Future Woolscapes

Research Brief

Project Narelle:
Markets & Consumer Preferences to 2029

Position Paper

Introduction

This paper is written to support the *Future Woolscapes* project which is examining the question: *What might the wool industry look like in 2029 - and what are the implications of that?*

Australia is the largest wool producer in the world, and the annual value is estimated at $2.6bn to $3.7bn.[1] The majority of Australia's wool is used for apparel, a lesser amount for interior textiles. Since the end user for these two categories is the individual, the more one can discern about the consumer, the more likely it is that the industry can satisfy the individual's demands.

This paper examines the likely market structure and consumer preferences for wool over the next quarter century. It first notes why people have bought woolen products in the past and how their selection criteria are changing. It briefly addresses the forces and drivers that will shape markets and consumer patterns over the next 25 years. It then discusses the outlook for the industry, markets and consumers in three time segments over the period of the study. The paper closes with implications for the industry and the *Future Woolscapes* project.

Two issues are fundamental to this paper. The first is that no one is profiling consumers in the 25 year time frame of the study. The second is that stakeholders in the Australian wool industry can only exercise limited control over downstream links in their value chains.

Why buy wool?

The University of Alabama's College of Human Environmental Sciences concluded that consumers select textiles for a variety of reasons which include: aesthetics, comfort, ease of care (including storage), durability and serviceability, and appearance retention[2]. Wool performs well against these criteria, and is a natural fibre, which explains why it remains popular despite its relative cost. It is a maxim in the retail industry that even when price is not the key determinant in a purchasing decision, value for money is still a consideration.

The criteria above also explain the perceived downsides of wool, especially when used for apparel. These are its susceptibility to insect attack, a tendency to shrink and a feeling of itchiness. The disadvantages can be "engineered" out of the fibre at various stages of production and processing, but they must be cost-effective and environmentally sensitive. After that, there is a need to engage consumers and inform them about the changes.

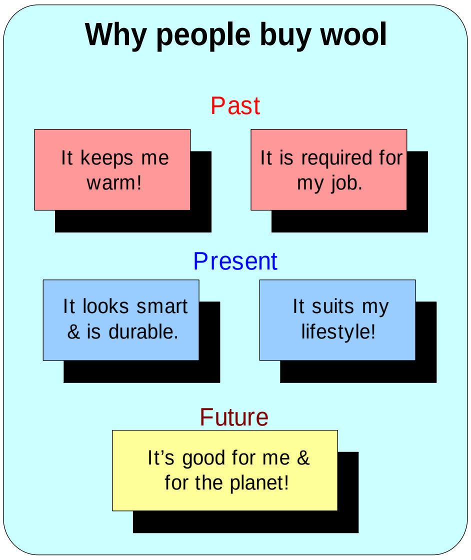

Figure 1

As *Figure 1* implies, consumers should also be monitored - their values are not static. We are already witnessing revised selection criteria for some purchasing decisions. In particular, the concepts of quality and value are changing. In the past quality was associated with brand image and the criteria above. These remain important, but the emphasis is shifting to sustainability and clean and green attributes (which apply to all stages of production and manufacture). Indications are that consumers will pay a premium for the eco-credentials of a product rather than its brand image.[3]

Value is also being redefined. Prahalad and Ramaswarmy are adamant that it is "..the cocreation experience" which is the basis of value.[4] By cocreation they mean the company and the consumer together contribute to the tailoring of goods and services which are individualized or

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personalized. (See box) The experience, like the products, must itself be of a high quality.

There are challenges in this for players in the Australian wool industry. Although they may have little influence over other links in the wool value chain, and may have difficulty monitoring and directly engaging the end consumer; they still need to be responsive to the specifications of the processors and manufacturers.

What will shape markets and consumer patterns in 25 years?

In ***the global domain*** the two major driving forces are demographics and the international security situation. The former determine the potential markets, whilst the latter may influence accessibility to those markets. Lesser but still important issues are the inter-dependence within the international economy and the continued growth of the Chinese and Indian economies.

Today's 6.3 billion people will become 8.9 billion by 2050.[5] By 2029 less than 20% of the world's population will live in the "developed nations". In this period the rate of urban growth will be double the rate of population growth, with a commensurate increase in home-making and in demand for interior textiles. Significantly, teens and young adults in these populations will have an increasing proportion of discretionary income.

Adjustment to the world political order and the international economy will determine who are Australia's allies and trading partners, the composition of trading blocks and the demand for primary products.

At national level, the main drivers for change are reflected in government policy. Aspects to monitor include foreign affairs and trade, macro-economic policy, plus policies on the environment, agriculture, industry and research and development. For example:

- What are the implications if Australia is locked out of the world's major trading blocs, or if the ASEAN nations place an embargo on our goods?
- What if the Australian Government changes research priorities and re-directs funding away from wool research?
- What if national agricultural policy insists on more efficient use of the productive land?

Both external and domestic policies could `the wool industry. Some influence supply and others demand. They have the potential to impact on the nature and profile of the industry, on alternate uses of land, on which markets are accessible, and on which technologies are applied at various stages throughout the wool value chain.

Within the industry, the major driver for change will be technology. Most notable will be developments in bio-technology and nano-technology, which could be applied at many stages in the value chain. Other technologies will re-shape shape the rapidly changing context within which woollen products marketed, bought and sold. (e.g. e-commerce, and influence on on-line design for fashion). The degree of impact for all these technologies will be determined by consumer acceptance.

Finally, it must be registered that the new technologies will influence competitive products and market competition.

With Winter approaching we took the staff to town for new outfits. Each person was sized by the *Lazertape* ***and selected their own styles. Some opted for a jumper, others for vests and old Cecil scored a new cardigan! No matter – they are all in the Corporate Colours, and my dear mum always said red and black are functional and look good on everyone. The most remarkable thing was the way the garments were made-to-order by*** *Robo-Knitta* ***on that same day! We could have stayed to watch, but decided on a lunch instead… the items were ready within an hour of the order being placed! Now that's what I call a good "co-creation experience".***

Outlook

Our research indicates that no one is seriously looking at markets and consumers two decades from now. Horizons for the fashion industry are one to two seasons ahead. The thinking of governments in the West is largely defined by electoral cycles. Serious think tanks and futurists who are attempting long term studies tend to focus on topics such as major environmental issues, international affairs, technological forecasting and economic modelling.

There is always the possibility of a cataclysmic event that alters the course of the world affairs, or a major discontinuity that upsets the wool industry or its markets. Examples are an ovine equivalent of BSE prompting the decimation of the national flock; or a major trade war. That said, some trends can be projected out 10-15 years with reasonable confidence. Thus we can estimate how many consumers there may be; we can note the broad shift from formal to more casual wear; and changing consumer values (*Figure 1*). Within these there will be short term fluctuations, one can not discern the vagaries of fashion or the weather that contribute to annual variations in supply and demand.

However, some reasonable projections can be made and the shorter the timeframe, the more confident the speculation. For this paper, the 25 year time horizon in the study is in three segments: out to seven years; 8-15 years and beyond 15 years.

The 7 year outlook

In this period, despite seasonal fluctuations, our assessment is that current trends will continue and the consumer experience will remain largely unchanged. There will be developments in the value chains of wool and competing fibres based on the application of new technologies, but these will be incremental rather than revolutionary. Thus the consumer is more likely to have the choice of enhanced or cheaper products, rather than completely new ones.

Wool's declining proportion of existing markets will continue, albeit as the markets are growing in size. The fibre will be used for the same purposes as it is today. It should retain a dominant position at the luxury apparel end of the market, but find itself under severe pressure from the competition at the lower ends of the market. It will retain uses where its fire-resistance properties are desired.

The projection of current demographic and economic trends suggests Western markets will stabilize or shrink throughout this period, while Eastern (Asian) markets continue to grow. As *Figure 2* illustrates, the Eastern consumer will generally opt to follow Western consumption patterns: especially European fashions in the "top end" range and American trends in younger persons' casual apparel.

Figure 2 - Trend Leaders and Trend Followers[6]

Individuals will purchase woollen items and interior textiles in the same manner and for the same reasons they have always done, but an increasing number of (Western) buyers will have an eye to the eco-credentials of the product as well as to its comfort, style, functionality and durability. The retail experience will be largely unchanged in the seven years. Although there will be an uptake in e-commerce, it does not appear to have as much appeal in the market segments in which wool products compete, where touch and feel are an essential part of the shopping experience.

Within the wool industry there will almost certainly be improvements due to the application of new technologies. Those with the most potential in this initial time frame are genetics and molecular biology - working together. Though any advances will be important from the industry's perspective, the consumer – who has heightened expectations – will see them as incremental improvements, that merely keep the fibre competitive with others that are making similar strides.

There may also be radical innovations in the next seven years for both wool and competing fibres, but these will not reach maturity and cause major changes to market-share until the next period. However, ground breaking developments, such as eco-friendly enzyme processes, plasma surface treatments, and the fruits of CSIRO's present round of basic wool research will be the ones that shape the future of wool in the mid term. These same technological improvements may have capricious cross-impacts for wool; for instance, new treatments - from Australia or elsewhere - may render broader wool suitable for some uses reserved until now for ultra-fine Australian fleece.

The final significant issue to monitor in this period is the “politics” of distribution chains. A superior product confers no advantage without access under suitable terms to the demand chain. There seems little reason for any reversal in the trend driven by "buying power" towards retailer brands across the low to middle price range, from *Home Brand* to *Target* to *David Jones*. In addition, significant market share will be held by vertically integrated businesses such as *Benetton* who now control every step in their value chain from wool farms in Patagonia to high fashion outlets in Paris.

The 8-15 year outlook

The further forward one looks, the less certain the estimates and the more likely the possibility of a single groundbreaking development, or a series of iterative changes that completely alter the macro-environment, or indeed the wool industry itself. For example: what would be the

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consequences if China was again alienated from the world community as it was post-Tiananmen Square? Or what if scientists developed a new “natural” fibre which made the wool industry completely redundant?

Apart from such dramatic discontinuities, it is most likely that one decade from now wool will continue to compete favourably in its traditional market segments. It may encounter new competition in some of those segments - such as hemp in mid-weight knitwear; and may itself be competitive in additional niche areas such as "breathable" sportswear.

The investment pattern of large stake-holders suggests the shopping experience is set to remain much as it is today for the next two decades.[7] This says nothing about

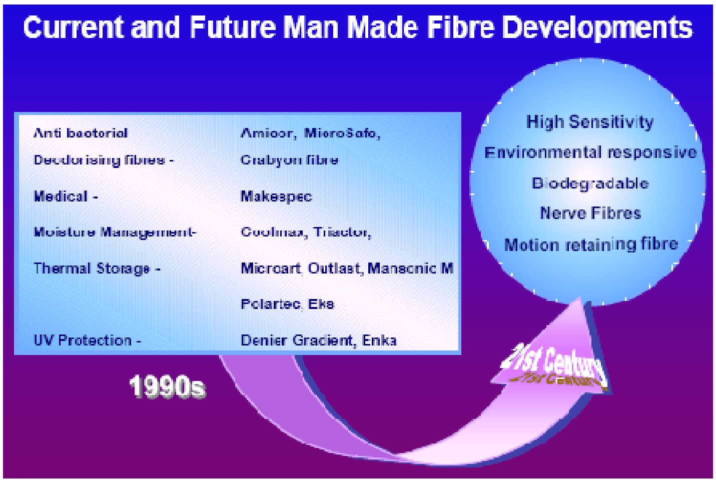


Figure 3 - Technical Frontiers

the mix of small and large retailers, but there seems little possibility of the reversal in fortunes of retailing giants and their house brands. These, along with the exclusive brand shops will account for the largest portion of apparel goods sales.

In this time frame the mass consumer markets of the East should develop a more independent orientation and domestic cultural influences will strengthen, replacing Western influences. Whether or not the eco-consumerism of the West takes hold in Eastern markets will be decided more by the political leadership than the consumers themselves. Regardless of how these issues unfold, the onus is on all stakeholders in the apparel and textile value chains to become attuned to the consumer cultures in the new markets.

As *Figure 3*[8] implies, stakeholders should also monitor the technical frontiers. If there are revolutionary developments in the wool value chain, or in synthetics or a competitive fibre, they will be due to new technologies such as electro-spun nanofibres.

East meets West

The Wuxi First Worsted Mill[9] in China is producing a range of "smart" woollen apparel fabric that may have significant impact on western consumers. Products such as electromagnetic wave-proof worsted fabrics and anti-static worsted fabrics embody the eastern absolute dogma that the human body has a complex energy field and is affected by energy fields in the environment.

The Bank of China in Hong Kong is despised by many locals because its sharp angles radiate killer chi (bad energy or "bad vibes"). Such "energies" are not acknowledged by many in the west – although mobile phone radiation and electrostatic shocks are. The eastern view is that these may cause a range of disorders from lassitude to cancer to impotence.[10] Just being in a modern office is a prescription for ill-humour, disease, and death.

The global corporate uniform is the western "business suit", fairly stable since its evolution from the morning suit and the sack suit around 1900.[11] One mainstay of the Australian wool industry is the happy fact that the finer the suit the more likely it is that it is made from ultra-fine merino wool.

It is not hard to see a marketing opportunity exploiting true global convergence in which western apparel meets eastern philosophy: the business suit which promotes natural health.

Serious work in biotechnology, nanoscience and materials science are taking a new look from scientific first principles at the use, re-use, and displacement (generally of petro-plastics) of vast classes of materials we grow, use, and dispose of. Two classes that warrant particular attention are cellulosic materials and fibres, and protein fibres. These will impact the wool industry and its competitors. They may even spawn completely new industries.

We assess that in the mid term the major breakthrough is likely to be in biotechnology with the commissioning of integrated agro-chemical refineries ("eco-converters"). Although still largely conceptual, the obvious economies and ecological benefits should drive the ideas to fruition. In that brave new world a *Body Shop* of the day would offer you a token discount when you trade your old woollen clothing in for new items. That old woollen clothing is perhaps rendered down to make ersatz wool geotextiles, filters or bush-fire curtains.

In this era, wool could experience considerable pressure if consumers switch allegiance to new fibres based on natural materials. The fibres could mimic many of the characteristics of wool without the cost. Initially these would be found in the low and mid-range apparel markets and in the commercial uses of interior textiles. Longer term, they may develop the qualities to directly challenge wool in the fine apparel market. In the face of such challenges, to continue its appeal to the consumer, wool will have no recourse but to stress its own natural credentials; and to continue its own incremental improvements.

In summary, events in the 8-15 year time frame are crucial to how the industry will develop in the longer term. The possibility of a revolutionary breakthrough should not be discounted but neither is it a certainty. The industry should remain vigilant but also be aware that where there are threats, there are also opportunities, (see: "East meets West"). On balance we believe the landscape will be quite different 15 years from now, but many of the features will be familiar.

Beyond 15 years

By 2029 there is complete connectivity and visibility across value chains so all goods and services in Western markets are demand driven...

In 15-20 years time there will be markets and there will be consumers demanding clothing and interior textiles to satisfy their needs and wants; but speculation on what part wool fibre will play is tentative at best. The competitive environment, markets, consumer preferences and product lines could all be different.

- The international world order and global economic situation may have changed significantly. The new alignments and economic groupings will determine which markets receive Australian wool.
- The major markets will likely be in Asia and South America, so consumer preferences in those locations will determine product lines and dictate fashion.
- On the technology front, *"…we shall witness a major paradigm shift within the 25 year time horizon of this study, as the world moves into a completely new bio-molecular era."*[12] This will see products and processes as yet undreamed of. Some may threaten the very existence of wool, others could be its salvation.
- There is likely to be complete connectivity and visibility across value chains so all goods and services in Western markets are demand driven.
- Paradoxically, while the Australian producer may have excellent visibility along the value chain, (see box) they may have even less control over downstream links than at present.
- The future of Australian wool will be determined by decisions made by off-shore manufacturers.

Summary and Implications

This paper has illustrated that the further out one looks over the next 25 years the more difficult it is to paint the landscape. This is due in part to the number of drivers and cross-currents in the world at large; but the main reason is that we are on the brink of a bio-molecular revolution that promises to herald an entirely new era.

In the first seven years of the *Future Woolscapes* time horizon, existing trends will continue. Changes in markets and consumer preferences will be incremental rather than revolutionary. However forces will emerge and start shaping the industry for the mid to long term.

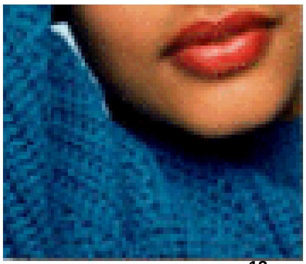
In the 8-15 year period the landscape will continue to change. It is probable there will be multiple radical innovations as the new technologies are mastered and the bio-molecular revolution gathers momentum. The centre-of-mass of the markets will shift to the East; there could be intense competition in all traditional market segments; and also completely new fibres and processes could emerge.

By the time we reach the 15-20 year period of the study, the long term future of the wool industry will already have been determined by events and decisions in the 8-15 year period.

Just this morning there was an order from Paris for 60 pairs of those new knee-length woollen socks – apparently they are for a chorus line. Every pair a different pattern and colour, every pair a different size! We knew by morning tea which bale would be used, one from SunTop outside Yass. It's perfectly suited for the job which minimises processing…

The implications for the wool industry can be summarized as follows:

- It should establish a systematic program to monitor existing and new markets and market segments.
- For each segment it should shift the focus to the consumer and seek to understand the culture and values that shape their preferences.
- There is a need to monitor traditional competitors, but also potential new entrants.



Perennial values[13]

- The industry must track the new technologies – especially noting impacts on wool and on competing fibres – looking for threats and opportunities.

In the period under review, the industry should not lose sight of the perennial qualities that have made wool popular throughout the ages and a benchmark for competitors. The challenge is continually to realign these characteristics with ever-changing consumer preferences and markets in what promises to be the most turbulent quarter-century in the history of the Australian wool industry.

Produced by

Ian Ferguson & Assoc P/L
ABN 42 055 778 633
Futures Studies & Scenario Planning
+61 7 3366 7748
ifa@bigpond.net.au
http://imaginativefutures.com

Information Access //infos
ABN 65 485 109 867
Open source intelligence
+61 7 3368 3886
infos@mpx.com.au
http://meta2.com

References

The full list of sources, Centres of Excellence and portals referred to in this paper, with active web hyperlinks, is on the CD accompanying this paper.

NOTES

[1] Elders Ltd, March 2004

[2] The University of Alabama, The College of Human Environmental Sciences, Course CTD261-Textiles http://www.ches.ua.edu/backup/wac/ctd/261/ctd-261-less03.rtf

[3] Naomi Klein, *No Logo*, Flamingo, 2001 for rise in "selling a brand rather than a product" and the more recent anti-brand mentality

[4] C. K. Prahalad and Venkat Ramaswamy, *The Future of Competition: Co-Creating Unique Value with Customers*, Harvard Business School Press, 2004 – quoted in *CIO Magazine* – 15 April 2004 http://www.cio.com/archive/041504/excerpt.html

[5] *New Scientist Online News*, (11:18) 27 February 2003

[6] Kurt Salmon Associates, *Wool Mark 2005* (A study for the WoolMark Company), 1999.

[7] For example: Australian-based Westfield manages 116 shopping centres valued at A$32B world-wide comprising 9 million m^2 and 18,000 retail outlets. A further $7B of developments, over 25% expansion, is in current planning, $5B of this to commence within 5 years. A further $5B in projects is envisaged beyond that.

[8] Kurt Salmon Associates, *Wool Mark 2005* (A study for the WoolMark Company), 1999.

[9] For full descriptions of these and others in the *Wuxi* range see http://www.wxyimao.com/jianjie-e.htm

[10] The litany of diseases is as follows: electromagnetic radiation: headache, weakening eyesight, abnormity of circulation system, diabetes, cancer, malfunction of immune system and disorder of hormone; electrostatic. values of pH, and amount of blood sugar and calcium in urine rise while amount of calcium and Vitamin C in blood fall because of the static electricity; more seriously, people will get shocked and the electronic cells [of the body] will get damaged when the static electric charges on a coat reach to a certain amount. Although yet little known, these views coincide exactly with leading-edge respectable schools of western medicine -- based on the work of Linus Pauling on the *orthomolecular* view of living cells.

[11] See http://www.lahacal.org/gentleman/ for the history of the suit; credits to this site also for the illustration.

[12] IFA Paper for Future Woolscapes titled *Project Dolly: Implications of the new technologies* dated June 2004

[13] Picture credit: International Wool Textile Organisation http://www.iwto.org/

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