
Up to date with paperwork	Pearson Correlation	-0.26	-.213
	Sig (2- tailed)	.881	.235
	N	35	33
Invest in new infrastructure	Pearson Correlation	-.087	-.203
	Sig (2- tailed)	0.620	.257
	N	35	33
Increase farm profit	Pearson Correlation	.276	.186
	Sig (2- tailed)	.108	.300
	N	35	33
Become more efficient with workload	Pearson Correlation	.024	-.142
	Sig (2- tailed)	.889	.430
	N	35	33
Learn a new skill	Pearson Correlation	-.162	-.011
	Sig (2- tailed)	.352	.952
	N	35	33
Invest in my machinery	Pearson Correlation	.196	.048
	Sig (2- tailed)	.259	.792
	N	35	33
Improve grass grown and quality	Pearson Correlation	.149	.438*
	Sig (2- tailed)	.392	.011
	N	35	33

Note: * = statistically significant relationship (Sig <0.05)

Improvement in milk quality and good management of farm environment had no responses therefore were removed from the table. A Pearson's *r* data analysis revealed a negative statistically significant relationship *(p= -0.370, sig= 0.029)* between age of farmer and improving the EBI of the herd. That is, younger farmers are more interested in improving the EBI of their herd compared to older farmers. (n= 35) There was also a positive statistically significant relationship *(p= 0.360, sig= 0.040)* between number of children the farmer had under the age of 18 and increase milk production and also positive statistically significant relationship *(p=0,438, sig= 0.011)* to improve grass grown and quality (n= 33) (Table 3). Therefore increasing milk production and also improving grass grown and grass quality is an important factor for farmers with young children.

Case studies of farmers

The interviews were based around a number of specific subjects including farming background, how their motivations have changed over the last ten years and reacting to results from the questionnaire they have completed. The interviews lasted up to 45 minutes and they were recorded and transcribed by the researcher. From the 35 farmers surveyed, three were chosen to further the study and complete an interview. Each of the three farmers was chosen as they were identified to be at different stages of life and their career as well as being at different stages of happiness.

Farmer A is a 58 years old man, married with four children. He is 40 years dairy farming and his herd has doubled in size from 60 cows to 110 since the abolition of the milk quotas. Farmer A initially showed genuine satisfaction and pride in his well-established farm business that he has built up in the last 40 years however when he looked to the future he was unsure of the direction of his business and this was causing stress and worry.

The first question addressed why farming was chosen as his career. When asked initially he said that he couldn't think of anything else he would like to do. However he became unsure when he began to reflect on his career and added that he had left school after the Junior Certificate at 15 years of age and started farming. He explained how he didn't have the opportunities back then as his children have now and he wasn't encouraged to complete third level education.

When asked has his plans for his farm changed in the past ten years: he paused to reflect and then explained that he was at a cross roads in his life at the moment. Ten years ago he was convinced his son was interested in taking over the farm he went to agricultural college and then farmed at home for a year but travelled to Canada two years ago and is unsure if or when he will come back home to farm. Commenting on his son's future on the home farm he said:

'I can't see why he'd give up the good life even though he always said he would come home... I can't see why he'd come back to such a mundane life now.'

When asked does he believe farming is a 'mundane life'. He explains that when he started farming it's all he wanted to do but looking back now he reckons if he went travelling he might not have come back to the farm. Reassuringly he does explain he loves what he's doing but it's not an easy job.

'*What I don't like about this crack is your social life isn't the same if you were working nine to five.*'

He explains if he was a young farmer now in his 20's he doesn't know if he would farm. He believes there are great opportunities there for young people now.

'I think I would have been a great agricultural instructor [advisor]. I still enjoy what I'm doing, I suppose you can't live two lives'

When asked what a successful farm business means to him he explained that he thinks a successful farm business is to make enough money to have a decent lifestyle.

'I'd love to have what I have now 20 years ago because back then you didn't have money to put into a pension if I did I could gladly retire at 65'.

Farmer A explained that he will have to continue to have some income coming from the farm. However he can't see why that can't happen. He feels his farm would be a great opportunity for a young farmer and would consider going into partnership with a young trained farmer if his son decided not to come home from Canada.

When asked to comment on the result from the questionnaire that milking cows were found to be the activity that gave most personal satisfaction while calf rearing was one of the least popular. He explained how the timing aspect is the main reason. He feels his calf house isn't adequate and makes work with the calves harder.

'The calves always have to be done after milking the cows and you're tired at that stage… You get burnt out…I look forward to selling the last of the calves every year'

Farmer A is already thinking of the work next Spring. He had help for four months last year but is unsure if he will get it again this year. He feels it is a lot easier as a two man operation.

'Too much work is worse than not having enough money… it's too stressful… I would rather pay a lad to be idol than not have him'

The final question asked was to comment on the questionnaire result that grassland management was the second most popular activity on the farm. He was asked if this is true why grass measuring is an innovation that farmers struggle to adapt to.

'I couldn't say it's [grass measuring] *enjoyable but definitely the most profitable activity. I'm being a hypocrite saying that because I don't do enough of it*.'

Labour shortage was again mentioned as a reason for not measuring grass. Having the time to complete a farm walk was a problem and how it is an easy job to skip.

'I don't know where you would fit it in. If you did do it [grass measuring] it would be great.'

It was clear that there was a feeling of guilt when Farmer A explains how he knows he should take it more serious but admits to having too many excuses; too busy, wet ground and the technology aspect. He explained how he was determined to take the task seriously this year however difficulty using the grassland management online tool PastureBase Ireland caused him to give up.

'If PastureBase Ireland was more accessible it would be great. It would [logging paddock covers] *usually be the last thing I would do before going to bed and your tired and couldn't be bothered it's easier to give up at that stage'*

Farmer B is 37 years old man, married with two children ages seven and nine. He is five years farming on his own milking 87 cows. He worked in Kilkenny for a number of years but always had farming in the back of his mind. Farmer B explains how his ambitions for his farm haven't changed. After the abolition of the milk quotas he slowly built cow numbers but feels he is now at his peak and may look into contract heifer rearing to allow him to continue to increase his herd size. Farmer B was enthusiastic and ambitious. He seemed in control and clear of the direction of the farm business. It was clear he was satisfied with his business, however, it was clear he wasn't ready to settle with the current system and was planning to further increase herd size. When asked what a successful farm business means to him he replied: *'Making money as simple as that'.*

Farmer B was then asked to comment on the result from the questionnaire that milking cows were found to be the activity that gave most personal satisfaction while calf rearing was one of the least popular.

'*Milking cows is grand you see the money flowing into the tank… calves drive me nuts I don't have patience!'*

Farmer B explains how rearing calves comes at a bad time of the year. Farmers are very busy calving cows; training heifers into the parlour and depending on the weather there may also be extra indoor feeding. Farmer B admits he has no patience to rear calves and reckons if young people are trained up in calf rearing in college more so than milking it would work very well. The final question asked was to comment on the questionnaire result that grassland management was the second most popular activity on the farm. He was asked if this is true why grass measuring is an innovation that farmers struggle to adapt to.

'*We aren't making it an important enough job'* <grass measuring>

Farmer B is grass measuring for a year now and has been part of a grass measuring discussion group for the year in 2016. This group would meet up once every two weeks walk a farm and discuss the results. He believes it's a very important job. However, he explains how it is an easy job to skip. He admits during busy times of the year he has to force himself to walk the farm when he feels grass is getting out of control.

'It is very satisfactory when you see it growing. Timing is hard because you can get on with your day without it if you don't prioritise it.'

Farmer C is a 36 years old man, married and has two children aged two and four. He is 16years farming and began dairy farming in 2013 and is currently milking 130 cows. Farmer C highlighted the importance of developing a good business plan and as a result of having a business plan in place was confident with how his farm was running. He seemed very satisfied with his farm business and it was clear he took pride in his work. When asked why he chose a career in farming he explained how he was lucky enough to get the opportunity and it was always a career he wanted to pursue. Before farming he had a show jumping career in America for a number of years but knew he did not want to spend his life on the road trying to make a living out of horses.

'We had a very good suckler herd at the time along with about 15 breeding mares, so it [farming] *was a way of combining my two interests.'*

When asked has the plans for his farm business changed over the last ten years he explained how a lot has changed. He originally started farming with a suckler herd and bred Belgium Blue weanlings for the Italian export market. While also breeding and producing a large number of young horses. The recession hit and the export markets slowly disappeared.

'A lot of the leisure money built up from producing horses was gone. The horse market took a steep drop at that stage so I was left very lonely with nothing to sell.'

Farmer C knew something had to change at that stage and in 2013 was the beginning of a new venture when they milked their first cows and sold his suckler herd.

'At that time I was married and we had our first kid this was the only way in making a substantial living as a family.'

When asked if he could choose between a suckler cow enterprise or a dairy enterprise which would he choose? He explained how he doesn't miss the suckler cows. Farmer C had an excellent suckler cow herd however to be successful with a suckler cow enterprise he had to work a lot harder comparing to now with his dairy herd.

'We had one of the best herds in Kilkenny and I was getting top prices but it just didn't stack up for the work put in…that feeling when you get so busy that you don't see outside of what you're doing'

'I thought I was doing great I was keeping up with all repayments for the farm… But when I look back now how busy I was compared to now milking cows. My lifestyle was a lot busier and sucklers are a pain in the ass! Cows are milked in an hour and a half in the morning and you have a lot of money made at that stage.'

When Farmer C was asked what was his definition of a successful farm business he explained how firstly a farm must be seen as a business and has to be sustainable through cash flow and environmentally. The farm must have the ability to make money without direct payments. He goes on to explain how the farm must have a plan, a future and the ability to provide for two families. He believes a work life balance is very important.

'I feel I am not in a perfect position yet but I have no problem taking weekends off… my children won't remember Daddy for working day and night but will remember the holidays and the days out'.

He was then asked to comment on the result from the questionnaire that milking cows were found to be the activity that gave most personal satisfaction while calf rearing was one of the least popular. Farmer C explains how he enjoys rearing calves however he can understand why it would be an unpopular activity due to the time of the year and facilities farmers have.

'We are well set up as of last year it makes life easier. Climbing gates and carrying buckets get wearing.'

He explains how the calf house is the last on the majority of farmer's lists of priorities for upgrading. However can't understand why as it inexpensive to invest in. He disagrees with outside labour being brought in to rear calves.

'Calves are your future herd. It is a lot easier to get a lad to slap on cups in a parlour… you need to be a herd's man to rear calves.'

In terms of milking cows he explains how you have a lot of money made after milking in the morning, however, milking heifers can be difficult for the first few weeks after calving and labour shortage is a huge problem.

The final question asked was to comment on the questionnaire result that grassland

management was the second most popular activity on the farm. He was asked if this is true why grass measuring is an innovation that farmers struggle to adapt to. Farmer C explained that grass measuring sounds more complicated than it actually is. When figures are thrown out a lot of farmers shut down.

'Lads at the start seem to have a phobia of it [grass measuring]*'*

He explains how he understands why some older farmers don't like it and suggests maybe it's too technical. However is surprised with some younger farmers that won't grass measure as they say they are too busy.

'Anyone who says they are too busy to measure grass spend more time wondering where their cows are going next, I have all that in my phone.'

He believes it should be the most important task on your weekly list of jobs. He disagrees with the idea of employing someone to measure grass for you.

'It doesn't make sense having someone else making the most important business decision of the week… you need to visualise it'

He explains during the busy Spring a walk around the farm is a way of clearing your head.

'You're not stressed or your cows aren't stressed.'

It is clear from the three case studies that farmer's stage of life and their background influences their levels of satisfaction. One farmer (Farmer A) didn't have the opportunities to further his studies or work at something other than farming and was feeling regret. Farmers B and C on the other hand felt high levels of satisfaction from farming and were both at a different stage of life and in the early stages of farming. Another comparison identified is that Farmers B and C had different careers before farming. They had the choice to farm and this has had a positive effect on their levels of satisfaction. Farmer A takes pride in his farm and is running a very profitable business however he remarked himself:

'Too much work is worse than not having enough money'

Farmer A is feeling low business satisfaction at this stage of his life. He explained if he was certain his son was interested in coming home to farm they could begin planning for the future of the farm as well as eliminating the stress of needing extra labour in the Spring.

Instead Farmer A has taken a step back from improving his business further. Farmers B and C are at the stage of life that they gain personal satisfaction from improving their farms to provide for their own families.

Discussion

Farmer's business satisfaction was influenced by a number of factors including the farmer's stage in their life cycle, education and choice in career.

Stage of life

Farmers in the early stage of their life were motivated by shortening the length of the working day and spending more time with family and friends. To achieve this they realised that profit must be generated from the farm to ensure financial security and to maintain a preferable lifestyle (Lapple, et al., 2015). The younger generation of farmers treated their farm as a business and were interested in increasing cow numbers and making improvements to the farm to increase profit compared to farmers at a later stage of life. (McDonald, 2013) found in her study on new entrants into dairying that these farmers were aware of the importance of developing a business plan to help them set realistic goals and focus on developing a successful business.

Previous studies explained how farmers see farming as a way of life and they strived to achieve a desirable farming lifestyle with little priority on increasing profit (Howley, 2015) (Vanclay, 2004); this theory seems to be less relevant to the new generation of farmers. The achievements that gave farmers most satisfaction in the farming year relate to the farmers goals for their farm business; improving efficiency and profit. Young farmers found the increase in milk production, improvement to grass grown and grass quality and increased profit the most satisfactory achievements, while also finding milking cows and grassland managements the daily activities that gave most personal satisfaction. Farmers in the early stages of life see themselves depending on the farm income into the future so therefore are motivated to increase production and adopt to innovations (McDonald, 2013).

As farmers' reliance on the farm income reduced, so too did the importance to increase profit and make improvements to their farm business. The main goal for farmers in the late stages of life was to reduce their input on the farm by employing extra labour or identifying a successor. Failing to achieve this goal and in particular identifying a successor can cause increased stress and decreased motivation to continue to improve the farm business by themselves (Vanclay, 2004). Identifying a successor motivates these farmers to further improve their farm in a partnership while reducing their responsibility on the farm.

Education and choice in career

Young dairy farmers in recent years treat their farm as a business and aim to increase profit on their farm while also achieving the preferable lifestyle which they believed is accomplished by improving efficiency on the farm and adapting to time saving innovations such as grass measuring (McDonald, 2013) (Lapple, et al., 2015). This change in behaviour may also explain why now it is uncommon for people to start farming full time under the age of 18 years and even into their 20's which was very common 30- 40 years ago. Young people now make the choice to farm which gives them the drive and motivation to make the most of their business. 30- 40 years ago some farmers did not get this choice and were expected to finish education at a young age and begin farming. This was reflected in some of the older farmers lacking in motivation to make improvements to their farm. Young farmers have more access to education now than 30- 40 years ago which influences increased productivity. McDonald (2013) found that there was an increase in productivity on farms where the farmer had second and third level education completed.

Young dairy farmers recognised innovation adoption as very important to achieve their farming goals. They could see the benefits of making improvements to grass growth and grass quality through grass measuring had on their farms as a worthwhile activity that give them confidence in decision making. (Creighton, 2011) (McDonald, 2013). Older farmers can see the benefits of grass measuring however are slow to adapt to the innovation. The minimal education that was available to some of these farmers caused a lack of confidence and the attitude that some innovations are more targeted at younger educated farmers (McDonald, 2013).

Conclusion

Farmers at an early stage in their life aimed to increase profit on their farm by increasing production and efficiency in their farming systems to allow a desirable lifestyle for their families. Farmers at a later stage in their life with a reduced dependency on their farm income aim to identify a successor and reduce their workload on the farm.

The main achievements for young farmers and more specifically farmers with a number of children under the age of 18 were identified to be directly related to increasing profit. Increasing milk production and improving grass quality and growth were found to be the achievements that gave most personal satisfaction. Young dairy farmers were willing to increase herd size to improve milk production to achieve the satisfaction of increasing profit. They also believed in adopting new technologies as being very important to further improve the efficiency and profit of their business. The farmers that were interviewed explained how grass measuring as a practise to improve grass quality and growth was not an enjoyable activity however lead to very satisfactory results in terms of time saving and reducing cost. For farmers at an early stage of their life satisfactory activities were positively related to an instant feeling of satisfaction such as increasing profit as the activities that gave least satisfaction were completing financial management and paperwork and rearing calves. The farmers interviewed that were identified to be at the early stage of their life found milking cows very satisfactory as their daily wage was made completing the simple practice of milking twice a day.

Older farmers do not feel satisfaction from pecuniary measures such as grass measuring and milking cows as much as non-pecuniary measures such as reducing their workload by employing extra labour or training in their successor. This change in behaviour may be explained by the different reasons why these farmers began farming. Some of the older generation of farmers began a career in farming as they felt obliged to do so while younger people had more opportunities and the choice to farm which contributed to a drive and motivation to make the most of their business. Some thirty or more years ago farmers did not get this choice which may be now reflected in these older farmers lack of motivation to make improvements to their farm.

To conclude, farmers' stage of life, education and opportunities in the early stages of life were the main factor which influenced farmer's business satisfaction. It is clear that farmer's motivations changed throughout their life time. At the early stage of a farmer's life they are

motivated by ensuring a good lifestyle for their family and when this is achieved farmer's motivations change to reducing their workload on the farm and are less interested in increasing profit. However, this cycle may change in the future as the young generation of farmers had the decision to pursue a career in farming compared to some of the older generation who felt obliged to take over the family farm. This career choice for these young farmers may help influence motivation in later life. The agricultural advisory service must recognise these changes in motivations between the young and older farmers and disseminate relevant information accordingly. Achieving an understanding of individual farmer's situations and their definition of a successful farm business will allow advisors to take a more individualistic approach when disseminating information to farmer clients.

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Appendices

Appendix 1: Farmer Survey Questionnaire

This Research Questionnaire is part of a thesis for MAgrSc in Extension and Innovation in association with UCD and Teagasc.

This questionnaire is for completion by farmers during discussion group meetings.

The topic of research is:

'A study of the factors which influence business satisfaction amongst dairy farmers in Co. Kilkenny'.

<u>All information given will be treated confidentially</u>

Basic Farm Information:

1. **(a) Age: _____** years

Please tick appropriate box for the following

(b) Relationship Status:

Single: ☐

Partner: ☐

Married: ☐

Widowed**:** ☐

(b) Do you have children?

Yes: ☐

No: ☐

If yes please answer Q 1 C if you answered no please proceed to Q2

(c) Number of children less than 18 years of age: _____

2. **This next set of questions is about your plans for the farm over the next 5 year**

Please tick (√) your answer to each:

(a) What do you plan to do over the next 5 years in terms of land farmed?

Increase ☐

Decrease ☐

Remain the same ☐

(b) What do you plan to do over the next 5 years in terms of number of cows milked?

Increase ☐

Decrease ☐

Remain the same ☐

(c) What do you plan to achieve in the next 5 years in terms of infrastructure (housing/ sheds, parlour, handling units)

Improvement to existing infrastructure ☐

Invest in new infrastructure ☐

No changes ☐

(d) In terms of your priority for your farm business in the next 5 years rank the following list from 1- 5

1= Highest priority
2= 2nd highest priority
3= 3rd highest priority
4= 4th highest priority
5= Lowest priority

Objective	Rank
Expand farming system	
Make current farming system more efficient (improve milk solids etc.)	
Reduce the length of the working day	
Increase farm profit	
Spend more time with family and friends	

(e) Is there anything else about your farm business that you would hope to achieve over the next 5 years?

Yes ☐

No ☐

Please explain:

_____

_____

_____

_____

_____

3. (a) For your 2016 farming year please identify from the below list the <u>3 most important achievements</u> you are most proud of and rank these achievements based on how important they were to you:

1= most important achievement

2= second most important achievement

3= third most important achievement

Achievements	Rank
Increased milk production (milk solids and/ or litres/cow	
Improved grass grown and quality	
Improved milk quality (SCC, TBC)	
Improved the herd EBI	
Invested in new machinery	
Good management of the farm environment (hedgerows and waterways)	
Kept up to date with paperwork	
Invested in new infrastructure (farm buildings, fencing, handling units)	
Increased farm profit	
Learned a new farming skill, method or technology	
Become more efficient with workload (shorten working day)	
Other achievement not listed above (please state):	
OR	
None (experienced no important farming achievements in 2016)	

(b) For your 2017 farming year please identify from the same list the <u>3 most important achievements</u> you would like to accomplish and please rank these achievements based on how important they are to you:

1= most important achievement

2= second most important achievement

3= third most important achievement

Achievements	Rank
Increase milk production (milk solids and/ or litres/cow	
Improve grass grown and quality	
Improve milk quality (SCC, TBC)	
Improve the herd EBI	
Invest in new machinery	
Good management of the farm environment (hedgerows and waterways)	
Keep up to date with paperwork	
Invest in new infrastructure (farm buildings, fencing, handling units)	
Increase in farm profit	
Learn a new farming skill, method or technology	
Become more efficient with workload (shorten working day)	
Other achievement not listed above (please state):	

4. (a) What day to day farming activities gives you <u>most</u> personal satisfaction?

From the list below please <u>select three of your most preferred activities</u> and rank them:

1= Activity most enjoyed

2= Second most enjoyed activity

3= Third most enjoyed activity

Activities	Rank
Milking Cows	
Grassland Management	
Rearing calves	
Machinery Work	
Calving season	
Financial Management and Paperwork	
Land reclamation/ Improvement	
Breeding season: Heat detection, AI, scanning	
Working with a non- dairy enterprise on the farm	
Off farm activities such as attending a discussion group, mart, meetings, shows, farm walks	
Other farming activity not listed above (please state):	

b) Do you attend agricultural events outside of the farm e.g. discussion group meetings, agricultural shows/ Ploughing Championships, farm walks etc.

Yes: ☐

No: ☐

Identify with a tick (√) what type of events do you find are <u>most enjoyable and beneficial</u> to attend?

Event	√
Discussion Group Meetings	
Agricultural Shows/ Ploughing Championships	
Local/ National Farm Walks	
Marts	
Research Farm Open Days	
Breed Society livestock shows	
Macra, IFA, Other organisations meetings	

c) Identify with a tick (√) the <u>main reason</u> why you enjoy attending these events from the below options (select only one reason):

Reason	√
Educational	
Social	
Family day out	
Other please specify	

5. **(a) Identify by a tick (√) from the list below <u>your favourite season</u> in the farming year**

   (Place tick √ as appropriate)

Season	√
Jan-March (Calving season)	
April-May (Breeding season)	
May- September (Main milking season)	
October-November (Drying off)	
November – January (Housing period)	

(b) Please give main reason for your choice:

(Place tick √ as appropriate)

Reason	√
It is the quietest time of year	
I get the feeling of business satisfaction	
It is the busiest time of year	
It is the most profitable time of year	
Other reason not listed above please explain:	

(c) What day to day farming activities gives you <u>least</u> personal satisfaction?

From the list below please select three activities you dislike and rank them:

1= Activity most disliked activity

2= Second most disliked activity

3= Third most disliked activity

Activities	Rank
Milking Cows	
Grassland Management	
Rearing calves	
Machinery Work	
Calving cows	
Financial management and paperwork	
Land reclamation and drainage	
Heat detection, AI, scanning	
Working with other non- dairy enterprise on the farm	
Off farm activities: (Discussion group, mart, meetings, shows, farm walks)	
Other farming activity not listed above (please state):	
There are no farm activities I dislike	

Appendix 2: Semi Structured Case Study Interview

1. Family background:

   - Hobbies and interests?

   - Number of years farming?

2. Why did you choose farming as a career?

3. Have your ambitions/plans for your farm changed over the past ten years? What has caused this change?

4. What does a successful farm business mean to you?

5. Why do you think milking cows is most enjoyable activity and rearing calves is one of the least enjoyable activities?

6. Grassland management was second most popular activity on the farm if this is the case why do you think measuring grass is a practise that not many farmers are on board with?