One Lone Wolf – Beer of Distinction

Brittany Chomiak had recently been hired as the Supply Chain Coordinator at One Lone Wolf, a craft brewery in Alberta. Her boss, the owner of the brewery, Dennis Reinhardt, had rescued the 12-year old company from bankruptcy just over two and a half years ago and was trying hard to rebuild it. He was a brew master by training, a self-described "lover of all things beer," and he was passionate about developing premium beer with unique taste. However, he realized that he needed help in many of the business areas of the company, and supply chain was one of those. He had brought Chomiak on board to iron out a number of issues in that area. He was impressed by her enthusiasm and was expecting great things from her.

One Lone Wolf Brewery

One Lone Wolf Brewery was, in terms of the brewing industry, a small player. The company's 30 employees produced premium beer in small batches in one manufacturing plant and sold it regionally (mostly in Alberta but more recently in BC and Saskatchewan). The company produced approximately 15,000 hectolitres[1] of beer per year. It produced six types of beer on a year-round basis and five to seven seasonal or limited-run beers per year. The year-round beer lines were popular styles of beer common in the craft beer world (red ale, brown ale, blonde ale, wheat beer, porter and India pale ale). The seasonal beers were often experiments with a wide variety of flavours, including fruit, chocolate, maple, bacon, smoke and unusual spices such as curry.

Reinhardt named the brewery based on his approach to life. He rode a loud Harley motorcycle and wore loud Hawaiian shirts. He brought his dog, an Alaskan Malamute, to the office. He was proud of how he lived his life. In his words, "I do what I want and I don't let the suits get in the way!"

[1] A hectolitre is equivalent to 100 litres.

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From a marketing perspective Reinhardt's brewery was doing well. Reinhardt seemed to have a reasonably keen intuitive sense of the marketplace and the trends in beer. Two of the brewery's beer lines had won gold awards in a recent national craft brewing competition. The year-round beer lines, which contributed roughly 75 per cent of company revenues, were strong sellers and growing. These beers were proving to be quite popular in the ever-increasing craft beer pub retail segment. However, Reinhardt did push the boundaries quite a bit in his limited-run beers, and not all of those lines proved to be so popular (including the peanut butter banana ale, which as Reinhardt said "crashed and burned").

While Reinhardt's life perspective resulted in the creation of some unique types of beer, it did not always translate well to the inner workings of his business. He freely admitted that he did not have a strategy for the company, and that he wasn't really interested in things such as debits, credits, inventory tracking and information technology. "I just try things and see what works. If you're afraid to try, you'll never succeed. In my heart, I'm a beer designer, so I try to hire good people to make the rest of it come together."

One of the "good people" Reinhardt had hired was Brittany Chomiak. Chomiak had graduated from a supply chain management degree program four years previously. After graduation she had worked for an oilfield-manufacturing firm and had rotated through purchasing, warehousing and transportation roles at a junior level. She had recently taken on the job of Supply Chain Coordinator at One Lone Wolf because of the opportunity and challenge it presented to her so early in her career. Reinhardt had selected Chomiak because, as he described it, "she was full of ideas and wanted to make a difference. I thought she would fit well with the team, and she has. A friend of mine recommended Brittany highly." The Supply Chain Coordinator's role was a new one in the company. Supply-chain-related duties had previously been done on an ad hoc basis, but it had become apparent to Reinhardt that the area needed a dedicated approach. Chomiak was excited about the role, but nervous as well. "This is a big step up for me,"

she said. “In some ways I am creating my job as I go. Not many people get to do that! I wouldn’t have taken the job if I didn’t think I could do it. It’s a bit daunting, though.”

The Brewing Industry in Canada

In Canada, beer was the most popular alcoholic beverage with beer consumption doubling that of both wine and spirits. Beer Canada reported that 22 million hectolitres of beer were consumed in 2014, which was approximately 64 litres per capita annually.

Two large international companies, AB Inbev and Molson Coors, dominated the Canadian market with a combined 70 per cent market share. Both of these companies resulted from the mergers and acquisitions that took place as the global industry consolidated over the past 10 years. The life cycle of many of the most popular brands of beer was very long, lasting many years, and had a relatively steady demand profile. The brewery industry was considered a mature industry and competition was very strong.

However, even the large companies had been affected by a growing shift in consumers’ taste. This shift had resulted in some consumers switching from buying larger volumes of lower-priced, mass-market beer to buying lower volumes of higher-priced premium beer that had a more complex taste. This trend had resulted in a 70 per cent increase in the number of breweries in Canada over the past five years. These new brewers were craft and microbrewers, which produced their limited ranges of beer in small batches. The majority of these breweries were in Ontario and Quebec, but they were also found in the other provinces and territories. The demand for craft beer could be very unpredictable. Some were very successful, and others never took off. The craft brewers tended to constantly update their lines, trying to create interesting beers that would catch the attention of beer drinkers.

The brewery industry was capital intensive, since specialized manufacturing systems were used to make the product. On average, raw materials purchases consumed 40 per cent of revenues, while labour typically consumed only about 9 per cent. The industry was highly regulated and heavily taxed. On average, 30 per cent of brewery revenues went to various forms of alcohol-related tax.

In Canada, canned beer was the most popular method of packaging (47 per cent), with bottles a close second (43 per cent) and draught beer (bulk packaged in reusable kegs for bars and restaurants) a distant third (10 per cent). The choice of packaging affected the shelf life of the beer (how long the beer would last before becoming undrinkable). Cans protected the beer the most effectively from light degradation but dark coloured bottles were considered acceptable as well. While beer was not a product that would become unsafe to drink, the taste of beer could change significantly if stored improperly (a cool, dark place was recommended for storage) or if left too long before being consumed. The shelf life of beer was typically up to six months.

The brewing supply chain was not especially complex, but portions of it were quite unique to the industry. The main raw materials were simple: water, barley, hops and yeast (see Appendix 1 for more information about the brewing process). In general, the supply chain had the following flow:

1. Farmers provided the main agricultural inputs
2. Brewers manufactured and packaged the beer
3. Sales agents, acting on behalf of a brewer or multiple brewers, marketed the beer
4. Freight forwarders transported the beer to the wholesaler
5. The wholesaler, which in Canada was most often a provincial government liquor board, controlled the distribution of the beer
6. Licenced liquor retailers, restaurants and bars sold the beer (in many provinces the liquor retailers were owned by the provincial government liquor board)

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In Alberta the wholesaler was the Alberta Gaming and Liquor Commission (AGLC). The AGLC oversaw wholesale operations but outsourced the physical warehouse and distribution to a 3PL. All liquor sold in the province was routed through the AGLC warehouse, except for beer from a few brewers that had licences to warehouse and distribute their own products. In Alberta the retail sales system was completely privatized. Independent businesses could apply for a licence to operate a retail liquor store, although these stores were highly regulated by the AGLC.

The breweries that were licenced to do their own product distribution were required by the AGLC to follow strict protocols. These included, among other things:

- Adhering to all liquor and related tax laws and regulations
- Ensuring that only AGLC approved liquor was kept at the warehouse
- Operating a computer system that would provide information to the AGLC such as daily logs of beginning inventory, shipments, receipts of new inventory, adjustments and ending inventory
- Providing office space for AGLC inspection and auditing staff with complete access to the facility
- Providing adequate physical security
- Tracking the contents of beer kegs (including damaged or spoiled product) and the recovery of empty kegs

The industry as a whole faced a number of challenges related to environmental issues. There was a desire to reduce the amount of water and energy used in the brewing process. There were concerns about pesticides and chemicals used in growing the agricultural inputs. Breweries also had to deal with the waste generated by the process. They were also facing pressure to reduce packaging and to ensure that beer bottles and kegs were reused as long as possible.

The Supply Chain at One Lone Wolf Brewery

The demand for One Lone Wolf's lines of beer was predictable in some cases, and quite variable in others. The year-round beer lines had growing year-over-year sales, however there was seasonal variation during the year. The strongest sales peak was in mid-summer, the second strongest during the winter holiday season and other small spikes occurred during long weekends. The lowest sales trough was in January. The specialty beer lines were produced for short periods and then withdrawn from the market. Not all the specialty lines were popular. This resulted in some unsold product that, at its end of life, had to be disposed of. Reinhardt relied on gut instinct, educated guesses and some spreadsheet calculations to try to predict demand. He had been only marginally successful with this.

One Lone Wolf beer was packaged in a variety of sizes. The company sold most of its product in generic 341 ml amber glass bottles, which were then packaged in boxes of 6 or 12. The company also sold its specialty beer lines in 500 ml single bottles. In the peak seasons One Lone Wolf sold combination packs focused on the season (summer or winter). These would contain some of the brewery's standard beer lines along with summer or winter specialty beer. These were sold in 6- or 12-pack boxes. The company also packaged its beer in kegs for sale in bars and restaurants. Most of these establishments were looking for a steady supply of the standard beer lines. Some of the bars that sold premium craft beer would also order the specialty beer in kegs. Reinhardt chose not to package any beer in cans. He had a great deal of disdain for canned beer. "Good beer just doesn't taste right from a can," he said. "Cans are for the swill the big boys spit out of their plants, not for real beer!"

The company used a combination of new (75 per cent) and recycled (25 per cent) bottles. It had a solid relationship with a supplier of new bottles, Condor Packaging Ltd., and had signed a renewable yearly contract. The recycled bottles came from Alberta's Beverage

Container Management Board, which was responsible for collecting recycled bottles in Alberta.

Reinhardt liked most things about Condor. “They deliver when they say they are going to deliver. The bottles are of good quality. The price is OK. They aren’t terribly flexible, though, and have a long lead-time on orders. Other than that they seem to be quite reasonable to deal with. Their systems run like clockwork.”

One Loan Wolf had its own packaging line, which it had inherited with the other assets of the bankrupt brewery. This allowed the company to apply labels to the bottles and to pack the bottles in industry-standard cardboard boxes. The labels and boxes were pre-printed by a printing company. Reinhardt tried to order at least a six-month supply of both in order to get bulk discounts.

The brewery purchased its agricultural inputs in several different ways. Malted barley was purchased from a single supplier. That company had purchasing contracts with barley farmers across Alberta and Saskatchewan. The arrangement generally worked well, but it was not foolproof. Portions of the prairies were in drought conditions. This meant that the supply of barley for malting was not always adequate. When there was a shortage, the malting company tended to place a higher priority on serving its larger customers, which meant sporadic delivery for One Lone Wolf.

Hops were purchased from independent hops farmers in BC, Washington, Oregon and Idaho where the ideal growing conditions for hops was present. Purchasing from multiple small suppliers helped ensure an adequate supply of hops, but it also meant that the type of hops available at any one time varied. This influenced Reinhardt’s decisions on the types of beer to be brewed. The result of this was sudden shifts in the company’s production plans.

The company did use products from other suppliers, but most of this was purchased through individual Requests for Quotation (RFQ) rather than longer-term contractual relationships. Examples of these were promotional items (ball caps, bottle openers, etc.), equipment for the brewery and the warehouse, office supplies and trucks.

One Loan Wolf was one of the brewers in the province that had a licence from the AGLC to operate its own warehouse and distribution system. Reinhardt decided to go this route in order to have more control over how his product was treated and over delivery timelines. The company operated a small fleet of trucks that delivered to bars, restaurants and liquor stores. The trucks were also used to pick up empty beer kegs from bars and restaurants and to return them to the brewery for cleaning and refilling.

Reinhardt, when asked why his company needed to hire a Supply Chain Coordinator, noted the following as typical issues:

- Stock-out problems were beginning to increase with One Loan Wolf unable to effectively meet its goal of full orders, delivered on time. Customers, most notably bars and restaurants, were beginning to grumble about the company being unreliable. This had begun to negatively affect sales.
- The company was sometimes left with unsold product, especially in the specialty seasonal beer lines.
- The raw materials mix was not always right for the products that Reinhardt was planning to make. This had resulted in either rush orders for materials, with the resulting increase in transportation costs, or else sudden changes in the production cycle.
- Reinhardt admitted to being “a little fickle” in terms of production planning. He was aware that his frequent changes regarding the type of beer that would be produced was causing problems, but he shrugged it off saying, “I’m an artist, and an artist should have creative licence to make what moves him.”
- The in-house delivery system was not running smoothly and the warehouse was not well organized. It was common for the wrong combinations of products to be shipped

to stores and bars. Product tracking was haphazard, sometimes resulting in older beer, with a shortened shelf life, being delivered to merchants.

- The keg recycling system had a few kinks with used kegs not being returned quickly enough. Occasionally this had resulted in no kegs being available for refilling, which caused delays in the delivery of new product to bars and restaurants.
- There were an increasing number of security breaches, with product going missing sometime between production and delivery. This had caught the attention of the AGLC, which was asking for the problem to be solved.

Where to Now?

When Reinhardt brought Chomiak on board he said he would give her quite a bit of latitude about how to do her job, but he had also watched her actions quite closely. Chomiak said, "It feels like he is expecting me to perform miracles. I don't know if I can live up to those expectations." Chomiak had started work by familiarizing herself with all sides of the operation. She had worked on the brewery floor, she had ridden along with the delivery drivers and she had shadowed the marketing staff. As she started to report back to Reinhardt about what she was finding, he had had a self-described "brainwave." He arranged for Chomiak to visit two of his favourite suppliers – Condor Packaging and Torian Precision Machining. He felt they were both very successful and managed their supply chains well. He instructed Chomiak to "go and pick up the best ideas you can, bring them back to us and we'll put them to good use here."

Chomiak had spent a day with each of the suppliers, and had prepared a short report about each company (see Appendix 2 and Appendix 3). "Now the hard part begins," she said. "I'm not convinced that we could transplant either of their approaches fully into One Lone Wolf, but I'm not sure that Dennis wants to hear that. I need to do more thinking about what makes those supply chains work. Then I need to get a really clear sense of what our problems are, and come up with a supply chain strategy that will solve

them. Maybe one of our supplier's supply chain approaches will work and maybe it won't. No matter what I find, I want my first recommendations to be really solid!"

Appendix 1: The Brewing Process

Beer has four main ingredients:

- Barley (or other grain such as wheat)
- Hops, which are the flowers of the hops plant and are used to add flavour and stability to the beer
- Water
- Yeast

Beer is 90 per cent water, so the quality and mineral content of the water affects the taste of the beer. Generally, the ratio of water volume required in brewing to the volume of beer produced was 4:1.

The basic process for making beer was as follows, although variations in the process, including additional steps, could be required to produce certain types of beer:

1. Barley was harvested and then malted, which was a process of heating, drying and cracking the grain. This was done to access the enzymes in the grain.
2. The barley was then steeped in hot water in a manner similar to steeping tea. This activated the enzymes and released the sugars from the grain. The liquid from this process was called wort and the wort became the base ingredient for beer.
3. The wort was boiled. At this stage hops and spices were added to provide specific flavours in the beer. The hops added a bitter flavour, which counterbalanced the sugars in the wort. The combination of hops and spices used could significantly change the flavour of the beer.
4. The wort was then filtered into a fermenting vessel where yeast wass added. During fermenting the yeast consumed the sugars and created the desired byproducts of alcohol and carbon dioxide.
5. After fermentation was completed, the beer was packaged. At that point extra carbonation could be added or the beer could be allowed to continue to carbonate

naturally. Beer could be packaged in cans, bottles or kegs. If bottles were used, the beer would last longer if they were made of dark glass, as the taste of beer was affected by exposure to light.

Appendix 2: Report on Condor Packaging Ltd., Prepared by Brittany Chomiak

People Interviewed

Supply Chain Manager and Production Manager, Edmonton Plant

Lines of Business

Condor is a national packaging product manufacturer with five plants across Canada (Moncton, Quebec City, Mississauga, Edmonton and Vancouver). The company produces glass packaging containers (bottles and jars) and plastic containers for liquids. It uses food grade materials, as the target markets for the company are mainly food and beverage manufacturers. There are many competitors in this market and Condor prides itself on delivering exactly what the customer orders, and delivering it when the customer wants it, at the best price possible.

Products Potentially Relevant to One Lone Wolf

Condor makes industry standard beer bottles in clear, green, amber and cobalt blue glass. Amber is the most common colour of glass. The bottles are available in standard sizes of 330 ml, 341 ml, 500 ml and 600 ml. Condor will design and manufacture custom bottles (with a company logo on the surface of the glass for instance) but the surcharge for this is very expensive (up to $100,000 to create the mould) and large orders are required. The production manager prefers not to do these orders as he feels they are inefficient and slow down the overall production at the plant. Condor also offers a printing service (paper labels or screen printing), which is done just prior to shipment.

Supply Chain Systems

Condor's manufacturing is focused on long runs of product so as to limit the number of setups and changeovers on the production line. The scheduling of different SKUs is done with this in mind, such as running different-sized bottles of the same glass mixture and colour back to back. The production manager's goal is to waste as little time and as few resources as possible and thus to keep costs under control. He indicated that keeping the expensive production lines up and running and always producing bottles is the only way to make money.

The Supply Chain Manager indicated that the key to the company's success is its demand forecasting. All production runs are scheduled based on the forecasts, so the accuracy of the forecasts is critical to the business. Condor gathers demand data from major customers, and this has helped improve forecast accuracy and allowed the company to even out the peaks and valleys that typically occur in trying to match production to demand.

Condor does apply some rules for customers, such as fixed lead times for orders and a minimum order size (usually full truck load) to keep transportation costs low and to be able to commit to delivery dates. It contracts with three to five trucking companies to make sure that customer orders are never delayed by transportation problems.

Suppliers are chosen based on their ability to meet quality and delivery timelines, but lowest total cost of ownership is a key decision criteria when choosing suppliers. A buffer stock of raw materials is always available, either at the plant or available from a supplier, to make sure that the production lines are never starved.

Condor has a significant amount of warehouse capacity available and uses it as a buffer in anticipation of seasonal demand. Top-selling product lines are produced in advance and stored until needed.

Appendix 3: Report on Torian Precision Machining, Prepared by Brittany Chomiak

Person Interviewed

The Owner of Torian Precision Machining

Line of Business

Torian is an industrial metal machining company that specializes in one-off jobs for special purposes. It will make replacement parts or design new parts as required by the customer. The company does high precision work to exacting tolerances, using CNC[2] lathes, mills and multifunction machines. Its customers include manufacturing plants, oil refineries, high-tech scientific companies and university labs that do experimental work and have very unique needs. The company offers engineering design services to support the metal fabrication. It specializes in providing fast turnaround times for emergency work. All the work is done at one location.

Relationship to One Lone Wolf

Torian supplied some specialized fittings for us when we redesigned the brewery. They have also provided replacement fittings for several vessels. The original fittings had suddenly cracked and this caused a halt in production. They fabricated and delivered the required parts with a very short turnaround, and those parts have worked flawlessly.

How Their Shop Works

The owner noted that his business is very unpredictable: "We are here for the emergency. Our clients can be hamstrung by a single broken part that will bring production to a

[2] Computer Numerical Control

standstill. It can mean thousands of dollars lost every hour, so they are willing to pay a premium to get their operation back in business."

He indicated that he markets his company to customers by providing both the fast service and the specialized products that they want.

Typically the company produces very little make-to-stock product. If it does anything like this it will be to prepare common components for future use in some of the more prevalent types of work they do. This shortens the response time when a customer calls. The typical customer order size is between one and 10 units. There is no minimum order size, only what makes economic sense in the customer's eyes (the smaller the order, the larger the price premium).

Torian relies on a pool of suppliers, such as metal suppliers, to be able deliver small quantities with very short lead times. Sometimes these lead times are less than an hour. The suppliers have contractual agreements with Torian. The company also has a warehouse that contains a very wide array of raw materials in small amounts.

The shop is highly flexible; it is not an assembly line at all. When I was there, only about three-quarters of the machines were being used. The owner said that this is just a normal part of his business. If he packed the shop full, his emergency customers would have to wait, and that would kill his business. He did say, though, that he does try to level the workload a little bit by coordinating with major customers to plan work if they know it will happen (during plant shutdowns, for instance). He will also accept orders to manufacture larger runs of product as long as the customer is willing to be put on hold when a rush order arrives.