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Economic Cooperation**

**Icebreaker Limited
New Zealand**

Nothing to Hide: Managing Intellectual Assets Throughout the Supply Chain

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An Overview

New Zealand, an economy with just over four million people, was regarded by economic analysts as a relatively small market, whose sustainable profitability could only be achieved by improving its competitiveness in the international market. Hence, while agricultural (e.g., meat products, dairy products, wool, etc.), horticultural (e.g., fresh and processed fruits, vegetables and seeds) and forestry (e.g., logs, wood chips, sawn timber, paper and pulp) products still made up more than 50% of all New Zealand exports, the economy had transitioned from a traditionally agrarian economy heavily dependent on concessionary British market access to one that was globally competitive.

During the last few years, New Zealand had been increasingly gaining a strong competitive advantage in telecommunications, electronics, wine, tourism and textiles. The exponential growth of the apparel industry could be seen in the increase in clothes exports amounting to NZ\$315 million in 2007 from NZ\$194 million in 1997 (The Economist, 2005). As of November 2009, New Zealand's total textile and clothing exports had reached NZ\$580 million.

Within New Zealand there was a dynamic and very competitive clothing market. As of February 2008, there were 3,901 specialist clothing stores, the largest in terms of number of outlets. In March 2009, sales in New Zealand specialist stores reached NZ\$2,556 million, the third largest sales record after supermarket/grocery stores and department stores, with sales of NZ\$14,521 million and NZ\$3,805 million, respectively (Albertson, 2009).

Notwithstanding the vitality experienced by the New Zealand clothing market during the last few years, finding the opportunities to grow in a sustainable fashion was a big challenge. All the while adhering to the ethical way of doing things throughout the supply chain, emerging firms in this sector had to negotiate their way through a hostile environment that was characterised by two large forces: the power of big international brands and the threat of unfair competition from illegal companies whose business was counterfeiting promising products.

An Innovative Idea¹

Like most of the inventions that marked the progress of humankind, the origins of Icebreaker could be traced back to the convergence of two well-matched elements: kiwi² ingenuity and an unanticipated encounter that occurred in Pohnuenui, one of the islands in the Marlborough Sounds, in the northeast of the New Zealand South Island.

¹ The information provided in this case has been largely obtained from Icebreaker's website and an interview with one of its senior managers.

² *Kiwi*, which names the flightless bird endemic to New Zealand, is the colloquial expression that refers to New Zealanders and has been extended to anything of New Zealand origin, including the currency (i.e., kiwi dollar).

The Origins

In the early 1990s, Brian Brakenridge, who owned 3,000 merino sheep in Pohuenui, was frustrated not only with the prices he was getting for his high quality merino but also his inability to control its final application; the merino was just being re-exported to other markets after mixing them with Australian wool. Brian clearly understood the benefits of woollen apparel. He was after all a wool farmer and a dedicated user of wool. He was convinced that fine wool had very strong technical benefits in outdoor applications although these benefits were little known, largely unproven and poorly promoted.

Brian's approach was somewhat unconventional for his main priority was to build understanding, integrity and respect for a merino wool prototype product rather than to deliver a final product to the market. Despite the advantages of wool, he was aware of the negative sentiments and perceptions that people had of wool apparel such as being heavy, coarse, itchy, smelly when wet, etc. His research on the benefits of merino wool convinced him that differentiating wool apparel would require promoting its features under a completely new light. However, he first had to prove that that these technical benefits could be applied to products or garments meant for the outdoors.

After a trip to the United States, where he met the owner of an outdoor store in Washington who knew about the quality of the merino fibre, Brian and his wife convinced a Christchurch manufacturer to produce some merino garments. By the mid-1990s, Brian's production, under the label of Ice Breaker, was still limited and the market for his garment products was restricted to the occasional tourists at his Pohuenui lodge and a store in Blenheim, the main city in the Marlborough region. He made sure that information about the unique benefits of merino wool was included in some of his earliest promotional material. At that time, the production was limited to some very basic garments. The purpose of these initial models was twofold: to generate some feedback from consumers; and to subject the garments to some of the most extreme applications possible.

The fledgling Ice Breaker received some wonderful feedback and endorsements from adventurers and sportspeople who were given garments to test. Sir Peter Blake, an internationally renowned yachtsman, and Graeme Dingle, an experienced adventurer and climber, both from New Zealand, extolled the quality of the merino wool garment they tested. Words of endorsements also came from overseas: a helicopter pilot working for the United States Fish and Wildlife Department in the Yukon, a dog sled race competitor in Alberta, Canada and an elk hunter in Montana, USA.

From Ice Breaker to Icebreaker

It was in 1994 when a major turning point for Ice Breaker came about. Jeremy Moon, a marketing graduate from Otago University who happened to be backpacking at Brian's farm, discovered the extraordinary quality of the merino wool fabric. Jeremy was delighted by the astonishing thermal performance in the outdoors of the merino clothing developed by his farmer host. At a time when the outdoor apparel industry was dominated by synthetic fibre, Jeremy came up with a far-reaching idea, one that could build on what Brian had achieved, and would take the fibre to the international level.

“My passion for the limitless potential of merino wool grew so strong that I ended up totally captivated by the challenge of building a company based on nature and the outdoors.” The idea was to turn the natural characteristics of merino wool into a clothing system for humans.

Jeremy immediately recognised an opportunity to create an entirely new product category from a fibre that was grown in New Zealand’s mountains, had enormous thermal qualities, could be worn next to the skin, and didn’t acquire an unpleasant smell when worn for weeks on end. Jeremy quit his job, mortgaged his house, bought half of Brian’s business and spent three months writing a business plan. The company’s original name, Ice Breakers Base Layer Thermal Underwear, evolved into Icebreaker Nature Clothing or in short, Icebreaker. Jeremy thought that Icebreaker sounded more active and forward thinking, evoking the relationships between people, people and nature, and between merino wool and the human body. In 1995, Icebreaker started trading and became the first company in the world to develop a merino wool layering clothing line for the outdoors, including underwear, mid layer and outerwear.

However, Jeremy’s initial enthusiasm for the incomparable quality of the merino fibre could not be directly translated into immediate exceptional economic results. The first three years were bumpy and an acid test to his personal determination and faith in the unique characteristics of the product. Yet, failure was not an option. Jeremy knew that he had pinpointed a unique business opportunity that would attract the ever-increasing ethical consumer market by fostering a symbiotic relationship between business and nature. Jeremy strived to make his dreams come true. In a relatively short period, Icebreaker expanded its range of products from an initial modest collection of five styles, two colours and four unisex sizes into a wide range of designs.

Breaking into the International Scene

The growing sales in New Zealand confronted the Icebreaker management team with a major decision-making point: to go or not to go international. Besides the major and most obvious advantage of having a larger market, going global could also offer the opportunity to mitigate risks whereby gains in outperforming markets could offset losses in the underperforming ones as well as balance cyclical and seasonal sales across markets. Taking a firm to the international market, however, was not risk-free and could be very challenging.

After his bad experience with a distributor in Australia and following a careful selection process, Jeremy opted to establish relationships with the finest merchants in both Australia and New Zealand. Within five years, Icebreaker became the largest outdoor clothing brand in Australasia. A key element of this success was the meticulously planned marketing strategy focusing on a rigorous selection of the best outdoor retailers and relationship building with their staff. After all, at the core of the retail industry was an intensely personal business that required having the right people at the sales counter and engendering employee loyalty.

Then, the company decided their next move: Europe. In 1999, a distributor in the Netherlands, who had bought Icebreaker clothing while visiting New Zealand, expressed his interest to introduce the product in the Netherlands. Icebreaker decided to accept the distributor’s proposal; it turned out to be the right decision for the company. After seven years in the Dutch market, sales went up from NZ\$100,000 to

NZ\$8,000,000. The Dutch connection had opened the internationalisation path beyond Australasia; the next market to be penetrated was the United Kingdom and from there expansion was unstoppable. By 2005, over half of Icebreaker's revenue came from overseas sales.

Icebreaker Now

The company had certainly come a long way from the time the idea of producing high-quality merino wool garment struck Jeremy in 1994 and the company subsequently adopted a combination of state-of-the-art technology and the best nature could offer. In 2010, Icebreaker products could be found in 2,000 stores in 30 economies. Icebreaker had grown to become a multicultural, synchronised and cohesive team of over 225 people distributed in Australia, Canada, Czech Republic, Germany, Switzerland, the United States and certainly in New Zealand. The New Zealand-based team numbering 85 represented the largest group; 75 of them were based in the headquarters in Wellington, others worked in the sales offices in Auckland, Christchurch and Wanaka.

The Icebreaker team were always experimenting with merino and always asking questions about the new potential of the fibre. They were encouraged to go snowboarding or mountain biking and wear the garments the whole day even when sleeping. Jeremy and his team were convinced that this was the only way to field test the product. (The spirit of Icebreaker is reflected on its well-developed website, www.icebreaker.com).

Different Actors throughout the Supply Chain

There was a long series of processes and a number of participants involved in Icebreaker's operations, starting from the sourcing of raw materials to the marketing of finished products in retail outlets. Each of the participants contributed his or her unique intellectual assets, which were managed in a coordinated fashion.

The Kiwi Sheep Farmers

Icebreaker became the first outdoor apparel company in the world to source merino wool directly from sheep farmers when it implemented its supply system in 1997. From its first contract for just 700 kilograms of wool in 1997, Icebreaker had grown to become a major buyer of New Zealand's merino production. Its contract for 2.5 thousand tonnes of pure merino worth about NZ\$30 million for the period 2006-2008 was recognised as the largest merino contract in the world.

The growers located in the Southern Alps of New Zealand constituted the first link of the supply chain. They supplied fleece to The New Zealand Merino Company which served as a facilitator that connected sheep farmers to retail brands. The New Zealand Merino Company not only guaranteed compliance to both fibre quality and animal welfare but also set base standards for environmental care and social sustainability, and ensured traceability back to farm gate.

Since animal welfare was paramount to Icebreaker's ethical commitments, five

basic animal welfare requirements were imposed: a) freedom from thirst and hunger, b) provision of appropriate comfort and shelter, c) prevention of (or rapid diagnosis and treatment of) injury, disease or parasite infestation, d) freedom from distress and e) the ability to display normal patterns of behaviour. To become an Icebreaker supplier, farmers must not *mules* their sheep (*mulesing* is the practice of removing strips of wool-bearing skin from around the sheep tail to prevent *myiasis*, commonly known as flystrike). In addition, the growers who supplied merino fibre to Icebreaker were also required to meet minimum standards of care for sheep dogs. If any of these criteria was not met, the growers lost the right to supply to Icebreaker at least for one year, during which they needed to prove that the problems that caused the revocation of their contract had been addressed.

From the New Zealand Southern Alps to Shanghai

The collected merino wool was then shipped to China for top making. Top making involved scouring (cleaning by wet processes through a series of bowls in order to remove grease), carding (breaking up locks and unorganised clumps of fibre), combing (aligning the individual fibres so that they were more or less parallel with each other) and superwashing (making wool shrink resistant in order to make it machine washable). Initially, top making was done in New Zealand. However, the technology available at this plant only allowed producing higher micron fibre, so the lighter fibre had to be produced offshore. Since 2005, the top making process had been subcontracted to a French plant near Shanghai, China which not only recycled and cleaned its water, but also extracted the lanolin as a by-product to be sold to the cosmetics industry.

The next step in the supply chain was yarn spinning in which spinning machines twisted and re-twisted the roving into yarns. In the past, Icebreaker contracted out the spinning process to three plants in Australia and one plant in Korea but this arrangement only added lag time and increased the complexity of the process. Thereafter, the yarn spinning was done in a large German-owned mill near Shanghai which reused the heat from processing in its air conditioning system. As a result of the move to China, Icebreaker obtained improved and consistent quality, cut the production costs and significantly reduced the lag time.

Clothing Manufacturing Process

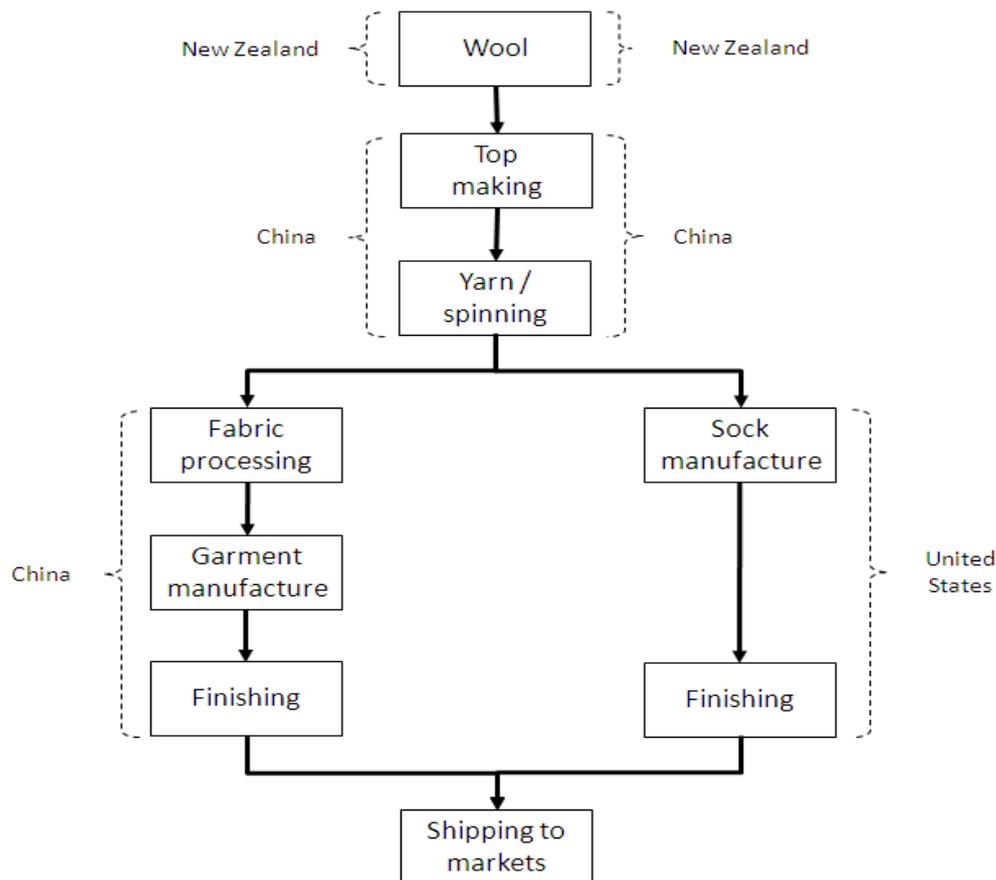
Once the merino fibre had been spun, the clothing manufacturing process could start. At this point, depending on the final product, the material followed two different paths: the fibre to be used for manufacturing socks was shipped to North Carolina, USA while the yarns to be used for garment manufacture were sent to a textile and garment manufacturing plant in Shanghai. Regardless of the piece of clothing to be manufactured, every piece of garment, including socks, was designed in Portland, USA.

Certainly, cost leadership was not Icebreaker's generic strategy. The approach the firm had taken was well-aligned with what Porter (1980) characterised as a segmentation strategy, by which the uniqueness of the product in terms of quality and innovation, was promoted in the relatively narrow market of outdoor enthusiasts. Thus, the decision to move the manufacturing process offshore could not be attributed to a cost-reduction plan; other factors were taken into consideration. During Icebreaker's

early years, the New Zealand textile industry was shrinking and access to state-of-the-art technology that turned out better quality products could only be found overseas. In addition, overseas manufacturing plants had much higher production capacity than those in New Zealand.

The final product from the US-based factory and the China plant was shipped to all Icebreaker markets, which included: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greenland, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Netherlands, New Zealand, Norway, Poland, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, the United Kingdom and the United States. The total process throughout the supply chain, from greasy wool collection in New Zealand farms to finished goods in the aforementioned 30 markets, took between 33 to 43 weeks. All the links throughout this complex supply chain had to be flawlessly managed to guarantee a high degree of coordination and achieve the desired results. Figure 1 illustrates the company’s supply chain.

Figure 1. Icebreaker’s Supply Chain



“A Mini United Nations”

Throughout the supply chain, from the merino sheep farms to both the sock and garment manufacturing plants, a strict quality assurance programme was in place. As explained above, The New Zealand Merino Company acquired the merino wool from New Zealand growers according to quality specifications defined by Icebreaker. Quality

assurance throughout the production process was outsourced to a Japanese inspection service and a Chinese quality control company. To complement this multinational workforce, a German company took care of the logistics aspects. As Viv Feldbrugge, the Technology, Quality and Environment Manager affirmed, "Icebreaker is a mini United Nations."

Despite the challenge imposed of having the different stages of the production process outsourced to different teams working across several time zones, Icebreaker was able to efficiently and effectively manage the relationship with their business partners along the supply chain. The design office in Portland and the manufacturing plants in both Shanghai and North Carolina worked in close coordination with each other to ensure that the designs developed by the Portland office were technically feasible. The Icebreaker staff at the Wellington head office was always kept in the loop. E-mail, conference call and videoconference technologies facilitated the communication among the parties.

Working Towards a Common Goal

The idea that Jeremy Moon conceived while backpacking on a sheep station grew to become one of the world's finest brands in the outdoor garment industry. More importantly, Icebreaker was able to rally to its founder's vision several partners with unique skills spread across different locations. How was it possible? What was the motivation for coming together and working in a collaborative fashion?

Icebreaker stipulated that its industrial suppliers must demonstrate impeccable business ethics; have an up-to-date and impeccably maintained manufacturing plant with access to the latest technology; respect their staff and provide them with good natural light, clean air and a healthy environment; be part of, or working towards, a global quality management programme (e.g., ISO 9001); and be part of, or working towards, a global environmental management programme (e.g., ISO 14001, Oeko-Tex, etc.). In summary, Icebreaker's business partners had to demonstrate strong social and environmental ethics.

Indeed, finding the right partners required much energy and resources. Icebreaker looked for the best possible partners not only in terms of technology and production capacity but also, and most importantly, in terms of mindset that was akin to the company's "narrow and deep" guiding philosophy. Icebreaker strived to work with just a few, but really committed partners who were not exclusive providers to Icebreaker, but who recognised the rising number of ethical consumers whose needs they could satisfy by joining efforts to offer an attractive product.

A co-dependent relationship was successfully established among the business partners. It was in the business partners' own interest to work collaboratively with Icebreaker in an alliance of mutual benefit. It was here where the "narrow and deep philosophy" bore fruits.

Icebreaker successfully brought the world's best technology, a trained, experienced workforce and a commitment to adopt social and environmental ethical practices. For instance, in September 2009, 25 people from China, Germany, New Zealand and the United States gathered together in Wellington for a supply chain

summit meeting, an ideal forum for exchanging ideas and discussing the next steps.

Transparency

Technical specification, manufacturing know-how and brands were all registered and protected by intellectual property rights; however, Icebreaker went beyond a legalistic and defensive approach. At Icebreaker, they knew that the protection of their intellectual assets relied more on their own capabilities and their continuous innovation rather than on simply creating legal barriers that were necessary but not sufficient to guarantee sustained growth and competitiveness. It was this proactive approach, combined with strong links established with their business partners through the “narrow and deep philosophy,” that allowed Icebreaker to protect their intellectual property in the long-term.

Garments resembling Icebreaker design had been found in the market but they could not be characterised as counterfeit products; they might not even be presented in a court as evidence of forged goods. Hence, it was well and good that Icebreaker was a long way ahead of its imitators. The creative designs as well as the quality of both the raw material and the manufacturing process gave Icebreaker products their unique characteristics which could not be easily reproduced. Furthermore, Icebreaker targeted the ethical consumers who would hardly be engaged in acquiring products of dubious origin. Typical retail prices for original Icebreaker garments ranged between NZ\$39 for women’s bodyfit or NZ\$50 for men’s boxer to NZ\$499 for an outwear jacket.

Icebreaker recognised the power of the Internet and took advantage of this tool to attract the ethical consumer. Since transparency and traceability were the key elements for the organisation, in August 2008 Icebreaker introduced the *Baacode* (*baa* from the bleating sound made by sheep) to make the supply chain transparent. The *Baacode* was a tag attached to Icebreaker garments with a unique code matching each piece of clothing to the batch of merino fibre from which it was produced. Thus, customers were given the opportunity to track the product they bought all the way from its point of origin in the New Zealand sheep stations, to the factories in China, and to the retail shelves in 30 economies by keying in the *Baacode* on Icebreaker’s website. This innovative feature was not only difficult, if not impossible, to duplicate but also drew in the ever-growing ethical customer market.

In addition, Icebreaker products could be purchased online through some retailers’ websites. Icebreaker used the Internet to communicate its philosophy, promote its products, and share its staff’s stories with the general public. The *Holy Sheep!* blog, where latest news, product releases and events related to Icebreaker employees, friends and customers were posted on a regular basis, proved to be an effective means to be in touch with the wider Icebreaker community; indeed, it offered the opportunity to get an insight of what was going on at Icebreaker.

Looking Ahead

The impressive growth Icebreaker had experienced in a relatively short period spanning just over a decade, from a small business to a major player in the international outdoor garment industry, had been a rewarding journey for Jeremy and his team.

Innovation proved to be the key element for this continuous activity of capturing and giving form to free-flowing ideas, which were later realised in well-defined processes and tangible products. One of the latest developments at Icebreaker, SF 140 UL, illustrated this permanent process of intellectual assets creation. The SF 140 UL was a type of clothing that was cool when it was hot and insulated the wearer from the colder weather.

Undoubtedly, it was the permanent search for innovative products and processes that contributed to the growth and development of Icebreaker just as the strength of its name opened doors in the financial system for the company. Ultimately, sound and strong intellectual assets management practices throughout its supply chain had allowed Icebreaker to operate in a fully transparent fashion.

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