Value-Added Dairy Farm Diversification

The Ingredients for Success

A report for



NUFFIELD IRELAND Farming Scholarships

By Tom Dinneen

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Executive Summary

There has never been a better time for Irish dairy farmers to produce value-added products. In an era of growing scrutiny of high food miles associated with imported goods, consumers are tending to choose local, high quality foods, produced using sustainable agricultural practices. All this at a time when Irish agriculture enjoys a clean, green image internationally.

The value-added approach is in stark contrast to the dominant commodity mindset in the wider dairy sector that places value on scale and growth within the industry. Diversification can however lead to better financial security for the farm household. The benefits of dairy farm value-added diversification extend far beyond the farm gate by contributing to the socioeconomic fabric of rural areas, creating valuable skilled employment, as well as contributing to the development of Irish food culture and the successful branding of Ireland as The Food Island.

The transition from commodity dairy farmer to a producer of a differentiated value-added product, takes a significant change in strategy – from being the lowest cost producer of a commodity to producing a unique, value-added product.

As the diversified value-add enterprise functions at every stage of the food supply chain there is a vast range of skills needed to be successful. When transitioning from commodity dairy farmer to value-added producer the farmer needs an awareness of his/her own strengths and weaknesses, the skills that are lacking and those that can be developed either by him or within the family or indeed recruited. Given the complexities of value-add farm diversification the development supports on offer need to be multi dimensional.

There is a notably high level of extended farm family and specifically female involvement in value-added diversified enterprises. A culture of entrepreneurship must be encouraged and supported within farm families. Enterprise education should feature throughout the entire education cycle. Entrepreneurship acceleration programmes aimed at women such as ACORNS, are having a positive impact on female entrepreneurship in rural Ireland and should be continued to be supported.

The capital requirements of a diversified value-added farm enterprise will depend on the degree of processing complexity and scale at start-up. There is a need to ensure farm families are more aware of the financial and educational supports which are available and to ensure that those supports are not excessively bureaucratic. Furthermore once government backed funding (e.g. LEADER or LEO match-funding) is awarded to a project the pillar banks should accept this approval as collateral.

Teagasc has earned the trust of farmers and is perfectly placed to advise farmers and their families considering farm diversification. The Teagasc training programme 'Options' is a good first point of contact, but could be further developed to offer one-to-one mentoring to support farm families to evaluate their current farm situation and their suitability for new enterprise development.

Contents

DISCLAIMER	2	
EXECUTIVE SUMMARY		
CONTENTS		
FOREWORD		
ACKNOWLEDGEMENTS	7	
ABBREVIATIONS		
INTRODUCTION	9	
METHODOLOGY	10	
OBJECTIVES	11	
SECTOR OVERVIEW	12	
Irish Agri-Food Sector	12	
Speciality Food in Ireland	12	
Growing Demand For Local Food	12	
The Irish Artisan Food Sector	13	
The Irish Artisan Dairy Sector	14	
Why Are So Few Irish Dairy Farms Processing?	14	
Case Study I: Bucking The Trend	15	
STRATEGY	16	
Assessment Of The Existing Farm Business' Current Situation	17	
Identification Of The Core Values Of The Team/Family	18	
Case Study II: Staying True to Core Values	19	
Agreement On The Team/Family's Vision For The Future	20	
Formulation Of A Strategic Plan	21	
Case Study III: Austrian Hay Milk - Successful Product Differentiation	25	
Monitoring Of The New Strategy	26	
CAPABILITY		
Operations Capability	28	
Building The Team	28	
Skills	28	
Legal Standards, Approvals and Hygienic Requirements	30	
Case Study IV: Recognition & Sourcing Of The Required Capabilities	31	
CAPITAL	32	
Government Supports	32	
Business Financing	34	
Bord Bia Supports	35	
Legal Organisation and Structuring	35	
CONCLUSIONS	36	
RECOMMENDATIONS		
REFERENCES	40	
APPENDIX –BUSINESS MODEL CANVAS		

Foreword

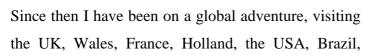
Bó Rua Farm is home to our family. We have been dairy farming in East Cork for generations. I farm with my wife Norma and our three children. I feel very fortunate to be working in the Irish agri-food industry, in a role that I am passionate about.

My Nuffield study was inspired by a personal desire to explore all of the ingredients necessary to make a success of diversifying our family's dairy farm by adding value to our cows milk. I see adding value to the output of our farm as a means of maximising the return on all of our farm resources. It is an alternative means to expand and sustain my dairy farm business when

conventional expansion due to limited land availability has not been an option.

The inspiration for our venture into farmhouse cheese production at Bó Rua Farm and indeed the name of the farm came from our Montbeliarde cows, also known affectionately as the 'Red Cows' because of their distinctive rust coloured markings. (The Irish word bó translates to cow, while rua means red).

In 2015 Norma and I began exploring ways to turn our herds milk into a range of farmhouse cheeses. The award of my Nuffield scholarship coincided with the launch of our farmhouse cheese range nationally.





Tom Dinneen at Bó Rua Farm

Mexico and New Zealand. My scholarship has been an invaluable opportunity for personal growth. As a start-up cheese producer my travels were also an opportunity to advance my passion for artisan cheese. I travelled to places synonymous with cheese such as The Cheddar Gorge in the UK and towns such as Edam and Gouda in Holland. I have visited farms around the world where farmers have diversified their sheep, goat and dairy cow enterprises into the production of delicious cheeses ranging from soft tangy blue cheeses to hard cheddar, and ranging in scale from artisan to small creamery. There is an incredible diversity of artisan and speciality cheese produced around the world but the basic production process for many is

remarkably similar and the possibilities are limited only by the creativity of the cheese maker. I have taken much inspiration and encouragement from many of the entrepreneurial diversifiers I have met on my Nuffield journey.

For those farmers who come to me for advise when they are considering the value-add diversification route, while I happily share my practical experience and knowledge, I stress that this journey is not just an entrepreneurial journey but an emotional journey also - as depicted below.

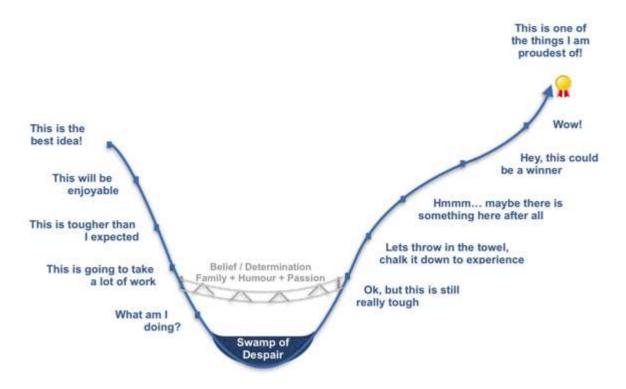


Figure 1. The Emotional Journey Of Creating Anything Great

Acknowledgements

I would like to acknowledge my fellow 2016 scholars who I shared this incredible experience with, especially the Brazil Global Focus Programme (GFP) group of Angus, James, Liz, Randal, Richard, Suzanne & Tom.

My sincere thanks goes to Nuffield Ireland, in particular John Tyrell and the sponsors for their investment in the programme. It has been a truly extraordinary opportunity and I am very grateful for your individual and combined commitment. Thanks also to the Farmers Journal for publishing my blog posts while I was on my GFP travels.

I would like to thank all the farmers and business people I met along the way, who so generously gave of their time to share their views, philosophy and passion for their businesses.

Finally, I would like to thank my family for all of their support, in particular my wife Norma, who took care of our young family and farm in my absences. This once in a lifetime experience would not have been possible without your support and encouragement.



Nuffield Global Focus Group 2016 - On the farm of Regerio Pachecocro, Brazil.

Abbreviations

BRC	British Retail Consortium
CAP	Common Agricultural Policy
CSO	Central Statistics Office
DAFM	Department of Agriculture, Food and the Marine
EU	European Union
FSAI	Food Safety Authority of Ireland
FSIS	European Food Safety Inspection Scheme
GFP	Global Focus Programme
KPI	Key Performance Indicator
LEADER	Liaison Entre Actions de Développement de l'Économie Rurale
LEO	Local Enterprise Office
MAP	Marketing Assistance Programme
PDO	Protected Designation of Origin
PGI	Protected Geographical Indication
RDP	Rural Development Programme
ROI	Republic of Ireland
SCP	Step Change Programme
SME	Small and Medium Enterprise
SMART	Specific, Measurable, Achievable, Results focused and Time based
SWOT	Strengths, Weaknesses, Opportunities, Threats
TSG	Traditional Speciality Guaranteed
USP	Unique Selling Point

Introduction

Farm diversification is often regarded as a recent phenomenon when it is in fact a return to the past. Just a few generations ago it was common practice for Irish family farms to be engaged in numerous farm enterprises. While the Common Agriculture Policy (CAP) has brought vital benefits to Irish farmers it has also led to decades of agricultural specialisation and hence a loss of expertise in adding value to core products at farm level. As a result farm diversification is now perceived as innovative. The reluctance of farmers to engage in farm diversification is borne out in the CSO data that reports that only 0.2% of all Irish farms (across all enterprises) are involved in processing farm products [1]. This is remarkably low, particularly when 31% of farms in the UK are diversified [2].

Milk price and income volatility is an established and recognised challenge for the dairy sector. Irish milk prices have become increasingly volatile due to dramatically fluctuating global supply and demand conditions. One strategy to address farm income volatility is to diversify part or all of the dairy farm business from being the lowest cost supplier of an undifferentiated commodity product, to providing the marketplace with a unique, superior value-added product. This approach is in stark contrast to the dominant commodity mindset in the wider dairy sector and amongst policy makers which places value on scale and growth within the industry.

For the farmer, the main benefit of farm diversification is a higher level of income. Diversification can lead to better financial security and stability for the farm household, and can create valuable employment for other members of the family. A farmer who diversifies their farm enterprise maximises the use of the farm's physical resources and the farmer's (and often the farm family's) skillset and capabilities, while increasing the value of the farm and its facilities.

The benefits of value-add dairy farm diversification extend far beyond the farm gate into rural areas, as farmers provide a wider range of good and services to the local rural economy, while contributing to the socio-economic fabric of rural areas, by creating valuable skilled employment, as well as making an important contribution to the development of Irish food culture. Locally produced foods make a significant contribution to Ireland's tourism offering and to the successful branding of Ireland as *The Food Island*. Food Harvest 2020 acknowledges the significance of the artisan food sector and its contribution to the international image of

Ireland as a source of high quality food and drink and as a tourism destination.

The value-added diversification approach will suit a limited number of entrepreneurial dairy farmers, as the majority do not have the necessary inclination or expertise. However there are opportunities for some dairy farmers, in addition to managing their core farm business, to create more profitable businesses by combining entrepreneurship with responsiveness to the needs of the consumer.

Methodology

Soon after the author was awarded a Nuffield scholarship he was gifted a copy of *The Kerry Way*. The publication charts the phenomenal success achieved by The Kerry Group since commencing its operation in 1972, from modest beginnings in Listowel to becoming a leading player in the global food industry.

A novel yet simple equation for growth which has been linked with The Kerry Group's strategy from its earliest days reads as follows:

STRATEGY x CAPABILITY x CAPITAL = SUSTAINED PROFITABLE GROWTH

Where one of the elements in this equation is lacking, the result at best is zero profitable growth [13].

It is the author's opinion that this formula is valid when applied to a diverse range of enterprises. Given the complex nature of family farm entrepreneurialism and diversification, this simple equation has served as a useful organising framework in which to identify the 'ingredients' to successfully diversify a dairy farm business.

This report begins with a sector overview. It then delves into each element of the equation (i.e. strategy, capability and capital) in detail from the perspective of value-add dairy farm diversification enterprise in an attempt to identify 'the ingredients' for success. Case studies compiled during the authors Nuffield travels are introduced throughout the report as deemed relevant. Finally, conclusions and recommendations are outlined.

Objectives

The objectives of this study are to determine the following:

- Is there an alternative route to increased profitability on Irish dairy farms, rather than increased scale and output?
- Why are so few dairy farms producing value-added products?
- Is there a market for differentiated value-added dairy products produced on farm?
- What are the 'ingredients' to successfully make the transition from commodity dairy farmer to a producer of a differentiated value-added product?
- What are the required changes in strategy of the dairy farm business?
- How does the farmer ensure the team has the capability, operational capacity and technical requirements required for success?
- What are the capital requirements and supports available to Irish farmers to set up such an enterprise?

Sector Overview

Irish Agri-Food Sector

Agriculture and food are Ireland's largest indigenous industries, directly and indirectly employing over 230,000 people, with a turnover of \notin 26 billion [4]. Each year Irish food and drink is exported to over 175 markets internationally. In 2017, Irish food and drink exports reached a record high of \notin 12.6 billion - representing growth of 60% since 2010 [5]. Ireland has developed a reputation as a green, clean, food producing nation with an image based on qualities such as local sourcing, traditional food production methods, skilled craftspeople and authentic recipes. To the forefront of this image is the 'grass fed' beef and dairy industries.

Speciality Food in Ireland

Ireland has a thriving speciality food sector which is worth approximately €400 million to the economy each year. Speciality foods also offer immense cultural, social and ecological benefits. There are now more than 750 artisan and specialty food producers who are contributing to the success of the broader food and hospitality sector with growing numbers of tourists visiting to immerse themselves in Ireland's unique food culture [6].

Growing Demand For Local Food

One of the factors driving growth in speciality food is the demand for food of local provenance. There is a growing consumer desire for products and brands that have real, authentic and honest origins. Consumers want to know where their food comes from, how it is produced and by whom. In the wake of international food scandals they are demanding transparency. They are even willing to pay a little more for the confidence that their food purchases help to create jobs, promote local economies and are produced sustainably.

Bord Bia research highlights Irish consumers' commitment to local foods, with seven in ten adults agreeing that is important to buy local produce [7]. Provenance is important for Irish consumers where food is concerned, it signals all the things that consumers care about – quality, animal welfare and environmental concerns. This coincides with considerable growth in the number of farmers markets, food fairs and food festivals throughout Ireland. Farmers markets have become an important retail outlet for speciality food producers, while also forging links

between local food producers and the consumer.

The multiples are embracing this trend and facilitating the needs of the consumer by incorporating local and artisan food onto the shelves of their super markets. All of the multiples have supplier development programmes in place to encourage Irish producers onto their shelves e.g. The SuperValu 'Food Academy', the Tesco 'Taste Buds' initiative, Lidl's 'KickStart' programme and the 'Grow with Aldi' programme.

The Irish Artisan Food Sector

The vast majority of farm produced value–added dairy products fall into the 'artisan' category. Irish food writer John McKenna eloquently describes artisan food as a test of 4P's,

'It is a synthesis of the personality of the producer, the place it comes from, the product itself and passion in the manner it is produced'.

With 59% of consumers saying that artisan products are produced with a commitment to tradition [8]. It seems consumers share the definition of artisan foods set down in guidelines by the FSAI [9]. These guidelines state that the term 'artisan' should only be used on foods or in advertising of foods that can legitimately claim to meet all of the following criteria:

- The food is made in limited quantities by skilled craftspeople;
- The processing method is not fully mechanised and follows a traditional method;
- The food is made in a micro-enterprise at a single location;
- The characteristic ingredient(s) used in the food are grown or produced locally, where seasonally available and practical.

While these rules may seem severe, they strengthen the sector by ensuring genuine artisan products are differentiated. Other terms protected by the FSAI are 'farmhouse', 'traditional' and 'natural'. All terms which are likely to apply to an artisan dairy producer.

Food Harvest 2020 acknowledges the significance of the artisan food sector and it's contribution to the international image of Ireland as a source of high quality food and drink and as a tourism destination [10].

The Irish Artisan Dairy Sector

Irish dairy farmers have been reluctant to pursue value-added production. In Ireland the Department of Agriculture, Food and the Marine (DAFM) is responsible for the implementation of food safety controls on milk. Currently there are approximately 100 small-medium sized milk and dairy establishments approved and registered with the DAFM, throughout the Republic of Ireland, many of which are farm based value-add producers. Value-added produce is varied; from liquid milk, flavoured milk, yogurt, butter, ice cream, to a vast array of farmhouse cheeses.

Irish farmhouse cheese plays a fundamental role in the growth and development of Ireland's artisan dairy sector. From its beginnings over thirty years ago, the sector has grown to encompass 47 producers and over 127 individual cheese types [11]. The sheer breadth of cheese produced signifies the innovation and ingenuity this group of entrepreneurs has to offer. According to DAFM figures, in 2013 the total Irish farmhouse cheese sector was valued at over $\in 12$ million at farm gate level, with exports valued at approximately $\in 4.5$ m [12].

Why Are So Few Irish Dairy Farms Processing?

There are economic, social and cultural reasons which are all contributing to such low diversification rates on Irish dairy farms. In Ireland, farmers' identities are rooted in conventional farming practices, on inter-generational family farms. This is reflected in the statistics relating to the turnover of agriculture land in Ireland annually compared to for example in France where land is sold once every 70 years, in Ireland land is sold only once in 400 to 500 years.

Irish dairy farmers are sheltered from the markets thanks to the cooperative processing model. Farmers have become accustomed to producing commodity products and lack the experience to attempt the value-add approach. Farmers want to farm, and having been on a path to specialisation for decades few have the desire to diversify their occupation. There is a perception amongst many farmers that the regulations relating to food production are extremely complex. Dairy farmers who take the value-added approach are truly bucking the trend.

Case Study I: Bucking The Trend - Innovation in Sheep Dairying & Cheese Making In New Zealand

Janet and Miles King of Kingsmeade, located near Masterton, Wairarapa are at the forefront of sheep dairying and cheese making in New Zealand. The Kings were amongst the first in New Zealand to milk sheep. In dairy-dominated New Zealand, where sheep were farmed for their meat and wool they were taking a leap into the unknown. In 1996 Kingsmeade was the only farm in New Zealand making cheese from their own ewes milk and quickly gained a reputation as being a producer of high quality, award winning produce.

They now milk two-hundred ewes and produce fourteen different varieties of artisan cheese. They produce a total of sixteen tonnes of cheese annually, half of which is from ewes milk and half from cows milk.

Not only have Janet and Miles developed an award winning cheese company, they have also established the DairyMeade breed, which was recognised by the New Zealand Sheep Breeders Association, shortly after the author's visit in 2016. Twenty years of selective breeding of milking sheep at Kingsmeade has culminated in the establishment of the DairyMeade breed. Until then, New Zealand did not have a sheep breed selected for milk production which could be used to build the genetic merit of the New Zealand dairy sheep industry.



Miles & Janet King, of Kingsmeade

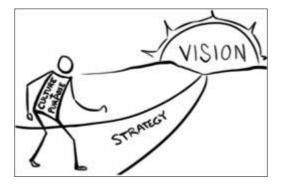
With growing numbers of DairyMeade breeders the number of sheep in the genetic improvement scheme is steadily increasing and breeders are able to supply other sheep milk producers with breeding stock of known pedigree. The Kings must be commended for their valuable contribution to the growth of the dairy sheep industry in New Zealand.

Strategy

Oxford Dictionary Definition of Strategy:

A plan of action designed to achieve a long-term or overall aim.

Success leaves clues. There are commonalities across successful individuals and businesses.



Those who are performing well tend to have clarity of strategy and purpose and an understanding of the actions needed to implement that strategy.

When opting to produce a value-added product, a dairy farm business must balance:

1. The existing strategy of being the lowest cost producer of an undifferentiated commodity

With;

2. Becoming the producer of a superior quality, value-added product that is in demand. [14]

A strategic decision must be made as to what proportion of the business will be dedicated to either 1 or 2 or both, as listed above, and in what time frame. In the authors experience arriving at a clear new strategy for the dairy farm business is a process which involves all of the following:

- Assessment of the existing farm business' current situation;
- Identification of the core values of the team/family;
- Agreement on the team/family's vision for the future;
- Formulation of a strategic plan ;
- Monitoring of the new strategy ;

Each will now be discussed.

Assessment Of The Existing Farm Business' Current Situation

As with any journey, when setting out you must know where you are starting from. It is important to begin with a thorough evaluation of the current business and circumstances. Every dairy farm business and family has its own particular characteristics which can create opportunities as well as obstacles. An assessment of the current situation should look at both the physical (hectares, stock numbers, milk solids production, grass grown, feed management, herd fertility, animal health, nutrient levels, application rates etc.) and financial (liquidity, profitability, etc) aspects of the farm business.

Possibly the simplest way of getting a snapshot of a dairy farms financial and physical performance is to utilise the Teagasc *Profit Monitor* financial analysis tool. Farmers ought to be wary of the impact that a new diversified enterprise will have on a family farm, especially when there may be limited financial resources available to invest in the new enterprise. As with conventional dairy farm expansion, if the dairy farm is not efficient in its current state, then expansion and likewise, value-add diversification is unlikely to be the best strategy.

Ensure that the farms current situation is assessed from several stakeholders point of view. This will add perspective and clarity. At this stage a SWOT analysis is useful to assess Strengths, Weaknesses, Opportunities and Threats. Strengths and weaknesses refer to factors that are internal to your business while opportunities and threats are external.

Teagasc offers a workshop based training programme called *Options* aimed at farm families who are considering diversification. Guest farmers who have successfully diversified speak at each session and Teagasc specialists are in attendance to answer any queries. The course also includes visits to diversified farms and opportunities to network with agencies such as the Local Enterprise Office, local development companies and relevant education and training boards. In the authors experience 'Options' is a good first point of contact, but could be further developed to offer one-to-one mentoring to support farm families to evaluate their current farm situation and their suitability for new enterprise development. Teagasc has earned the trust of farmers and is perfectly placed to advise farmers and their families considering farm diversification.

Identification Of The Core Values Of The Team/Family

As the foundations of the new business strategy are laid, the core values of the stakeholders (owners, employees, etc.) must be central. Successful businesses stay true to their core values and create a culture that stakeholders can buy into. The more closely the vision for the future of the farm business is aligned with the core values of the stakeholders, the more likely success will be achieved. Useful questions to explore with stakeholders include: Where do we want the business to be? What does success look like? What are the expected benefits? Does the team/family have the energy, commitment and drive to see such a project through?

Case Study II: Staying True to Core Values

Goats Cheese Prepared With Care at The Mekkerstee, Holland

The author visited a care farm, called the The Mekkerstee in Holland where the farm owners work closely with a local health facility for people with psychological and mental disabilities. They work with sixty-five participants and where possible the aim is to prepare participants for paid work in society.

The core values at The Mekkerstee are based on caring for their participants, producing great quality produce and offering access to the public. As they say themselves this has been a 'golden combination'. Not only does the farm add value to their goats' milk but they contribute immeasurably to the lives of the participants they nurture at their farm.

The goat farm is going from strength to strength, having started out in 2001 with 80 goats and a basic cheese dairy. The farm has since grown to farm 650 goats with a state of the art cheese factory and maturing facilities, a farm shop, petting farm, playground, restaurant and meeting facilities. The participants assist with the caring for the goats, packaging of cheese, administration and in the farm restaurant.



Gouda curds ready for pressing



The goat shed at The Mekkerstee

Agreement On The Team/Family's Vision For The Future

The Business Model Canvas

Before documenting a lengthy business plan, a visualisation tool called the '*Business Model Canvas*' could be utilised. It is a single page which depicts the means by which the business will achieve its aim, shown in basic building blocks which cover the main areas of the business i.e. key partners, key activities, resources, cost structure, value proposition, customer relationships, customer segments, channels, and revenue streams. It can be printed out on a large surface so that the team/family can jointly sketch and discuss each element of the business model, see Appendix A for a blank sample. It helps to keep business planning discussions amongst stakeholders focused while promoting dialogue and creativity. On completion there should be a clear vision of where the farm (and family) is aiming to be in the future, which will result in more strategic decision making while also serving as motivation through more challenging times for the business, should they arise.

The author has observed that in many instances farm families who undertake value-added diversification have complex motivations - while economic motivations are to the forefront, it is often a development strategy that has lifestyle benefits and the potential to secure a livelihood for the next generation on the family farm. Therefore the 'vision' is often one that is long term in nature.

Mission Statement

Once the vision is agreed on, a simple statement of purpose known as a *mission statement* should articulate 'who you are', 'what you stand for' and 'what the aim of the business is'. While finalising a mission statement may seem futile, being able to succinctly articulate the mission of the business and the core values that underpin it, is particularly important when it comes to articulating your brand message to the target consumer, and vital in attracting and retaining the best recruits and ensuring employee engagement.

Formulation Of A Strategic Plan

Refining ideas and thoughts about a potential venture into a business plan is an important step in creating a successful value-add enterprise. The business plan documents all aspects of the business and will help determine if changes in strategy are required. The best business plan is a document that is constantly under review and is regularly updated to reflect the effects of both internal and external forces on the business. Taking the time and effort to work on the business plan will pay dividends, while changes on paper may take time it is far more cost effective than investing large amounts of capital only to later realise that the business strategy was not viable.

Marketing Strategy

At the core of a value-add diversification strategy is the marketing strategy. Conducting extensive market research and a subsequent test of the market is the most reliable way to establish with any degree of certainty whether there is a gap in the market and if there is consumer demand for the product.

It would be unwise to solely rely on a catchy brand name and the opinions of family and friends. To make a commercial reality of the proposed product it must be *the right product, in the right place, at the right price, at the right time.* A test of the market will require pilot production trials which could potentially be conducted at an established manufacturers premises, at an educational institutions research facility, or perhaps an equipment manufacturer can offer trial facilities

Market research is the process of gathering and analysing data to gain an understanding of the marketplace in which the product will compete. Key areas of research include, market trends, market size, competitor profiles, target consumers, key benefits to consumers, outlets where consumers expect to purchase the product, etc.

Information sources are primary and secondary in nature. Primary research seeks answers from the source, e.g. online surveys, interviews with potential customers, focus groups, in store tastings etc. Secondary information gathering is essentially desk research of industry publications, trade publications, government publications, professional market research reports, etc. Secondary research is the cheaper and more effective source to start from and refine the aim of the research. Primary sources of information can be tapped into once secondary information gives a more refined focus to the research.

The 4 P's of Marketing - Product, Price, Promotion, Place

The 4 P's of marketing make up the business' marketing mix [15]. Market research must provide clear guidance on product, price, promotion and place.

Product: There is a vast array of value-added dairy products that can be produced on farm. The choice of value-added product must align with the farm's system while also being of high quality, offer unique selling points (USPs), be competitively priced and be consistently available in convenient outlets.

In deciding which value-added product is most suited to a given farm it is critical not to fall into the trap of becoming a product orientated business that will attempt to retail what they can produce as opposed to being consumer oriented and producing what the customer actually wants. Gain a clear understanding of the basis on which consumers buy the product (i.e. cost, value, provenance, health benefits, indulgent treat, etc.), how will the product be differentiated from the competition and how and when they will consume it. The farmer must be passionate about the product and prepared to sell the authentic honest story of the farm and the products provenance. Listed below are the most common value-added dairy products, in increasing degree of processing complexity and initial set-up costs:

Bottled milk is regaining the popularity and appeal it once had. Some consumers want to know the farm and conditions under which the milk is produced. Glass or plastic containers can be used, with glass bottles offering the appeal of environmental friendliness and nostalgia. The plant equipment required is basic and includes a separator, pastueriser, homogeniser and bottler. The main complexity is its short shelf life and varying fat content during lactation.

Butter is a traditional dairy product. The production of butter demands a large amount of milk fat. It is particularly suited to the Jersey breed of cow which tend to produce milk naturally high in fat.

Yogurt is growing in popularity, as people become more aware of the health benefits of probiotics in yogurt that aid digestion. Short shelf life adds to its complexity.

Ice cream is a popular value-added dairy product. The plant equipment required includes

equipment for incubation, mixing, freezing and filling. The seasonality of demand, building up and storing stock and distribution are the main complexities.

Cheese is probably the most popular and well-know value-added dairy product. Hundreds of farm produced cheese varieties are on the market, ranging from washed rind, mould ripened soft cheeses to hard cheeses such as Cheddar and Gouda. Strict hygienic control is required in the processing of cheese, there is no room for error in the milk processing and hygiene standards. The use of suitable cultures and technology are the key to success. While hard cheese production is suited to a spring calving system when cows are dry for a number of weeks of the year, soft cheese production requires a milk supply all year round.

This list is by no means exhaustive and there is vast opportunity for innovation in the sector e.g. barista milk, smoked/flavoured butter, flavoured milk, kefir, A2-A2 milk, etc.

Price: In order to determine pricing, the cost of production, the competitions pricing, the value to the consumer, the expected retailer markup, and distribution costs must all be known. Your rationale will determine your pricing strategy e.g. setting a high price may reflect your high quality brand, setting a low price will undermine the competition, or perhaps you will opt for a strategy to cover cost and reduce volatility.

Promotion: How will the product be promoted? How will the product be packaged and branded? Which advertising channels will reach the target consumer? Is there seasonality in the market and therefore optimal times to run promotions? What industry food awards can be entered? Will product branding relay the farms story, produce and core values?

A key driver to success of a farm based value-add venture is the opportunity to build unrivalled trust with the consumer by using the farmers own personal voice to relay the authenticity of the farms story, sustainability credentials, produce and brand.

In the current market place, verified sustainability credentials are becoming an increasingly important selling point for value-added dairy farm products. Consumers want to know where their food comes from, how it is produced and by whom. In the wake of international food scandals, they are demanding transparency. They are even willing to pay a little more for the confidence that their food purchases help to create jobs, promote local economies and are produced sustainably. Bord Bia's 'Origin Green' sustainability programme allows Irish farmers and food producers to demonstrate their commitment to sustainable production, while credibly

proving their credentials and their plans for future improvement.

Place: While the heritage and '*terroir*' of the place where the value-added product is produced directly influences the product and the brand, in this instance *place* within the marketing mix refers to the process of moving the product to the consumer i.e. distribution and placement. Correct distribution and placement focuses on ensuring the product reaches the right target consumer at the right time. It accounts for where the business in located, where the target market is and how to connect the two. It is possibly the most complex hurdle for a value-added farm enterprise to overcome as it must account for where the product will be retailed (e.g. farm gate sales, farmers markets, farm shop, regional wholesalers, regional super markets, national multiples, online, speciality stores, trade shows, food festivals, exported, etc.) and how the product will be distributed.

Case Study III: Austrian Hay Milk - Successful Product Differentiation

Heumilch, which translates as 'hay milk', is a traditional system of milk production associated with Alpine regions. During the summer months cows are fed meadow grasses and herbs and in the winter while indoors they are fed hay and some concentrates. The feeding of silage or fermented feedstuffs is strictly prohibited.

The author visited a 'heumilch' farm family in the Austrian Tyrol. At the time of the visit the family's 20 Fleckvieh cows were housed indoors on the home farm of 10 hectares which sits at 800 metres above sea level. The cows and young stock spend the summer months 20 kms away on their Alpine farm of 30 hectares at 1,600 metres above sea level. The farmer receives a bonus of 5c/l for his 'heumilch' and a further bonus for also being organic.

In Austria 8,000 dairy farmers produce 'heumilch', which accounts for 15% of Austria's total annual milk output. In 2016 this traditional approach to dairying was awarded the coveted Traditional Speciality Guaranteed (TSG) quality seal by the European Union. It is the first Austrian product permitted to carry this seal. TSG status increases the market value of products as it differentiates them by emphasising their traditional method of production.

There are three quality logos which attest to the specific traditions and qualities of food and agricultural products produced in the EU. Through these logos, consumers can identify traditional, quality products and are assured of the authenticity their origin and production. Ireland has not exploited this opportunity with just seven approved PDO/PGI food products (Clare Island Salmon, Connemara Hill Lamb, Imokilly Regato, Timoleague Brown Pudding, Waterford Blaa, Oriel Sea Minerals and Sea Salt). At a time of growing demand for high quality food with clear local provenance there is an opportunity for producers to add value and potentially secure a better price by matching PGI products with consumer demand.



EU Logos for Protected Designation of Origin, Protected Geographical Indication & Traditional Speciality Guarantee

Monitoring Of The New Strategy

Key Performance Indicators

Key Performance Indicators (KPIs) are key measures that indicate how effectively the overall farm business is meeting its key objective e.g. to maximise net profit per hectare. Useful KPIs are SMART - Specific, Measurable, Achievable, Results focused and Time based. It is essential to assess the KPIs of the existing business and determine how they will need to adapt given the change in business strategy from commodity milk production to the production of a value-added product. KPIs are more detailed than the overall business objectives and are based on a shorter time frame, they can act as an early warning signal if a change in plan is required.

KPIs typically used by dairy farmers fall into one of four broad categories;

- Grass Grass Grown, Grass Utilised
- Cow Herd EBI, Six Week Calving Interval
- Yield Milk Solids (kgs), % Fat, % Protein, Somatic Cell Count
- Costs Cost of Production per litre produced

The value-add venture is likely to have a direct impact on many of these KPIs. For example the following may become important considerations:

- Cow breed is the ideal ratio of fat and protein and flavour complexity for the proposed valueadd product being achieved?
- GMO status is this a demand of the target market? What are the possible implications for concentrate feed costs and certification?
- Grass-fed Is 'grass-fed' an important differentiator?
- Is year round milk production necessary, thus necessitating a change in calving pattern?
- Is sustained profitable growth being achieved?

While new KPIs may emerge, based on:

- Recruitment and retention of the best people
- Product yield of product per litre of milk used
- Minimising wastage in production facility e.g. efficient water usage, recyclable packaging.
- Welcoming more visitors to the farm
- What proportion of the dairy farms milk output is being supplied to a dairy cooperative, versus what proportion is being processed on farm?
- What number of in-store tastings were undertaken and trade-shows were attended.
- What volume of produce is being exported?

KPIs allow the farmer to immediately assess how the business is performing and in turn identify what actions should be taken.

Capability

Oxford Dictionary Definition of Capability: The power or ability to do something.

Operations Capability

The two most typical routes to value-add diversification are on-farm and off-farm processing. Each approach carries with it different financial implications in terms of infrastructural needs, human resource demands, productivity levels and profitability.

- On-farm processing all activities are carried out on the farm. Significant investment in
 equipment and premises and the development of new skills are required. With this approach
 control is maintained on site and the farm is more closely linked to the product and thus
 maintains stronger brand message.
- Off-farm processing commence processing by renting, hiring or using another business' spare production capacity or hire space in a food incubation centre. Off farm processing avoids capital expenditure in physical resources. However product formats may be limited to what the particular processor can offer. The farm may be vying for processing time and it may limit productivity and ability to response to unforeseen market opportunities.

Building The Team

Modern dairy farmers no longer just manage cows. Since the abolition of milk quotas in March 2015 Irish dairy farmers have the opportunity to increase their milk production. As a result of increasing herd sizes the requirement for additional labour has created a completely new challenge for many dairy farmers. This challenge will be faced by a value-added enterprise very early on in its gestation.

While the farmer developing a value-add business must have the ability to engage with their customers, spend time promoting the product and be in regular contact with the market, the labour resources on the farm will become stretched. Initially this could be addressed by using more labour efficient techniques on farm e.g. contractors, contract rearing of stock, relief labour, further mechanisation etc. However, assuming the value-add business grows it will not be long before the first 'hire' will be needed, whether it is on the conventional dairy farm side of the business or the value-add side will be determined by the occupational preferences of the

farmer/farm family and where their strengths and capabilities lie.

Recruiting and retaining great employees is vital for success. A great employee is not just someone who is hard working, dedicated and capable they must also share the core values of the business. The recruitment process must determine which candidates share common core values and supports the company mission. If they are not a good fit they will not thrive. "*Hire slow and fire fast*" were words of wisdom imparted to the author while travelling in the United States with the Nuffield Global Focus Programme. To do so, has the effect of increasing the talent density of a business. It is an approach which poses challenges, takes patience and sometimes difficult decision making. It is worth considering outsourcing the HR function to a firm that specialises in the area of talent acquisition as getting this crucial step wrong can have costly consequences, both culturally and financially.

"Culture eats strategy for breakfast" is a quip that came up time and time again while meeting business leaders on the author's Nuffield travels. Any business that detaches culture and strategy are putting their success in jeopardy. No matter how brilliant a business strategy may be, it will be unsuccessful if it is not supported by the organisations culture. On the flip side, no culture however strong will overcome a poor business strategy.

Skills

The author has met with numerous successful farmer-diversifiers and observed common characteristics. A trait that is very evident is an entrepreneurial orientation and the ability to exploit opportunities aligned with the capabilities and resources of the team, often a farm family and the farm. Personality traits such as proactiveness, excellent communication skills, adaptability, optimism and confidence in their own ability to control events are also to the fore.

As the diversified value-add enterprise must function at every stage of the food supply chain there is a vast range of specific skills needed to be successful - ranging from farming, processing, branding, marketing, promotion to distribution, etc. These skills and expertise are rarely found in one individual, let alone a specialised dairy farmer who may have limited offfarm experience or education outside of agriculture. This is why so very often, other members of the farm family play a very significant role in contributing valuable experience, skills and labour to the enterprise. There is a notably high level of female involvement in such enterprises, just look to examples of leading Irish diversified farm success stories such as Glenilen Farm, Cashel Blue Cheese, etc.

At the beginning of the transition from commodity dairy farmer to value-added producer the farmer needs an awareness of his/her own strengths and weaknesses, the skills that are lacking and those that can be developed either by him or within the family or indeed recruited. Visits to existing value-add dairy farm businesses are both inspiring and a useful means to get a handle on the skillset requirements. Business coaching, discussion groups, training, mentoring and networking are all means of adding to the managerial tool kit, with many third level institutions and government agencies offering such opportunities.

Legal Standards, Approvals and Hygienic Requirements

All food businesses, both big and small, must be compliant with legislation relating to food hygiene and food safety. Ultimately, the responsibility for ensuring that the food produced is safe for consumption lies with the producer. By law, food businesses must operate in a safe and hygienic manner and products must comply with legal standards for analysis and labelling. In Ireland, the 'Milk Hygiene Section' and 'Dairy Controls & Certification Division' at the DAFM implement national and EU legislation to approve and supervise food business operators involved in the production of milk and milk based products. Strict controls are implemented to ensure quality and safety standards are maintained all the way from milk production at farm level, through manufacturing and storage. Inspections, audits and product sampling to verify compliance with legislation are carried out. A dairy food business must satisfy the following regulatory and legislative requirements:

- The business must be registered with and have approval from the DAFM;
- The business operators must be knowledgeable of food hygiene legislation;
- A food safety management system based on Hazard Analysis Critical Control Points (HACCP) must be implemented, as must a traceability system;
- Nutritional analysis and shelf life testing must be completed.

Additional requirements of the customer may include approval by an independent accreditation standard (e.g. BRC, EFSIS).

Case Study IV: Recognition & Sourcing Of The Required Capabilities - The Little Milk Company

A group of ten organic dairy farmers from the provinces of Munster and Leinster came together in 2008 with the aim of adding value to their milk and increasing their farm profitability by reducing their exposure to fluctuating milk prices. The Little Milk Company was formed to act as their product development and marketing body.

They recognised that in order to develop their products and markets, they needed to recruit people with the required capabilities i.e. specialists for their product development, marketing and sales, so while they each had a financial stake in the enterprise, they could concentrate on what they do best, which is dairy farming.

In terms of operational capability they chose not to establish an on-farm processing unit for their cheese production. Instead they outsourced production to numerous local artisan cheese producers, which meant they could produce a wide range of artisan cheeses, suitable for various markets, both domestically and internationally.

Working as a collaborative gives each farmer a degree of independence, as not all of their milk is used for cheese making. Each farmer continues to sell a substantial amount to the liquid milk market thereby spreading their financial risks.



Capital

Oxford Dictionary Definition of Capital: Wealth in the form of money or other assets owned by a person or organisation or available for a purpose such as starting a company or investing.

Government Supports

There are over 80 different government agencies offering supports for Irish start-up businesses. The main agencies providing capital supports to businesses in rural Ireland are the Local Enterprise Offices (LEO), Enterprise Ireland and LEADER.

Local Enterprise Office

The Local Enterprise Office network provides advice, information and support to those interested in starting up a new business or already in business including entrepreneurs, early stage promoters, start-ups and small business looking to expand.

The LEOs offer:

- Start-your-own-business training courses;
- Market research information;
- Business planning advice and templates;
- Access to experienced business mentors;
- Direct financial supports to micro enterprise i.e. with 10 or less employees;
- Mentoring with experienced experts;
- Guidance on the services to support the growth and development;
- Advice on local authority regulations, planning, accessibility, environment, procurement and other issues;

- Opportunities for effective business networking;
- Connections with appropriate state agencies such as:
 - Department of Social Protection: Enterprise Supports;
 - Microfinance Ireland: Business Loans;
 - Revenue: Start Up Relief for Entrepreneurs;
 - Education and Training Boards: Business Courses.
- Progression pathways for high-potential start-ups to Enterprise Ireland [18].

Enterprise Ireland

Enterprise Ireland (EI) is the government organisation responsible for the development and growth of Irish enterprises in world markets. Enterprise Ireland works in partnership with Irish enterprises to help them start, grow, innovate and win export sales in global markets. In this way, they support sustainable economic growth, regional development and secure employment.

Enterprise Ireland offers assistance to potential High Potential Start Up (HPSU) businesses which have the potential to develop an innovative product or service for sale on international markets and the potential to create 10 jobs and €1m in export sales within 3 to 4 years of starting up. Enterprise Ireland clients are assigned a *Development Adviser* suitable for the stage of business development and sector, who are available to:

- Discuss the development needs of the business;
- Provide impartial and confidential advice to the entrepreneur on their business plans;
- Provide information on the wide range of financial and business development supports available from EI;
- Guide the entrepreneur through the application process for relevant supports;
- Make the entrepreneur aware of events and networks of relevance to their business.

'New Frontiers' is Ireland's national entrepreneur development programme run by Enterprise Ireland in partnership with the Institutes of Technology. The programme is designed to support entrepreneurs with innovative business ideas who are planning to establish and run their own company. A range of supports including mentoring, incubation space and a scholarship payment are provided to help accelerate the development of the business and to equip the promoter with the skills and contacts needed to successfully start and grow a company [19].

LEADER

LEADER is a Programme co-funded by the European Agricultural Fund for Rural Development, with €250 Million provided under the Rural Development Programme. LEADER supports both private enterprise and community groups in delivering projects aimed at improving the quality of life in rural areas and encouraging the diversification of economic activity in rural areas. Funding is delivered through Local Action Groups in line with the Local Development Strategies that are developed by each Local Action Groups in respect of the 28 sub-regional areas in Ireland. The Local Action Group selects projects for funding based on the objectives outlined in each individual strategy. These objectives come within a range of defined themes that include enterprise development and job creation, the development of rural towns, social inclusion and the environment [20].

Business Financing

An 'Access to Finance' survey published by the CSO shows that bank finance is by far the most popular type of finance sought. Relatively few Irish SMEs seek finance from non-bank sources e.g. in 2014, 4.7% of medium sized enterprises sought equity finance compared to 39.8% of similar sized enterprise who looked for bank finance [21].

Although the banks dominate business financing in Ireland, alternative financing does exist. Outside of traditional loans, crowdfunding offers a popular and effective ways of raising finance. It is the practice of raising small amounts of money from a large number of people through an online portal (e.g. Kickstarter, iCrowdfund and Fundit).

If the business is willing to forego equity in exchange for investment then consider seeking an Angel Investor. Angel Investors tend to be experienced entrepreneurs, who have more to offer than just financial input e.g. business advice, mentoring etc.

Peer-to-peer business loans are provided through an online market place which connects businesses seeking loans with investors who wish to lend money. The market for peer-to-peer business loans in Ireland has yet to take off, but some options are available (e.g. Linked Finance, Grid Finance).

Microfinance Ireland, working in partnership with the Local Enterprise Offices offers unsecured loans of up to €25,000 to micro enterprises.

Invoice Trading is a means of raising funds quickly from future revenue. It essentially involves selling uncollected invoices at a discount. (Invoice Fair offers this service in Ireland).

Bord Bia Supports

Bord Bia, the Irish Food Board, is an authoritative source of strategic insight linking market opportunities to industry. There is a vast range of supports available to Bord Bia clients.

As a first port of call, the Bord Bia Vantage website is an online resource aimed at small to medium food businesses. It offers a wealth of valuable market information, consumer insight and guidance on the business development supports offered by Bord Bia.

The *Thinking House* at Bord Bia is a world-class library and information service available to Bord Bia clients. It has the potential to save time and money, reduce risk and uncertainty and lead to more informed marketing decisions by offering insight into the latest global trends, research and consumer insights.

Bord Bia also provides financial support to Irish food, drink and horticulture companies through their Marketing Assistance (MAP) and Step Change (SCP) programmes. Both initiatives aim to enhance business competitiveness. The MAP assists in establishing a foothold in new and emerging niche markets while the SCP funds significant new projects which have the potential to impact significantly on business growth.

Legal Organisation and Structuring

Financially sound businesses tend to be built on strategies that account for tax efficiency and carefully considered financing.

Traditionally farm businesses are run as sole traders or in partnership. A growing number of farms are incorporating as private limited companies, often to avail of tax and other benefits. Whether a diversified enterprise is to be run under the existing farm organisation structure or as an independent entity will depend on numerous considerations. It is recommended that an accountant and solicitor are consulted before determining the most appropriate legal structure for the business.

Conclusions

There is an alternative route to increasing the profitability of Irish dairy farms which involves a significant change in strategy. Given the demands of the value-added approach it is a business model that will not align with the capabilities and resources of many farm families. Even so, it is surprising that so few Irish farms follow this path.

There are economic, social and cultural reasons which are all contributing to such low diversification rates on Irish dairy farms. In Ireland, farmers' identities are rooted in conventional farming practices, on inter-generational family farms where they are sheltered from the markets thanks to the co-operative processing model. Farmers have become accustomed to producing commodity products and lack the experience to attempt the value-add approach.

In recent years, there has been growing demand for local products, due to an increasing consumer desire for products and brands that have real, authentic and honest origins. Consumers want to know where their food comes from, how it is produced and by whom. They are even willing to pay a little more for the confidence that their food purchases help to create jobs, promote local economies and are produced sustainably.

While there are many 'ingredients' required in order to make a success of such a dramatic change in business strategy, with energy, passion, and sound business planning based on the right combination of strategy, capability and capital, founding and building a successful value-add dairy business is achievable.

The change in strategy must balance the existing strategy of being the lowest cost producer of an undifferentiated commodity with becoming the producer of a superior quality, value-added product that is in demand.

As the diversified value-add enterprise must function at every stage of the food supply chain a vast range of specific skills are required to be successful - ranging from farming, processing, branding, marketing, promotion to distribution, etc. When transitioning from commodity dairy farmer to value-added producer the farmer needs an awareness of his/her own strengths and weaknesses, the skills that are lacking and those that can be developed either by him or within the family or indeed recruited. There is a notably high level of female involvement in such

enterprises.

The capital requirements of a diversified value-added farm enterprise will depend largely on the degree of processing complexity and scale at start-up. Capital supports are available, however farmers have not been availing of previous EU backed RDPs (Rural Development Programmes), which specifically provide for farm diversification projects. There is a lack of awareness of the supports available and the schemes and agencies who implement them. There is also a perception amongst many farmers that the regulations relating to food production are too complex.

Recommendations

- A culture of entrepreneurship must be encouraged and supported within farm families. Enterprise education must be encouraged throughout the entire education cycle, from primary school right through to third level. Agricultural courses should include modules on entrepreneurship and farm diversification and include visits to successfully diversified farms.
- Women have a vital role in diversification into non agriculture based activities at farm level. Indeed enterprising women are at the helm of many of Irelands iconic value-added dairy brands. Entrepreneurship acceleration programmes aimed at women such as ACORNS, are having a positive impact on female entrepreneurship in rural Ireland and should be continued to be supported.
- Given the complexities of value-add farm diversification the development supports on offer need to be multi dimensional. Any strategic planning must be based on an evaluation of the available experience and skills, and the vision of the farm family as a whole.
- Teagasc has earned the trust of farmers and is perfectly placed to advise farmers and their families considering farm diversification. The Teagasc training programme 'Options' is a good first point of contact, but could be further developed to offer one-to-one mentoring to support farm families to evaluate their current farm situation and their suitability for new enterprise development.
- Pilot plants and food incubation centres play a vital role in the development of new food products. The Teagasc Research Centre at Moorepark is one of the world's leading dairy research centres and continues to play a crucial role in the growth of the Irish dairy industry. A 'National Food Innovation Hub' is currently in development at Moorepark. A unit within the hub offering shared space for SMEs would be of value to the development and growth of Ireland's food and drinks SMEs, including farm based value-add enterprises.
- While farmers readily participate in schemes such as environmental protection schemes (e.g GLAS, AEOS) they have not been inclined to engage with other rural development programs such a LEADER. There is a need to ensure farm families are more aware of the financial and educational supports which are available and to ensure that those supports are not excessively

bureaucratic or cumbersome to avail of. Furthermore once government backed funding such as LEADER or LEO match-funding is awarded to a project the pillar banks should accept this approval as collateral.

• Government initiatives to support food festivals, food marketing networks and farmers markets should be expanded. All of these initiatives contribute to the development of Ireland's food culture. An even more developed food culture would provide a more receptive market into which to introduce new differentiated products.

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APPENDIX - Business Model Canvas

