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GREY MATTER BEER COMPANY: GETTING CRAFTY

Robert Colquhoun wrote this case under the supervision of Julie Gosse solely to provide material for class discussion. The authors do not intend to illustrate either effective or ineffective handling of a managerial situation. The authors may have disguised certain names and other identifying information to protect confidentiality.

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Meag Durkin and Mike Hueftlein had just poured themselves cold beers and sat down to discuss the next steps for their company. Grey Matter Beer Company (Grey Matter) had recently celebrated its second anniversary, and Durkin and Hueftlein were amazed at the craft brewery’s growth since its inception. As this growth showed no signs of stopping, they needed to consider operational changes that would help them meet the rising demand. They were considering purchasing new pilot systems, a new fermentation tank, or a new jacketed serving tank. Which option or options would most likely brew future success?

COMPANY HISTORY

Grey Matter was situated in Kincardine, Ontario, a small town on the shore of Lake Huron. Durkin and Hueftlein had been quick to purchase the downtown retail location, which had previously been occupied by a long-standing clothing store. They spent an intense four months demolishing the old internal structure and another 12 months replacing the utilities and constructing the brewery and taproom. Their overall capital investment was CA$1.6 million,[[1]](#footnote-1) including the cost of the building and equipment.

Grey Matter was the first craft brewery in the market for Kincardine and the neighbouring small towns. Its coveted retail location was the ideal spot for a taproom. While renovating the store, Durkin and Hueftlein had installed a large garage door at the back of the building, which faced Lake Huron and provided a scenic view for customers. Grey Matter was also adjacent to Victoria Park, the location for a wide variety of events, including Kincardine’s Scottish Pipe Band parade, which occurred weekly in the summer. Grey Matter was also a popular place to host special events. Previous events had included paint nights, trivia events, and live music.

Grey Matter had hosted its grand opening on April 26, 2018, and had since developed a devoted customer base. Its customers could be separated into two main segments: tourists and locals. In the summer months, Kincardine was a popular tourist destination, and many travellers were drawn to its beach, cottages, and Scottish culture. While they were in town, tourists often visited Grey Matter to test the local selection of craft beers. While the tourists came and went, locals could always be found in the taproom. Grey Matter focused on developing an inclusive community atmosphere that gave residents of the small town a place to gather, share stories, and play games. Grey Matter beer was only available through the company’s retail location and some local restaurants; it was not sold in Liquor Control Board of Ontario locations.

Durkin and Hueftlein had spent many years learning the art of brewing before they started Grey Matter. The pair met at Niagara College, where they both graduated from the Brewmaster and Brewery Operations Management program in August 2015. Hueftlein spent time working at the Neustadt Springs Brewery in rural Grey County, Ontario, while Durkin worked at Collective Arts Brewing in Hamilton and the Perth Brewery in the Ottawa Valley. After accumulating the knowledge required to run a complex beer production operation, they were ready to start a brewery of their own.

THE BEER

The number of breweries in Ontario had skyrocketed from 130 in 2014 to 350 in 2019,[[2]](#footnote-2) and this represented a shift from 1.2 to 3.0 breweries per capita.[[3]](#footnote-3) In addition to wanting to support their local economies, craft beer consumers were also willing to pay a premium for beer that had more taste, variety, and flavour than the typical lager. Whether the craft beer industry was becoming oversaturated by the hordes of new entrants was yet to be determined.

Grey Matter named its beer varieties using a naming convention that paid homage to historic human endeavours. Its four main beers were always available on tap and in cans: The Checkmate, inspired by classic German lagers, offered a light, refreshing taste. Dawn of Civilization was a wheat beer that combined a sweet, acidic citrus taste with the smoothness of a highly carbonated wheat beer. Age of Industry was a full, rich oatmeal stout with notes of chocolate. Finally, Mission to Mars was a hop-driven pale ale with a dry, citrus finish. Grey Matter closely monitored the inventory levels of these four core beers, as a stock out in any stock-keeping unit would result in disappointed customers and foregone revenues.

In addition to the four staples, Grey Matter had several seasonal offerings, which were sold until the kegs ran dry. These included a dry-hopped sour, a Japanese super dry, an imperial lager, and many more. These offerings tended to be quite popular among both tourists and locals, as both groups enjoyed trying unique styles of beer that they might not have experienced before.

Costs and selling prices

Craft breweries faced a disadvantage when compared to large-scale macrobrewers,[[4]](#footnote-4) who benefited from greater economies of scale. Due to their smaller batch sizes, craft brewers often paid proportionally more for their raw ingredients.

Grey Matter’s beer sales were split between cans and glasses sold in the taproom, which each represented 50 per cent of total sales volume. Beer was priced at $5 for a 12-ounce glass[[5]](#footnote-5) in the taproom. For each glass sold, variable costs, including the direct labour, raw materials, and taxes, amounted to 55 per cent of this selling price. A typical 473-millilitre (ml) can of beer sold for $2.95. The variable costs amounted to 70 per cent of this selling price due to additional costs for the can and label, and the required environmental tax.

DEMAND

Grey Matter kept records of historical beer sales (see Exhibit 1). Demand varied widely throughout the calendar year, mainly due to the arrival of tourists in the summer. Grey Matter did its best to avoid stockpiling to maintain the freshness that customers expected from craft beer. Durkin and Hueftlein noticed that their base of devoted locals was growing, and more tourists were making Grey Matter a must-see location in Kincardine. Their business was still young, and the revenues were not yet plateauing. As a result, they predicted that next year’s demand would grow by 30 per cent.

PRODUCTION PROCESS

Customers who visited Grey Matter were often welcomed by the fragrant aromas of barley and yeast, as the different types of beer were being continuously brewed in anticipation of future demand. The brewers took advantage of tools such as Gantt charts to schedule their activities and continued beer production 24 hours a day, year-round.[[6]](#footnote-6)

Milling

The brewing process began with the milling phase, during which different types of malted barley, or “malt,” were crushed to extract fermentable sugars. While the amount and type of malt varied depending on the type of beer and the desired alcohol by volume, the average batch required 350 kilograms (kg) of malt and took 30 minutes. Roughly 1 kg of malt was required for each five litres (L) of beer produced.

Mashing

The milled grains were next transported to a beer mash tank. While the mash tank had a larger theoretical capacity, runs of 1,800 L were determined to be the most efficient for Grey Matter. In the stainless-steel tank, the malt was combined with hot water in order to break down the starch from the malt into sugars. A typical batch remained in the mash tank for 60 minutes. The spent grain was removed, and the remaining liquid was transferred to the boil kettle. After each batch passed through the mash tank, two hours of cleanup were required before the next batch could start.

Boiling

Boiling destroyed any unwanted enzymes and sterilized the liquid, now called “wort.” The boiling kettle processed runs of 1,900 L of wort on average. Depending on the type of beer, hops or other flavouring ingredients could be added at the boiling stage. Hops, the dried flower of the hop vine, added the characteristic bitter taste typical of stronger beers. The boiling phase lasted 80 minutes, but it required an additional 100 minutes for transfer and cleaning.

Fermentation

Next, the beer was cooled to prepare it for fermentation. Grey Matter had five 4,000 L fermentation tanks that could be used simultaneously to ferment beer. The beer required some headspace, or extra room within these tanks, which resulted in an effective 87.5 per cent operating capacity. At the fermentation step, yeast was added to convert the sugary wort into beer by producing alcohol. The amount of time required for fermentation varied depending on the intended alcohol by volume (ABV), but the average across the different beers was 30 days.

Filtration and Carbonation

After the desired ABV was reached, the beer was filtered to remove any extra hop particles, yeast residue, or pieces of flavouring agents such as fruit. The filtration system could process a 3,500 L batch in three hours. Each batch of filtered beer was then carbonated, using carbon dioxide, in a brite tank for two days. After carbonation was complete, the beer was ready for consumption.

Filling

Finally, the beer needed to be poured into kegs for the taproom and cans for individual sale. The cans were mostly filled by hand—a time-consuming process. If an entire batch was to go into cans, filling 7,400 cans, each containing 473 ml of beer, required 11.5 hours of work. If the beer went only into kegs, 70 of the 50 L kegs could be filled in 2.5 hours. Since sales were split, approximately 50 per cent of each batch went into kegs, and the other half went into cans.

Refrigeration

Once the cans and kegs had been filled, the beer required refrigeration. Grey Matter housed a large walk-in refrigeration system. In the summer months, it had up to eight beers on tap, and cans were constantly cycled out of the refrigerator to be sold. When kegs emptied and cans were sold, they were replenished with beer from new batches. The refrigerator could hold the equivalent of 180 50 L kegs and 792 24-can cases per month.

OPTIONS

Pilot System

Durkin and Hueftlein had noticed the success of their seasonal beers, and they were looking for a way to offer more limited-time varieties. Purchasing a pilot system would allow them to brew more eccentric types of beer. A pilot system was a smaller-scale version of the larger brewing system that would produce limited volumes of “pilot” beers. This system would run independently and would not affect the capacity of the main process. If they pursued this option, Durkin and Hueftlein would launch a program called Grey Matter Labs, which would release one new pilot beer per week from November to March. Their hope was that the new, limited-time brews would encourage locals to continue to visit Grey Matter during the cold winter months. The system would also allow them to explore unique combinations of barley, hops, and yeast.

The pilot system would mirror the original process and would include separate fermentation tanks, to allow for simultaneous brewing. This would allow Grey Matter to have a new variety of beer ready each week. Each run of the pilot system would produce an average of 40 L of beer, which would only be sold in the taproom. The new pilot system would have an upfront cost of $10,000. Durkin and Hueftlein were planning to purchase the system from a supplier they had not worked with before but who had good reviews. Since Grey Matter would only use the system for a few months each year, they hoped it would last over 10 years.

The expanded production would increase the company’s utilities cost by an estimated $80 per month. Brewing the additional beers would be a time-consuming process and would increase direct labour costs. Further, the pilot beers would include unique ingredients such as chocolate or fruits, which would increase the variable costs to 70 per cent of the beer’s selling price. If successful, these pilot beers could one day become seasonal offerings. While this option would grant Grey Matter the freedom to experiment with new and interesting flavours, it was difficult to project the potential demand for a particular beer. Durkin and Hueftlein hoped that the smaller batches would sell out quickly each week. However, if a particular beer was not favoured in the taproom, this could result in a waste of money, ingredients, and time.

Additional Fermentation Tank

Another option was to purchase an additional fermentation tank. Durkin and Hueftlein were happy with the tanks they had been using and could buy another for $14,250. Before doing so, they needed to know whether this option was financially feasible. One large complication immediately arose around the installation of the tank. The owners had originally had one of the walls of Grey Matter taken down to install the large tanks, and that wall had since been rebuilt; installing a new tank would require further demolition. Durkin and Hueftlein estimated that shipping and configuration of the new tank would cost an additional $6,000. The additional burden on the utilities and systems would cost an extra $250 per month.

Refrigeration Expansion

During the summer months, Durkin and Hueftlein had noticed that the refrigerator was getting quite cramped with beer. On busy summer nights, the bartender often had to stop serving customers in order to run downstairs to replace the empty kegs that supplied the taproom. Further, a shortage of kegs meant that, if growth continued, the company might not be able to keep enough beer cold to supply its many thirsty customers. Durkin and Hueftlein were considering purchasing a jacketed serving tank that would directly feed the draft system in the taproom. If it were installed at the same time as the fermentation tank, the jacketed tank would be able to fit through the same space.

After some research, Durkin and Hueftlein decided that, if they pursued this option, they would have space for one jacketed tank at a cost of $8,000, including installation. By freeing space in the walk-in refrigerator, the tank would increase the refrigeration system’s monthly capacity by 1,000 L of beer. This system would also increase the use of electricity and demand on the glycol chiller, increasing utilities expenses by $2,000 per year.

THE DECISION

Durkin and Hueftlein were thrilled by the success of their company and by the ability of their craft beer to bring people together. They had reached a point where they needed to make a choice to help them capitalize on the anticipated growth. Was the pilot system too ambitious at this time? Would the fermentation tank be worth the cost? Would the refrigerator expansion offer any benefit?

They knew that they needed to make a decision soon, as integrating their chosen option or options would take some time. Durkin and Hueftlein had a difficult decision ahead of themselves. They sat back and repeated one of their unofficial company mottoes: “When you’re drinking, you’re thinking.”

EXHIBIT 1: Grey Matter Beer Company—HISTORICAL SALES DEMAND BY MONTH

| **Month** | **Demand (L)** |
| --- | --- |
| January | 5,500 |
| February | 5,500 |
| March | 5,500 |
| April | 5,500 |
| May | 14,000 |
| June | 14,000 |
| July | 14,000 |
| August | 14,000 |
| September | 5,500 |
| October | 5,500 |
| November | 5,500 |
| December | 5,500 |

Note: L = litre.

Source: Company files.

1. All dollar amounts are in Canadian dollars. [↑](#footnote-ref-1)
2. “2020 Industry Trends,” Beer Canada, accessed June 9, 2020, https://industry.beercanada.com/statistics. [↑](#footnote-ref-2)
3. Ibid; Per capita was defined as per every 100,000 legal drinking age adults. [↑](#footnote-ref-3)
4. Macrobrewers were large-scale beer producers that distributed over six million barrels of beer annually. [↑](#footnote-ref-4)
5. 1 ounce = 29.57 millilitres. [↑](#footnote-ref-5)
6. The brewers used 30 working days as an average when calculating monthly production time. [↑](#footnote-ref-6)