

Investigating alternative governance systems for the South African mohair supply chain

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Abstract

Mohair is an exclusive natural animal fibre with niche market appeal. It is, however, questionable whether it is inherently suited to a commodity-based marketing system in a marketing environment that requires marketing systems to convey far more information than commodity-based systems do. Historically, mohair has been considered a commodity and the marketing system for mohair has been structured accordingly. It is, however, argued that, the exchange between mohair growers and the buyers of greasy mohair requires increased levels of coordination to govern the exchange in a transaction costs efficient manner. The inefficiencies created by an inappropriate or incomplete marketing system for South African mohair are expected to lead to a loss of consumer value and a loss of potential profit throughout the mohair supply chain if a more coordinated governance structure is not implemented to curb these costs and augment the current spot market exchange.

Keywords: Mohair; marketing; governance structure; supply chain

1. Introduction

Mohair is the technical name for the fleece of the Angora goat and originates from an Arabian word meaning “best fleece”. Mohair is a unique and luxurious natural fibre and no other fibre, natural or man-made, has the same unique properties as mohair. Mohair is sought after for its comfort, it being warm in winter and cool in summer and for being highly durable. Mohair is also particularly valuable as a textile fibre because of its properties such as firmness, lustre, resilience, moisture absorption and low felting capacity. Mohair is processed via lengthy processes into textiles that are used to manufacture a number of final products. The demand for different types of mohair is based on the uses detailed in Table 1 below.

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Table 1: Composition of the mohair clip and current application

Type of hair	Application	Demand	% of clip
Superfine and Fine Kid (< 26 micron)	Wide application in men's and ladies' wear	Extremely sought after but fashion dependent	7.2
Kid (26-28 micron)	Finds application in men's and ladies' wear	Sought after but fashion dependent	10.8
Fine Young Goat (28-30 micron)	Used in men's and ladies' wear and in household upholstery	Sought after when in fashion	7.6
Strong Young Goat (30-33 micron)	Used in men's and ladies' wear and in household upholstery	Stable use in mohair velour	11.4
Fine Adult (34-36 micron)	Used in men's and ladies' wear, household upholstery, knitting industry and brushed products (blankets etc.)	Limited when knitting is not in fashion	18.0
Strong Adult (37-40 micron)	Application only in brushed products, carpets and curtains. Alternative application limited.	Limited	45.0

Source: Van der Westhuysen (1991) and own contribution

Spot market exchange, typical of commodity marketing systems, currently dominates as the primary mechanism of exchange for South African raw mohair. Mohair is considered a typical commodity with a number of classes and is traded on a spot market auction that publicly sets the price for mohair in South Africa. The purpose of this paper is to show that despite the commodity characteristics mohair can, under certain circumstances, perhaps obtain better marketing results through another governance system as shown by the Camdeboo case described in this paper. The successes achieved by the Camdeboo group are indicative that a greater level of coordination within the mohair supply chain can, in specific circumstances, potentially yield better results than the current commodity based mechanism of coordination alone. It is argued that the use of a spot market based marketing of mohair may not be conducive to the optimal flow of information, goods and returns throughout the supply chain since the communication of mutual wants and needs between producers and their clients is not easily facilitated by a spot market system (Loots, 2002).

Spot markets are characteristically suited to the marketing of commodities and are generally associated with generic product promotion, uncoordinated exchange, players that seek self interest, limited information sharing, opportunism, short term relationships and a relatively small amount of attention that is afforded to product differentiation (Champion & Fearne, 2001b). Trends in agribusiness systems are, however, increasingly moving away from the commodity approach to marketing to an approach that focuses on differentiated and branded products, coordinated exchange, players that seek mutual interest, open information sharing, long-term relationships and

the successful marketing of a product through satisfying the needs and wants of the customer more effectively than competitors (Champion & Fearne, 2001b; Kotler, 2000). Taking the changing marketing environment, the exclusivity and niche market appeal of mohair and the unique composition of the mohair clip into account, the question arises whether mohair is inherently suited to a commodity-based approach to marketing as facilitated by the spot market. This arises from the debate whether spot market coordination satisfies the basic fundamentals of marketing that require signals conveying far more information than price alone, as is necessary for differentiated product businesses systems.

In this context this paper debates the proposition that the spot market is potentially not the most suitable platform to govern the exchange of mohair under all conditions, especially high quality mohair, between mohair producers and mohair processors.

In debating this issue the paper is not positivistic in nature but has certain objectives that will be achieved through deductive processes. These processes are informed by a four year engagement with the industry and the development of a case study to provide evidence to substantiate the arguments that are made. The general objective of this paper is to analyse the structures governing the marketing of South African mohair and to debate the issues influencing the choice of a suitable structure to govern the marketing of South African mohair in the evolving agribusiness environment. Before debating the appropriate governance system for mohair it is necessary to review the history of mohair marketing in South Africa to provide the context for the debate. This is elaborated upon in Section 2.

2. Evolution of mohair marketing in South Africa

Since the establishment of the mohair industry in South Africa in the early 1800s the industry was characterised by periods that ranged from good fortune with high levels of demand, good prices, increased levels of production and continuous improvement of quality to turbulent periods characterised by adverse climatic conditions, economic recessions, low prices, outbreaks of disease, sudden changes in fashion and discord within the industry (Pringle & Döckel, 1989; Van der Westhuysen *et al.*, 1988).

The Department of Agriculture, mohair producers and mohair merchants realised that the continued existence of the mohair industry was dependent on the active promotion of the mohair industry. In 1951 an inspection fee was instituted by the government and collected by the agency of mohair merchants

to contribute to a public fund under the control of the Minister of Agriculture for, amongst others, the promotion of mohair. In order to assist him in the proper application of the fund the Minister appointed a Mohair Advisory Board. The Mohair Advisory Board was tasked, under the auspices of the Minister, with proposing and executing projects, research and promotions that it deemed beneficial to the South African mohair industry (Van der Westhuysen *et al.*, 1988). The public auction disposal of mohair was already instituted in 1949 despite considerable resistance from mohair buyers and when the Mohair Advisory Board was established in 1951 it announced classing standards for mohair for the first time.

In 1965 it became clear that the powers of the Mohair Advisory Board were insufficient and consequently a scheme for regulating the marketing of mohair under the Marketing Act (Act 26/1937) was announced in an extraordinary Government Gazette (1244/1965) which also made provision for the establishment of a Mohair Control Board. Mohair was still marketed by four brokers on auctions scheduled by the Mohair Advisory Board. At the time the Control Board did not interfere in the free flow of mohair to the market nor did it attempt to influence prices directly (Pringle & Döckel, 1989; Van der Westhuysen, 1993).

An alarming decline in prices during 1970, however, prompted the executive of the South African Mohair Growers Association to approach the Mohair Control Board to investigate an alternative marketing system. In 1971, a proposal, despite considerable opposition from some producers and buyers, was accepted to stabilise mohair prices by means of a single channel pool scheme (Pringle & Döckel, 1989). From 1972 the Mohair Control Board was given the sole right to market and set prices for South African mohair (Mohair Board, 1971). For economic reasons the four brokers at the time amalgamated into one body to form Boeremakelaars (Koöperatief) Beperk (BKB). The mohair control board subsequently appointed BKB as the sole agent to undertake mohair preparation and handling on behalf of the Board. In the early 1990s the escalating cost of clip preparation by BKB and the poor economy of the mohair industry at the time led mohair producers at the 1992 congress of the Mohair Growers' Association to request that the Mohair Control Board cancel its agreement with BKB and take over the function of clip preparation itself in an attempt to reduce the marketing costs of mohair (Van der Westhuysen, 1993).

Widespread agricultural marketing reform in the mid to late 1990's led to the suspension of the Marketing Scheme for Mohair and the disbanding of the Mohair Board in 1997. The Mohair Board was replaced by Mohair South

Africa, an independent private sector organisation and responsibility of preparing the clip was transferred to BKB and the then newly formed Cape Mohair and Wool (CMW). The assets of the Mohair Board were transferred to the Mohair Trust with the objective of safeguarding the assets for future utilisation in the advancement of mohair. Following the marketing reforms in 1997, the marketing of mohair once again took place in the free market and producers were free to choose the means of disposal for their mohair. Over and above the existing open cry auction farm gates sales, forward selling, contracts, electronic auctions and tenders all emerged as possible trading platforms for exchanging mohair between mohair growers and buyers.

Table 2 below details the primary trading platforms for mohair producers from 1998 to 2002 following a questionnaire survey amongst mohair producers.

Table 2: Volumes (%) and values (%) of mohair per trading platform (1998-2002)

Trading platform	Volumes by mass and value	Year				
		1998	1999	2000	2001	2002
Auction	Mass (%)	98	99	97	92	94
	Value (%)	98	99	96	86	88
Farm gate sales	Mass (%)	2	1	3	2	3
	Value (%)	2	1	4	4	6
Contracts	Mass (%)	-	-	-	6	-
	Value (%)	-	-	-	10	-
Forward selling	Mass (%)	-	-	-	-	3
	Value (%)	-	-	-	-	6

Source: Own survey, 2003 (n=44)

In light of the fact that controlled marketing of mohair was abolished during 1997 a number of alternative trading arrangements started to emerge in the following years. These include farm gate sales, contracts and forward selling. Of these the open cry auction system was identified as the main trading platform with an average of 96% of the total volume of mohair of the respondents passing through the auction. Over time there has, however, been a general decline in the volume and value of the mohair passing through the auction with trading options like farm gate sales, contracts and forward selling emerging as trading options. It is noteworthy that contracts and forward selling become avenues of trade during 2001 and 2002 but were not fixed arrangements with none of the producers reporting sales through contracts in 2002 or sales through forward selling in 2001. This trend is in all likelihood ascribable to changing demand and supply conditions and mohair producers' and buyers' different strategies to minimise their risk under the different supply and demand conditions.

It is of specific importance to note that the decline in the value of mohair passing through the auction is significantly more than the decline in the volume of mohair passing through the auction. This leads to the conclusion that the higher value (better quality) mohair was increasingly passing through trading platforms other than the open cry auction during the specific period.

3. A framework for exploring alternative supply chain governance structures

Jordaan (2005) debated at considerable length the different cases for mohair’s “unit type”, i.e. whether mohair is a product or a commodity. The markets for products containing mohair varies from home industries that offer craft products to exclusive boutiques that offer custom tailored products like exclusive men’s and ladies’ apparel and designer furniture. As a result of the diverse application of mohair the demand characteristics for the various types of mohair and mohair products and the competition for the respective products are also quite diverse as illustrated by Table 1 discussed earlier and Figure 1 below. From this it is evident that different types of mohair have quite different applications and demand characteristics. Relating the end-uses and demand characteristics of the diverse mohair clip to mohair’s unit type it is argued that, based on the properties of mohair clip, mohair can be termed a “product” since its diversity is translated into varied end-uses and variable demand characteristics for the variety of end products.

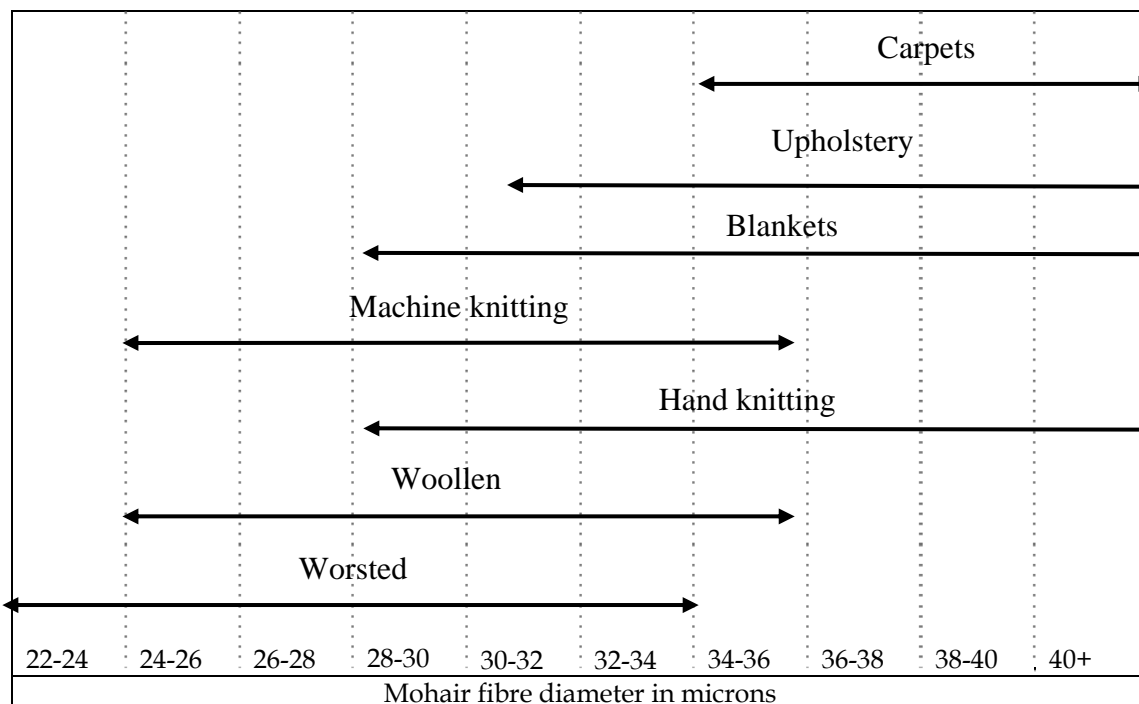


Figure 1: The markets and end-uses of mohair

Source: FAO (2005); Loots, personal communication (2005)

Making an argument that under specific circumstances mohair potentially exhibits characteristics of a uniquely defined product a next step is to explore additional governance structures for the marketing of mohair that can convey more information than price and basic quality. Potentially the mohair industry, or individual firms within the industry, must make a strategic decision regarding the optimal vertical coordination strategy for each vertical exchange relationship that is executed in the process of doing business. Such a decision needs to be informed by considering all possible options along the vertical coordination continuum (Peterson *et al.*, 2001) from spot markets to fully vertically integrated systems. To a large extent this decision is informed by (1) the nature of the product/commodity (discussed above and also in Jordaan, 2005), (2) transaction costs in exchange and, related to that, (3) the asset specificity for each of the agents in the chain. These issues are discussed below.

3.1 Transaction costs and vertical coordination

Hobbs (1996) notes that transaction costs always play an important role in any supply chain since they affect the type of coordination between successive stages of economic activity or “vertical coordination”. Vertical coordination is generally defined as “.....all the ways of harmonising the successive vertical stages of production and marketing” or “the alignment of direction and control across segments of a production/marketing system” (Mighell & Jones, 1963; King, 1992). Sporleder (1992) points out that the factors aligned in vertical coordination are price, quantity, quality and terms of exchange.

The idea of a vertical coordination continuum has developed over time starting with the classic “Make vs. Buy” decision that identifies two possible vertical coordination strategies - a spot market and vertical integration. Over time the number of possible coordination strategies has increased and a number of hybrid coordination strategies between spot markets and vertical coordination (e.g. joint planning and information sharing, specification contracts and equity arrangements) were identified. The various individual components of the vertical coordination continuum have been analysed by a number of authors but only recently has it been defined as a true continuum. The research of Peterson *et al.* (2001) proposes that the various discrete vertical coordination strategies that have developed over time can be viewed as a continuum stretching from open markets on the one extreme to complete vertical integration (multiple successive economic stages under single ownership) on the other extreme with a number of hybrid coordination strategies in between these two extremes (Peterson *et al.*, 2001). Peterson *et al.* (2001) propose a continuum with five major categories of vertical coordination

strategies that run from open spot markets to complete vertical integration. At the spot market end of the continuum, the “invisible-hand” of economics governs the exchange between parties where individual economic actors pursue their own interests, enter into exchange relationships that are short-term and opportunistic, have limited sharing of information, and are flexible and preserving of the parties’ independence. At the other end of the vertical coordination continuum mutual interest governs the exchange between parties where economic actors pursue mutual benefits and enter into long term relationships characterised by stability, interdependence and the sharing of benefits information.

A number of factors potentially determine the nature of vertical coordination between successive economic activities (Hobbs, 1996; Martinez, 2002). Transaction costs are one of these potential determinants of vertical coordination. Although the other determinants of coordination are by no means insignificant this inquiry focuses on the interaction between transaction costs and vertical integration and the ultimate effect on the marketing of South African mohair. According to transaction costs economics, the nature and level of transaction costs and the characteristics of the transaction determine the nature of vertical coordination and firms choose a method of vertical coordination based on a comparison of the net effect on transaction costs (Hobbs, 1996; Martinez, 2002). Ménard (2004) proposes that, based on the discrete alignment principle developed by Williamson (1991), specific transactional relationships are selected through efforts made by transacting parties to reduce the cost of the transaction by aligning the governance structure with the exchange attributes.

Mahoney (1992) provides the most extensive framework to specify coordination mechanisms, and he uses three conditions that need consideration when deciding on a coordination strategy, namely separability, asset specificity and the degree of uncertainty (programmability).

Champion and Fearn (2001a) define these conditions as follows:

- *Separability*. This refers to the ability to determine and measure the value of the contribution and hence reward for each player in the transaction. If it is easy to measure value creation at each stage of the chain, the transactions are said to be separable.
- *Asset specificity or uniqueness*. This refers to the specialised nature of the human or physical assets that are required to complete the transaction. The more unique or specialised the asset, the stronger the inter-firm bond required to encourage investment. Peterson et al. (2001) define

asset specificity as the degree to which an asset can be redeployed to alternative uses and by alternative users without sacrifice of productive value. Unlike general-purpose assets that can be freely transferred across applications, transaction specific assets are tailored to a particular user (transaction) and thus maintain their value only in a narrow range of alternative uses.

- *Task programmability*. This indicates that a transaction is well understood by all parties and is often repeated and has predictable outcomes, without the need for discussions or negotiation.

The extensive framework developed by Mahoney (1992) to guide the choice of vertical coordination strategy based on asset specificity, task programmability and separability is presented in Table 3 below and is then used in the section to follow to discuss potential vertical coordination mechanisms for South African mohair producers and mohair buyers

Table 3: The vertical coordination continuum

	Low programmability		High programmability	
	Low asset specificity	High asset specificity	Low asset specificity	High asset specificity
Separable	Spot market	Long term contract	Spot market	Joint venture
Non-separable	Strategic alliance	Cooperation or vertical ownership	Inside contract	Vertical ownership

Source: Mahoney, 1992

3.2 Asset specificity

Williamson (1996) identifies a variety of forms of asset specificity that include physical, human, site, and dedicated brand name asset specificity. When the first transacting relationship in the mohair supply chain (the transaction between mohair growers and mohair buyers) is considered and viewed in terms of asset specificity it is argued that this relationship is characterised by relatively high levels of asset specificity for both parties.

3.2.1 Producers

Mohair producers, as the first party to the transaction, invest in a number of specialised assets in order to be able to transact with first stage mohair processors (*via* mohair buyers), the second party to the transaction. These specialised assets are:

Angora goats

Angora goats are kept solely for producing mohair and only in unusual circumstances, like when animals become unproductive or during prolonged periods of very depressed prices and consequent herd reductions are Angora goats slaughtered for chevron. Since the Angora goat is a very inefficient producer of meat, an Angora goat's use as an asset for mohair producers is therefore limited to the production of mohair. Angora goats can therefore be viewed as highly specialised and very specific physical assets that mohair producers invest in, in order to be able to transact with mohair buyers. The level of investment in Angora goats as specific assets for South African mohair producers is evident from the contribution that mohair production makes to the total farm income of mohair producers. Following from a survey amongst mohair producers it was determined that about 44% of South African mohair producers earn at least half of their total income from producing mohair. Therefore at least 44% of South African mohair producers' bulk total farm income (> 50% contribution to total farm income) is dependant on the investment in Angora goats.

It is, however, noted that livestock is generally considered as a liquid asset which diminishes livestock's degree of asset specificity. The liquidity of Angora goats as an asset is, however, not as high as that of general stock since it takes time to breed and build a flock of Angora goats that can produce good quality mohair. This implies that when a farmer makes the decision to produce mohair it is a specific and longer-term investment in mohair production both in terms of the specific breed of animals as well as the time it will take to breed and compose a flock that consistently produces high quality mohair. The investment in time that is required to breed and compose a flock that consistently produces high quality mohair, alone, is therefore sufficient incentive against continuous buying and selling of a producer's whole herd over short periods of time and proof that Angora goats are, although livestock, not highly liquid assets.

Investment in specific genetic material is another highly specific asset that mohair producers invest in. The production of mohair, especially good quality mohair, is heavily dependant on investment in very specific high quality genetic material that has the capacity to influence the fineness, the style and character and to some extent the length of the mohair, all of which are economically important attributes of mohair.

Shearing facilities

Shearing facilities are used to shear fibre from animals, generally wool from sheep and mohair from goats. Shearing facilities generally constitute herding pens, a building of some sort, in many instances a shearing machine, sorting tables and bins for the various classes of wool or mohair, implying that considerable investment needs to be made when investing in shearing facilities. Shearing facilities can also be considered as relatively specific assets for which there are relatively limited alternative uses. The only alternative use for a mohair producer's shearing facilities is for the shearing of wool producing sheep, if the mohair producer is also a wool producer. Given the nature of the mohair producing area in South Africa many mohair producers may well be wool producers and therefore shearing facilities are shared between wool and mohair. Since shearing facilities have an alternative use the degree of asset specificity of shearing facilities will depend on the contribution of mohair production to the farming business. The greater mohair production's contribution is to the farming business the greater the asset specificity of the shearing facilities.

Farmland

Farmland on the basis of site specificity can also be considered as a relatively specific asset that mohair producers invest in, in order to be able to transact with mohair buyers. The Eastern Cape Province, as noted earlier, is the premier mohair producing area in South Africa and has the most suitable farmland for Angora farming. The suitability of the Eastern Cape for the production of mohair can be ascribed to the historical establishment of on-farm infrastructure (shelter, shearing sheds, kraals, dipping facilities, fencing, etc) for the production of fibre producing animals (wool producing sheep and mohair producing goats), shrub vegetation that is well suited to the browsing requirements of goats and a predominantly healthy climate relatively free of serious small stock diseases found in other areas of South Africa. The area over which mohair production is spread is quite diverse and a number of farming activities are undertaken in this area. Our survey conducted amongst mohair producers, revealed that the most significant other farming activities that mohair producers undertake, depending on the area, include the production of wool, mutton, beef, and to a lesser extent game, Boer goats, ostriches and crops. Farmland in the primary mohair producing areas of South Africa is therefore most suited to the production of stock, especially small stock, which includes mohair. When a producer therefore acquires land in this area he is investing in an asset that is generally very specific to the production of small stock. Although farmland is not a highly specific investment for mohair

producers since the land can readily be used for a number of alternative uses, the fact remains that these uses are limited and that the land is ideal and useful for producing mohair.

Specialised human capital

Mohair producers also have to invest in “specialised human capital” in terms of informing/educating themselves about the production and handling of mohair. The production of quality mohair is primarily dependent on the genetic quality of the Angora goats, environmental conditions and the management of the herd. Since the management of the herd is an important factor determining the success of mohair production, mohair producers have to invest time to acquire specialised skills to produce mohair successfully. These skills include progressive animal husbandry, breeding, herd management, nutrition, shearing, clip preparation and classing and sorting practises as they relate to the rearing of Angora goats and the production of mohair. These specialised skills to successfully produce mohair should also be viewed as an investment in specific assets.

3.2.2 Processors

Processing equipment

To enable processors to transact with mohair producers they have to invest in specialised physical assets in the form of machinery and/or equipment. The equipment that is used to process mohair is in essence equipment that is designed to process wool but as a result of the distinct differences in the processing characteristics of wool and mohair it is necessary to adapt the equipment to be able to process mohair. The differences in the processing of mohair and wool are such that the adaptation required to process mohair renders the equipment unsuitable for the processing of wool. Processing equipment can therefore be considered as an investment in specific assets for mohair processors.

Location (Site specificity)

First stage mohair processors have to locate their facilities relatively close to the primary mohair producing area to reduce transportation costs to the processing plant. By locating facilities on a specific site and because relocation costs are high the first stage mohair processors and mohair producers become locked in an exchange relationship for at least the useful life of the processing plant.

Specialised human capital

As noted previously mohair is a unique fibre and requires relatively specialised human capital to process. Consequently mohair processors have to employ people that have acquired the necessary skills and knowledge to process mohair. Furthermore processors also need to invest in the continued learning of their employees so as to improve their capacity in processing mohair.

3.3 Task programmability

When the transacting relationship between mohair growers and mohair buyers is considered and viewed in terms of task programmability it can be concluded that this relationship is characterised by relatively low levels of programmability. Mohair production is clearly a biological process and the relative quantity and quality of mohair that is produced is heavily dependant on environmental conditions – a factor over which producers have no control. Although producers can manipulate the quality of the mohair that they produce through breeding and husbandry practices, it remains difficult to programme the final quality and quantity of mohair that is produced.

As a result of the variable nature of mohair production the processing of mohair is also characterised by relatively low levels of programmability. The total annual production of mohair generally does not vary significantly from year to year and therefore has little influence on processors' programmability – annual production is largely subject to predictable mega trends. There are, however, two significant sources of uncertainty that reduce programmability for mohair buyers/processors on the input side of their operations. The first is the varying quantity of the different quality classes of mohair, since production is subject to environmental conditions that have a direct influence on the quality of mohair produced. The other factor that reduces programmability for mohair processors is the timing of the delivery of mohair by producers. Given the relatively small size of the South African mohair clip in global terms (it constitutes a mere 0.007% of the annual global consumption of all textile fibres) it is conceivable that the timing decision of producers to deliver their clip and offer them for sale could influence processors programmability (Jordaan, 2005). If processors are looking for a specific quantity and quality of mohair at a specific time to be able to fulfil an order but the raw mohair that they require isn't available for sale on the auction it detrimentally affects their programmability.

In short, the arguments presented in this section point to the fact that both mohair producers and mohair processors (*via* mohair buyers) are subject to relatively low levels of programmability when transacting with each other. Although the intensity of the programmability of the various processes is relative, as discussed, the exchange relationship between mohair producers and mohair processors can generally be seen as a relationship characterised by relatively low levels of programmability.

3.4 Separability

The transactions between mohair growers and buyers is characterised by mixed levels of separability. Separability refers to the ability to determine and measure the value of the contribution and hence reward for each player in the transaction. Non-separability, also known as complementarity, exists when the combination of individual activities within a transaction yields an output larger than the sum of outputs generated by individual activities.

When bringing separability and/or complementarity into relation with the exchange relationship between mohair producers and mohair processors, two views can be taken. The first view is that the value of the contribution of each of the role players in the mohair supply chain is clearly discernable and relatively easy to determine. Mohair producers contribute to the mohair supply chain by producing mohair and they are rewarded for performing this function through the market related prices they receive for their mohair. Mohair buyers/processors contribute to the mohair supply chain by processing mohair from raw fibre into various intermediate levels of mohair like mohair tops or mohair yarns. They are rewarded for performing this function through the market related prices that they receive for their products.

The second view is that where specific attributes of mohair, which are introduced at producer level, must be transferred through the chain to the final consumer the relationships between actors in the chain are not characterised by high levels of separability. To illustrate this, retailers and manufacturers of mohair products can, by themselves, not assure specific attributes introduced at producer level unless they coordinate production, processing, manufacturing etc. through the mohair supply chain in such a way that there is certainty that the specific attributes are in fact present and preserved throughout the chain. By their actions alone, manufacturers and retailers cannot assure what the end consumer wants. Only through controlled coordination with the producers and processors can the supply chain produce the desired end product (whether each role player gets adequately rewarded for the value that is added is another matter) and therefore it can also be

argued that the exchange between mohair producers and mohair processors can be characterised by low levels of separability in such an instance.

3.4 Conclusion

Based on the Mahoney (1992) framework the exchange relationship between mohair producers and mohair processors (*via* mohair buyers) is characterised by investment in specific assets by both parties, low levels of programmability for both parties and mixed levels of separability between the tasks and rewards of both parties. The framework as proposed by Mahoney (1992) therefore dictates that for optimal and sustainable returns for both parties the relationship between mohair producers and mohair processors should be governed by either long term contracts, cooperation agreements or some form of vertical ownership. Under circumstances where high levels of separability can be identified contracts are more relevant and cooperation agreements and vertical ownership become more relevant where low levels of separability are identified.

4. Identifying alternative governance structures for the South African mohair supply chain

As noted earlier the vertical coordination mechanism that currently dominates the exchange between mohair producers and mohair buyers is a spot market in the form of a public open cry auction. An obvious dichotomy is evident between what a suitable governance structure for the exchange relationship between mohair producers and mohair buyers ought to be (based on a theoretical derivation) and the governance structure currently in use (based on a practical derivation). To further analyse this dichotomy this enquiry makes use of the framework developed by Peterson *et al.* (2001) for choosing an appropriate vertical coordination strategy.

The framework proposed by Peterson *et al.* (2001) is based on the logical choice that firms need to make regarding their positioning along the vertical coordination continuum for each vertical exchange relationship that the firm must enter into to be able to conduct business. The framework focuses on the analysis that decision makers would make to arrive at a specific coordination strategy to govern a specific exchange relationship. Peterson *et al.* (2001) postulate that decision makers will arrive at a specific vertical coordination strategy by asking themselves five interrelated questions that form the basis of their framework. The framework is graphically represented in Figure 2 below.

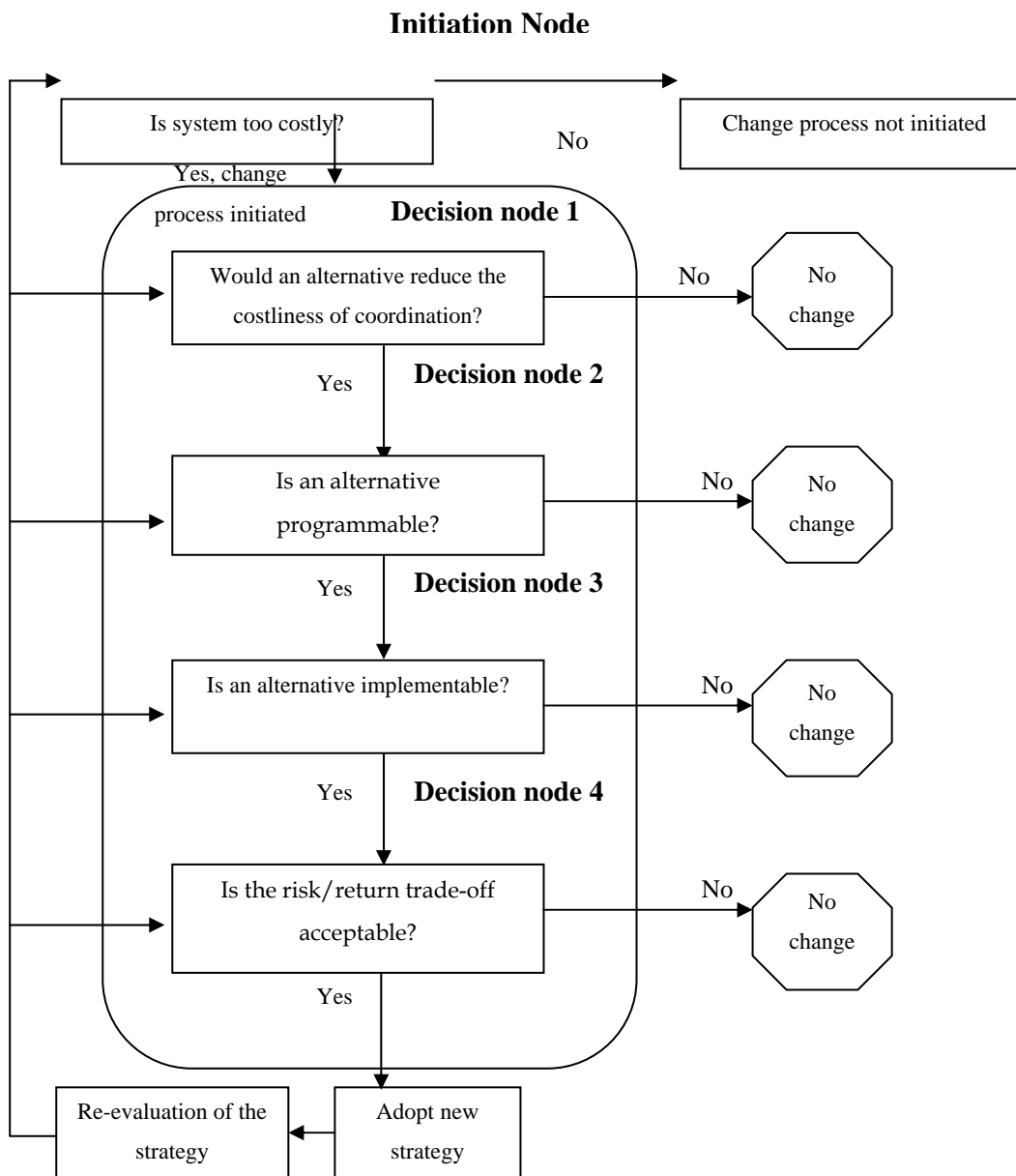


Figure 2: A decision-making framework for changing vertical coordination strategies

Source: Peterson *et al.* (2001)

4.1 Spot market exchange

Wysocki *et al.* (2003) developed a methodology to quantitatively analyse firms' strategic choice along the vertical coordination continuum, but as a result of the complexity and lack of relevant quantifiable data for the whole South African mohair industry the application of this framework for determining the most appropriate governance structure for the exchange between mohair producers and mohair processors follows a distinctly qualitative approach. A qualitative discussion of this framework for the exchange relationship between

producers and processors will, however, aid in gaining insight into the appropriateness of the current dominant vertical coordination strategy for South African mohair and the vertical coordination strategy as suggested by the Mahoney (1992) framework. This discussion is based on the five inter-related questions proposed by the Peterson *et al.* (2001) decision framework:

Question 1 - Is the current marketing system too "costly"?

The first question initiates the process of determining the most appropriate vertical coordination strategy for a specific transactional relationship. The question is whether the cost of the current marketing system is too high in relation to a particular transaction or transactional relationship?

It is argued that a mismatch can potentially occur in the current marketing system for mohair, resulting in costly coordination errors. Costly coordination errors either occur as a result of a marketing system's inability to exploit or develop the non-material aspects of mohair since a commodity marketing system because it does not allow the efficient communication of unique product attributes OR because the marketing system creates more operating costs than the cost reduction in coordination errors it is designed to control. Based on earlier arguments that the South African mohair clip can be considered as a product (or rather a collection of "products") and not a homogenous commodity the costly coordination error that results by using a spot market coordination in the form of an open cry auction sprouts from the inability of the current spot market to exploit attributes of mohair for which apparent opportunities exist as a result of the system's inability to efficiently communicate the said attributes. These attributes may include attributes that are beyond the current classification or description parameters for mohair and which could include mohair produced according to a recognised and specific value system, mohair that is certifiable as organically produced, mohair that is classed to have a low coefficient of variation with respect to fibre diameter, mohair with superior fibre strength attributes etc. Because the open cry auction is currently the primary, but not the only means of coordinating the exchange between mohair producers and mohair processors (*via* mohair buyers), the shortcomings of the spot market coordination are highlighted by the fact that the higher value (better quality) mohair is increasingly passing through trading platforms other than the current dominant spot market system. This would imply that the open cry auction system, which focuses on generic attributes and commodity based business systems, is probably not creating optimal returns for mohair producers under all circumstances since it is not suited to communication properties of mohair beyond the price based on the basic classification system for mohair.

Question 2 – Would an alternative strategy reduce the “costliness” of the marketing system?

This question requires an analysis of whether or not another vertical coordination strategy would better match the intensity and cost of coordination with the costliness of coordination errors for the specific transaction.

Arguments were proffered that the level of asset specificity and non-separability (or complementarity) between mohair producers and mohair buyers is characterised by relatively high levels of asset specificity and mixed levels of non-separability. This assessment of these two determining criteria imply that the costliness of the coordination errors, as noted previously, are potentially greater than the operating costs of the open cry auction spot market that currently dominates the exchange between producers and buyers. Since the cost of the coordination errors between producers and buyers are potentially greater than the cost of operating the governance structure greater intensity in the control of the exchange becomes necessary. Greater intensity in control constitutes a move to the right along the vertical coordination continuum where the governance structure could possibly better control the coordination errors without negating these benefits through higher operating costs. Yet, due to a lack of data there is no certainty of the impact of contracts or other forms of increased coordination.

In terms of determining whether an alternative coordination strategy would reduce the “costliness” of the current marketing system for South African mohair, the answer is potentially a “Yes”. A coordination strategy that exercises greater control intensity could potentially reduce the “costliness” of the current marketing system for South African mohair. As deduced from the Mahoney (1992) framework earlier, contracts or cooperation agreements or some kind of vertical ownership match the criteria for increased intensity of control and are potentially “better” coordination strategies to govern the exchange between mohair producers and buyers.

Question 3 – Is an alternative programmable?

If another vertical coordination strategy offers a potentially better match between costliness of coordination errors and coordination control intensity, then the framework leads to a third question in the strategy change process: Is the potential alternative programmable?

As mentioned mohair production is relatively fragmented with an estimated 1 200 to 1 500 producers producing South Africa’s total mohair clip. Mohair

processors who are the sole consumers of raw mohair are, conversely highly concentrated with only a few primary mohair processors globally. The imbalance between the number of mohair producers and processors results in a number of problems for both parties if they were to directly transact with each other. Mohair producers would face the “small-number” bargaining problem and coupled with specialised assets, small number bargaining increases the potential for opportunistic behaviour because alternative exchanges cannot be easily arranged. Mohair processors on the other hand would incur high transaction costs (search, negotiation and monitoring costs) if they have to transact with so many relatively small producers. Brokers have over the years become the intermediary institution between producers and processors to help both parties overcome these high transaction costs. As noted, brokers facilitate the open cry auction where mohair producers offer mohair for sale to mohair processors (*via* mohair buyers) and can therefore be considered as an integral component of the transaction between producers and buyers. “Producer organisations”, which are beginning to form in the mohair industry can potentially, also fulfil a similar role as brokers by acting as intermediary between producers and processors.

When the programmability of the alternative coordination strategies to govern the exchange between mohair producers and processors is considered it is evident that an intermediary remains integral to successfully facilitating the process. The presence of an intermediary like a broker (Cape Mohair and Wool, BKB) or producer group (Camdeboo) makes contracting in particular, a programmable alternative coordination strategy. Cooperation and even forms of vertical integration are programmable and effective, specific management routines could be but in place to make any of these potential strategies workable.

Question 4 – Is an alternative implementable?

Programmability only assures that specific management routines exist. It does not ensure that a specific decision maker, like the mohair industry, can effectively implement the routines. Implementability can be conceived as arising from four conditions (Peterson *et al.*, 2001).

Capital availability:

Existence of compatible partners:

Control competence:

Institutional acceptability:

If the alternative vertical coordination strategies that are proposed for the exchange between mohair producers and processor (*via* buyers) by the Mahoney (1992) framework are considered in terms of implementability a number of remarks can be made.

The capital outlay that would typically be required to implement contracting and/or cooperation between mohair producers and mohair buyers *via* the various intermediaries would be very limited. The basic infrastructure to facilitate any of these vertical coordination strategies is already in place and a mere re-alignment and/or restructuring would be the only “investment” required in terms of infrastructure. Investment in the drawing up of legal contracts and/or terms of exchange would be the other capital outlay required from the parties (producers, brokers, producer groups, buyers, processors) at this exchange point to make any of these proposed vertical coordination strategies implementable. None of the abovementioned capital outlays are envisaged to be of sufficient size to hinder the implementability of these vertical coordination strategies. These capital outlays could actually be considered an investment in the future for the exchange parties since these means of exchanging are increasingly characterising these types of exchanges globally.

The existence of compatible partners amongst parties at this point of exchange in the mohair supply chain is not clearly identifiable since this would require an in-depth analysis of each of the parties, their current strategic direction and corporate culture. It is, however, very likely that compatible partners at this exchange point in the chain will exist and that the proposed vertical coordination strategies will indeed be implementable.

In terms of control competence many producers are comfortable with an auction market because they view themselves as having the “trading” skills relevant to spot transactions. Few producers, however, have sufficient experience or are willing, as individuals, to engage in the levels of control needed for the increased levels of coordination required by governance structures, such as specification contracts or alliances. Brokers or producer groups that act as intermediaries between individual producers and mohair processors, however, offer an institutional framework that has the necessary control competence required to exercise the coordination control required by governance structures such as specification contracts or alliances. In order for vertical coordination strategies that require increased levels of coordination, as are proposed, to be implementable, an intermediary like a broker or producer group becomes desirable to provide the necessary coordination control competency and institutional structure.

The last requirement to evaluate the implementability of the proposed vertical coordination strategies is the institutional acceptability. A “well structured” industry like the South African mohair industry would only structure the exchanges between parties within legally acceptability norms. The broader institutional acceptability of the proposed alternative vertical coordination strategies for the primary marketing of South African mohair poses the greatest threat to the implementability of the these strategies. The exchange between mohair producers and processors as facilitated by the various intermediaries (brokers and buyers) has developed over many decades and a number of conventions regarding this exchange relationship are deeply rooted. From observation, the social, cultural and group norms established at this exchange in the mohair industry are such that there are relatively low levels of cooperation; “change” from the *status quo* is generally unwelcome (or even undermined) and the implementation of strategies are delayed by industry politics and overly bureaucratic decision making processes. These deeply rooted norms within the South African mohair industry, although not insurmountable, may influence the institutional acceptability of the proposed alternative vertical coordination strategies.

An overall assessment of the four conditions for implementability of the proposed alternative coordination strategies between mohair producers and mohair processors *via* the relevant intermediaries reveals that the alternatives are implementable. The implementability of these alternatives is anticipated to be without hindrance from lack of capital, a lack of suitable partners, or a lack of control competence. The only possible hindrance to the implementability is the institutional acceptability of these alternatives based on the social, cultural and group norms present within the South African mohair industry.

Question 5 – Is the risk/return trade-off acceptable?

Based on the “extra value” that could be extracted through the reduction or control of costly coordination errors through more coordinated exchange between mohair producers and processors (via brokers, producer group’s and buyers) it must be concluded that the risk/return trade-off of the alternative strategies is acceptable. The risks associated with adopting the proposed alternative coordination strategies are relatively low, especially since these strategies could in all likelihood be offered as “alternative” exchange mechanisms to compliment existing exchange mechanisms resulting in very little risk in implementing these alternative strategies.

The Peterson *et al.* (2001) framework proposes that only a “yes” answer to all five of the relevant strategic questions will result in a changed coordination

strategy for the particular transaction in question. By means of qualitative analysis and deduction all five relevant questions of the Peterson *et al.* (2001) framework have been answered with a "Yes" answer for contracts or cooperation agreements (as determined by the Mahoney framework). This result implies that contracts or cooperation agreements are viable alternatives to the current open cry auction spot market that prevails as the primary means of coordinating the exchange between South African mohair producers and mohair processors based on the relevant frameworks used to arrive at these conclusions.

The makings of alternative or additional coordination arrangements for marketing mohair in South Africa

O'Keeffe (1998) notes that the income for individual members of a supply chain stems from the variable division of value between members in the chain. The continued existence of a supply chain is therefore dependent on an equitable distribution of the value created in the supply chain so that each member in the supply chain is able to remain in business and have sufficient incentive to maintain the necessary level of quality throughout the chain. One of the primary challenges for the South African mohair marketing system is to ensure that equitable portions of the value created in the mohair supply chain are allocated to producers to keep them in business and to provide them with the necessary incentives to produce high quality raw mohair that can eventually be transformed into high quality final products.

A marketing system for South African mohair is one that would capture and transmit all the tangible and intangible attributes of mohair through the entire supply chain. The attributes that require communication may include mohair produced according to a recognised and specific value system, mohair that is certifiable as organically produced, mohair that is classed to have a low coefficient of variation with respect to fibre diameter, mohair with superior fibre strength attributes etc. all of which are currently not described or captured within the current classification system for mohair but of potential value to role players further along the supply chain. Creating a marketing system with this capacity requires vertical coordination strategies that can effectively and efficiently transmit these product attributes through the supply chain from the exchange between producers and processors to the exchange between retailers and consumers. If one exchange relationship in the marketing chain is not capable of transmitting these attributes effectively a "value bottleneck" is created at that exchange and the value that cannot be transmitted by the governance structure is lost. The result is a reduction in the

total value created in the chain and reduced value to be distributed amongst the supply chain role players.

This paper has investigated the exchange relationship between mohair producers and processors and aspects surrounding an appropriate vertical coordination strategy to govern this exchange within the current agribusiness environment and the mohair supply chain as a whole. The proposition made thus far is that mohair can generally be regarded as a product with both tangible and intangible attributes and that the current spot market that governs the exchange between producers and processors can allow costly coordination errors to occur and value to be lost since the spot market does not allow the effective and efficient communication of all of the economically valuable attributes of mohair. O’Keeffe (1998) and Champion and Fearn (2000) also argue that spot markets separate producers from processors which limits communication between these exchanging parties and creates difficulties in effectively transmitting both the “hard” and “soft” attributes of the product being exchanged. These authors therefore consider spot markets as “value bottlenecks” in instances where the spot market is required, but is unable to transmit attributes of the product that would create greater collective value in the supply chain.

The exchange between mohair producers and processors should therefore theoretically be governed by vertical coordination strategies that can effectively and efficiently transmit the tangible and intangible attributes that mohair is argued to possess. It is therefore proposed that the spot market, which is contended to be a “value bottleneck” under circumstances where it is required to transmit more attributes than price and basic classes in the mohair supply chain, be augmented by more intensively coordinated governance structures like long term contracts, cooperation agreements or some form of vertical ownership to offer the necessary structures to transmit attributes like mohair produced according to a recognised and specific value system, mohair that is certifiable as organically produced, mohair that is classed to have a low coefficient of variation with respect to fibre diameter, mohair with superior fibre strength attributes etc more effectively between producers and processors and ultimately the whole mohair supply chain. Boehlje (1999) assents to this proposal by pointing out that various forms of negotiated coordination systems become more effective and necessary for efficient functioning of the production and distribution system in the current agribusiness environment.

Marketing systems where the exchanges between supply chain members are predominantly governed by governance structures that require intermediate

levels of coordination control, like long term contracts or cooperation agreements, also create the opportunity for greater cooperation amongst chain members. Champion and Fearn (2001b) propose that a supply chain management (SCM) approach to the marketing of wool would create greater value in the supply chain and foster an environment where supply chain members cooperate and share the value created in the supply chain equitably - a "win-win" situation for the whole supply chain. These authors consider SCM as "an overarching philosophy" for an entire marketing system which creates value by allowing effective communication and the transmission of "hard" and "soft" product characteristics from raw material to the consumer. A marketing system for South African mohair that embraces more intensively coordinated governance structures like long term contracts, cooperation agreements or some form of vertical ownership is also suited to a supply chain management approach like Champion and Fearn (2000) describe.

5. Conclusion

This paper reviewed the possible marketing governance structures that could govern the exchange between mohair producers and processors as facilitated by the relevant intermediaries. The theoretical frameworks proposed by Mahoney (1992) and Peterson *et al.* (2001) were used as a guide to propose suitable vertical coordination strategies between mohair producers and processors. These frameworks reveal that, as a result of mohair's attributes, the nature of the assets necessary to produce and process mohair and the nature of the transaction between the parties, the exchange between mohair producers and processors could potentially be governed by some form of contracting or cooperation between the transacting parties. Mohair is argued to be a product with both tangible and intangible attributes and; that the current spot market that governs the exchange between producers and processors potentially allows costly coordination errors to occur and value to be lost since the spot market exchange is not well suited to the effective and efficient communication of an array of diverse attributes beyond price and basic quality.

Under circumstances where it is not necessary to convey more than information than price and basic quality the spot market remains an effective and efficient mechanism to exchange mohair. However, the spot market, which is potentially a "value bottleneck" in specific circumstances, should be augmented by more intensively coordinated governance structures like long term contracts, cooperative agreements or some form of vertical ownership to offer the necessary structures to transmit attributes other than price and basic quality more effectively between producers and processors and ultimately the

whole mohair supply chain for mohair that demonstrates these qualities when circumstances call for this.

Therefore, the proposition that spot market coordination is not the most suitable platform to govern the exchange of mohair between mohair producers and mohair processors under all circumstances is proven to be true based on the arguments in this paper which illustrate that alternative coordination mechanisms can be considered to govern the exchange between mohair producers and processors than the spot market. A group of mohair producers marketing their mohair outside the spot marketing system as “Camdeboo” mohair and selling it directly to processors through systems of contracts and agreements has been a recent innovative development. This is a first attempt to make use of greater levels of coordination control to extract improved returns from their mohair clip which has proven superior qualities to other mohair.

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