Copyright Statement

The digital copy of this dissertation is protected by the Copyright Act 1994 (New Zealand).

This dissertation may be consulted by you, provided you comply with the provisions of the Act and the following conditions of use:

- you will use the copy only for the purposes of research or private study
- you will recognise the author's right to be identified as the author of the dissertation and due acknowledgement will be made to the author where appropriate
- you will obtain the author's permission before publishing any material from the dissertation.
Determining the value chain viability of Alpaca in New Zealand.

A dissertation
submitted in partial fulfillment
of the requirements for the
Graduate Diploma in Commerce

at
Lincoln University
by
J.R. Heap

Lincoln University
14 February 2016
Abstract of a dissertation submitted in partial fulfillment of the requirements for the Graduate Diploma in Commerce

**Determining the value chain viability of Alpaca in New Zealand.**

**A review of the value streams from alpaca with some analysis for their success of some value streams and possibilities for others.**

by

Jonathan Heap

A dissertation on the exploration of the value of the animals, fibre, skin and meat as also the value as a tourist attraction of the New Zealand alpaca; can it claim to be progressing from an emerging to a viable industry? The dissertation examines research from both the USA and Peru in particular. The growers are questioned over the value chain possibilities that are open for them to develop. Problems and hurdles to growth appear to be an ageing population of larger growers, overvalued stock that is reenforced by established growers. Progress seems to have been made in placing market value on the fibre and an ongoing supply of well bred animals. But a real and competitive value chain for the meat needs to be established so broad acre farmers can be encouraged into the industry so the intent is to become a mainstream industry and not just as an investment for people wanting to live on small blocks in the country with alpacas a symbol of conspicuous consumption.

The research method basis is telephone interviews with 30 people which covered the demographic of the alpaca group of people involved in this alpaca keeping activity. Those people were interviewed informally but also against a detailed questionnaire of the aspects keeping alpacas and putting a value on the animal and its product.
There were limitations on the research in that these were people who were active in fibre sales, kept animals and sold animals. No questioning was done to those who had exited the industry nor was questioning done with new entrants in particular. However negative and positive comments and points of view were expressed so some representation was achieved by the strata that was established.
Acknowledgements:
I would like firstly to acknowledge each of the thirty interviewees who make up the basis for the answers to the questions given and ensuing discussion. They remain anonymous but gave freely of their time and were candid in their answers. All of the interviewees openly shared details about their alpaca activities together with acquiescently discussing the topic of how alpaca have developed in their lives and how they saw themselves in relation to the bigger picture. All persons but one who were approached were helpful and interested in the research topic and added their feelings as to what is happening with the group. At all times they were positive and enthusiastic with the exception of one person who saw no future and only missed opportunities.
I would like to thank Mark Wilson for his interest, enthusiasm and constructive criticism and dialogue not to mention patience without whom this project would not have the structure and format it has. I have an academic interest in this project and with this research feel that although obstacles may be there, there is a way for alpaca to become a more serious contender for agricultural land use.
Finally, thank you to my wife for allowing the time to go into this dissertation.

Contact Details:
Jonathan Heap
Mobile 021 595367
Email: office@wadsworthheap.co.nz
Statement of Authenticity

I confirm that:

• This dissertation represents my own work;
• The contribution of any supervisors and others to the research and to the dissertation was consistent with normal supervisory practice;
• External contributions to the research (as defined in the House Rules) are acknowledged.

Candidate: Jonathan Heap                                      Date: 14 February 2016
Abstract. Page 2
Acknowledgements: Page 4
Statement of Authenticity Page 5

I. Contents Page 6
I.1 List of diagrams Page 8
I.2 List of tables Page 9
1 Introduction. Page 11
2 Literature Review. Page 14
   2.1 Emerging Industry and Cluster Theory Page 14
   2.2 The USA and NZ alpaca industries Page 19
   2.3 South American alpaca industry Page 21
   2.3 Quantitative aspects of alpaca fibre Page 23
   2.4 Value chain analysis Page 24
      2.4.1 Animal value stream Page 28
      2.4.2 Fibre value stream Page 28
      2.4.3 Meat and skin value stream Page 29
      2.4.4 Farm tourism value stream Page 31
3 Current position and its value chains. Page 32
4 Method. Page 36
5 Result. Page 40
   5.2 Breeding animal sales Page 44
   5.3 Fibre sales Page 46
   5.4 Meat and skin sales Page 49
6 Analysis and discussion.  
   6.1 Breeding animal sales value chain  
   6.2 Fibre sales value chain  
   6.3 Meat and skin sales value chain  
   6.4 Farm tourism sales value chain  

7 Conclusion.  

8 References.  

Appendix.
I.1 List of diagrams

Diagram 2-1 - The growth of a new industry 1  Page 11
Diagram 2-2 - The growth of a new industry 2  Page 12
Diagram 2-3 - The growth of a new industry 3  Page 14
Diagram 2-4 - The international textile value chain  Page 21
I.2 List of tables

Table 3-1  Historic alpaca population growth in New Zealand
Table 3-2  Livestock numbers by type and region
Table 3-3  Harmonised Trade - Exports (Monthly)
Table 4-1  Pool participant analysis for Bates Mills pool 152, 2015
and selection of people to interview
Table 4-2  Participation and fibre pooling weight analysis for
Bates Mills Pool 152, 2015
Table 5-1  The Age Demographic
Table 5-2  Involvement Factor.
Table 5-3  Length of time in years involved in Alpacas.
Table 5-4  Farm work and animal health
Table 5-5  The relationship of the NZ Alpaca Association to the growers
Table 5-6  For the income stream from breeding animal sales
Table 5-7  Outlook on breeding
Table 5-8  Sales and promotional channels for alpaca animals
Table 5-9  Stock and breed improvement programme
Table 5-10 Where the growers saw themselves in the overall group and
profitablity of their enterprise.
Table 5-11 Income stream importance from the fibre value chain
Table 5-12 The importance of fibre value in their enterprise
Table 5-13 Market for the fibre
Table 5-14 Profitablity of Alapca fibre production
Table 5-15 Fibre testing and micron grown
Table 5-16 Involvement level down the value chain such as sales of
sweaters skins or direct fibre sales to users
Table 5-17  Alpaca animal sentiment and the production and consumption of alpaca meat

Table 5-18  Why animals are not killed for meat

Table 5-19  Potential of skins

Table 5-20  Is Farm Tourism important with good growth prospects

Table 5-21  Customers and how they are attracted of those involved

Table 5-22  Motives for activity by the growers

Table 5-23  Interest in participating further down the value chain to gain more income by alpaca items distributed to retail by investing some of their fibre value into a separate distribution company

Table 7-1 Emerging Industry by measurements from Diagram 2-2, method 1, page 14

Table 7-2 Emerging Industry by measurements from Diagram 2-2 method 2. Page 14

Table 7-3 Emerging Industry by measurements from Diagram 2-3 method 3, page15

Table 7-4 Emerging Industry by measurements from Diagram 2-3 method 4, page 15

Table 7-5 Emerging Industry by measurements from Diagram 2-4 method 5 page 17
1. Introduction

Alpacas have been present in the New Zealand agricultural scene for some 30 years. They are seen as quirky and different, but have not made inroads into mainstream agriculture as deer have over a similar period. This may well have been a conscious decision on the part of the very early promoters of these animals.

It seems that the initial and ongoing promotion and sale of these animals was specifically made to wealthy individuals who had cash, as well an eye to a well promoted and constructed investment story based on only the sale of the animals. The value of the fibre was well promoted with perhaps an overstated value as was sold as the “fibre of the gods”, however, the strengths of the animal and ensuing activities as described by promoters are seen by some in academica as weaknesses. This is reflected in the once high prices of breeding stock now being replaced by markedly lower prices due to recession, a full market and over capacity with all participants wanting to be a breeder not a farmer and perhaps international competition. Some suggest that a sector of the industry is attempting to hold up the price of breeding stock and this may be to the detriment of the industry as a whole; one academic describes it as a perfect scheme of over promotion to urban people with little rural or pastoral knowledge (Alonso, 2009).

However, there many enthusiastic and knowledgeable individuals who have spent a lot of time, energy and money in breeding these animals from a low standard to a high standard to such an extent they have businesses that sell internationally against USA and Australian competition. But many growers do not trade at a profit, and for most it is a hobby that
provides some cash. One academic describes them as “lawnmowers” and should in the west be seen as such and not profit centres (Saitone & Sexton, 2012).

There is a need to review the market the New Zealand Alpaca Association is targeting and also to facilitate the development of a meat industry, but there could be an initiative for the whole group to work together to allow processing of its fibre as well so as to create a more integrated value chain.

The purpose of this dissertation is to explore the current position of the alpaca industry and see if there is any opportunity to grow this small scale industry into a larger scale industry hence creating more value in the value chain for its participants and for New Zealand.

There are five major value streams for these alpacas

1. Animal sales (see section 6.1)
2. Fibre sales (see section 6.2)
3. Meat sales (see section 6.3)
4. Skin sales (see section 6.3)
5. Farm tourism (see section 6.4)

These value chains will be explored in some depth along with some value chain theory and emerging industry theory. The industry participants interviewed for this research are genuinely interested and helpful. All but one answered the questions in the interviews which revolved around the five value streams.

In 2013 the Alpaca Association of New Zealand Inc described itself as “fostering and expanding New Zealand’s recent new fibre and lifestyle industry”, (Bateson Publishing Ltd 2013 p.95).

Some research is based on Bates Mills LP pooling records. Bates Mills LP runs a New Zealand alpaca pool and has given its supplier list for interview purposes that formed a basis of the sample frame. Some of its pooling statistics and results were also released on an
anonymous basis. A pool is where participants group similar fibre types to achieve economies of scale to allow sales to best advantage; Bates Mills LP runs one of these such pools in New Zealand for alpaca.

The current alpaca industry has many small participants. There is a National Association who established an administrative system for these participants in particular the bred registry. This dissertation does explore the relationship between the individuals and the Association and what the group have to do to ensure the continuation of that group so it can develop into a true broad acre agricultural industry so that the various value chains can be maximised for the benefit of all participants.

The formal and informal questions asked are attached in the Appendix at the rear of this dissertation. These form the basis for the interviews.
2. **Literature Review**

A literature review was undertaken to gain an overview of the recent research. This research has been incorporated into this study so that there is no repetition of study, but equally and as importantly the literature review helps to relay how this research is incorporated into the depth of this dissertation.

The dissertation discusses emerging industry theory and its relationship to alpaca and the group who maintain alpacas as a way of living, investment, lifestyle or just as a hobby both within New Zealand, but also in USA, Australia and Peru. It goes on and looks at value chains that can be generated from alpacas. The literature review looks at these from not just a New Zealand but also an international perspective. This gives some basis for comparison between New Zealand and other countries. The alpaca industry has been described as an emerging industry with a dependance on services nearby giving a cluster effect, so it is worthwhile reviewing Emerging Industry Theory and Cluster Group Theory.

### 2.1 Emerging Industry and Cluster Group Theory

The group that make up the alpaca community describe themselves as an industry (Bateson, 2013). Table 3-2 shows the scale of the alpaca population in relation to that of the sheep and cattle. The sheep and cattle producing groups have been established in New Zealand for over 150 years and can as such be described as industries. Thus it is perhaps worthwhile to ask if this group is an industry or an emerging industry. “Emerging industries can be defined as the establishment of an entirely new industrial value chain, or the radical reconfiguration of an existing one, driven by a disruptive idea (or convergence of ideas), leading to turning these ideas/opportunities into new products/services with higher added value.”

http://www.emergingindustries.eu/methodologies /definitions.aspx

Porter in 1980 defines an Industry as “a group of companies offering products or services that are close substitutes for each other, that is, products or services that satisfy the same
basic customers' needs.” This definition stresses the industry borders and industry's role as a 
market supplier or producer of goods and services, as a value chain as opposed to just a 
market for similar goods and services at a commercial or consumer level.

Diagram 2-1 gives an academic structured view of the growth and identifying the differing 
steps of growth within an industry.

**Diagram 2-1 - The growth of a new industry 1**

<table>
<thead>
<tr>
<th>Developing</th>
<th>Emerging</th>
<th>Maturing</th>
<th>Declining</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angels and Seed Capital</td>
<td>Venture Capitalists</td>
<td>IPO</td>
<td>Quoted markets</td>
</tr>
<tr>
<td>Incubate Phase</td>
<td>Strategic Alliances</td>
<td>M &amp; A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SeedStage Phase</td>
<td>Late Stage Phase</td>
<td></td>
</tr>
</tbody>
</table>

Source: www.pwc.lu.clusterobservatory.eu July 2012

**Diagram 2-2 - The growth of a new industry 2**

<table>
<thead>
<tr>
<th>Start up</th>
<th>Initial Growth</th>
<th>Sustainable growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept</td>
<td>Sales</td>
<td></td>
</tr>
<tr>
<td>Prototype</td>
<td>Expansion</td>
<td></td>
</tr>
<tr>
<td>Product Introduction</td>
<td>Valley of Death</td>
<td>Marketing</td>
</tr>
</tbody>
</table>

Source: www.pwc.lu.clusterobservatory.eu July 2012

The PWC (Price Waterhouse, Cooper) diagram 2-2 may be less structured in its approach but 
the authors are experienced in the real and broader business world in their role of 
accountants and advisors. But the two diagrams read together show the theory and the
translation of that theory into practise by working accountants. The two aspects are an interesting blend and worthy of consideration as regards alpaca. 

Emerging industries are dependent on cluster theory: (http://ec.europa.eu/growth/smes/cluster/emerging-industries/index_en.htm). Cluster theory gives strength to industry; expertise in a certain aspect of the industry that is required for an industry to thrive and attain critical mass. In the instance of New Zealand alpaca, the vet service needs to be close by, mating services have to be in close proximity to farms, sales channels need to be available for product from the farms and meat works need to be on hand to handle the meat processing, and there needs to be a good marketing system for all value chains. Clustering plays an important role as a catalyst for bringing differing firms together to create critical mass and allow structural change to an industry within a geographic area when necessary (Raines, 2002).

Industry lifecycles vary for industry to industry but often the ingredients for growth are similar in many respects from industry to industry. The hurdles to overcome for each industry are always different but growth patterns as well as the hurdles, can also be similar (Warwick, 2013).

Initially in the start up phase, cashflow and profitability for these firms are generally negative. Product and marketing/sales channels need to be opened up. Any profits made in the early stages are kept within the firm, as they are required for growth and general cashflow. These phases are often dominated and led by those with a strong entrepreneurial spirit. In the emerging phase each business establishes their own niches in the market place and this in the longer run may give them market dominance in that segment of the market. This, in turn, leads to relationship development, where firms can create a competitive advantage. This occurs later in the emerging stage. After the emerging stage, the industry
takes a more controlled approach to its future with investors imposing structure on it, which leads to further development be it on a large or smaller scale (Drucker, 1998).

From an investment point of view there are three main stages:

1. Seed capital is often provided by individual entrepreneurs with limited means
2. Venture capitalists provide further growth once initial stages have been established.
3. Investors then are involved depending on perception of risk. (See Diagram 2-1)

Once risk is reduced returns are more definable and more general investors are attracted.

The venture capitalists enable an industry to gain scale, which generally initial seed investors are unable to gain. Adding value to a product that is new to the market, is a complex and lengthy process as can be seen by the forces Porter describes in his 1985 book “The Competitive Advantage”. This gives Porter’s new view of the value chain, but work has developed further. The growth of a business or industry can be seen in the diagram 2-3.

Often the leaders in new business were from families that are entrepreneurial and have a broader business sense and are acquainted with the stress that new business brings. They also worked long hours with a high personal investment in the business. They keep focused but at the same time able to adaptable to a change. (Duchesneau & Gartner, 1990)

Diagram 2-3 - The growth of a new industry - 3

Source: Warwick, (2013),
Infrastructure is required for an industry to grow. Clusters, of similar or mirror images of other business, can create this structure. These ideas of structure are followed by industry and even if they are not the same there are often strong similarities adding to the cluster effect. This cluster effect gives the possibility of some growth for all businesses concerned. The existence of these networks, often of smaller firms, promotes a collective and encourages growth (Ache, 2002).

These networks can show both vertical and horizontal integration. This helps growth further as the firms can feed off another’s strengths and helps to eliminate weakness of individual firms as well as the industry as a whole. This integration in the early stages of a new industry may not mean specialisation in early growth stages. It may be simply referring to an increased demand for goods or services (Warwick, 2013). But as industries grow specialisation increases as does hopefully demand. Profitability follows this growth as demand requires this specialisation. But this vertical and horizontal integration does create the specialisation and collective capability to value streams from which the industry as a whole can benefit (Duchesneau & Gartner, 1990).

Often it is the early participants that benefit the most from this specialisation gained by the clustering within the industry (Warwick 2013). Non-incumbents find it hard to judge the profitability of the industry and more importantly do not see where the industry may benefit from their entry. Much may be related to the lack of market information due to the industry being small. Often in this early stage, as noted previously, those with an entrepreneurial spirit often dominate the group. This may be highlighted by a large number of family firms who in themselves hold a lot of intellectual capital, which is not necessarily released into the group as a whole (Duchesneau, William, Gartner, 1990). The transference of this intellectual capital in the emergent stage is often withheld and difficult to measure and gain the benefit of. Often a broader minded approach to its freer flow would be to the greater
good of the cluster as a whole. All this leads to a lack of transparency in the market for emerging industries and clusters within that industry as well.

Cluster groups and the wider range of skills that these groups have gained are of importance in the success of an emerging or mature industry. Often a new and emerging industry may be able to use or adapt skills of an established parallel industry that is not specialised outside of its own realm of experience. This is good for all concerned as specialised skills may be transferred and there are therefore growth possibilities for the established firms (Raines, 2002).

Cluster is an aspect of importance to the growth of NZ alpaca as can be seen in Table 3-2 where Canterbury in particular but also Auckland, Waikato, Bay of Plenty and Manawatu show strong cluster tendancy.

2.2 The USA and New Zealand Alpaca Industry

Turning from the theory behind emerging industries it is worthwhile looking at the stream of research that has been conducted in the USA and New Zealand alpaca industries Alonso (2009) found in his New Zealand research that lifestyle was an important dimension amongst alpaca owners, the existence of many respondents whose operations are open to the public and own a large number of alpacas suggest there is more than just a life style motivation, but rather an intention to exploit the commercial opportunities of this activity. He commented that the quadratic approach may have missed some qualitative aspects of the alpaca experience. Alsonno (2009) also concluded that there was a need for the industry to increase their knowledge in particular the marketing knowledge of their fibre which was becoming available in increasing weights. He also states that value came from the emerging
cottage industry based on alpaca. We see here a basis in which alpaca were sold as an investment as well as lifestyle and a positive income stream.

O'Shaughnessy (2008) maintains an earlier view of alpaca keeping is a sign of wealth and hence conspicuous consumption as the capital cost of the initial stock has been high. Along with this conspicuous consumption comes a retreat back to old slower farming methods with animals that these people like, and comes with the generally placid nature of the animals. There is an attachment with the animals that people gain and which is promoted and accepted within the group that keep these animals. This attachment is one of the attributes that the proponents of alpaca keeping have espoused. This, with the capital cost, has kept the alpaca out of the meat market as the animal is a family member and expensive and raising them for meat production is seen as reducing the value of the often high investment that was made in the animals initially.

However, Saitone and Sexton (2007) state that the speculative bubble phenomenon has been studied extensively by economists and psychologists in recent years. The recent literature is surveyed and extended to enhance the understanding of speculative bubbles in agricultural industries. The analysis is applied to the U.S. alpaca industry, where prices for breeding stock are many times higher than in Peru, home of the world's largest alpaca herd. They present a framework to assess whether current prices for U.S. alpaca stock are supported by market fundamentals or are likely to represent a speculative bubble. Finally, they identify "warning signs" common to "agricultural bubbles" which manifest themselves in this alpaca industry. They say that their warnings came to fruition in Saitone and Sexton (2012) where they observed that prices for males fell by up to 500% and for females by 350% between 2005 and 2011. They argue that these bubbles can cause hardship and economic losses for those caught up in them. Usually they contend these bubbles occur where supply is limited, but there is also a lack of information for participants to allow an informed decision to be
made. Often it is non-agricultural small holders that get involved in these bubbles. They conclude that they are good as pets or lawn mowers but should not be considered investments and will never compete with Peru’s scale or relatively low wage rates that allow the fibre to be grown, shorn, processed and sold profitably (Saitone and Sexton 2007). By contrast however, Lyons (2007) reported in the same year as Saitone and Sexton’s first article that alpacas were a good investment. He considered the USA to be a stable market, with plenty of growth potential, with registration keeping values up, and substantial tax breaks up to US$108,000 added to investment possibilities. All this could be done by agistment so there were no capital land costs.

However, Salisbury (2006) had already considered it similar to a Ponzi scheme. The emphasis in the market was on animal values not production from the animal. He claims the cost of production in USA was and always will be higher than Peru. He said the animals were cute and that was why people bought them and maintains that once the market is full as regards pets then the market price will collapse on the farms that supply these smaller lifestyle farms. Dugan (2007) also saw it as a backyard bonanza and reliant heavily on tax breaks. He says, “farmers make zilch from the product, fibre”, he went onto quote one grower who said, “it was not worth the energy to try to sell it”. Cheap Peruvian labour would always preclude a profit he said (Dugan, 2007).

It can be seen despite the heavy promotion of alpaca by alpaca interests, academics saw it as a poor investment and likely to fail.

2.3 The South American Alpaca Industry

(Schmid, Lehmann, Kreuzer, Gomez, & Gerwig, 2006) conducted a lengthy study which looked at the history of alpaca in Peru, the politics of land tenure, the structure of the procurement system, the pricing of the fibre and the users of that fibre in Peru. This
was then put into an international context of the alpaca textile chain and where on the broader international textile chain value was created. The conclusion of the thesis was that the market for fibre was confused with poor signals on price. There were many chains supplying the processors but this lead to as equally many prices. This allowed the processors to take advantage of this weakness and confusion. There was discussion in the thesis that the processors had invested considerable sums in efforts to improve breeding to attain finer microns which can generate higher prices from the market and for suppliers depending on their supply channel. But (Schmid et al. 2006) eventually concluded that it was the market that dictated the price and value of the fibre and could see little opportunity for increased value to come back to the grower many of whom she said had low incomes. There has been some research done on the Peru alpaca industry. The Economist Intelligence Unit (EIU, 2005) wrote a report with the conclusion that the smaller producers were trying to group their fibre together so as to work for a higher price through an approach using horizontal organistaion. They also noted they were working to improve the genetics of Peru's alpaca. This was based on micron and micron range across the animal. They noted the increase in production of herd size in USA and Australia and is a perceived threat to the Peruvian alpaca industry. (Keller 2001) also reported this a few years earlier than the EIU. However, his comments regarding animal and fibre quality were similar. He considered that the International Alpaca Association were trying to produce a pedigree register so as to establish and maintain quality and a breeding register. He also discussed price stability and the problem of the variation in clarity and transparency of price. (Ansaloni, Pyszny, Marquina, Liendo, Goitia, Huanca & Pineda 2013) also studied the Peruvian alpaca industry's profitablity. They concluded it was poor for most with little
improvement in profit for larger enterprises. They stated the main income came from the animals and fibre. Some income was gained from rural tourism and craft work with the fibre but this was a small portion as a percentage. Small farmers made up 80% of the growers and did not make a living from alpaca or fibre production. The fibre sales channel restricted value for the growers; this report is similar to Schmid et al (2006), where they reported multi-structural and multi-layered methods of getting fibre to market, but the main impediment to higher income was poor genetic stock and the lack of economic incentive in fibre value to breed better animals and fibre. Yet the cooperative model for alpaca garment production was profitable and benefited the people financially as well as socially within the community (Page-Reeves 1998). Although the values may be different, a cooperative model on garment production with so many small producers could be a viable prospect and is explored briefly in the survey to growers as part of this dissertation.

2.4 Qualitative Aspects of Alpaca Fibre

The search for alpaca differentiations between New Zealand alpaca and other countries was undertaken by Newman & Paterson (1996). They studied reproduction performance, repeatability and heritability estimates for live weight, fleece weight and fiber characteristics of alpacas in New Zealand. He differentiated New Zealand and South American Alpaca from a qualitative standpoint and shows substantive quality values between the two groups, with New Zealand showing the higher qualitative values compared to Peru’s values. This must be an important aspect of the New Zealand alpaca breeders although USA and Australia has similar attributes but the fibre is markedly finer than New
Zealand’s over the whole clip. Bates Mills also reports this from their imports from the USA and Australia.

Nevertheless, Cruthers, Laing & Nevin (2009) stated that the New Zealand alpaca industry had its beginnings in late 1989 when a ‘test flock’ of 100 animals was imported from Chile. But in 2009 the fibre from the flock as a whole is still coarse – over 30% is 27 micron and coarser. This is a counter to the substantive quality values that were found by Newman and Paterson (1996). Bates Mills LP also confirms Cruthers findings in that the SGS (formerly Société Générale de Surveillance) tests taken on their pools show that they receive over 80% of their fibre coarser than 26 micron band. Of course it is possible that the finer fibre goes to other markets than the Bates Mills pools. There is also some thought that alpaca in New Zealand are run on prime country as opposed to the high dry land of Peru and that this in itself will produce more robust and substantively finer micron fibre.

2.5 Value Chain Analysis

The basis of industry is to make profits. Today value chains and integration in that chain are seen as critical to an industry’s success. The basis, then of investigation of value chains and how they operate, are important in relation to the study of this alpaca industry. Several value chains are investigated and the theory behind them is reviewed. Barber (2008) suggests in the article that the intangible aspects of the value chain are often as important as the physical. This is important where there is a diverse small group of people whose skills are focused on one area only. This is due to the a small group not having sufficient skills to see the whole value chain and get their product into the market with the right connections to be able to add value to those goods.
The New Zealand grower is right at the beginning of this chain and as is stated by previous authors in this literature review, it is difficult to leverage a significantly higher value when your lower cost competition have the weight and market position to dictate the international price. This is difficult for NZ growers to ascertain. Any prices quoted internationally include further local infrastructural costs such as freight and sorting, as well as processing such as scouring and combing and the associated production losses that attributed to each process. Bates Mills LP state they use these quoted prices as a basis for their local prices as they have a good understanding of these processing costs in New Zealand as well as internationally. This has been gained through their shareholders’ staff who have had international trading experience of over 100 years when totalled together.

To succeed an industry needs to work together and cooperate. The nature of the value chain and the importance of cooperation is explored by Andrews and Hahn (1998) who state that the value chain is not a chain of valuing actors rather that it is more like a web of enterprises that behave like a living organism.

They contend two major forces reshape the value chain.
A. Perpetual change in the roles of the actors.

B. Consumer preference for quick gratification

Real time information and knowledge is the key so correct action can be taken (Andrews & Hahn, 1998). All the actors in the value chain should give information forward to the other actors. The information that should be shared would be:

1. Bench-marks
2. Best practise
3. Performance rating within the chain
4. Product substitutes
5. Government change of regulations
6. Product updates
7. Organisational changes

Thiele, Devaux, Reinoso, Pico, Montesdeoca, Pumisacho and Horton (2011) studied the value chain so all participants within an industry could benefit. They looked at each element to ascertain where value was created. The actors are not contractors. All participants need trust. These points although dated have as much relevance today, in particular when an industry is developing.

Thiele, et al (2011) saw an industry value chain should be:

1. Segmented in customer types,
2. Have customised logistics
3. Align itself to market needs in forecasting
4. Differentiate product at the consumer end
5. Manage supply
6. Develop technology
7. Measure success in the market

Thiele, et al (2011) state the market is forever dynamic and that the most important aspect of global trade is to deliver on time and to also identify where value is added by determining the way to get the right value and not the value right.

Thiele, et al (2011) consider aspects that restrict value are as follows:

1. Poor financial information on what each actor achieves. With alpacas growers, they should know the full cost of production of maintaining each animal, along with full costs of shearing, raising a cria and killing for meat. One expects the more commercial operators such as the fibre pools to have a good understanding of their financial information.

2. Poor information on markets. If information is not known on the expectation of price achievement or changes in market sentiment up or down the value chain then decisions on which stock to graze cannot be made well.

3. Poor process. Efficient processes need to be in place to get stock and fibre from the farm gate to the consumer. If these processes are not efficient then the price to the grower will be fundamentally lower. The processes have to be robust and sound with the appropriate paperwork/computer back up to ensure all is correctly and adequately recorded.

4. Unknown or low industry standards. Standards on what is required by the processors and/or consumers is critical. If these standards are not known then lower quality goods will be produced leading to longer term difficulties in later years when confidence may have waned in the business.

5. Regulation and poor corporate governance. Governance from associations to the suppliers to the distributors and onward. These need to be run correctly and honestly
with the group’s best consideration borne in mind at all times. Without this good
goverance and honest intentions groups find it hard to move forward.

All these aspects must work well together and constantly be improving so operational
excellence can be obtained at all times. When looked at in relationship to NZ alpaca,
there are some broad structural applications, lessons and considerations to be made.
Certainly some start has been made with these but some appropriate outline structures are
highlighted.

The key concepts in global value chains and how they contribute to both society and
economies particularly in developing societies were explored by Lee and Gereffi (2015).
They show that by exporting there are not only benefits for the producer, but the national
group also benefits. Today, if value is primarily one value stream, then perhaps the value for
a larger group could be so much more if broader value streams are developed. Another key
concept is communication and it is of the utmost importance in the value chain. It is
equally important for communication and its information to flow up as well as down say
(Oosterhuis, Taco van, & Molleman, 2012)

Supply chains should be fully integrated (Voss, 2003). Process mapping is important as well
as should be inter or intra-organisational and also continues on to consider these
organisational relationships to be very important. Of course costs should be driven down to
maximise savings and efficiency. Voss (2003) says global issues and environmental
considerations should be to the fore at all times. Technology is also important. Finally Voss
(2003) notes that change is constant and beneficial but it needs to be well managed.

We next consider the various value streams of the alpaca industry.

2.5.1 Animal Sale Value Stream A good analysis on this was written in two papers by
Saitone and Sexton (2005 : 2012). Here they showed the bubble that appears in agricultural
goods and then later fall. Today growers in New Zealand blamed the Great Financial Crisis for this fall in value, but in all likelihood Saitone and Sexton (2005:2012) were correct as the bubble had burst and prices have not regained the previous levels as have many other investment items.

3.5.2 Fibre Value Streams

A good review on a specialised part of a larger industry is given by Danny and Borin de (2004). They examine the organic coffee industry in relation to the larger coffee industry. The parallels to New Zealand agriculture and specialised smaller agricultural industry is interesting and worth exploring and with a view to emulating them where it is appropriate. The difficulties of small growers in the USA are examined in this article in Textile World (2011) in which the author was not referenced but the emphasis was to encourage the 9-10,000 growers in the USA to pool their fibre together so as to make viable parcels to sell on the market. They noted that there was little to no commercial processing of wool or other natural fibres, never mind alpaca left in the USA. There was only what amounted to cottage industry which was too small to consume the weight available. They calculated there were 200,000 animals which grew 600,000kg of fibre; 20% of Peru's production. Although they may be small growers they face similar difficulties to Peru's growers and need value chain structures to succeed.

New Zealand is smaller still and is well served by at least three pools. This is perhaps because the distances are smaller giving fewer economic barriers for the pools to operate and the growers to participate in.
2.5.3 Agricultural Tourism

Agricultural tourism internationally is important and the parallels from USA, England and Japan are researched. The findings are of importance to New Zealand agriculture as agricultural tourism can create an important income and value steam.

In the USA, a New Jersey agritourism report showed agritourism enhanced profitability, (Keeton 2008). This is particularly true for small farms, but less so for life style and larger farms. It is the entrepreneurial farmers who are engaged in agritourism and are motivated by profit. Often they feel the normal agricultural returns are too low, costs are too high, agricultural policy is against them, or they need a higher return on the land as the value is high due to the proximity of urban areas. Their location is paramount to their success, hence tours make up a big part of this tourism business. They say it lets people reconnect with the land.

In England, Ilbery, Bowler, Clark, Crockett & Shaw (1998) studied the high marginal farms in the North East of England. The farmers were diverse and individualistic. The size and type of farm was important in their study. The landscape was one of natural beauty. Income was low and subsidies high. For many of the farms the females were on farm and the males producing income off farm, consequently the gender mix of the inhabitants was important. This agricultural tourism was reported to be female dominated. Ilbery, et al (1998) 59% of the farmers said tourism was an important source of income which was 75% derived from accommodation and 25% from on farm activities. The income was stated to allow them to maintain the farming enterprise, but was hardly profitable in itself. Again, Schilling, Attavanich, & Jin (2014) stated that agricultural tourism was important for small farms and also allowed some a direct sales channel for other goods. Also in Taiwan, Huang (2006) stated that rural tourism was important for small and medium sized farms. He says that a good E-commerce was essential so that a wider group of customers could be reached and
attracted to the farm. Customer service and marketing he says are important as the customer is buying an experience not a product and they are looking for a good experience which emanates from good marketing and is backed up with what is promised by the marketing: good customer service. These small farms offer tranquillity and access to nature. All these studies emphasised the importance agricultural tourism to small farming enterprise.

Sun and Ryan (2013) have made a study of Mainland Chinese photographs to ascertain what is of interest to them whilst travelling in New Zealand. Alpacas featured in the study albeit only a few paragraphs but the study showed that Chinese gave attention to the alpaca they photographed as it was an internet joke as it was listed among the "ten mythological animals to tease Chinese Internet Censorship". This is important aspect of tourism for the Chinese visitor homestay businesses and farm tour operators.

2.5.4 Meat value chain

Finally there is very little work on the meat value chain of alpacas. Boothroyd (2013) noted many alpaca farmers were opposed to the notion of keeping alpacas for meat production. But there had been a huge increase in alpaca animal production over the previous 20 years in Australia. This increase was based on fibre and breeding for genetic improvement of stock. There were up to 200,000 animals in Australia so Boothroyd (2013) argued why not harvest the meat of older animals whose fibre had a lower value? Boothroyd (2013) went on to note that alpaca meat was indeed making its way on to the market through specialty butcher stores and better restaurants. The meat was reported to be lean with little fat and was promoted as “clean and green”. This although a brief article is a step in promoting the meat and by default a skin value chain. This value chain is all but neglected in New Zealand.

There is very little academic coverage of this alpaca meat industry and should
be borne in mind with the research questions asked and findings of this work.
3 The Current Position and Possible Value Chains.

The objectives of this dissertation is to try to ascertain the position and outlook of the alpaca as an emerging industry, and the value chains that may exist. Hence the question is where does the alpaca industry fit into value chain theory and emerging industry theory and what can be learnt from these theories in regards to growth for New Zealand alpacas.

The position of alpaca in this Emerging Industry Theory is interesting and applicable in many ways. In the theory one could argue that in New Zealand, it has passed through the Research and Development phase and is now moving into the early stages of production. The Research and Development phase is the animal breeding that has been undertaken in New Zealand over the last twenty years. Without doubt finer fibre and animals with better conformity are the result of these efforts.

Several groups, businesses and individuals pool, buy and trade alpaca fibre in New Zealand. At least one business kills alpacas for their protein (meat). This is critical in the next step of industry development as many of the larger growers/breeders are involved and these are the points for discussion once the interview sampling results are analysed. Thus, a good argument can be made to say that production has commenced and that early phase production has certainly commenced.

Yet national data is difficult to come by. The New Zealand Alpaca Association have their records but the feeling was that they represent a part only of those who have Alpaca on their farms or small holdings. The following is a break down of available data from the NZ Statistics Department;
### Table 3-1 Historic Alpaca Population Growth in New Zealand

<table>
<thead>
<tr>
<th>Year</th>
<th>Alpacas</th>
<th>Alpacas and Llamas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>1607</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>N/a</td>
<td></td>
</tr>
<tr>
<td>1992</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>1993</td>
<td>N/a</td>
<td></td>
</tr>
<tr>
<td>1994</td>
<td>182</td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td>409</td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td>305</td>
<td></td>
</tr>
<tr>
<td>1997 to 2006 – no records</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>9328</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>11847</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>11976</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>N/a</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>14122</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>14168</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>N/a</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Table information: 1990 1st record of alpaca in New Zealand.
Units:
Alpacas: Number, Magnitude = Units
Alpacas and Llamas: Number, Magnitude = Units

Source: Statistics New Zealand

This clearly shows good growth in the early years but also a steadying off growth in later years.

Bates Mills advise that their database has over 15% of growers who are no longer keeping alpacas and the feeling is that perhaps is understated.

However, equally for those who do not continue, newer growers do join the NZ Alpaca Association and also the number of growers who have no Association affiliation also grows.

This does give some confidence.
The New Zealand Statistics Department gives a livestock summary for dairy and beef cattle, sheep and alpacas region by region in 2012 as:

Table 3-2 Livestock Numbers by Type and Region

<table>
<thead>
<tr>
<th>Region</th>
<th>Total dairy cattle</th>
<th>Total beef cattle</th>
<th>Total sheep</th>
<th>Alpacas and llamas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northland</td>
<td>397,764</td>
<td>380,719</td>
<td>440,955</td>
<td>870</td>
</tr>
<tr>
<td>Auckland</td>
<td>117,281</td>
<td>117,458</td>
<td>205,270</td>
<td>1,539</td>
</tr>
<tr>
<td>Waikato</td>
<td>1,832,380</td>
<td>505,869</td>
<td>1,776,544</td>
<td>1,544</td>
</tr>
<tr>
<td>Bay of Plenty</td>
<td>312,326</td>
<td>93,357</td>
<td>322,882</td>
<td>1,199</td>
</tr>
<tr>
<td>Gisborne</td>
<td>17,095</td>
<td>267,599</td>
<td>1,547,294</td>
<td>C</td>
</tr>
<tr>
<td>Hawke’s Bay</td>
<td>93,047</td>
<td>471,010</td>
<td>3,262,468</td>
<td>367</td>
</tr>
<tr>
<td>Taranaki</td>
<td>604,383</td>
<td>103,546</td>
<td>434,402</td>
<td>C</td>
</tr>
<tr>
<td>Manawatu-Wanganui</td>
<td>475,466</td>
<td>579,565</td>
<td>5,612,743</td>
<td>1,586</td>
</tr>
<tr>
<td>Wellington</td>
<td>108,174</td>
<td>140,420</td>
<td>1,664,892</td>
<td>484</td>
</tr>
<tr>
<td><strong>TOTAL North Island</strong></td>
<td><strong>3,957,916</strong></td>
<td><strong>2,659,543</strong></td>
<td><strong>15,267,450</strong></td>
<td><strong>7,973</strong></td>
</tr>
<tr>
<td>Tasman</td>
<td>71,956</td>
<td>40,149</td>
<td>276,877</td>
<td>505</td>
</tr>
<tr>
<td>Nelson</td>
<td>C</td>
<td>C</td>
<td>6,466</td>
<td>C</td>
</tr>
<tr>
<td>Marlborough</td>
<td>33,218</td>
<td>60,127</td>
<td>547,180</td>
<td>160</td>
</tr>
<tr>
<td>West Coast</td>
<td>173,651</td>
<td>29,002</td>
<td>58,085</td>
<td>C</td>
</tr>
<tr>
<td>Canterbury</td>
<td>1,200,293</td>
<td>470,746</td>
<td>5,348,010</td>
<td>4,237</td>
</tr>
<tr>
<td>Otago</td>
<td>336,278</td>
<td>290,398</td>
<td>5,342,846</td>
<td>943</td>
</tr>
<tr>
<td>Southland</td>
<td>670,581</td>
<td>172,150</td>
<td>4,356,427</td>
<td>334</td>
</tr>
<tr>
<td>Chatham Islands</td>
<td>C</td>
<td>C</td>
<td>59,374</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL South Island</strong></td>
<td><strong>2,487,765</strong></td>
<td><strong>1,074,869</strong></td>
<td><strong>15,995,265</strong></td>
<td><strong>6,195</strong></td>
</tr>
<tr>
<td><strong>TOTAL New Zealand</strong></td>
<td><strong>6,445,681</strong></td>
<td><strong>3,734,412</strong></td>
<td><strong>31,262,715</strong></td>
<td><strong>14,168</strong></td>
</tr>
</tbody>
</table>

Symbols: C confidential, S suppressed, Source NZ Statistics Department.


This shows clearly how small the alpaca population is in relation to the sheep, dairy and beef industries.
Table 3-3, following, is the only record retrievable from the New Zealand Statistics Department as regards the export of live animals. The discussions with growers suggests that more are exported, but must be listed under an incorrect HS code number.

Table 3-3 Harmonised Trade - Exports (Monthly)

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantity</th>
<th>Free on board</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2011</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2012</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2013</td>
<td>12</td>
<td>43,250</td>
</tr>
</tbody>
</table>

Table information:
Code 0106130000: Number
Source: www.stats.govt.nz/trade

With this small population of 14,168 compared to the dairy, beef and sheep populations of 6,445,681, 3,734,412 and 31,262,715 respectively, the industry can be said to be small.

After some 30 years since what is now AgResearch Invermay imported some livestock there seems to be slow progress in formulating an approach to grow into an industry possible for creating a value chain of wealth for New Zealand.

This in turn creates downstream problems with scale. For instance in pooling Bates Mills LP report that it is difficult to class out both microns and colour as well as South American competitors as there is insufficient fibre to make commercially scourable and saleable lines. This restricts the accessibility to some markets and also the price as it is not as well classed as the bigger clip of South America which is bigger by a factor of 100,000. Of course from a marketing aspect the niche aspect of New Zealand fibre within the local New Zealand market is hugely beneficial. Any fibre which has to be exported has to stand up to the rigours of international supply and demand.
4 Method

The methodology of this study was to interview 30 key informants from 30 alpaca farms. They were all active on 31/3/2015 as they participated in Alpaca Pool 152 as run by Bates Mills LP by putting their fibre forward for classing, scouring and sale. Bates Mills run up to three alpaca fibre pools per annum; they are one of the companies who run alpaca pooling systems in New Zealand. The research method starts with a basis and structure for the questioning and interviews and then goes on and to précis some theory on emerging industry and cluster group theory so the results from the interviews can be placed and compared to the theory of the study being undertaken.

Table 4-1. Pool participant analysis for Bates Mills pool 152, 2015 and selection of people to interview

<table>
<thead>
<tr>
<th>Total number</th>
<th>Interviews undertaken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants put &gt;80kg forward</td>
<td>24</td>
</tr>
<tr>
<td>Participants put 40-80kg forward</td>
<td>54</td>
</tr>
<tr>
<td>Participants put &lt; 40kg</td>
<td>68</td>
</tr>
</tbody>
</table>

Table 4-2 Participation and fibre pooling weight analysis for Bates Mills Pool 152, 2015

<table>
<thead>
<tr>
<th>Pool make up</th>
<th>Strata participants</th>
<th>Participants as percentage of the pool</th>
<th>Average weight of each participant</th>
<th>Total kilos p band</th>
<th>Percentage of fibre in pool</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;80kg</td>
<td>24</td>
<td>16.44%</td>
<td>286</td>
<td>6864</td>
<td>65%</td>
</tr>
<tr>
<td>80-40kg</td>
<td>54</td>
<td>36.99%</td>
<td>46</td>
<td>2484</td>
<td>24%</td>
</tr>
<tr>
<td>&lt; 40kg</td>
<td>68</td>
<td>46.58%</td>
<td>17</td>
<td>1156</td>
<td>11%</td>
</tr>
</tbody>
</table>

The pool has released the details of the participating growers and the weight of fibre that they contributed into that pool so that the 30 farms could be contacted and a survey be undertaken. The sampling of 30 farms can be considered to be primary sources of detailed information. The sample of 30 represent 20.5% of the participants in the pool and are high in absolute numbers in relationship to the population so they should be a representative
sample of Bates Mills pool 152. The larger the size of the sample then the closer to normal that sample becomes of the population; this is the case here. Care was also taken by regional selection of interviewees so that it was a representative sample taken over the whole country. The research was undertaken by interview mainly by telephone. Consideration was given to posting or emailing of questionnaires; however this was considered as inappropriate as to how many people answer such research and a possible bias of respondents. There may have been too many or too few replies so the consideration was to select people who were actively involved in alpacas as they would most likely have clearer ideas than those who had alpacas but may not have been as actively interested. In the event of the interviewees contacted, only one did not choose to participate. This too may be a bias but a 6% refusal to participate shows an interest in participating for the good of the alpaca community. Of the interviews one was face to face. The other 29 were over the telephone. This study of the 29 necessitated telephone interviews due to the distance and spread over the country. Cost and time precluded travel for this dissertation. The interviews were structured in nature with 23 questions relating to a profile and description of the sample. A further 66 questions related to activities of these growers and how they see their activities in relation to the possible five value chains that appear for those who keep alpacas. Some of the questions were answered in the course of conversation so some of the interviews can be considered unstructured conversation, questioning and discussion. The unstructured aspect of the interviews was important and planned for, in that although the questions asked required a quantitative reply, a qualitative response became an important part of the interview and lead to further detailed insight into the interviewee’s position which did not become apparent in the structured part of the interview. In the course of the unstructured parts of the interviews, anecdotal evidence was often put forward into the interview but was always recorded as such. Opinion was also offered and was also recorded as such. However, opinion is often how the interviewee feels
and whether this feeling is true or false. It is valid as it is their feeling or opinion. The telephone interviews varied in length from 10 minutes to 60 minutes. The one face to face interview took 150 minutes to complete. This face to face interview was the first, so some distractions may have taken place, but no time limits were imposed on the telephone interviews, so despite a possible lack of nonverbal clues, the interviews were as close as possible to face to face interviews. In all cases those being interviewed were assured that their anonymity would be maintained and the dissertation would not refer to any one individual. These 30 were chosen in a stratified manner so that the larger ones were more dominant than the smaller, as they forwarded significantly more kilos of fibre than the smaller ones, who are in turn much greater in number. Stratification allows the population to exhibit different parameters than others in a different strata of that group. This means that data would need to be collected in a manner that reflects the subgroups. This was achieved by applying strata in terms of kilos of fibre that growers put forward into Bates Mills Pool 152. Stratification of interviewees ensures close similarity of each strata. The table following highlights the significance of this selection basis. The interviewees were chosen from Otago to North Auckland. The districts where the interviewee lived is spread evenly across the country so no particular area of the country was able to dominate the results with the views that that regional group may hold. The average weight per grower in this and other of Bates Mills’ pools, average around 60 kilos per grower per pool. We have based the study on weight in this pool only. It is worth noting that some of these growers may have more than one year’s fibre production into this pool. However, the larger contributions in terms of kilos and also often quality in terms of fibre type and finer micron by a small percentage of growers are significant and this is a key point. The pool in terms of weight is dominated by just a few growers but many growers dominate the pool in terms of absolute numbers but only contribute a small weight of fibre into pools.
The analysis is based on 30 of the growers in Bates Mills Pool 152 see table 5-1

See tables 4-1 and 4-2, previous, which show the small size of the alpaca herd in New Zealand as well as its rapid growth in the early 2000’s and also the surprising paucity of export information of the livestock, which is the main source of income as reported by some.

The survey was based on the same questions for all growers no matter their size of fibre contribution. See Appendix 1 for survey questions. These were then grouped into the appropriate strata; smaller, mid-sized and larger growers based on the weights they put forward. The results of each strata were tabulated into tables with any particular comments noted for discussion and analyse later in this dissertation.

Each interveiwee was advised as to the purpose of the questioning and all but agreed to participate in the research. No signed consent form was obtained due distance but verbal agreement was obtained from each.
5 Results

The following presents an analysis of the demographic and profile of three strata of Alpaca growers participating in Pool 152 as conducted by Bates Mills L.P.

As previously stated the strata are based on the weight of fibre growers who contributed to that pool. The pool is now entering its fifth year and is well established with regular participants and customers. The customers are spread internationally; two in Europe, three in USA and three active in the local market. The growers are large and small as can be seen from the previous tables, and spread from Otago to North Auckland and gains its share of fibre sold in New Zealand.

The first strata are those who have contributed with the largest weight to the pool. The break point was greater than 80 kilos. The pool’s grower’s average contribution weighs 60 kilos. It should be noted that some growers had several years of shearing held back and put forward as one years consignment. This may be more prevalent than can be easily measured but efforts were made to avoid many of these growers and any consequent distortion in the survey results.

The first question asked was the age band of the grower. The results were;

Table 5-1: The Age Demographic

<table>
<thead>
<tr>
<th>Age Band</th>
<th>Over 70 years</th>
<th>60–70 years</th>
<th>50-60 years</th>
<th>Less than 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 80 kg</td>
<td>n=2 (6.66%)</td>
<td>n=11 (36.63%)</td>
<td>n=1 (3.33%)</td>
<td>n=0 (0%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n=3 (9.99%)</td>
<td>n=0 (0%)</td>
<td>n=5 (16.65%)</td>
<td>n=2 (6.66%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=6 (19.99%)</td>
</tr>
</tbody>
</table>
The age demographic was considered important to see what the longer term was for those involved in the industry today. An older age demographic would suggest new growers may needed to be encouraged so the future was secure.

Asked what their attitude to alpacas was today, against what their attitude was when they started growing this alpaca fibre and breeding these animals. The response was;

**Table 5-2: Involvement Factor.**

<table>
<thead>
<tr>
<th></th>
<th>Tired</th>
<th>Disappointed</th>
<th>Enthusiastic</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;80 kg</td>
<td>n=9 (64%)</td>
<td>n=1 (8%)</td>
<td>n=4 (28%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n=3 (30%)</td>
<td>n=0 (0%)</td>
<td>n=7 (70%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=6 (100%)</td>
</tr>
</tbody>
</table>

This was asked to see if the enthusiasm for the industry was as strong today as it had been when they started with alpaca. The assumption was they did start with energy and enthusiasm.

The growers were then asked how long they had been involved with alpacas in one way or another.

**Table 5-3: Length of Time in Years Involved in Alpacas.**

<table>
<thead>
<tr>
<th></th>
<th>&lt;20</th>
<th>15-20</th>
<th>10-15</th>
<th>&lt;10</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 80 kg</td>
<td>n=1 (7%)</td>
<td>n=2 (14%)</td>
<td>n=10 (72%)</td>
<td>n=1 (7%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=10 (100%)</td>
<td>n=0 (0%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=6 (100%)</td>
</tr>
</tbody>
</table>

Again the length of time when taken along with age and enthusiasm show to some extent the future. If there are a few new entrants with larger flocks then it is these people who are the leaders and bigger growers of the future. The older and longer term growers show the
experience and knowledge base that has been established since these animals first arrived in New Zealand.

Shearing is a critical function of keeping alpaca but also the highest known non capital cost on an annual basis. Questions around farm work show a commitment to the animals and industry. It also shows how much experience and knowledge has been built up around the animals and industry. The questions which build around table 4-4 show the experience around the different groups

This shows a high involvement in the active farm work. Only the shearing with the larger herds show a less than 50% participation rate.

**Table 5-4: Farm Work and Animal Health**

<table>
<thead>
<tr>
<th></th>
<th>Contract Shorn</th>
<th>Farm work</th>
<th>Vet work paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;80 kg</td>
<td>n=6 (42%)</td>
<td>n=13 (93%)</td>
<td>n=11 (77%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n=8 (80%)</td>
<td>n=10 (100%)</td>
<td>n=10 (100%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n=6 (100%)</td>
<td>n=6 (100%)</td>
<td>n=6 (100%)</td>
</tr>
</tbody>
</table>

Note: respondents could give more than one category

Whilst discussing and questioning in relation to the New Zealand Alpaca Association it is worth noting the youngest large grower, although involved in the 10-15 year strata, was also the most enthusiastic. Whereas the oldest grower with also the longest involvement of over 20 years felt the most tired but nevertheless was looking to increase his herd.

92% were members of the Alpaca Association. These growers registered their stock with the animal registry showing each animal’s lineage, and considered this registration to be important. They also reported that shows were very useful to them although showing costs were considered high by 24% of interviewees. But despite these positive points 32%
considered the Association to be problematic. The reasons put forward were varied but revolved around:

1. Lack of long term vision
2. Run for the benefit of just a few larger growers.
3. Not allowing truthful findings being released or being shut down whilst research was in progress.

The New Zealand Alpaca Association is the body that controls the breeding registry so can be considered the organisation that leads the growers, but it does not have a mandate in its constitution to be involved in commercial aspects of alpacas. Consequently, how growers see the New Zealand Alpaca Association in relation to themselves is of some importance.

Table 5-5: The Relationship of the NZ Alpaca Association to the Growers is:

<table>
<thead>
<tr>
<th>Assoc members</th>
<th>Committee</th>
<th>Show competitors</th>
<th>Problems</th>
<th>Run for large growers</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;80 kg</td>
<td>n=13 (93%)</td>
<td>n=6 (42%)</td>
<td>n=8 (56%)</td>
<td>n=7 (35%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n=10 (100%)</td>
<td>n=2 (20%)</td>
<td>n=5 (50%)</td>
<td>n=5 (50%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
</tr>
</tbody>
</table>

The basis of this dissertation is to review the value chains in this industry and ascertain position as an emerging industry and cluster group theory.

The value chains identified are

1. Breeding/animal sales
2. Fibre production and sales
3. Meat production and sales and skin sales.
4. Farm tourism

Each Value chain is looked on a similar basis and compared against all three strata.

5:1 Breeding/Animal sales

The participants were asked if breeding/animal sales was the main income source for them. This was a start to define where growers see any incomes streams that are attributable to alpacas.

Table 5-6: For the Income Stream from Breeding Animal Sales is:

<table>
<thead>
<tr>
<th>Main income</th>
<th>Growing</th>
<th>Static</th>
<th>Declining</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;80 kg</td>
<td>n=8 (44%)</td>
<td>n=3 (17.00%)</td>
<td>n=4 (22%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n=5 (33%)</td>
<td>n=3 (20%)</td>
<td>n=5 (33%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
</tr>
</tbody>
</table>

The questions then moved onto valuations of the stock and the outlook for this stock side of the alpaca industry. Asked if valuations of the stock had increased or decreased and the outlook for their enterprise. This was to see what change in values had been seen and what the future looked like. These are related to the articles in the literature review to see how the New Zealand grower compared himself to the USA growers and others.

Table 5-7: Outlook on Breeding

<table>
<thead>
<tr>
<th>Stock values fallen</th>
<th>Outlook positive</th>
<th>Outlook Static</th>
<th>Outlook Declining</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;80 kg</td>
<td>n=12 (84%)</td>
<td>n=9 (53%)</td>
<td>n=6 (35%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n= 10 (100%)</td>
<td>n=2 (20%)</td>
<td>n=3 (30%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n= 0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
</tr>
</tbody>
</table>
Further discussion and consideration was had around the market internationally and locally around these animal sales. The question was where is your market?, and also, how did you market locally compared to overseas?

**Table 5-8: Sales and Promotional Channels for Alpaca Animals is:**

<table>
<thead>
<tr>
<th></th>
<th>Exports sales</th>
<th>Local advert &amp; www promotion</th>
<th>Export Agents only</th>
<th>Direct export marketing</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;80 kg</td>
<td>n=4 (28%)</td>
<td>n=14 (100%)</td>
<td>n=7 (63%)</td>
<td>n=2 (14%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n=2 (20%)</td>
<td>n=10 (100%)</td>
<td>n=2 (20%)</td>
<td>n=0 (0%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
</tr>
</tbody>
</table>

Again this was to see what had changed in the market both locally and internationally.

International sales had been made out to be of significance to the group, in particular the larger growers and breeders. The literature review suggests USA sales of animals had declined in both volume and value.

The next questions were asked about breed planning, stock improvement and importance of genetics in their activities. This was asked to understand the dedication and commitment to on going quality and animal improvement in both in terms of genetics and value of its fibre. It also shows some response to the investments made in Peru into producing finer fibre.

**Table 5-9: Stock and Breed Improvement Programme**

<table>
<thead>
<tr>
<th></th>
<th>Breed planning</th>
<th>Stock improvement</th>
<th>Importance of genetics</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 80 kg</td>
<td>n=13 (93%)</td>
<td>n=13 (93%)</td>
<td>n=13 (93%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n=10 (100%)</td>
<td>n=10 (100%)</td>
<td>n=10 100%</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
</tr>
</tbody>
</table>
The final set of questions were general to get a broader understanding of the group regarding this aspect of breeding and keeping alpacas and asked yes/no questions. Some saw their alpaca businesses as tax write offs and some as a method to receive cash for services rendered. This places those growers in a different category. However, Table 6-10 is an effort to see where if there was a feeling for a change in value steam the relevance of the show ring in terms of promotion and its relationship to profit. Finally costs are always important in business and it was important to see if the growers thought costs were an impediment to profitability.

Table 5-10 : Where the Growers saw Themselves in the Overall Group and Profitablity of their Enterprise.

<table>
<thead>
<tr>
<th></th>
<th>Breeding profitable</th>
<th>Sales increasing</th>
<th>Show ring relevance</th>
<th>Cost control difficult</th>
<th>Suited to larger</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 80 kg</td>
<td>n=5 (35%)</td>
<td>n=14 (100%)</td>
<td>n=7 (70%)</td>
<td>n=2 (14%)</td>
<td>n=14 (100%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n=2 (20%)</td>
<td>n=10 (100%)</td>
<td>n=2 (20%)</td>
<td>n=0 (0%)</td>
<td>n=10 (100%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
</tr>
</tbody>
</table>

5:2 Fibre Sales

The participants were asked if fibre sales was the main income source for them. This was a question to see if there was a change in perception of value from animal sales to fibre sales. This topic was an important part of the literature review. Has this fibre sales been a growing, static or declining income stream in recent years?
Table 5-11 : Income Stream Importance from the Fibre Value Chain is:

<table>
<thead>
<tr>
<th></th>
<th>Main income</th>
<th>Growing</th>
<th>Static</th>
<th>Declining</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 80 kg</td>
<td>n=2 (16%)</td>
<td>n=7 (56%)</td>
<td>n=3 (28%)</td>
<td>n=0 (0%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n=8 (44%)</td>
<td>n=10 (56%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=6 (100%)</td>
<td>n=0 (0%)</td>
</tr>
</tbody>
</table>

The questions then moved onto value of the fibre and the outlook for this fibre side of the alpaca industry. They were asked if values of the fibre had increased or decreased and asked about the outlook.

Table 5-12 : The Importance of Fibre Value in their Enterprise.

<table>
<thead>
<tr>
<th>Fibre values increased</th>
<th>Outlook positive</th>
<th>Outlook Static</th>
<th>Outlook Declining</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 80 kg</td>
<td>n=13 (93)%</td>
<td>n=13 (93)%</td>
<td>n=0 (0%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n=10 (100%)</td>
<td>n=10 (100%)</td>
<td>n=0 (0%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
</tr>
</tbody>
</table>

The question was “where is your market”? Often many agricultural producers are not aware of end use for their produce. Although final destination was not questioned as to whether it was for hand knit yarn, machine knitting or carpet, the growers were questioned about the immediate destination of their fibre showing the opportunities that are appearing in the New Zealand fibre market. This was discussed in the literature review as a problem for the industry. The object was to discover any progress in this seeming deficiency of earlier years. Table 5-13 shows the varied markets the growers find for their product.
Although all participate in the Bates Mills pools they also have a mix of sales channels for their fibre production. This shows a healthy market situation where demand is becoming more rigorous.

**Table 5-13 : Market for the Fibre**

<table>
<thead>
<tr>
<th></th>
<th>Craft market</th>
<th>Industrial use</th>
<th>Fibre pools</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 80 kg</td>
<td>n=5 (35%)</td>
<td>n=5 (35%)</td>
<td>n=9 (63%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n=2 (20%)</td>
<td>n=10 (100%)</td>
<td>n=8 (80%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=6 (100%)</td>
</tr>
</tbody>
</table>

Note: respondents could give more than one category

The profitability of fibre production was explored next. This is considered to be of critical importance for the industry as its future does depend on it to a large extent.

**Table 5-14 : Profitability of Alapca Fibre Production**

<table>
<thead>
<tr>
<th></th>
<th>Scale not an issue</th>
<th>Profitable</th>
<th>Vet costs high</th>
<th>Shearing costs high</th>
<th>On farm costs high</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 80 kg</td>
<td>n=7 (70%)</td>
<td>n=7 (70%)</td>
<td>n=2 (14%)</td>
<td>n=9 (63%)</td>
<td>n=1 (7%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n=10 (100%)</td>
<td>n=7 (70%)</td>
<td>n=0 (0%)</td>
<td>n=10 (100%)</td>
<td>n=0 (0%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
</tr>
</tbody>
</table>

Note: respondents could give more than one category

Fibre quality was questioned to see where growers considered their micron ranges to be.

There has been a tendency for growers to feel their fibre is finer than as is tested by SGS for Bates Mills. Certainly the group grew finer fibre that Bates Mills do not see in the pools.
Whether this is a testing problem by the growers or a supply problem has not yet been resolved.

But the questioning was designed to find what was grown. The literature review also suggested the New Zealand clip was coarser than many thought and this could be a problem with the literature review showing considerable investment in Peru going to research and production of finer fibre.

**Table 5-15 : Fibre Testing and Micron Grown**

<table>
<thead>
<tr>
<th>Testing fibre quality</th>
<th>22-26 micron fibre</th>
<th>26-30 n Micron</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 80 kg</td>
<td>n=13 (93%)</td>
<td>n=7 (70%)</td>
<td>n=3 (21%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n=3 (30%)</td>
<td>n=5 (50%)</td>
<td>n=40 (40%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
</tr>
</tbody>
</table>

Note: respondents could give more than one category

The questions asked about involvement in the value chain further down that chain. The objective was to ascertain the interest from growers of a more integrated value chain from farm gate to mainstream retail stores

**Table 5-16 : Involvement Level Down the Value Chain such as Sales of Sweaters, Skins or Direct Fibre Sales to Users.**

<table>
<thead>
<tr>
<th>Current downstream active</th>
<th>Lack of time or expertise</th>
<th>Lack of capital</th>
<th>No interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 80 kg</td>
<td>n=8 (56%)</td>
<td>n=2 (14%)</td>
<td>n=3 (21%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n=2 (20%)</td>
<td>n=3 (30%)</td>
<td>n=5 (50%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
</tr>
</tbody>
</table>

Note: respondents could give more than one category
5:3 Meat Production and Sales and Skin Sales.

Today this is an area that is hardly covered by the growers and for a variety of reasons.

Little work has been done on it and consequently the following details are considered less often by the group, although some opinions are firmly held. When questioned whether they eat these animals and if not why not.

Table 5-17 : Alpaca Animal Sentiment and the Production and Consumption of Alpaca Meat

<table>
<thead>
<tr>
<th>Lifestyle animals</th>
<th>Cute and cuddly</th>
<th>Breeding for meat</th>
<th>Homekill involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 80 kg</td>
<td>n=12 (86%)</td>
<td>n=12 (86%)</td>
<td>n=4 (28%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n=10 (100%)</td>
<td>n=10 (100%)</td>
<td>n=2 (20%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n=0 (0%)</td>
<td>n=6 (100%)</td>
<td>n=0 (0%)</td>
</tr>
</tbody>
</table>

Note: respondents could give more than one category

The impediments to killing for meat were explored as this is critical if production for meat is to become important in the future.

Table 5-18: Why Animals are not Killed for Meat

<table>
<thead>
<tr>
<th>Lifestyle animals</th>
<th>Female breeding</th>
<th>Stock Values impediment</th>
<th>Killing older animals ok</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 80 kg</td>
<td>n=12 (86%)</td>
<td>n=14 (100%)</td>
<td>n=9 (63%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n=10 (100%)</td>
<td>n=10 (100%)</td>
<td>n=5 (50%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n=6 (100%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
</tr>
</tbody>
</table>

Note: respondents could give more than one category
Skins were explored as to how they were currently used and would the growers consider pooling them to gain a foothold in another value chain. The collection and processing of these would fit well into the Bates Mills fibre procurement system.

**Table 5-19: Potential of Skins**

<table>
<thead>
<tr>
<th>Skins have value</th>
<th>Skins tanned</th>
<th>Pool skins</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 80 kg</td>
<td>n=9 (63%)</td>
<td>n=8 (56%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n=5 (50%)</td>
<td>n=5 (50%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
</tr>
</tbody>
</table>

Note: respondents could give more than one category

**5:4 Farm Tourism**

The importance of growth potential and profitability of farm tourism was explored.

The literature review suggested it can be an important part of small farm incomes.

**Table 5-20: Is Farm Tourism Important with Good Growth Prospects**

<table>
<thead>
<tr>
<th>Farm tourism income important</th>
<th>Growth potential</th>
<th>Profitable</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 80 kg</td>
<td>n=5 (100%)</td>
<td>n=5 (100%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
</tr>
</tbody>
</table>

Note: respondents could give more than one category

Who are the customers and how are they attracted? A review of marketing of these business was done to see how it was managed and why people were interested in these animals.
Interestingly, the literature review suggested there were specific reasons why alpaca were of particular interest to Chinese visitors, yet no farm tour operators were aware of this. This perhaps suggests a shortfall in overall market knowledge and experience.

There may be a place here for education to growers here by the Association. Of course there is no wish to suggest that there should be an astronomical growth of Alpaca farm tourism perhaps the New Zealand Alpaca Association could produce some promotional material that is specifically for these growers so the total industry may benefit from more demand.

Table 6-21: Customers and how they are Attract Those Involved and Why

<table>
<thead>
<tr>
<th></th>
<th>Overseas</th>
<th>Internet</th>
<th>Flyer and Council brochures</th>
<th>Word of mouth</th>
<th>Why do people come — Cute?</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 80 kg</td>
<td>n=13 (93%)</td>
<td>n=12 (86%)</td>
<td>n=12 (86%)</td>
<td>n=14 (100%)</td>
<td>n=14 (100%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
</tr>
</tbody>
</table>

Note: respondents could give more than one category

Farm tourism is a small part of the alpaca industry so it worth discovering the attitude as to why do growers participate in this business activity?

Table 5-22: Motives for Activity by the Growers

<table>
<thead>
<tr>
<th></th>
<th>Easy care animals</th>
<th>Easy business</th>
<th>Profitable</th>
<th>Farm location</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 80 kg</td>
<td>n=14 (100%)</td>
<td>n=14 (100%)</td>
<td>n=14 (100%)</td>
<td>n=12 (84%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
<td>n=0 (0%)</td>
</tr>
</tbody>
</table>

Note: respondents could give more than one category
One final section was to discuss the interest and motives of a group of growers participating together further down the value chain. The question was revolved around securing and increasing demand for the fibre in the general New Zealand apparel market as well the tourist market.

Table 6-23: Interest in Participating Further Down the Value Chain to Gain More Income by Alpaca Items Distributed to Retail by Investing Some of their Fibre Value into a Separate Distribution Company

<table>
<thead>
<tr>
<th>Weight Range</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 80 kg</td>
<td>11 (79%)</td>
</tr>
<tr>
<td>40-80 kg</td>
<td>5 (50%)</td>
</tr>
<tr>
<td>&lt; 40 kg</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>

The object in this question was to ascertain what the greater interest was in bigger and more cooperative but independent business model. The reason for this thinking was that in Peru in particular this cooperative model works well. It is one way for growers to receive more income per kilo grown. This is of course an investment but if the fibre yields more money per kilo by way of that initial investment then the grower is better off financially as they are involved further down the value chain.
6 Analysis and Discussion

The analysis, findings and discussion of the data and the less formal points that were raised in conversation are now explored. Where appropriate there is some discussion to see if the findings are similar to the research that has already been so as to validate both these findings and the relevance to the subject matter.

Through this discussion the groups will be referred to as such;

- >80kg. strata 1
- 40-80kg. strata 2
- <40kg. strata 3

The demographics of the group as seen in Table 5-1 are interesting, relevant and important for the future of this industry. The dominating group of the industry in strata 1 are mainly older and of retirement age. One person is actively downsizing to suit their circumstances. Two others with more complex businesses have been trying to sell for over a year but are having little success. The question of failure for inability to exit comes back to a variety of questions.

1. Is the asking price too high?
2. What is the basis for these valuations?
3. Is the business viable longer term?
4. Is the industry and the enterprises being offered seen as a lifestyle only with little opportunity for growth into a major industry for New Zealand?

Without a clear coherent answer to these questions the future may be difficult.

One major business has been sold to another alpaca breeder. Perhaps this is to improve business prospects due location, but this does not bring fresh blood into the industry as a whole. Most of those in strata 1 although fit and interested are getting to the stage where downsizing and sale of their enterprises will become both a necessity and reality as they
reach a stage where the physicality make continuing difficult. Sale then will become a necessity. Although these enterprises are spread over both islands, a number being sold over a relatively short period may not be good for the market. Succession planning seems to be lacking in the overall industry with the growers as a group getting to an age where retirement is approaching but no younger growers coming to market, certainly in sufficient numbers to take over. It could be that the growers are a victim of their own success in selling the alpaca idea to the wealthy.

Strata 2 is markedly younger and it is these people who need to take over the leadership of the industry, although there may be less possibility of structural change in terms of direction and growth of the group if this was to take place. As can be seen in Table 5-2 those people in strata 1 are generally tired and showing their age. Correspondingly, the vast majority of strata 2 and all of strata 3 are enthusiastic about their animals and the industry. There is a strong connection between these two factors and should be of benefit to the group. At least one or two members of this 2nd strata are in positions of responsibility either on a local or national level. With this in mind the future of the group may be in good hands as long as sales of the bigger enterprises can take place. However, if there is a move to grow this industry into a main stream agriculture then there may be a need for younger and fresh people to move into the leadership group as the current larger farms sell or contract in size and those in strata 2 cannot or do not take up stronger leadership roles. Three people in strata 2 and 3 said their farms were used as tax losses against other businesses so were not too concerned about developing the industry into a more mainstream income generator.

Table 5-3 also highlights another problem to overcome. This is that many commenced their involvement with alpacas 10-15 years ago. This suggests that there was a strong growth in numbers of growers and animals which has plateaued. This can be seen on Table 3-1 from the Statistics Dept with strong growth until 2007, a steadying of growth over the following
three years 2008/9/10 and although there are no statistics again until 2014, it suggests that
growth has plateaued. Having said this, Bates Mills advises that against their database, the
NZ Alpaca Association reports 60 new members on their website. However, they also report
that a similar number of growers, but not necessarily all association members are listed
Bates Mills on their database, no longer keep alpacas.

Table 5-4. This shows strong interest in strata 1 and a slightly lower interest by strata 2 in
the care of the interest and the running of the farm. The shearing of the animals on small
holdings is an issue, but those in strata 1 do much of the work themselves. Most take
pleasure in the farm work. The exception only being a single person who could not do all
the work due to physical and time constraints. Many report lowering vet costs as the alpaca
farmers become more experienced. Some report alpaca generally are easier to run, maintain
and care for than sheep and cattle. One man is trying to quantify this as he feels it may be an
important factor in the costs of running alpaca on a broad acre basis.

The relationship of strata 1 & 2 with the Association is full of contradictions. This may not
be much different from many groups of people be it a sports club or a cooperative business.
However, these are worth noting as it is the Association that today leads this group of
people.

Strata 3 have no involvement with the Association.

The Association like many other breed societies, whether they are mainstream agricultural
businesses or hobby people, are often constitutionally there solely to promote the breed and
to leave commercial aspects to its members and their associated enterprises. This is the case
with the New Zealand Alpaca Association Inc.

Alsono (2009) states this is a cottage industry. In the NZ Contacts reference it describes
itself as a “fibre industry supplier and lifestyle industry provider” (Bateson 2013). Many
keep these animals, as O’Shaughnessy (2008) states, describing their involvement as a
move to nonconformity with an associated high cost. The Association promotes involvement as investment. Lyons (2007) and Saisbury and Duggan (2007 & 2012) discuss this further with a selling point as limited supply, huge growth potential and production of ‘Fibre of the Gods’. Certainly articles written by Saitone and Sexton in 2007 (Alpaca lies, speculative bubbles in agriculture) and in 2012 (Alpaca bubble revisited) reinforced this perception and what was going on in the USA and warned of the fall. To a degree the Association has been part of a similar promotion and while a fall in values has occurred but it has not been to the extent that Saitone and Sexton feel is appropriate. This promotion of investment and return on investment perhaps is part of the disquiet directed towards the Association as animal values are lower than when people started some 10-15 years ago.

Some allude to early promoters of alpaca being main sellers of livestock, thus reinforcing their own position and benefiting their own enterprises, as of course is to be expected. This is shown where both strata 1&2 state they think the Association is run by and for the benefit of the large growers, whoever they may be, as they were never named. It seems that despite being members and being on committees, this feeling still abounds and does not change. One larger grower said the smaller people have too much voting power. Therein lies some conflict but similar conflict is perhaps largely unavoidable in any organisation.

The Association runs the shows and competitions which 50% of both strata 1&2 are involved in. Most, even if not active in shows, do feel the shows are important but if they do not show it is often due to cost of showing be it in travel costs or show entry fees. The shows are where marketing profiles are raised and many growers state premiums on animal sales are leveraged.

It may be worth noting that the Romney Breeders in New Zealand have 66 ram breeders and the Corriedale Breeders have 22 ram breeders. These are major breeds in New Zealand where the sheep population was 32,000,000 where the NZ Alpaca Association has about
400 members, nominated as breeders, but there were in 2014 only 14,000 alpaca in the country. There appears to be a disconnect in function from breeders to population between sheep and alpaca.

Many growers felt the cost of animal registration was high but did concede that it was lower than it had been. There has been a marked improvement through breeding over the last 15 years as noted by Newman and Paterson (1996) and Cruthers, et al (2009). New Zealand stock has improved markedly and the need for all animals to be registered may well need to be reviewed along with the need for animal registration. The sale of many animals is done by registration and the transfer of registration is a strong selling point for many. If there was consideration as to whether stock is that of a stud breeder or simply good stock the price may be consequently lowered for good stock. This could be advantageous for the group of growers as the value would fall for many animals but in turn would make growing for meat viable. The lower sale price of an animal might then give a sufficient return on capital and consideration by broad acre farmers to keep the animals for fibre and meat.

The criticism of the Association may well have some validity but in its time it has created a platform for stock to improve in quality through scientific breeding and providing fresh blood lines for individual growers allowing confidence in that blood line. Many of those in strata 1 noted a new direction seemed to be coming from the Association but the direction and impetus was not yet clear.

Having discussed the demographic of these alpaca breeders, the objective of the dissertation will be addressed in relation to the value from each of the value chains that alpaca generate.

The value chains identified are

1. Breeding/animal sales
2. Fibre production and sales
3. Meat production and sales and skin sales.
4. Farm tourism

Each Value chain is examined next on a similar basis and compared against all three strata.

**7:1 Breeding/Animal Sales Value Chain**

Table 5-6 very clearly shows the importance of breeding/animal sales in the current industry. The results were similar for strata 1&2, and it is worth noting that as pets only strata 3 saw no value in these animals for themselves when it came to breeding and reselling.

Both strata 1&2 report a major reduction in stock value since they started. One said they considered it was a pyramid scheme when they joined but thought that they joined early enough, yet on reflection they know now this not to be the case. Several others said they had recouped their losses one way or another, but did not want to elaborate.

There are problems with these answers as most also report the local market as being full and the export market as being difficult. The export market is also crowded with competition coming from USA and Australia. Several people in strata 1 were hopeful that a new protocol with China would lead to an increase in the export market and that in turn lift general demand as supply may be then would be on the short side. Recently these same people reported that a jumbo plane full of Alpaca had left from Australia for China, so it seems there is a market there for stock. It is unsure what the market is for in China: breeding to build a national flock or for as O’Shaughnessy (2008) calls it high involvement conspicuous non conformity, which is becoming part of modern Chinese society. It is also worth noting the findings of Sun and Ryan (2013) where they found that alpacas are one of “ten mythological animals to tease Chinese Internet Censorship”. This is an aspect of value that is well worth noting as the value is some what intangible, but for some the value of protest in a heavily controlled society puts the value on a level higher than the actual productive
worth of animal. Saitone and Sexton’s (2012) comments in their paper puts the value of an alpaca as that of a fibre producer, but who cannot compete with Peru on fibre, when an animal costs $120.00. Certainly breeders in NZ are aiming higher in price. Trade me’s (www.trademe.co.nz) basis today, 25/9/2015, ranges from $195 to $6,000, with an average price of $450. This can be compared with PGG Wrightson’s Agonline (www.agonline.co.nz) basis on the same day of $1,800 for bulls and $65 for ewes with lambs at foot. There is a disconnect here between investment price and return on investment of the broad acre stock, beef and sheep, and the lifestyle stock, alpaca. There is, of course, no problem with wanting just pets as strata 3 do but the price and productive value seem to have no relationship.

In Table 5-8 the market and marketing was explored. It seems that there are again similarities between strata 1&2 with where the stock are sold and the promotion for these sales. But it appears generally that strata 2 are not introduced to the export agents or the export agents do not approach the smaller breeders. Strata 2 growers are less optimistic than strata 1 growers and it is perhaps the lack of overseas representation that is the cause of this. There are other online channels of sale but these were not mentioned, perhaps these are more directed to the Association members and they perhaps are not as active as those who are not Association members, but in turn they are less inclined to pay higher prices. There is a strong drive to achieve better stock in terms of animal conformity and fibre and some growers feel let down as there seems to some no effort being made to take the industry into mainstream agriculture. These growers describes alpaca as “cottage industry” at best. Again strata 3 are happy with their pets and have no desire to reproduce their animals to grow the herd or sell the offspring.

In Table 5-10 a minority of strata 1&2 see breeding animals as hardly or not profitable which begs the question as to why it is done. Generally, the answer is to continue to
improve their own stock and awaiting a better market. Both strata 1&2 do see the market improving, which must be considered valid responses in an industry such as this. In terms of assisting in marketing and achieving higher prices for stock, many of those in strata 1 see relevance in the show ring, as their costs give a longer term return. The show ring gives them exposure to the market and ability to leverage returned from that exposure. Those achieving sales cannot afford to miss these shows. Perhaps if they miss showing their stock, the NZ animal market may wonder if their new stock is inferior to their previous show animals. The show exposure ensures their brand is strong in the market and for the prize winners their quality will continue to be assured.

Both strata 1&2 were strong on their ability to control their costs, the problem is the cost of shearing. Again both strata 1&2 were unanimous in their appreciation of achieving scale and the flow on savings and increasing profitability this would achieve. It is well worth noting and again asking why has only one grower has achieved the real scale of a broad acre farmer although several others are reputed to be building up herds by buying unwanted cheap stock of any age, sex, quality and colour. This broad acre grower said he needed to find a way to kill his animals and market their meat in a commerical and profitable manner.

6.2 Fibre Production and Sales Value Chain

The results on the topic of fibre in the value chain are different from the animal sales. Table 5-11 shows a perception on the importance of production of fibre by strata 2 against strata 1 which sees the importance as markedly less, the reliance of animal sales is seen against fibre sales. Strata 2 see it growing strongly whereas although many in strata 1 see a similar growth in value even if this growth in value is a little less pronounced. It is worth noting the market price for alpaca fibre is dictated by Peru. Reading the thesis put forward by Schmid, et al (2006) the value chain for Peruvian fibre is dictated by the world market.
However as Saitone and Sexton (2007) state the costs in Peru are and always will be lower than USA, and by inference this will apply to any Western producer such as New Zealand. The strategy to grow better fibre than Peru was correct, but today at is fault in that in Peru, Michel (one of the major alpaca top and yarn producers) have farms and research facilities to improve their stock with finer microns. However, it is possible that fundamental fibre in New Zealand is better than Peru’s. Bates Mills reports with certainty that customers in Europe and USA could buy more than currently supplied. There are no complaints and customers always buy. There is, therefore, an implication that NZ fibre is superior in processing. Cruthers, et al (2009) show by tests that this is the case. Whether more money per kilo can be extracted by buyers with better fibre has yet to be tested more fully, but it is hoped that some success and progress can be made with this in mind.

In terms of final market for the fibre pools that operate in NZ, the local NZ market is the largest individual user. It seems that all of the strata 2 growers have some involvement with industrial usage. This is a positive view as it could mean that if herds were grown they could be confident of a market. The craft market is also important as a direct user but it is also worth noting that often craft usage and cottage industry do lead on to new, bigger and industrialised business in the longer run. This in turn will again lead to the possibility of better demand for fibre.

If demand for fibre is seen as positive then there should be a long term expectation for fibre prices to rise. Most in strata 1&2 see fibre as profitable and their relative scale as not important, but realise scale would assist profitability further. Vet costs and on farm costs are not high and do not impede profitability. At the moment, the only impediment to profit is shearing costs. However, two members of strata 1 also shear their own alpaca and comment shearing costs would fall markedly if there the herds were bigger so travel and set up times were reduced per animal.
As noted in the discussion as regards animal sales, there is a perceived drive for quality in fibre as well. In strata 1, all but the single grower exiting the industry test extensively their fibre. There are many places on animal and over an animals life that the tests take place but there is a drive for improvement and understanding of the animal’s fibre production. This is good as the prime purpose of these animals is fibre production. The majority of growers consider they are growing fine fibre, less than 25 micron. However, it is worth noting Bates Mills comment that the majority of fibre they receive and the test results show, that the micron is in the 26-30 micron range. It is possible that finer fibre is not put forward to the pool. But Bates Mills do find that when sufficient fibre is received as a tested line, the scouring results as tested and advised by SGS, the international test house, were all 2 microns coarser than advised by the supplying growers. This may be due to the grower selecting parts of the animal’s fleece that always will give better result or a difference in calibration of the test equipment. Either way SGS results should be more reliable as SGS and NZWTA test all NZ wool, both give the same results when scoured test results are compared. Today, test lots from growers is not feasible due to the small weights put forward by each grower.

6:3 Meat Production and Sales and Skin Sales Value Chain.

Today this is an area that is hardly covered by the group and for a variety of reasons little work has been done on it. It may be consequently felt the following details are less considered by the group, although some opinions are firmly held.

There is conflict between the reason most keep these animals and raising them for meat production as well as fibre and sale.
The question of lifestyle and cute animals face the same answer in all three strata. This was the only question with this result. There is however a minority who despite their sentiment would grow these animals for meat. A minority have also home killed them, and interestingly this occurs in strata 2 which is difficult to explain. At first thought it may have been due to the perceived lower value of that strata but as can be seen in Table 6-18 this is not the case. Certainly the sale of breeding stock, likability of the animals and stock values are major impediments to raising these animals for meat. The only reason that most would kill them was old age where fibre had deteriorated to a coarse micron or the animal was no longer of breeding value.

Some say that when the subject of killing these animals is raised at Association conferences there is often a partial walk out by some delegates, who are vehemently opposed to such a value stream. Three strata 1 growers state they realise for alpaca to be taken up by broad acre farmers they have to be able to derive income from meat. One of Bates Mills suppliers in Australia states that for the meat business to work the animal has to be bought for $100 or less. In there lies the problem for the larger growers and their conflict on price. Can they derive more income trading at this lower level or with bigger breeding and fibre producing herds is this a good outlet for older stock and wethers that do not produce sufficiently fine fibre and to be uneconomic to keep longer on farm.

Today there are two slaughter houses in NZ which are in Ashburton and Fielding. One man does kill there for resale on the Internet, www.mesamill.co.nz. Countdown supermarkets in Auckland sell alpaca meat from time to time. In the USA the meat is also sold by at least two large alpaca farms that Bates Mills deal with. They too are looking to maximise income from alpaca.

When questioned about skins the results on Table 6-19 show that many see good value in skins and many have had skins tanned. But many do not have the skill or inclination to skin
their animals. Those who would skin their animals would dry or salt them for pooling, tanning and resale.

Generally the informal response to this section was brief, indicating a distaste for the subject or lack of consideration of the subject.

6:4 Farm tourism value chain

Table 5-20 shows the importance of farm tourism to those who participate in the activity. Those involved in it are all from strata 1 but represent only 35% of that stratum. Keeton, (2008), Ilbery, Bowler, Clark, Crockett, & Shaw (1998), Schilling, et al, (2014), Huang (2006) all report the importance of tourism to agriculture internationally. Those in NZ with alpacas involved in farm tourism report it to be an important part of their incomes. The majority are overseas visitors and they are attracted mainly by word of mouth although an internet presence and local advertising are important advertising tools within the marketing effort of their enterprise.

Farm tourism with alpacas varies from home stays to animal farm visits. The ability to sell, provide accommodation, alpaca goods, photo opportunities and animal feed seem endless and gives wide scope to those in this type of business to generate money from this value chain.

Of those involved in this farm tourism business all report they are easy care animals, it is an easy business to run and it is profitable. The main determination for success however is location and the need to be on or near to a major tourist highway. One farm, however, consider themselves to be off a major route but they are found through the strength of word of mouth and their marketing.
7 Conclusions

An analysis of whether industry is growing or declining as per earlier diagrams in the Method section as previously described by reviewing the measures of growth against the interviewees view of the alpaca industry and its value chains.

Each table uses a slightly different method, methods 1-5, so as to be able to measure whether this alpaca phenomena is an emerging industry as discussed in the literature review of this dissertation on page 4.

Table 7-1 Emerging Industry by Measurements from Diagram 2-2, definition 1, page14

<table>
<thead>
<tr>
<th></th>
<th>Animal sales</th>
<th>Fibre</th>
<th>Meat &amp; skins</th>
<th>Farm tourism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emerging</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Maturing</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Declining</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>

Table 7-1 shows the value chains and their position in the industry growth and decline cycle. Most of the interviewees show animal sales as declining whereas fibre and farm tourism show at best a mature position but certainly no decline, with opportunities for growth.

Table 7-2 Emerging Industry by Measurements from Diagram 3-2 definition 2, page14

<table>
<thead>
<tr>
<th></th>
<th>Animal sales</th>
<th>Fibre</th>
<th>Meat &amp; skins</th>
<th>Farm tourism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angels/seed capital</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Venture capitalists and</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Strategic Alliances</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>

67
Table 7-2 shows that only small venture capitalists or seed capitalists are active in this industry. The opportunities for growth appear good. Emerging industry prospects also appear good.

**Table 7-3 Emerging Industry by measurements from Diagram 2-3, definition 1, page 15**

<table>
<thead>
<tr>
<th></th>
<th>Animal sales</th>
<th>Fibre</th>
<th>Meat &amp; skins</th>
<th>Farm tourism</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Incubate Stage</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Seed Stage</strong></td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Late Seed</strong></td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Start up</strong></td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Initial Growth</strong></td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td><strong>Sustainable Growth</strong></td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>

Again Table 7-3 shows all value chains showing abilities to grow. These again represent the sentiments of the interviewees of this survey. There is some conflict in the animal sales but the group shows strong growth prospects of those 30 people interviewed.

**Table 7-4 Emerging Industry by measurements from Diagram 2-3 definition 2, page 15**

<table>
<thead>
<tr>
<th></th>
<th>Animal sales</th>
<th>Fibre</th>
<th>Meat &amp; skins</th>
<th>Farm tourism</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Concept</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Prototype</strong></td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Product introduction</strong></td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td><strong>Marketing</strong></td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td><strong>Expansion</strong></td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td><strong>Sales</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
</tr>
</tbody>
</table>
Table 7-5 shows some structural development as prescribed in Emerging Industry Theory for all Value Chains except the meat and skins. It is worth remembering grower comments earlier in this dissertation where their statements were that without a meat industry the broad acre farmers would not take up the alpacas as a main stay stock unit.

These five tables demonstrate various stages of development by placing the answers to the surveys into each table. All show a considerable maturity in the animal sales columns. This reflects the considerable work that has been done in New Zealand in breeding sound animals with good conformity and good fibre. All grower strata show a strong desire to improve their stock each year. However, many report they are breeding fewer animals as sales opportunities have diminished. The main question for growth is not just the opportunity to export to China which is surely of good potential, but whether the group can develop a broad acre industry breeding alpacas not just to sell but to garner income from meat, skins and fibre.

Today, there are moves in this direction, but unless the pace of progress is increased the age of the larger herd holders may well rule out this possibility from coming to fruition as their herds will die or be sold as these people age and cannot care for the stock or lose interest in these enterprises. None were able to discuss exit strategies and all but one who had tried to
sell, had failed. Some action in this direction needs to be taken quickly or the opportunities
for larger growth will soon disappear.

In the Alpaca fibre industry there seems to be good competition for the fibre that is grown
with several individuals gathering the fibre in through the pools or in recent months by
buying on a flat kilo rate. No doubt all make a margin on their efforts but for none of them
is it a full time business. The weight of fibre needs to be markedly larger than is currently
the case, for it to be considered a true business. If the weight of fibre was larger no doubt the
costs of undertaking the exercise would fall and some of these savings would go back to the
growers in higher payouts per kilo grown.

The fibre price is set in Peru and although there may well be advantages and quality aspects
of New Zealand fibre that are as yet unquantified, the sales departments of these pools are
capped in what they can ask from customers around the world. Locals, of course, can import
too, giving locals users more competitive prices on the highs of currency but higher prices
arise to these users when the currency is weaker.

Expansion is the key to this segment and the only real solution to this is to attract the broad
acre farmers that are needed to sustain the animal sales. The lack of growth potential is
apparent in the above tables.

Meat is hardly seen as an income stream for the growers. One larger grower said that
without meat income the industry would not attract broad acre farmers. Without the broad
acre farmers neither the animal sales nor the fibre industry will grow and stagnation will
abound. This is a negative circular argument that has to be resolved for the industry to
progress.

Similarly with skins, there is a market for the skins. The attributes across the body vary and
have advantages over other tanned hides. These need to be quantified and promoted in the
greater industry. Volume, repeatability and assurance of supply of skins is of course of the
utmost importance as it is with fibre and meat. This again revolves around the number of broad acre farmers who the industry can attract.

Farm tourism appears to be profitable and successful for those who undertake it. Location is the key for this group. Without a convenient location the ability to attract sufficient people to their enterprise will be difficult. For some a more remote location will be an attraction but for many it may well be a disincentive to visit. There is, of course, a point of saturation in terms of numbers and proximity of numbers of farm tourism enterprises. The market will tell this, but today those involved all report success so it is possible growth in this market is possible.

It may well be worth catering for the Chinese visitors in particular as well as the animals have peculiar meanings in their language and culture and many would benefit financially from such leverage. Chinese tourism is also on the increase in New Zealand so this shows the possible benefits are increased further again as visitor numbers increase as well.

As previously stated in 2013 the Alpaca Association of New Zealand Inc describes itself “as fostering and expanding New Zealand’s recent new fibre and lifestyle industry.” (Bateson Publishing, Ltd 2013). If this direction is to continue then the future does not look bright. It is of course important to remember the Alpaca Association of New Zealand Inc is not permitted to undertake commercial activities as is the case in many breed societies. But it does say it is there to foster and expand the growth of these animals. The focus should perhaps change from a just a fibre and lifestyle industry to be a broad acre commercial industry based around the niche market of fibre, meat and skins that these animals provide. With 30,000,000 sheep and only 14,000 alpaca in 2012 as per the Statistics Dept. direction needs to be given from a more professional and experienced organisation with a mandate to grow the value chains. If for instance levies were drawn on all shows, the animals here would gain more prestige and poorer animals would recede making the show animals more like a broad
acre breeding stock. These animals, as rarer breeding stock, would not lose value although perhaps not gain value, but the levies could go to encouraging, researching and developing meat works suitable and markets for alpaca meat. This would open up markets for all growers large and small but most importantly the larger growers who need to be encouraged, may well to enter the industry.

Whilst it is possible for the Alpaca Association of New Zealand Inc to open an independent office to do this work, the levies would be inappropriately high per grower or per animal. The other way to work in this commercial model would be to work with an organisation such as Beef and Lamb or Sheep Breeders of New Zealand doing the work nationally but under their cost umbrella. This could be cost effective for the Alpaca Association of New Zealand Inc and its members. There are, of course, growers who are independent of the Alpaca Association of New Zealand Inc. There is no income or levy opportunity on these growers. The wool industry did levy itself at the scour stage a few cents per kilo. All the fibre which is sold in commercial quantities is scoured and this gives the opportunity for raising marketing research funds at this point. The same could apply at meat works and also on export animals. This, although may seem a burden on growers, it would benefit all as the market size would increase giving more opportunities for sales and of as equal importance opportunities for reduction in costs.

Without some meat works development and meat marketing work being done, the growth opportunities for alpaca look difficult and it could linger as small hobby farm businesses with the only beneficiaries those who in early years sold the initial stock at what seem today to be high prices.

As mentioned in the discussion many growers criticised the Alpaca Association of New Zealand Inc. There is criticism towards the Association at times could be described as certainly pointed, but criticism such as this is not uncommon in any group. However some
say that in the past any research by committees or discussions that may be considered harmful to stock values was stopped. Should this be true, it is counterproductive to long term industry growth and discussion and research should be truthful and open. The true value of an animal, whether it be for true stud breeding or a more general animal suited to fibre and meat use only, is decided by the market and will find its own true level. The self-interest of a few in trying to hold and manipulate prices is not the same as the longer term interests of the group.

Today the is a focus on fibre and the lifestyle industry. The main beneficiaries of life style industry are the service providers. Lifestylers are rarely there to make a profit although the tax advantages and cash benefits are of importance. They are there generally for the lifestyle. Hence to call lifestyles an industry is a misnomer for those who are not service providers; these people pay too much for the services as they cannot give any benefits of economies of scale but do often have the cash to pay for the high cost of services provided.

There must be some focus on the seed and venture capitalists to be able to process meat in particular, but also encourage strategic alliances to permit economies of scale in all areas of alpaca dealings. This happens with animal sales and to a lesser extent fibre. But with the small number of stock involved it is vital to encourage these activities in the developing stages of this industry so it is competitive and importantly profitable.

There must be some encouragement in this broad acre farming. This farming will continue to demand good breeding stud stock. It will produce meat, skins and fibre. The farm tourism will continue to grow to fill a market need. The meat for many years will produce relatively small weights and will be to target the high end restaurant and meat suppliers. The fibre and skins will develop into an apparel and textile industry creating demand in a high value market.
These are benefits that will accrue to the Alpaca Association of New Zealand Inc, its breeders and members, and to New Zealand as a whole.

In conclusion:
The Alpaca industry today is not progressing. It is likely to disappear as its leading members get older and become of an age where their ability and interest in their stock declines to a point whereby they stop. If a serious effort is not made to move into a new phase of industry development the possibility of an emerging industry status will firmly not be present. There is an opportunity for members of the group to invest the value of the fibre into an apparel business. This business would need to be structured carefully so the investment was nurtured but it could give an increase in real value of their fibre and overall enterprise. The challenge to have emerging industry status to be bestowed on the alpaca group is to move firmly away from just animal sales to focus on the other value streams of:

1. Fibre
2. Meat
3. Skins

Animal sales and farm tourism will continue, but it is the above three levels which have to become of a scale whereby they are economic which is the challenge for the alpaca group within New Zealand and becoming a truly profitable industry.
8 References


Bateson (2013)New Zealand Contacts in Agriculture, Forestry & Fisheries 2013 Editor, Bateson Publishing Ltd


Dugan, I. J. (2007, Apr 05). Backyard bonanza: Tax breaks fuel alpaca market; CPAs help farmers who make zilch on fur; the latest beast bubble? Wall Street

“Emerging industries report” July 2012 Version 1.3 on the most active significant and relevant new emerging industrial sectors.


76


Tobler-Rohr M I, (2011) Handbook of Sustainable Textile Production. P 45-149 Publisher Elsevier


Appendix A

Questionnaire of growers

Formal and informal

Demographic

- Date
- Name
- Location
- Grower size
- Male/Female
- Age
- Is it full time job?
- How many years involved with Alpacas
- How many animals to start with
- Did you grow?
  How – breeding buying quickly slowly
- Why did you start? Breeding Fibre liked animals others
- Is your family involved?
- Have your interests changed for keeping them
- Why and how?
- Who shears the animals, maintains the stock and farm
- Any breeding and mating programme – who manages this
• Do you keep Suri Huacaya
  Male Female
  White Coloured
  Why?

• Are you members of the NZ Alpaca Association?
• Are you active socially in the Association? Is this important?
• Are A & P Shows and their competitions important?
• Are your animals registered? Do you use yr stud name and number regularly?
• Any thoughts of not having any alpaca stock? If so why?
• Are alpacas and important income steam for you and your family’s life style?

**Breeding/animal sales**

• Is breeding an important income stream
  • The most or least important?
  • Why?
  • Is breeding a growing/static or declining income stream?
  • Has there been a rise or fall in stock values since you started?
  • What do you think is the outlook?
  • Is scale a problem or is it important?
  • Do you plan your breeding a long way ahead?
  • Is yours a local or export /tourist business?
  • How do you market to the local and overseas customers – any difference?
• Are your animals different to others? How?
• Genetics important? Why? Are some better than others – how –why?
• Do you sell males or females, wethers – or boys and girls?
• Why describe them as such?
• Do you sell agistement services? If so on or off farm?
• Are costs difficult/ How do you manage them if they are difficult?
• Is breeding profitable as a standalone income stream
• Is breeding and other alpaca activities profitable as a full time income stream? Can you make it profitable? How?

**Fibre**

• Is fibre an important income stream?
• The most or least important?
• Why?
• Is fibre production a growing/static or declining income stream?
• Has there been a rise or fall in fibre values since you started?
• What do you think is the outlook?
• Is scale a problem or is it important?
• Is your fibre different to others? How?
• Are costs difficult/ How do you manage them if they are difficult?
• Is fibre profitable as a standalone income stream?
• Is fibre and other alpaca activities profitable as a full time income stream? Can you make it profitable? How?
• Who are your customers? Handicraft, pool, yr own production,
• Do you look further down the value chain?
  Followed up if not why not if so why?

• Capital

• Who processes yr fibre  Mini mill or industrial?  Minimums  Delivery Price  Quality acceptable?

• Do you use suri or Huacaya? Why

• Micron, length, colour, comfort factor – which is important, how measured?

• Do you use all yr fibre?

**Meat**

• Is meat an important income stream?  The most or least important?  Why?

• Is meat production a growing/static or declining income stream?

• Has there been a rise or fall in meat values since you started?

• What do you think is the outlook?

• Is scale a problem or is it important?

• Is your meat business a local or export /tourist business?

• How do you market to the local and overseas customers – any difference?

• Is your meat different to others? How?

• Are costs difficult/ How do you manage them if they are difficult?

• Is meat production profitable as a standalone income stream?

• Is meat production and other alpaca activities profitable as a full time income stream? Can you make it profitable? How?

• Who are your customers?  Self, friends, restaurants, butchers

• Why not go down this value chain?  Animal values,  cuts too difficult,
pets, marketing supply limited, repeatability

- How many stock units do you carry? Animals per acre Overstocked Underfed
  How do you know?
- Fibre 1st – kill males at maturity, Kill males on micron burst, kill older females on fibre burst
- Why not farm the animals as well? Fibre meat and for sale?

**Skin**

- Are skin sales production and other alpaca activities profitable as a full time income stream? Can you make it profitable? How?
- Home kill or retained from works after slaughter?
- Who are your customers? Locals or export/tourist?
- Markets - Floors, garments, accessories or toys
- Do you think supply is a problem? Minimums Hide shape Pet Conformity – micron, fibre length, colour
  Why not grow for animals sale, fibre meat and skin?

**Farm Tourism**

- Is animal attraction an important income stream?
- The most or least important?
- Why?
- Has animal attraction a growing/static or declining income stream?
- Has there been a rise or fall in the animal attraction business since you started?
• What do you think is the outlook?
• Is scale a problem or is it important?
• Is yours a local or export /tourist business?
• How do you market to the local and overseas customers – any difference?
• Are your animals different to others? How?
• Are costs difficult/ How do you manage them if they are difficult?
• Is animal attraction profitable as a standalone income stream?
  Is it important in your overall activity as an attraction and a point of difference in your marketing?
• Is animal attraction and other alpaca activities profitable as a full time income stream? Can you make it profitable? How?
• Why alpaca – would any animal be of interest?
  Alpacas different from other animals - do you like this yourself? Is it important for you as well to have something different?

**Integrated marketing proposal**

• If there was an integrated value chain for alpaca from fibre to retail, would you be interested in joining the business?
• If not why not
• Stand alone and no call on capital other than your fibre investment
• Objective would be to make a profit
• Increase Alpaca’s profile at retail
• Industrial production.
• Add value and participate in that added value