Australian Wool Education Trust

CASE STUDY 1 : SUPPLY CHAIN INNOVATION1

Synopsis

The case reflects upon the Tasmanian Quality Wool's (TQW) recent experiences in developing supply chain alliances and direct links with overseas garment manufacturers for the supply of wool for higher quality garments. The re-designed supply chain was aimed at reducing costs, with the cost savings to be shared by the three key partners.

The Tasmanian - BRAX Project (1999 – 2001), the first of its type in the Australia wool sector, coordinated the annual supply of approximately 300,000 kgs of high quality combing wool, the equivalent of three percent of the total annual Tasmanian wool clip, to the German owned BRAX company, maker of high quality men's trousers. Similarly, the Tasmanian - Peter Hahn project (2004 – 2006) coordinated the supply of approximately 280,000 kg per annum to Italian knitter garment makers for distribution through the German retail group Peter Hahn. In both projects, the garments were branded and promoted as Tasmanian wool. In a period where all elements of the wool industry are being challenged, the TQW initiatives attracted considerable attention from all observers of the wool industry.

Student Learning Objectives

As a result of analysing the case study, you will gain an understanding of:

- the essential elements of traditional and alternative supply chain relationships.
- participant benefits in industry partnerships and supply chain alliances.
- initiatives reflecting the wool industry strategic planning.
- risks posed with such initiatives.

1 Authors of the case are Robert Wallace (Quality Consultants) and Peter McSweeney (The University of Melbourne). A case commentary has been written by Dr Bob Richardson.

Partner Background

Tasmanian Quality Wool Pty Ltd was established in 1994 by Tasmanian wool industry sectors: Tasmanian Farmers and Graziers Association (TFGA wool council), wool brokers, wool classers association, private merchants and the State Department of Primary Industries, Water and Environment.

TQW was set up to develop and administer a third party audit quality assurance scheme. The scheme is generally regarded by the national wool industry as the benchmark for quality schemes in Australia, both for its independence and for its ongoing educational role.

TQW Trading Pty Ltd (TQWT) was established in 1999, to research new opportunities for members of Tasmanian Quality Wool and the Tasmanian wool industry in general.

BRAX is a privately owned German company and the major maker / retailer of middle to upper-market trousers. BRAX market approximately 4.5 million pairs of trousers per annum, of these, seventy five percent men and twenty five percent women. The brand focus is on 'lifestyle' and 'feel good'. They operate through 650 outlets in a 'shop-in-shop' system located within well known retail outlets.

Peter Hahn is also a well known European specialist garment retailer, originally using 100% natural fibres. They are a direct marketing group, selling through catalogues, with annual sales of approximately Euro 300 million (A$485 million). Peter Hahn is 45 percent owned by the German retail group KarstadtQuelle.

Case Background

Tasmanian Quality Wool Pty Ltd (TQW) was established in 1994, with an independent chairman, to develop and administer a third party audit quality assurance program. Approximately fifteen percent of Tasmanian wool production is audited under the program.

The company is owned by the major industry sectors being:

- Tasmanian wool brokers.
- Tasmanian private treaty merchants – buyers of wool direct from the growers.
- Tasmanian Wool-classers Association.
- Tasmanian Farmers and Graziers Association (Wool Council).
- Tasmanian State Department of Primary Industry, Water and Environment.

The company's major beneficiaries are the TQW woolgrower members. The primary objectives of the company are to:

- promote on-farm best practice in sheep and wool handling.
- implement an independently audited (third party) shearing inspection – this moved to an internal audit system in July 2005.
- promote and establish the Tasmanian wool clip internationally as a preferred premium product.
- facilitate on-going education for woolgrowers in on-farm quality assurance and marketing.

In 1997, three years into its operation, TQW took on a more active role in the marketing and co-ordination of supply of the Tasmanian fine and medium micron range wools (19 – 23 micron). Following a 1997 self funded world marketing tour, TQW decided that it needed to participate more directly in the European marketing of its members' quality-assured wool if it were to achieve a premium for the superior Tasmanian medium micron range wools.

In 1998 TQW Trading Pty Ltd (TQWT) was established as the commercial arm of TQW with the purpose of researching, developing and establishing commercial projects and contracts for the total Tasmanian wool clip. TQW members enjoy a preferred supplier basis for negotiated contracts. The company is separate from TQW, with its own board and operations. The major shareholder is TQW.

Two supply chain projects emerged through TQWT. The BRAX project (1999 – 2001) involved the creation of a Supply Chain Partnership involving: TQWT, representing the wool producers and brokers; the Tasmanian Wool Company as topmaker; Zwickauer Kammgarn Spinnerei as spinner; Dechamps Textil as weavers, and up-market garment maker/retailer BRAX, Germany's largest maker of premium men's trousers. The Woolmark Company provided support and promotion in Germany. Apart from reducing supply chain costs, the project also sought to develop a market premium for Tasmanian wool by developing a unique image for the garments made from it. The BRAX project also illustrated the operation of the 'demand' chain concept where the product demand by final customer and then retailer generated the demand for Tasmanian wool.

More recently, TQW structured a three year alliance with the German retail group, Peter Hahn to promote Tasmanian wool for the manufacture of high quality knitwear for sale in thirteen countries across Europe. The image and brand of Tasmania is used to focus on the lifestyle choices of consumers. Although the Peter Hahn project maintained the traditional wool supply chain relationships, it promoted the name and image of Tasmania to increase volume and sales.

The BRAX project was funded by a federal grant from the Department of Agriculture, Forestry and Fisheries 'Supply Chain Development Program', TQW, The Woolmark Company, and the Tasmanian state government. The Peter Hahn project was funded by TQWT, the commercial partners, Tasmania state government, and some research funds from Australian Wool Innovation (AWI).

Both projects were designed to achieve:

- premium wool prices for TQW grower members.
- increased exposure for the Tasmanian wool brand as the fibre of choice for the manufacture of premium European garments.
- reduced holding and transaction costs with the streamlined supply chain model.
- improved communication / feedback through a vertically integrated demand chain.

In terms of the strategy development for the Australian wool industry, the TQW initiatives are consistent with industry-wide efforts on several fronts. The Situation Analysis prepared by Woolmark for Australian Wool Innovation Ltd (AWI) as part of its 2004 – 2009 Strategic Plan highlighted the importance of higher value products and luxury apparel for the more affluent demographic as a sub-segment of the market for wool. The industry also considered the need "to address the issue of fibre processing efficiency and quality to overcome at least some of the relative disadvantage of processing wool against other fibres, particularly synthetics." (AWI Strategic Plan 2004 – 2009)

TQW's development of supply chain relationships with established processing countries in Western Europe, Germany and Italy, is also consistent with the development of a branded product strategy. Although these countries carry high input / processing costs, they have high productivity levels and produce high quality garments. Processing in Italy, in particular, "is supported by:

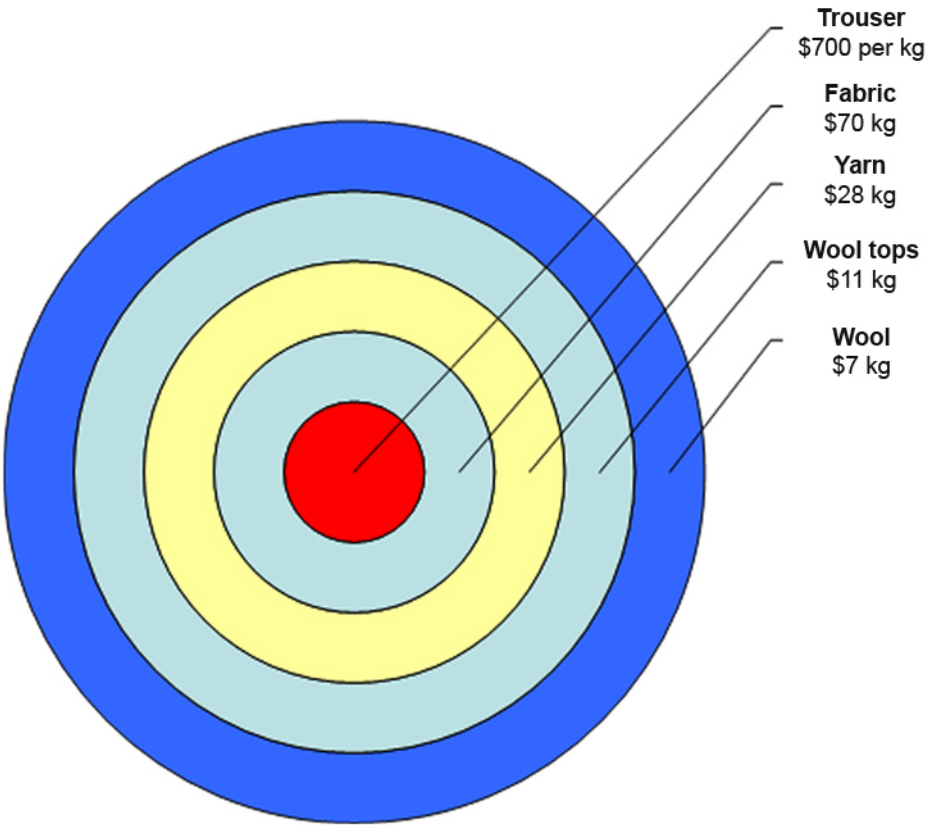
- [a] cluster of associated businesses which can handle every aspect of the wool processing chain; and
- proximity to the fashion and design centres of Europe." (Centre for International Economics, 2002).

TQW also makes use of branding in its own right through its regional identity and quality assurances. It has positioned its own wool as a specialised product as opposed to the commodity concept.

BRAX Project

Research on the BRAX project commenced in 1998. It developed from the frustration of the two major Tasmanian wool brokers being unable to obtain a price premium for prepared Tasmanian wool. The initial logic used to obtain a price premium is demonstrated in the graphic below. The grower was receiving approximately $7 kg (clean) for the wool (Figure 1), while at each stage of processing the value of the product increased. To obtain a price premium of say ten percent for the woolgrower, the focus had to be on the savings achievable with the weaver or retailer, as there was too small a margin at the earlier levels.

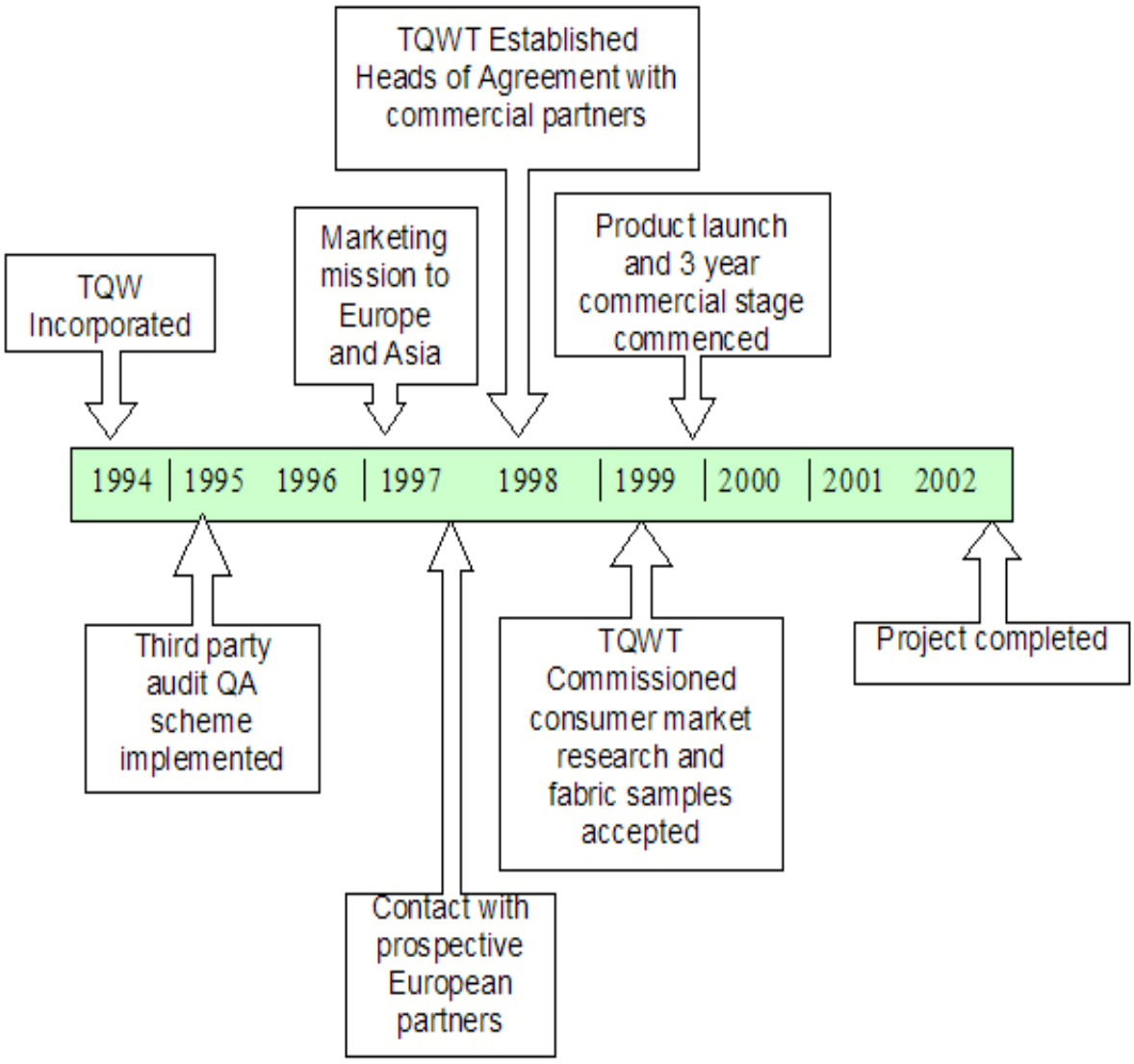
Figure 1 : Comparative Product Value In The BRAX > Tasmanian Wool Supply Chain, Where The Trousers Retailed For Approximately A$200 Per Pair.



In 1998 TQWT approached Dechamps (German weaver) (Figure 2) with the intention of developing a branded fabric for distribution in the high-end European fashion sector. Dechamps were receptive and with TQW jointly arranged a meeting with the key partners in Germany. Following the success of the initial meeting, TQW and The Woolmark Company made a presentation to BRAX, Europe's largest quality trouser maker/retailer. BRAX manufacture trousers in wool, cotton, linen and man-made fibres. Wool and wool blends represented approximately twenty five percent of the total BRAX annual sales in 1998.

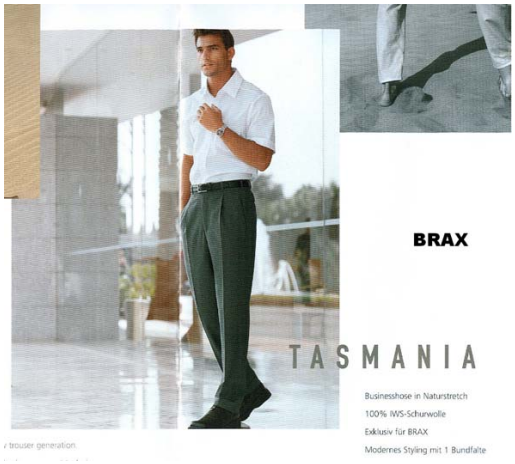
TQW accredited Tasmanian wool was supplied to the German manufacturer under the supply chain alliance for 3 years from 1999. Although TQW was keen for the alliance to continue, BRAX made a strategic decision to push into cotton trouser lines. Sales of wool and wool blend trousers dropped to approximately fifteen percent of total BRAX sales in 2002.

Figure 2 : Tasmanian Quality Wool's BRAX Project Timeline



Once the trial fabric and garment samples were accepted, the commercial partners established and signed the normal commercial agreements for specifications of the raw material (TQW accredited pure Tasmanian wool), supply times, plus terms and conditions. TQWT and BRAX had a memo of understanding. The role for TQWT was to act as facilitator and coordinator from woolgrower through to BRAX. In addition TQWT provided retail promotion material in the form of graphics, sponsored travel to Tasmania for a BRAX customer and visiting journalists.

Figure 3 : BRAX German Trouser Promotion



In 1998 TQWT obtained agreement to the partnership concept from the three key partners and permission to commission research into the German perceptions about wool and Tasmania. In addition, TQWT negotiated a market trial with BRAX of specially designed Tasmanian wool trousers for European Spring 2000 (Figure 3). The German research was used to create a logo for use on all Tasmanian wool garments, and for brand protection in Europe. In March 1999, the market research and logo design was accepted by BRAX, garment designs were approved, and a three-year program including joint funding for promotion was agreed.

TQWT flow-charted the supply chain, measuring the time, cost and quality issues as an input to a re-design of the chain that would cut costs, reduce inventories and cut the shearing-to-garment time by half. The cost savings were shared amongst the three key partners (woolgrowers, weaver and manufacturer/retailer).

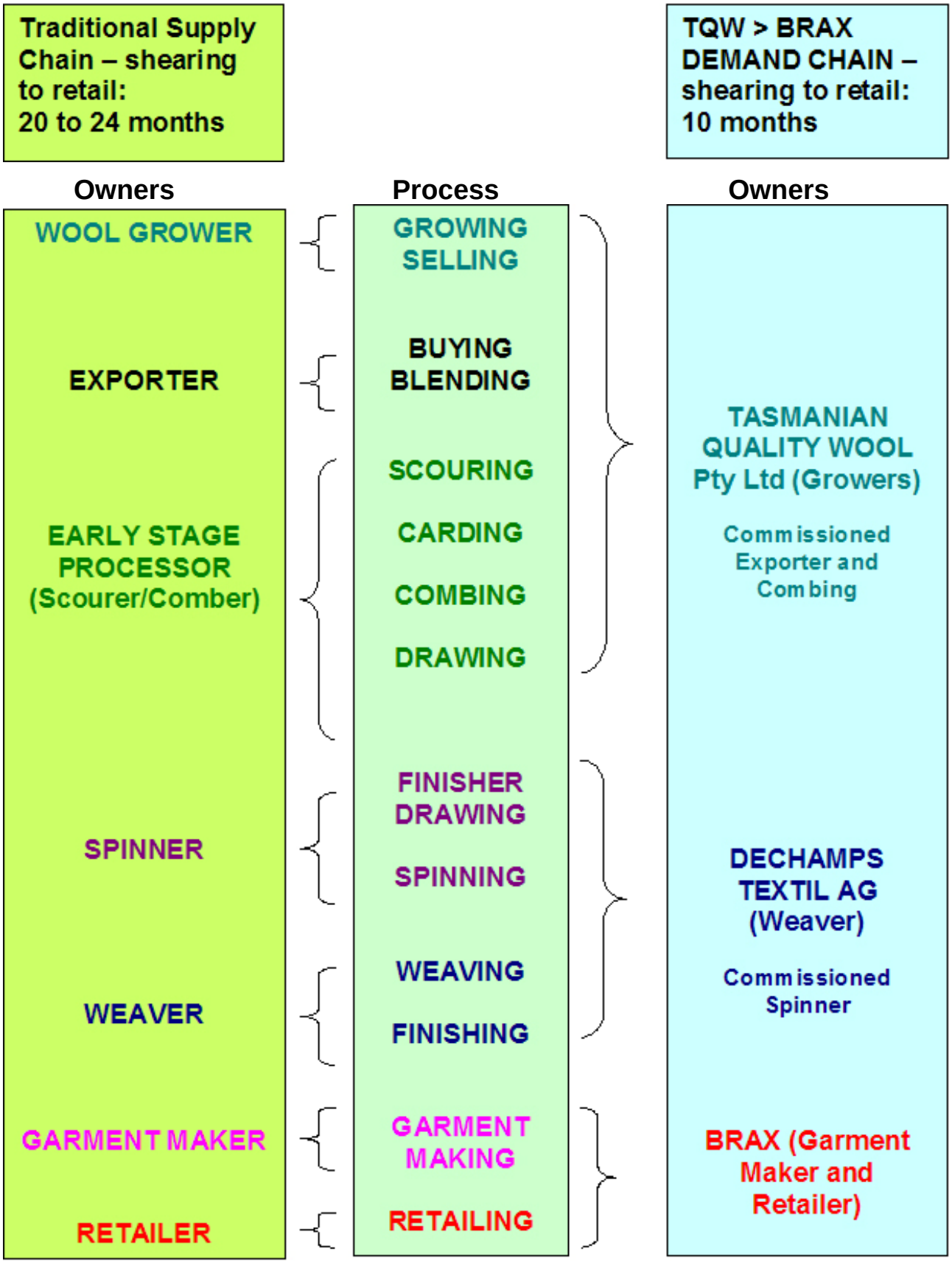
As outlined in the Supply Chain Redesign flowchart below (Figure 4), the performance improvements that occurred were:

- Seven stages of ownership of the wool > trousers cut to just three – reducing the cost of built in-margins for risk.
- A demand chain based on 'just-in-time', that reduced the delivery time from a traditional 20-24 month from shearing to sale of garment, cut to 10 months – substantially reducing the cost of finance of stock and 'work in progress'.
- A price premium to woolgrowers for high quality accredited wool, on annual orders of approximately 1600 farm bales over three years.
- Savings for the weaver through significant orders of large production runs of fabric, reducing cost of manufacture.
- Increased trouser sales based on a differentiated retail product that identified benefits to the retail consumer.

Forward contracts for fabric were established between Dechamps and BRAX. Risk management was not an original project objective; however during the early stage of the project, normal trading difficulties arose. Two of the processing partners became insolvent, the original topmaker and the weaver. At the time, the price of greasy wool was increasing dramatically and few growers were interested in locking into a forward contract for two to three years. The topmaker had to remove their risk in the event of a negative move in the price of the wool and the exchange rate. To secure the future price of the raw material over the life of the contract, the topmaker used wool futures as a hedge, and locked in the currency exchange rate.

For an explanation of the terms used in the flowchart see Appendix 1 Wool Processing Systems and Terms Used (source AWI).

Figure 4 : Supply Chain Redesign – Tasmania To BRAX Germany



TQWT was well placed to develop this type of alliance as it already had in place a quality assurance program with its strong grower member base, consisting of approximately twenty percent of the major Tasmanian woolgrowers, covering approximately fifty five percent of the wool suitable for the order. From the grower's perspective, the new alliance meant that, unlike the traditional method for marketing wool through the traditional wool auction, the grower had the option of notifying/discussing with their wool broker the suitability of their wool for the BRAX order. The Tasmanian brokers were regularly briefed on the required specifications for delivery to the BRAX order. In addition, TQW informed their members through a quarterly newsletter of past performance and future prospects of the BRAX order.

The supply chain innovation attracted much industry attention. Champion and Fearne (2002) studied the changes in communication between growers and processors achieved through the vertically integrated chain. They concluded that the "grower members of the TQW supply chain viewed the co-ordinated approach to marketing their wool as providing more information than the traditional system and thus rated the project to be a success."

Lowe and Perkins (2002) also assessed the TQW model of combining brand licensing, quality assurance and vertical integration as an approach that works. They stated that "some of the key the factors behind the company's success include[d]:

- having a project manager with wool knowledge to guide the relationships;
- having a retail partner who is willing to drive the demand back down to the wool producer;
- sourcing independent marketing advice from industry bodies;
- ensuring that the wool producer will supply quality assured wool; and
- having partners in the value chain that accept parts of their system may have to change to accommodate the value chain."

Peter Hahn Project

Contact was made between Peter Hahn and TQW Trading (TQWT) after Peter Hahn identified an earlier successful project that TQWT had conducted in Europe with BRAX. Peter Hahn was looking for an 'iconic' brand and image that they could use in the launch of new 'leader' products. TQWT had contacts, skills and knowledge from past projects to endorse the retail group on behalf of its members and to coordinate the processor partners that would be used in the Peter Hahn project.

The three-year alliance (2004 – 2006) between Tasmanian wool producers, through TQWT, and the Peter Hahn retail group is focused on promoting the image and brand of Tasmania to influence the lifestyle choices of European consumers. Peter Hahn retails garments in thirteen countries across Europe.

Two and a half years of discussion and negotiation eventuated in the production of Tasmanian branded knitwear being included in the Peter Hahn mail order catalogues, allowing the Tasmanian story to be told to consumers. Commencing in Europe's winter of 2004 was a women's programme consisting of twin sets, knitted jackets and pullovers, in superwash wool, carrying the label Peter Hahn – 'pure Tasmanian wool'. In an advertising programme of 14 million brochures (Figure 5), the Tasmanian garments were used as promotional marketing 'leader'. Peter Hahn estimated sales from this range to be in excess of 1 million garments in the first year with a retail value of $92 million.

Figure 5 : Photos From Peter Hahn's Eight Page Brochures (produced with permission)

The objectives of the project were to:

- Identify and develop relationships with a major international retail brand and add value to that brand.
- Secure a commitment for the supply of Tasmanian wool.
- Develop an internationally recognised 'promotional leader' for use by Peter Hahn.
- Connect with European retail consumers, through an established brand, by building on the brand, image and lifestyle of Tasmania.

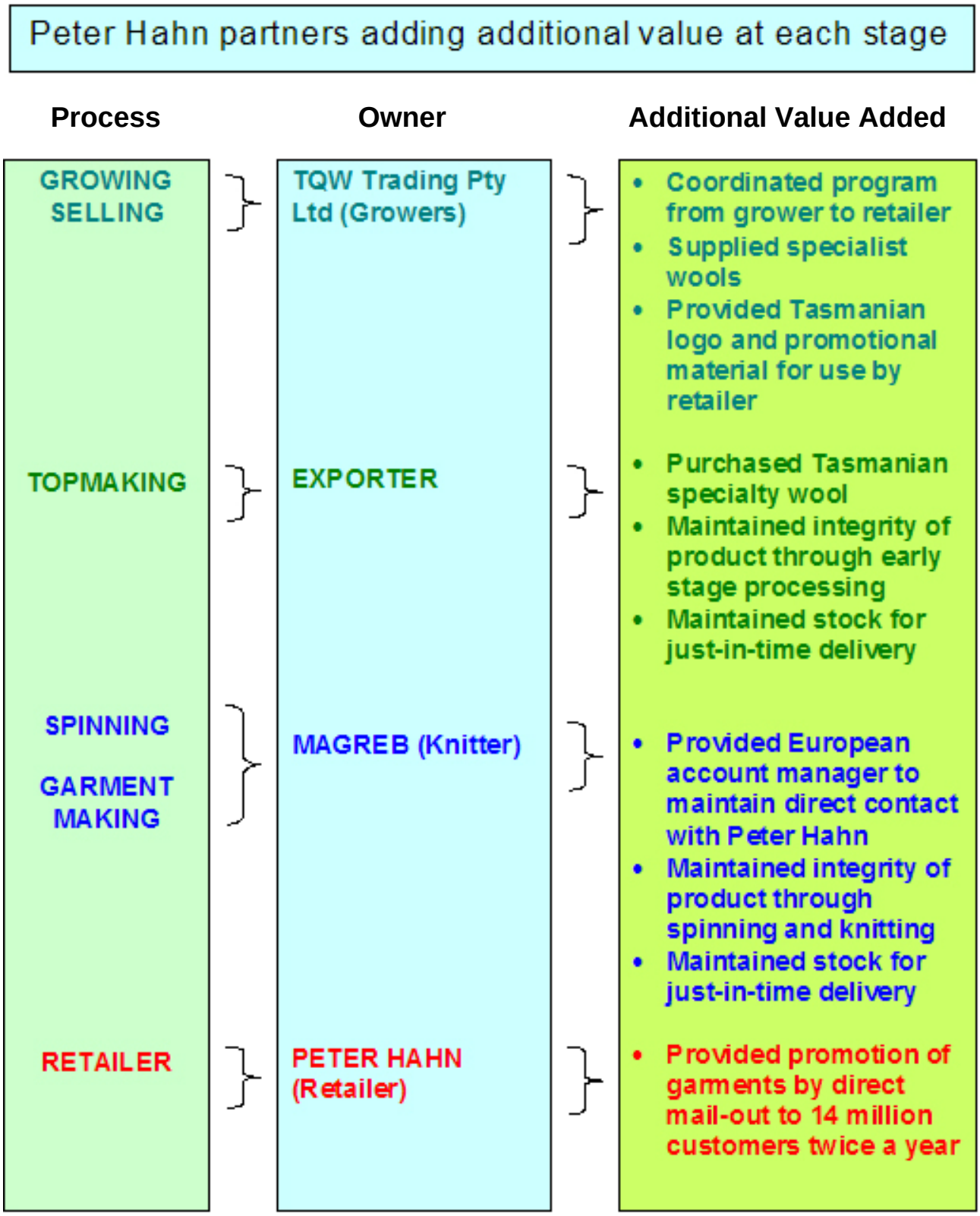
Figure 6 outlines the key elements of the 'demand' chain. TQWT plays a central role in this chain in coordinating the cooperation between commercial partners in Australia, Italy and Germany. The chain also reinforces the importance of Tasmanian woolgrowers maintaining their status of preferred suppliers to world markets. This in turn is dependent on growers continuing the quality breeding, production and clip preparation programmes. In practical terms, member growers will supply approximately 2000 – 3000 farm bales of specialty Tasmanian 21 micron wool annually for three years with projected annual sales at farm gate of $2.75m.

Unlike the BRAX project which supplied wool on a forward order basis, Peter Hahn sources wool according to specification from preferred grower / suppliers using the traditional auction system.

Central to the Peter Hahn project was the use of the Tasmanian image, brand, lifestyle and environment to connect with European retail consumers. Peter Hahn used this image to launch the celebration of forty years of retailing

In summarizing the value of this type of project to the industry, TQWT Project Manager Robert Wallace (case co-author) takes the view that "….. the process of researching projects such as this is long and difficult, but the end results are rewarding. This Peter Hahn project took three years from initial contact until product launch. The project was about research, plus adding value through quality control, quick response and an enhanced marketing image, all classical value-adding activities. The project also focused on moving into an emerging market area, the demand for lighter, easy care fabrics in casual wear."

Figure 6 : Demand Chain – Tasmania To Peter Hahn Germany



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Centre for International Economics, (2002), Prospects for further wool processing in Australia, Australian Wool Innovation Ltd, Sydney.

Champion S.C. & Fearne A.P., (2002), The communication vacuum in the wool supply chain – insights from an exploratory study of the Australian apparel wool textile industry, 4th International Agrifood Conference, Noorwijk, The Netherlands, June 6-8, 2002.

Lowe S. & Perkins D., (2002), Moving towards a more competitive position for the Australian sheep industry, Merinotech Merino Research and Innovation Forum, Kojonop, 7th August, 2002.

Discussion Questions

1. In terms of global trends in wool / textile processing, Australia's competitive position in the manufacturing and wool processing sector has sharply diminished. In your view, what changes are likely for other world regions in terms of manufacturing competitiveness?

2. Henry Edgell, Chairman of TQW, summed up the benefits of the BRAX project:

   "When we started the project we hoped that it would provide us with a five percent premium for the members' wool. Our achievements have gone beyond that. We have developed an image for Tasmania as a source of premium wool for upmarket garments and branded it, just like the wine makers have with their regional branding schemes. Wool producers are now getting a substantial premium, the security of forward orders and cost savings.

   The project has re-designed a slow, costly and inefficient supply chain, and replaced it with a demand chain that has halved the supply time, provided the opportunity to continuously review and cut costs significantly along the chain, and created a level of flexibility that allows wool to be held ready for despatch on a just-in-time basis. The changes help garment makers and processors to make decisions closer to the season, and to hold inventory at the less processed stage, where costs are lower.

   All this has happened at a time when the wool industry is at its lowest ebb in several decades."

   (a) Contrast the BRAX and Peter Hahn projects in terms of the issues raised in the statement by Henry Edgell.

   (b) Discuss how costs "along the chain" may be reduced within the streamlined BRAX supply chain.

3. "In reality, the concept of the 'demand' chain is no different to the traditional supply chain." Discuss this statement with reference to the Peter Hahn and BRAX projects.

4. In your opinion, what scope does the industry have in further developing the perception of wool as a 'branded' (differentiated) product as opposed to its traditional perception as a commodity? What elements of the BRAX and Peter Hahn models can be applied elsewhere within the Australian wool industry?

Case Commentary

Written by Dr Bob Richardson, Formerly Dean, Faculty of Land and Food Resources, The University of Melbourne

This case study illustrates two attempts to link consumer durable products and their promotion internationally to the supply of raw materials by select suppliers in Tasmania. Both examples indicate that there must be careful targeting of the product, companies selected to participate and the industry structure.

The structure of the wool textile industry in Western Europe has historically been one of relatively small and separate companies (in most cases originally private family companies) operating at each stage of wool processing and textile manufacturing. Their operations are coordinated by spot and forward transactions with intermediate products held in inventories and shifted between suppliers and customers. This structure involves increasing financing and risk management costs at successive stages over a period of up to 18 months from the time of import of raw wool. Claims against suppliers are frequent, especially against forward contracts when spot prices fall. Expanding sectors of the wool textile industry, in China for example, generally involve larger more vertically integrated business structures with several stages of intermediate product conversion managed within a single company and even on one site.

The BRAX project was an attempt to short circuit the horizontal Western Europe business structure with the aim of cutting costs and increasing prices to participating Tasmanian woolgrowers. Contractually locking in several companies historically committed to the existing arrangements was always going to be difficult. Vertical coordination through contracts would usually involve redistribution of both risks and returns and it is difficult to cover all eventualities in contracts. In the BRAX case, the failure of companies, always difficult to predict, was the undoing of the project.

In both the BRAX and HAHN projects every effort seems to have been made to tightly target the companies and final product. Even though contracts linked Tasmanian wool supply to the final product, there must be doubts about whether a Tasmanian brand could have cost effectively expanded the demand fox the products involved and led to a price increase for growers. Very large sums of money would have to be spent on promotion to create recognition and understanding of the brand amongst target purchasers.

At the first stage of wool processing to combed top, a common batch size is 1,000 bales (half to two thirds of the annual supply under either project) and Tasmanian suppliers' wool could readily be substituted for by wool from other sources at auction in Australia or even from other countries. This is more obviously a problem with the HAHN project where no contractual linkage was attempted and the assembly of processing batches within a reasonable time frame would likely necessitate accessing wool from other sources. Given general adoption of pre-sale objective measurement, it is not clear whether TQWTs quality assurance program could sustainably differentiate wool of its Tasmanian suppliers from other wool with similar measurements.

Despite reservations expressed here these two projects represent admirable attempts to innovate in supply coordination within the traditional industry structure.

Appendix 1

Wool Processing Systems and Terms Used

There are two distinct systems (methods) of yarn production:

1. The Worsted System

- Uses longer length wools (greater than 65mm staple length).
- Wool is made into tops before spinning into yarn.
- Eighty per cent of Australia's wool is processed this way.

2. The Woollen System

- Uses much shorter wool such as locks, crutchings, bellies and lambs' wool.
- All carbonised wool and a substantial amount of scoured wool is processed this way.
- Produces a bulkier yarn that is used in knitting and some weaving.

The nine major processes of worsted fabric are:

- **Blending** – The blending together of different farmers small lots, of specific wool types, to produce an even commercial processing lot. The average farm-lot size is seven bales (with an average single bale weight of 175kg). The average commercial processing lot is three hundred bales.
- **Scouring** - a washing process that removes dust, suint (sweat) and wool wax.
- **Carding** - rollers covered with teeth tease apart the staples of wool, laying the fibres nearly parallel to form a soft rope called a 'sliver'.
- **Combing** - the comb separates short from long fibres, ensuring that the long fibres are laid parallel to produce a combed sliver called a 'top'.
- **Drawing** - several tops are drawn out into the thickness of one, to thoroughly blend the wool and ensure evenness or regularity of the resulting 'roving'.
- **Finisher drawing** - reduces the roving thickness to suit the spinning operation and further improve evenness.
- **Spinning** - insertion of twist into the yarn to give strength to the finished yarn.
- **Weaving** - producing fabric composed of two sets of yarns and formed by weaving, which is the interlacing of these sets. By using various combinations of the three basic weaves (plain, twill and satin), it is possible to produce an almost unlimited variety of constructions
- **Finishing** – the process of completing the final ‘finish’ or look to the face of the fabric.

Worsted Verses Woollen Fabrics

- Worsted fabrics are often more expensive than wool spun products due to the longer raw material to resultant yarn processing route used.
- Worsted fabric is stronger and wears better than a woollen spun fabric of equivalent weave construction and fabric weight.
- Worsted fabrics are preferred for trousers, suitings, other garments and upholstery fabrics where a smooth finish is required.
- Woollen spun fabrics are used for jackets, coats, skirts, upholstery fabrics, rugs and blankets where bulk and textured finishes are desirable.

Processing Variations

The woollen processing system can be varied to meet various market requirements. Variance in processing methods occurs either chemically or physically.

Chemical processing variances include:

- Shrink proofing;
- Fire proofing; and
- Moth proofing.

Physical processing variances include:

- Blending exotic fibres, such as cashmere or silk; and
- Blending man-made fibres.

Source: Adapted from Australia Wool Innovation Ltd
http://www.wool.com.au/LivePage.aspx?pageId=240