



Brewers Association
Cost of Goods
Sold Manual

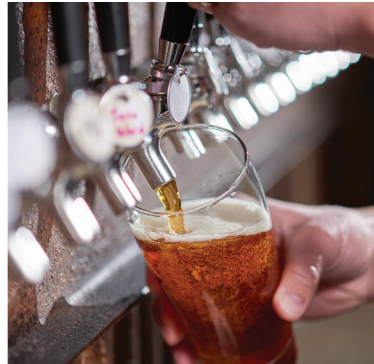


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Best Practice

Look for highlighted text throughout the manual that indicates a best practice when working with cost of goods sold.

acknowledgments

The project began with a survey of craft breweries to learn about how Cost of Goods Sold is currently understood and how COGS are being applied in day-to-day business. You'll find many of the results of that survey in Appendix B. Thank you to the following breweries that offered their insight by answering the survey.

| | | | | |
|-------------------------------------|--|---|--|---|
| 3rd Wave Brewing Co. 903 Brewers | CRUX Fermentation Project Denver Beer Company Deschutes Brewery DESTIHL Brewery | Great Divide Brewing Company Hell 'n Blazes Brewing Company Hi-Fi Brewing Co. Hidden Cove Brewery Highland Brewing Company Hop Secret Brewing Co. Hops & Grain Brewing Horny Toad Brewing Company Horse & Dragon Brewing Company | Midnight Sun Brewing Co. Modern Times Beer Monhegan Brewing Company Mother's Brewing Co. Moustache Brewing Co. Naked Dove Brewing Natty Greene's New Holland Brewing Company Ninkasi Brewing NW Peaks Brewery O'Fallon Brewery Odin Brewing Okoboji Brewing Company Old Bust Head Brewing Co Old Forge Brewing Company Old Ox Brewery Orlando Brewing Partners, Inc. Pagosa Brewing & Grill Palmetta Brewing Co Paredolia Brewing Co Peace Tree Brewing Company Peddler Brewing Co Periodic Brewing Pigeon Hill Brewing Co Pike Brewing Company Portneuf Brewing LLC Renegade Brewing Company Rising Tide Brewing Co River's Edge Brewing Company Russian River Brewing Saint Arnold Brewing Company Salem Ale Works Santa Clara Valley Brewing Scuttlebutt Brewing Co Service Brewing Company Seventh Son Brewing Sick N Twisted Brewing Co | Sky High Brewing Skyland Ale Works Smuttynose Brewing Company Societe Brewing Company Standing Stone Brewing Starr Hill Brewery Steuben Brewing Company Stillmank Brewery Company Stone Brewing Stover Creek Farms Brewery Summit Brewing Company Surtly Brewing Company Susquehanna Brewing Co. Swamp Head Brewery Telluride Brewing Co. Ten Ninety Brewing Co The Commons Brewery The Freehouse The Rare Barrel The Saint Louis Brewery The Virginia Beer Company Three Heads Brewing Co. Tomfoolery Brewing Town in City Brewing Company Tradesman Brewing Co., Inc. Triplehorn Brewing Co Triton Brewing Company Upslope Brewing Urban Growler Brewing Company Wallace Brewing Company West Sixth Brewing Weyerbacher Brewing Co., Inc. Wildcard Brewing Co Wit's End Brewing Company Wonderland Brewing Company Woodstock Inn Brewery |
|-------------------------------------|--|---|--|---|

Once the survey was complete, project authors EKS&H talked directly with people at select breweries to gain further understanding of the issues surrounding Cost of Goods Sold within their businesses. Thank you to the following individuals for contributing their time and insight.

| | |
|---|---|
| Lynne Blesener, Bristol Brewing | Kelly McElroy, Flying Dog Brewery |
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| Van Havig, Gigantic Brewing Company | Penny Pink, Portneuf Brewing LLC |
| Kelly Larson, Summit Brewing Company | Matt Pope, Russian River Brewing |
| Mary Lehner, Great Divide Brewing Company | Liza Van Cauwenberghe, Highland Brewing Company |

introduction



The purpose of this guide is to introduce common accounting terms and methods to brewery and brewpub operators for the accounting of cost of goods sold (COGS) in accordance with generally accepted accounting principles (GAAP)¹. It provides a common framework for non-technical and technical accountants as well as owners, brewers, and managers to use in developing internal costing systems. This guide will help organizations think about the costs and systems they have in place so they can then make decisions about how to account for them.

The guide starts with basic concepts and systems and progressively addresses more technical concepts and complex systems. The guide is intended to educate all breweries, from a newly started taproom brewery or brewpub to a larger, more established brewery. Given this broad scope, the guide will not address every circumstance. At the same time, it will provide a basic understanding of GAAP, allowing readers to apply the concepts to new items within their financial statements.

Accounting for COGS requires judgment and flexibility.

This manual is not intended to make every set of brewery financial statements look identical; rather, it is a tool to help readers develop a more consistent classification of costs. More consistent classification across the industry enables valuable benchmarking and better decision-making data.



The Brewers Association Finance Committee developed this manual for the benefit of brewery members of the association. The Brewers Association staff hired EKS&H LLLP to develop the manual draft. The authors would like to thank the Finance Committee of the Brewers Association for the opportunity to assist in providing this guide to the brewing industry. We are honored to work alongside the Committee and appreciate their cooperation and guidance in initiating the work that went into this accounting manual.

¹ Generally accepted accounting principles (GAAP) are a framework of accounting principles. In this case, references to GAAP refer to the accounting principles used in the United States of America.


section one

COGS Overview



COGS is defined by GAAP as “the sum of the applicable expenditures and charges directly or indirectly incurred in bringing an article to its existing condition and location. It is understood to mean acquisition and production cost, and its determination involves many considerations.” For brewers, COGS can be considered the cost of beer to the manufacturer that is sold to distributors and customers. New brewery owners often ask why using GAAP is considered common practice. GAAP is the fundamental backbone of this manual because, in the U.S., it is the standard for prepared financial statements in business (see APPENDIX A). These costs are “matched” to a sale of beer based on the beer that is sold; costs are moved from inventory on the balance sheet to the COGS section of the income statement, thus recognizing the cost of the inventory that was sold and resulting in a gross profit margin on beer sold. The definition of inventory costs explicitly states that “determination involves many considerations².” These considerations include actual raw materials as well as other input costs and allocations of overhead costs directly related to the production of the inventory such as labor, benefits, depreciation on production equipment, facility costs, and other shared costs of business operation that support production. Cost for inventory purposes may be determined using one of several methods to best match the production processes, such as first-in first-out (FIFO), average, and last-in first-out (LIFO). FIFO and average costing are the most common methods used in a brewing or manufacturing environment, especially since certain ingredients are perishable and the oldest materials are used in production before the newest materials. Major classifications of costs accounted for under COGS are as follows:

Material costs


Accounting for materials is straightforward in that  the cost equals the price paid to acquire the materials, including tax and freight. Materials to enter in the COGS section include ingredient costs and packaging materials.



Additionally, significant indirect costs of storing raw materials could be included. This likely depends on how long raw materials are stored before they are used in production. These costs correlate to the raw materials account on the balance sheet upon incurrence. When these ingredients are taken from raw material storage and put into production, costs are moved from the raw material inventory account to the work in progress inventory account.



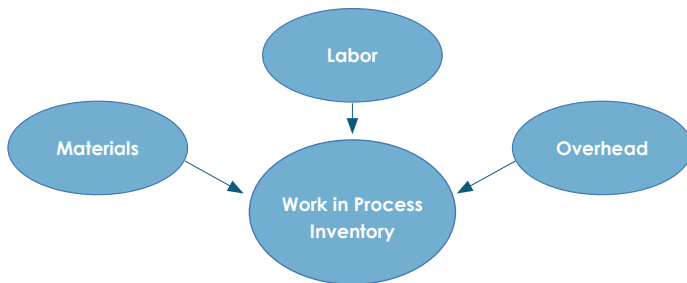
Labor

Labor costs fall under the production cost classification in that they are necessary to turn the materials into the finished product.  Salaries and wages of those employees involved in brewing, production, packaging, and often maintaining production facilities are included in COGS. Likewise, the costs related to these employees should be included, such as benefits and payroll taxes.

² Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 330-10-30-1

Overhead

Overhead costs are related to the production process and are difficult to identify with one individual unit of production. Costs most often identified as overhead are associated with running the production facility(ies) such as rent, depreciation/amortization of production equipment, electricity, water, insurance, property taxes, and cleaning supplies for production equipment. Scrap, beer loss, or other disposed product also fall under this classification.



- Overhead costs often come in the form of costs billed for the whole company and not just for the brewery operations, especially when a brewery has one facility that houses administrative offices, brewery production, and/or a kitchen and restaurant. While the brewery may receive one bill, these costs could be split between departments. For example, a brewery could have three rent expense accounts, broken out into production, office, and taproom. The expense for each department will be based on the estimated use of that expense. The following examples describe expenses that are commonly split between departments:
 - Rent for production areas. Rent expense can be split by square feet occupied by production, taproom, and administration.
 - Depreciation/amortization related to production will be expensed to COGS. Depreciation/amortization on production equipment should be calculated or tracked separately from administrative or other equipment.
 - Electricity and other utilities could be split based on estimated usage or through utility studies. Many states offer additional tax credits for manufacturing activities; in order to grant the credits, the state requires a utility study in which a third party performs tests to determine the average usage by manufacturing activities.



When determining which costs to break out between COGS and general administrative, breweries should evaluate costs and focus efforts on those that are most significant or reflect the largest difference between departments. For example: an expense of \$50,000 with 2% recorded to COGS would have a smaller financial impact than an expense of \$10,000 with 50% recorded to COGS.

Rent - \$50,000 total



■ G&A - \$49,000 (98%)
 ■ COGS - \$1,000 (2%)

Utilities - \$10,000 total




■ G&A - \$5,000 (50%)
 ■ COGS - \$5,000 (50%)

- In the area of overhead, breweries will need to exercise judgment and use estimates. Breweries may choose to utilize other brewery contacts and/or a CPA with manufacturing experience to discuss the best approach for the situation. An outside entity can offer an unbiased perspective on missed costs or alternative ways to split the costs. The process of applying overhead costs should evolve over time as operations become more complex.
- The preparer must also consider overhead costs when preparing the tax return for the brewery under IRS Code Section 263A, which is required for all manufacturing companies with limited exclusions. Often a tax preparer makes a calculation for 263A purposes and adjusts the tax return; however, this adjustment is not included on the company's internal financial statements. Section 263A calculations can include more costs than a typical GAAP overhead calculation. If a brewery has not analyzed overhead costs for GAAP, the 263A calculation is a great place to begin. If a 263A calculation has not been completed, the tax return preparer can explain why it was not required.

Excise Taxes

Excise taxes are incurred on beer that has been produced. Therefore, most breweries include excise taxes within COGS.

- When a CPA issues a report on compiled, reviewed, or audited financial statements, the IRS requires excise taxes to be identified and disclosed. Publicly traded breweries have established the practice of disclosing excise taxes as an item-reducing revenue, and a subtotal for net revenue.  GAAP requires the disclosure of government-assessed taxes on revenue-producing transactions (i.e., production of beer) if the amount of the tax is significant. Therefore, if excise taxes are included in COGS on CPA-issued financial statements, the amount of excise taxes will be disclosed in the financial statements.



The chart at right outlines expenses that are commonly considered COGS. Expenses may be identified in different situations that would not be considered COGS; breweries should use judgment in setting up their own classification.

| | Classify as COGs? |
|---|-------------------|
| Materials (includes freight in and related taxes) | |
| Malt, hops, bottles, cans, carriers, boxes, labels, crowns, yeast, brewing salts, processing aids, spices, adjuncts, keg caps, etc. | Yes |
| Labor | |
| Wages/salaries/bonus/profit sharing | |
| • Head brewer | Yes |
| • Other brewers | Yes |
| • Production | Yes |
| • Packaging | Yes |
| • Maintenance/engineering | Yes |
| • Warehouse | Yes |
| • Director of operations | Yes |
| • Lab and QC | Yes |
| • Sales/marketing | No |
| • IT/HR/operations | No |
| • Taproom | No |
| • Marketing and sales | No |
| • Administrative | No * |
| • Officer | No * |
| Benefits (in line with COGS labor above) | |
| • 401 (k), ESOP, IRA contributions | Yes |
| • Health insurance | Yes |
| • Payroll taxes | Yes |
| • Overtime | Yes |
| • Workers compensation | Yes |
| • Training/education • production | Yes |
| Overhead (See Additional Call Out Document for "Cost Allocation Methodology") | |
| Rent and utilities | Yes |
| Excise taxes | Yes |
| Insurance - production related | Yes |
| Bad beer/disposed beer | Yes |
| Vendor returns/refunds | Yes |
| Taxes related to manufacturing (use tax, etc) | Yes |
| Indirect labor | Yes |
| Depreciation on production facilities/equipment | Yes |
| Technology related costs • production | Yes |
| Memberships/subscriptions | Yes |
| Consumables, service, and parts | Yes |
| Brewing and facility supplies | Yes |
| Production facilities repairs & maintenance | Yes |
| Test batch beer costs | Yes |
| Pallets | Yes |
| Process improvements | Yes |
| Depreciation on administrative facilities/equipment | No |

* Portions could be classified as COGS depending on how much time/effort is spent supporting the COGS activities versus non-COGS activities such as marketing/sales and administrative.

section two

Considerations and Best Practices for Breweries of All Sizes



Within the brewing industry, best practices in accounting for COGS will generally follow GAAP. The largest brewpubs and breweries generally adhere to GAAP as a matter of necessity for their financial statements, due to external reporting requirements. Best practice accounting for COGS for smaller breweries may be modified as needed to accommodate resource and budget constraints as well as any system limitations.

Costing systems will vary, though they should consider the same costs as part of the process as noted in the previous chart. A best practice process for setting up a COGS system for all sizes of brewpubs and breweries includes the following steps:

1. *Identify the personnel—internal and, if needed, external—who will be able to account for COGS in accordance with GAAP.*
2. *Understand the reporting requirements of the investor group, board of directors/board of advisors, management, and lender(s).*
3. *Set up the general ledger to track costs in the proper categories.*
4. *Set up internal reporting to appropriately report COGS in accordance with GAAP and develop a process and rationale for costs to be split between departments.*
5. *Set up detailed costing recipes or “bill of materials” for different beers.*
 - a. *Periodically update these items with current costs.*
 - b. *Review costs with brewers and production and packaging personnel to ensure that costs accurately reflect the efforts to make and package the beer.*
6. *Accurately perform physical inventory observations for all inventory on the specified reporting period.*
 - a. *Breweries can perform this step most effectively when there are no production activities, because the risk of errors from inventory movement is reduced.*

- b. *Include multiple people to allow for supervision and verification of counts to reduce errors. Involve multiple departments such as accounting, production, and packaging to improve accuracy and culture as all departments take responsibility.*
 - c. *Implement well-defined procedures that are documented and communicated with the count team to ensure consistency and accuracy from count to count.*
 - d. *Assign one person or department with the ultimate responsibility of reconciling differences and determining when the physical inventory count procedures are completed and production activities can resume.*
7. *Regularly analyze the costs, systems, and procedures of brewpub/brewery activities to ensure the current system continues to accurately reflect the cost of activities.*

A best practice for any brewery or brewpub with onsite retail operations is to implement a POS system. The more complicated the retail sales are—particularly when cash sales are involved—the more important it is to have a POS system. Such a system provides the following advantages:

- Ability to track sales of specific inventory items, which helps in sales and inventory analysis
- Ability to track payment types (i.e., cash vs. credit) and analyze credit policies
- Ability to reconcile payment types and provide better information for the accountant/bookkeeper to properly record transaction activity

In particular, working with a POS system reduces the risk of theft from within the retail operation. Cash is one of the most accessible areas for employee theft in a small business. Because the POS system tracks the amount of cash collected in the taproom, reports can verify that the correct amount of cash is deposited into the bank.

Due to their expense, POS systems were once largely only found in restaurant operations. However, technology advances have made simple POS and credit card processing affordable for small operations. Breweries and brewpubs should take the time to research the best POS system for their operation.

Brewpubs/Multiple Brewpubs Under 5,000 Barrels of Production

Brewpub operations can vary greatly and the combination of a service-based industry (restaurant) and manufacturing-based industry (brewery) adds complexity. Food sales most often account for the majority of a brewpub's business, so brewpubs commonly use accounting guidance from the National Restaurant Association. This restaurant guidance is specific to helping management operate within a service industry.

Breaking out the brewery segment of operations provides additional opportunities for brewpubs to understand and improve their operations:

- Segregating costs between brewery and restaurant operations leads to more streamlined and straightforward analysis of the business.
- Reporting tends to be simpler for brewpubs that do not sell beer outside of their establishment.
- Brewpubs with packaged beer sales—either through the brewpub where allowed, or through distribution—could segregate brewery operations in the brewpub versus packaged beer operations to allow for analysis on each business activity.
- Transferring beer from the brewery operations to the brewpub at a wholesale cost allows brewpubs to analyze bar costs on an apples-to-apples basis compared to the costs involved for buying another brewery's beer through a distributor.

To begin, the brewpub should identify the costs of brewery operations and segregate those from the costs of restaurant operations. The brewery segment financial statement will differ from the restaurant segment:

- Brewery COGS accounting should follow the guidelines outlined in the COGS Overview section.
- Because the brewery is often attached to or included in the same building as the restaurant, a brewpub may need to split more costs between departments than a production brewery will. Again, brewpubs should focus on the largest costs first. Especially for small brewpubs, the goal is to keep the system simple for accounting personnel.

If the brewery segment sells beer offsite through distribution, it will incur selling costs that should be segregated from restaurant costs. General and administrative expenses can be accounted for as one large expense category for the entire brewpub, or the brewpub can split expenses between

the different departments such as restaurant, brewery within brewpub, external brewery production for brewpub locations, or offsite distribution.

Brewpubs with multiple locations should consider tracking brewery COGS by location to help identify areas for improvement. The benefit of segregating brewery operations within a brewpub is to be able to determine profitability of the operations to help identify efficiencies or inefficiencies. If managed effectively, brewery operations can be the most profitable component of the combined business. Effective management is nearly impossible without both financial and non-financial metrics.

Breweries should address draught losses based on the considerations outlined in the Taproom/Tasting Room Activities section.

Production Microbrewery With 0–1,000 Barrels of Production

Small microbreweries are generally startups in their first couple of years of operation. Their primary focus is on producing quality beer to satisfy taproom demand. The owners are usually involved in all aspects of the business to some degree, but often lack an accounting background. The accounting function is frequently outsourced to a bookkeeper.

Smaller microbreweries often have less rigorous reporting requirements than larger breweries, leading them to implement shortcuts to manage costs without going through the processes that accounting for COGS typically involve. Despite the requirements, microbreweries are best served by following the basic COGS processes outlined in the COGS Overview section. By capturing costs at the various stages of production and accurately tracking them in the accounting system, owners can gain valuable insight into efficiency opportunities within their current cost structure.

- The owner's focus should be on cash balances and cash flow to satisfy operating liabilities.
- The bookkeeper should have a background in manufacturing and be able to properly assign accounts to appropriate GAAP categories.
- The owner will be most effective in working with internal accounting or the bookkeeper to understand production costs.
 - Depending on growth plans or trajectory, the owner should have an understanding of what that growth means to the cost structure of the brewery.

- Owners should decide who is responsible for understanding costs and making purchasing decisions (owner or assigned staff).
- Draught losses should be addressed based on the considerations outlined in the Taproom/Tasting Room Activities section.

For small microbreweries, owners should focus on being able to read and understand financial statements, at least to the extent that they gain a general ability to navigate and draw high-level conclusions. Recommended resources for this include:

- Local entrepreneurial or startup support entities
- A CPA with experience in brewing or manufacturing
- Local business school classes

Production Microbrewery With 1,000–15,000 Barrels of Production

This category includes breweries that have been in business for a couple of years to those that have been in business for over a decade. In this range, breweries benefit from developing distribution strategies and making equipment adjustments to accommodate higher output.

The accounting function can still be completed by an outsourced bookkeeper; however, at least one accounting clerk should be available on staff to assist with data entry. Larger breweries have either a very technical bookkeeper or a contract controller. Brewery teams can benefit from hiring a strong technical accounting manager or controller.

Ideally, the owner/management will have a solid grasp on the cost structure of the brewery. The owner/management will still focus on cash balances and cash flow, as this is most often the production level in which breweries begin to distribute beer. Distribution changes both the revenue stream and the expense level of the brewery. With additional production costs, the cost of the beer increases. Breweries should take into account additional fixed asset acquisitions for production by classifying the depreciation expense as COGS. Actions to consider before entering the distribution channel include:

- Having a complete understanding of the full cost of the beer before entering distribution channels.
- Consulting multiple distributors and/or distribution consultants on pricing strategies to determine what is best for the operation. Each brewery must make its own unique decision.
- Understanding the costs involved in different packaging types such as kegs, bottles, cans, four-packs, six-packs, 12-packs, cases, and 750 ml.



- Labor and overhead assigned to each packaging type will be unique based on the activities involved in getting the beer from fermentation through final packaging.
- Labor and overhead costs can influence distribution decisions.
- Assuming that increased production decreases beer costs is a common mistake. Breweries often use this theory to justify moving into distribution. While this assumption is often true, a financial model can be used to calculate the improvement in cost before making decisions that will impact revenue. Breweries may consult with fellow brewers or a trusted financial advisor to determine if the model takes all potential cost increases into account.
- Draught losses should be addressed based on the considerations outlined in the Taproom/Tasting Room Activities section.

Breweries in this category typically consider switching to an accounting system with more capabilities, including enterprise resource planning (ERP). Generally speaking,

before switching or adding systems, breweries should conduct an internal study to make the most cost-effective decision. Considerations for this include:

- An ERP system would require all departments to use the same system, so brewery and brewpub operators should ensure that all departments agree upon the chosen system.
- Before making a decision, breweries can work with a trusted advisor for guidance. An advisor familiar with multiple system selection processes and implementations can help brewery and brewpub operators avoid common mistakes. Software vendors may understate potential difficulties in implementing their product while an independent advisor can provide valuable advice and support.

Production Regional Brewery With 15,000–50,000 Barrels of Production

Operators of smaller regional breweries generally fill out distribution by going deeper locally, and expanding farther from their home market into new states and/or international markets. A technical controller or high-level CFO and a strong accounting manager are usually on staff. Best practices

noted in the smaller brewery category are completed on a more regular basis, and management reviews the financial metrics of the brewery monthly.

The accounting department usually has a solid costing system in place and regularly reviews it to catch operational or costing changes. The accounting department generally manages cash balances and cash flow. Breweries usually implement budgeting by department at this level of production. If they haven't already, breweries of this size should consider implementing GAAP basis accounting for internal accounting purposes as well as owning the process that drives that need (e.g., potential investors, bank compliance). Accounting should work with production to determine capital expenditures that could improve brewing efficiency. Accounting should also monitor profitability on a monthly basis. If brewery or brewpub operators note significant profitability fluctuations, the accounting department should work with production to identify the cause.

Because costing systems are more complex, accountings should provide regular product cost reporting to management and the sales department to enable informed pricing decisions. Ideally, the brewery should develop a five-year financial model to estimate the required future revenue growth from a capital expenditure and labor cost structure standpoint. The financial model should include modeling out product costs.

Draught losses should be addressed based on the considerations outlined in the Taproom/Tasting Room Activities section.



Production Regional Brewery With Over 50,000 Barrels of Production

Larger regional breweries typically have a presence in at least several states and may distribute to all 50 states and beyond. The accounting department should have a strong voice in the leadership of management and the company.

Breweries in this category typically have both a strong CFO and controller, as well as a sizeable supporting accounting department. Generally speaking, breweries of this size account for COGS based on GAAP, as a vast majority of them receive GAAP financial statements from a third party. Best practices noted in the smaller brewery category are completed on a more regular basis, and management reviews the financial metrics of the brewery monthly.

The accounting department or group for these breweries usually has a solid costing system in place and regularly reviews it to catch operational or costing changes. Accounting adds value by monitoring profitability on a monthly basis. If significant profitability fluctuations are noted, the accounting department will work with production to identify the cause.

Production should calculate return on investment (ROI) for all capital expenditure requests. Breweries at this level of beer production usually actively manage cash balances and cash flow. Budgeting by department is common and a key metric used to manage the company. The accounting department typically looks ahead to project financial results to enable better strategic planning. The brewery should have a rolling five-year financial model to estimate required future revenue growth from a capital expenditure and labor cost structure standpoint. The financial model is most effective when it models out product costs.

Draught losses should be addressed based on the considerations outlined in the Taproom/Tasting Room Activities section.

Taproom/Tasting Room Activities

Breweries should account for taproom/tasting room activities as an entity categorized as a department within the Selling expenses category of the income statement. Taproom expenses are not COGS and should not be classified in that category of the income statement.

General considerations:

- Transferring inventory to taproom/tasting room: Beer should be transferred from the brewery to the taproom with an associated cost, allowing margins to be calculated on taproom sales. Taproom inventory should be counted when the brewery/brewpub does a physical inventory.
- Draught losses: Draught losses should be assigned to the taproom department rather than included in COGS, as draught losses occur in the taproom, not in the production or storage of beer. Draught losses arise from three areas:

- Foaming issues associated with the product or draught system
- Pouring techniques of taproom staff
- Improper accounting of product by bar staff (not charging or ringing in beers): In order to properly account for draught losses, beer must be transferred from the brewery to the taproom so that the taproom tracks beginning inventory, consumed inventory, and ending inventory. Draught losses should be reflective of this cost to the taproom when they occur. The losses should follow the department carrying the inventory, whether the taproom or the brewery. Brewery losses impact gross margin on the brewery side of the business while draught losses should be accounted for by the taproom to reflect true taproom gross margin.
- Employee taproom draught beer: As with draught losses, brewery or brewpub breweries should track and account for draught beer poured, free of charge, for employees in the taproom. Tracking employee beers will help isolate draught losses. POS systems can account for employee beers. For accurate results, all transactions should be entered into the system regardless of whether or not the beer is sold. Under GAAP, revenue would not be recorded for employee beers if complimentary.

Breweries with Only Taproom Sales - Taproom sales often start out as the main source of revenue for a brewery and drive profit throughout its life. Brewery operators should treat their taproom as a profit driver and work to streamline operations to maintain profit margins.

- Set up sales and selling expenses in their own categories separate from COGS. Taproom beer revenue is used strictly for sales through the taproom. Set up additional revenue accounts as appropriate for merchandise or other categories.
- Designate selling expenses in the taproom to include:
 - Beer
 - Labor, including payroll taxes and benefit costs
 - Rent, utilities, cleaning, supplies, costs to maintain the tap line system, etc.
- Identify metrics to measure the success of the taproom and sales drivers.

- Implement controls where needed. Taproom sales usually involve cash, which increases the risk of theft.

Breweries with Taproom and Distribution Sales – Taproom sales decrease as a percentage of revenue, yet the profit remains valuable. Therefore, it is important to accurately report the profit of each separate revenue stream of the brewery. These revenue streams include keg sales to local on-premises accounts, and distribution.

- Breweries track “sales” or transfers to the taproom at the price charged to distribution accounts. This procedure enables analysis of the separate operations of the brewery.
- Breweries should use caution, as this “sale” to the taproom creates a duplication within the system that must be manually reconciled to avoid “selling” the same beer twice. For external reporting, the sales revenue recorded by the brewery to the taproom should be offset by taproom beer costs. For internal reporting, this procedure allows breweries to analyze the profit earned on distribution accounts. In addition, breweries can properly project growth using current margins.
- If a higher price is charged to the taproom, distribution growth projections will indicate a higher profit margin on future distribution sales, and actual cash flow will be less. Taproom sales will appear less profitable.
- If manufacturing cost is used as the price with the taproom, the future distribution profit margin will be lower than projections. Taproom sales will appear more profitable. This approach also applies to brewpubs. Transferring beer at a wholesale cost allows brewpubs to analyze bar costs on an apples-to-apples basis compared to the costs involved in buying another brewery's beer through a distributor.

Cost Allocation Methodology Expanded

Allocation of cost of goods is a method to include costs that contribute in some way to the production of the beer. By recognizing these allocated costs as a component of cost of goods sold, brewery and brewpub owners can get a better idea of their monthly production rate and overall cost of production from a holistic perspective. As mentioned in Section 1: Cost of Goods Sold Overview, the first step is to determine what costs should be accounted for as overhead.

An example of methodology would be to consider usage of certain costs by the production process. Rent, utilities, and insurance are all areas that can be allocated by looking at the breakdown of space in the production or overall facility. If a brewpub has 8,000 total square feet and 4,000 is used

for production, 50 percent of the rent, utilities, and insurance can be allocated to cost of goods sold based on square footage. This methodology gives a solid foundation (space measurement) and is likely reasonable based on usage (lots of electricity and water going into production, but a similar amount used by the restaurant operations as well—likely a fairly even split). If it is obvious that the production facility or restaurant uses considerably more of the utilities than the other, the allocation percentage can be adjusted as such.

Owner, founder, or executive compensation is a difficult expense to classify due to the fact that these individuals often work in many areas around the brewery. Estimating the amount of time spent with each department and applying the appropriate percentage of expense to each department is a common approach.

The next step is to determine how to apply those costs to the beer produced.

The simplest method to allocate overhead accounts is by splitting the total overhead pool evenly over total production. This method is often used in more basic overhead models and for smaller breweries. In more complex overhead models as breweries get more sophisticated, it is still often used for rent, utilities, excise taxes, insurance, technology related costs, production facility repairs and maintenance, and other general expenses.

Overhead costs that can be estimated for particular brands of beer a brewery produces can be applied more specifically in more complex overhead models that typically utilize an ERP system. The costs include:

- Depreciation on production facilities/equipment
 - If certain beers take longer to ferment or age in barrels, a higher application rate can be used in the system through the bill of materials.
 - Depreciation on bottling equipment will be applied to bottled beer, kegging equipment depreciation applied to kegged beer, and canning equipment depreciation applied to canned beer.
- Direct and indirect labor
 - Labor can be applied through the bill of materials based on the estimated or average time it takes employees to process a batch of a particular beer.
 - Beers that are labor intensive should have more labor costs applied to them.
- Brewing facilities and supplies can be applied differently by beer type if there is a significant difference in the number of facilities utilized or supplies used in production.

Cost allocations can be made a number of ways, but best practice is to determine an allocation methodology to apply to the costs that will be included in cost of goods sold. Consistency is key in this process to ensure that costs are reasonable and that the process is inclusive. Once a methodology is determined and adopted, it can be fine-tuned and improved upon to reflect the product costs.


section three

System and Process Configurations



For breweries and brewpubs, COGS will include all costs that contribute to production. Processes and standards can be set up to assist in accounting for the various components of COGS, streamlining calculation efforts. By spending time up front to create sound processes, breweries and brewpubs can calculate COGS efficiently and provide valuable feedback for management. Breweries should consider the inventory process to determine at which stage costs should be included and the cost amount to include.

Counting Inventory

 The most critical process for a brewery to have in place is an effective physical inventory count, which should be performed at the end of each reporting period. The reporting period is the period for which management requests an accurate value for inventory; most often it is monthly. Regulatory requirements may dictate that inventory counts be performed more often than per reporting period. Even with an accurate picture of inventory cost, brewery and brewpub operators must have an accurate record of the inventory on hand in order to properly apply that cost. While not a subject of focus here, procedures that make accurate inventory counts easier include shutting down production activities, since moving inventory is difficult to count accurately; assigning multiple employees to the counting process to double check and supervise the count; and providing streamlined inventory count sheets that enable multiple locations to be tracked for the same inventory item.

Each brewery and brewpub operator has different circumstances that impact the operational and accounting decisions of the company, and not every inventory accounting system will be set up the same way. Best practices are beneficial and, overall, breweries and brewpubs should decide the level of accounting detail necessary to aid company decisions. The goal of the brewery or brewpub's accounting function should be to provide the best information possible for management to make decisions about the company's operations and financial stability.

Management should also consider who will be using the financial statements. Other financial statement users can include a board of directors/board of advisors, investors, lenders, and potential investors or acquirers. Any of these users could ask for financial statements on a GAAP basis and may even request a report from a third-party CPA to ensure they are in compliance with GAAP. Fees for a third-party CPA to complete a compilation, review, or audit on financial statements vary, but are generally lower if the internal financial statements are already kept on a GAAP basis. See **APPENDIX A** for the benefits of using GAAP.

The first step that brewery or brewpub operators must take to accurately track COGS is to set up accounts within the categories noted and group them within the accounting system as COGS. Whoever manages the accounting for the brewery (internally or externally) should have knowledge of how this is done within the company's accounting software. Periodically, these groupings should be revisited to ensure

that new accounts are properly grouped and that existing accounts are being utilized as originally intended.

From a management perspective, brewery or brewpub operators should break down the accounts comprising COGS to a level of detail that allows for effective management of operations, while keeping financial statements at a summary level. Sub accounts may be used to gain additional insight into the details of COGS within the chart of accounts. **Best practice is to present COGS as a few line items on financial statements.**

Periodic Inventory Systems

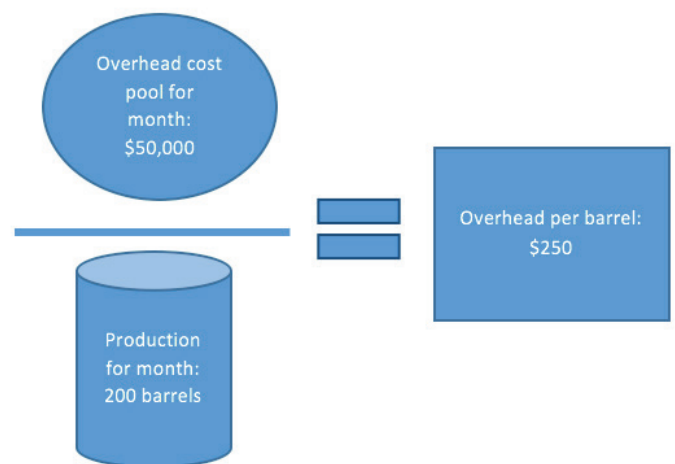
The simplest COGS accounting system is a periodic inventory system in which costs are recorded to the expense accounts during a given period, typically monthly. At the end of the period, brewery or brewpub operators may perform a physical inventory to ensure inventory quantities are correct. Using the quantities from the physical inventory, breweries can determine the total cost of inventory and move it from the expense accounts to the balance sheet. While the periodic inventory system may be the simplest system in principle, it is manual and often involves a large number of spreadsheets.

- Breweries should determine raw materials cost using the last cost for the malt, hops, and other ingredients (including freight in and tax).
 - In a periodic inventory system, the last cost must often be manually updated for each period to get accurate values.
- The work in process (WIP) cost should be determined using recipe costs (updated for the last purchase).
 - WIP and finished goods inventory is usually carried at a “standard cost.”
 - “Standard cost” is the expected cost of a product. The brewer calculates the expected cost of the beer by assigning the direct material, direct labor, and overhead costs to create the beer.
 - As noted, the standard cost should include the overhead costs associated with bringing the beer to the current state of production; therefore, WIP and finished goods will have different overhead amounts applied.
- Finished goods (FG) are determined using recipe standard costs plus additional overhead costs and packaging materials.

- FG may have different labor and overhead amounts applied based on packaging type, as kegging beer has different costs associated with it than canning, for example.

- For GAAP-compliant balances in WIP and FG inventory, breweries should consider labor and overhead amounts. The costing of beer is a simpler process for smaller breweries; the larger the brewery, the more complex the process.
- The manual nature of periodic inventory systems increases the risk that formulas or manual calculations are incorrect. These systems are frequently used and can be effective; however, the weakest link in the process will potentially reduce the overall effectiveness.

Brewery and brewpub operators have many options for calculating the amount of brewing overhead to include in the standard cost. The most basic method takes the balance in the pool of overhead accounts for a given period. For this example—\$50,000 for one month—divide the balance by production for the period. In this case, production is 200 barrels. Overhead per barrel would equal $\$50,000/200$, or \$250 per barrel of beer produced. For this calculation, \$250 of overhead would be applied to WIP inventory and for FG. The appropriate conversion of costs would be applied for any FG in kegs, bottles, and/or cans. This generic method can be modified to fit many systems. It does not take into account that different beers require different amounts of time to produce, or the different processes that impact production costs.



- From a basic overhead calculation, breweries can identify where they can improve the system to make more detailed and specific calculations for the different beers being produced.

- More than one pool of overhead accounts can be utilized and applied using different activity measures (barrels produced was the activity measure in the example above).
- Depreciation is often applied separately from other pools.
- Brewing overhead rates fluctuate over time. The amount of overhead applied using standard rates should be reviewed and analyzed periodically. For smaller breweries, this may be annually, while for larger breweries it may be monthly or quarterly.

More complex accounting methods will increase the amount of time, resources, and accounting systems necessary to manage. The benefit to using more complex accounting methods, if implemented effectively, is more detailed operational data to manage brewery inventory and sales.

COGS Calculation Examples

Example 1 - Cost of Goods Sold Allocation

Example of a simple cost of goods sold allocation

- A small brewery produces 120 barrels of beer in May.
- Costs are accumulated in raw materials, labor, and overhead costs.
- Costs are "allocated" across the beer produced.
- Example assumes 240 - 1/2 barrel kegs are filled.
- Assumes no beginning inventory and no ending inventory

| | | |
|--|--------------------|--|
| Production in the month of May | 120 Barrels | |
| Raw material costs | \$ 21,600 | |
| Labor costs | 7,200 | Financial Statement Summary as of May 31: |
| - Brewing & packaging salary and wages | | Inventory |
| - Health insurance | | \$0 |
| - 401K, profit sharing, and/or bonus | | Cots of goods sold - draft |
| | | \$ 36,000 |
| Overhead costs | 7,200 | |
| - Rent | | |
| - Excise taxes | | |
| - Utilities | | |
| - Insurance - facilities | | |
| - Workers compensation | | |
| - Freight in | | |
| - Production equipment depreciation | | |
| Total Cost of Goods Sold | <u>\$ 36,000</u> | |
| Cost per barrel | \$ 300 | |
| Cost per 1/2 barrel keg | \$ 150 | |
| Cost breakdown per barrel | | |
| - Raw materials | \$ 180 | |
| - Labor | 60 | |
| - Overhead | 60 | |
| | <u>\$ 300</u> | |

Example 2 - Cost of Goods Sold Allocation and Finished Goods Inventory

Example of a simple cost of goods sold allocation

- A small brewery produces 120 barrels of beer in May.
- Costs are accumulated in raw materials, labor, and overhead costs.
- Costs are "allocated" across the beer produced.
- Example assumes 240 - 1/2 barrel kegs are filled .
- Assumes beginning finished goods inventory of 30 - 1/2 barrel kegs.
- Assumes ending finished goods inventory of 40 - 1/2 barrel kegs.
- Assumes no beginning or ending raw material inventory.
- Assumes production costs are consistent with prior month.

Journal Entries:

| | | | |
|--|----------------------------|-------|-------|
| | A Finished goods inventory | 1,500 | |
| | Cost of goods sold | | 1,500 |

| | | |
|---|--------------------|--|
| Production in the month of May | 120 Barrels | |
| Raw material costs | \$ 21,600 | |
| Labor costs | 7,200 | Financial Statement Summary as of May 31: |
| - Brewing & packaging salary and wages | | Inventory |
| - Health insurance | | 6,000 |
| - 401K, profit sharing, and/or bonus | | Cots of goods sold - draft |
| | | \$ 34,500 |
| Overhead costs | 7,200 | |
| - Rent | | |
| - Excise taxes | | |
| - Utilities | | |
| - Insurance - facilities | | |
| - Workers compensation | | |
| - Freight in | | |
| - Production equipment depreciation | | |
| Total New Costs May | <u>\$ 36,000</u> | |
| Cost per barrel | \$ 300 | |
| Cost per 1/2 barrel keg | \$ 150 | |
| Cost breakdown per barrel | | |
| - Raw materials | \$ 180 | |
| - Labor | 60 | |
| - Overhead | 60 | |
| | <u>\$ 300</u> | |
| Finished goods inventory (beginning) | \$ 4,500 | |
| Finished goods inventory (ending) | 6,000 | per physical count - 40 - 1/2 barrel kegs |
| Adjustment from COGS to Inventory | \$ 1,500 A | Ending Inventory - Beginning Inventory |
| Production for May | \$ 36,000 | |
| Less adjustment from COGS to inventory | (1,500) | |
| Total COGS for May | <u>\$ 34,500</u> | |

Example 3 - Cost of Goods Sold Allocation, Finished Goods, and Raw Material Inventory

Example of a simple cost of goods sold allocation

- A small brewery produces 120 barrels of beer in May.
- Costs are accumulated in raw materials, labor, and overhead costs.
- Costs are "allocated" across the beer produced.
- Example assumes 240 - 1/2 barrel kegs are filled .
- Assumes beginning finished goods inventory of 30 - 1/2 barrel kegs.
- Assumes ending finished goods inventory of 40 - 1/2 barrel kegs.
- Assumes beginning raw material inventory of \$2,475.
- Assumes ending raw material inventory of \$5,775.
- Assumes production costs are consistent with prior month.

Journal Entries:

| | | | |
|--|----------------------------|-------|-------|
| | A Finished goods inventory | 1,500 | |
| | Cost of goods sold | | 1,500 |
| | B Raw materials inventory | 3,300 | |
| | Cost of goods sold | | 3,300 |

| | | |
|---|--------------------|--|
| Production in the month of May | 120 Barrels | |
| Raw material costs | \$ 21,600 | |
| Labor costs | 7,200 | Financial Statement Summary as of May 31: |
| - Brewing & packaging salary and wages | | Inventory - raw materials |
| - Health insurance | | 5,775 |
| - 401K, profit sharing, and/or bonus | | Inventory - finished goods |
| | | 6,000 |
| Overhead costs | 7,200 | Cots of goods sold - draft |
| - Rent | | \$ 31,200 |
| - Excise taxes | | |
| - Utilities | | |
| - Insurance - facilities | | |
| - Workers compensation | | |
| - Freight in | | |
| - Production equipment depreciation | | |
| Total New Costs May | <u>\$ 36,000</u> | |
| Cost per barrel | \$ 300 | |
| Cost per 1/2 barrel keg | \$ 150 | |
| Cost breakdown per barrel | | |
| - Raw materials | \$ 180 | |
| - Labor | 60 | |
| - Overhead | 60 | |
| | <u>\$ 300</u> | |
| Finished goods inventory (beginning) | \$ 4,500 | |
| Finished goods inventory (ending) | 6,000 | Per physical count - 40 - 1/2 barrel kegs |
| Adjustment from COGS to Inventory | \$ 1,500 A | Ending Inventory - Beginning Inventory |
| Raw materials inventory (beginning) | \$ 2,475 | Per physical count - quantity x unit price |
| Raw materials inventory (ending) | 5,775 | Per physical count - quantity x unit price |
| Adjustment from COGS to Inventory | \$ 3,300 B | Ending Inventory - Beginning Inventory |
| Production for May | \$ 36,000 | |
| Less adjustment for Finished goods inventory | (1,500) | |
| Less adjustment for Raw materials inventory | (3,300) | |
| Total COGS for May | <u>\$ 31,200</u> | |

Perpetual Inventory Systems

Perpetual inventory systems are an alternative to periodic systems, utilizing ERP computer software to track inventory transactions as they occur. A perpetual inventory requires a fairly powerful software system that is updated on a transaction level so the system can accurately provide operational data for all areas of the operation. Over the past 10 years, technological advancement has made it possible to deliver these high-powered software systems at more affordable prices to small and mid-size companies. These systems load all the data from the spreadsheets of the periodic inventory system into one system that also usually includes the general ledger accounting system of the business. Transactions are recorded on an item level basis and as they are completed, the ERP software calculates the financial impact and inventory quantity impact of the transactions. The potential for having real-time inventory and financial data is very appealing, but the process of selecting, implementing, and effectively maintaining a perpetual system is time consuming and costly.

In the Cost of Goods Sold Overview section, we discussed a basic overhead allocation method. With a perpetual system, the overhead is entered into the ERP software as part of the total costs of WIP and FG beer. Therefore, the overhead entered is usually calculated with budgeted brewing overhead costs and production for the upcoming year. As overhead costs and/or production costs differ from budgeted amounts, the total amount of pooled overhead costs show a variance to the overhead costs applied. Because it is built on estimates and a number of variables in costs and production level, the variances fluctuate during the year. Significant variances should be analyzed to determine their source. However, determining an acceptable range in the overhead variances will reduce excess time spent analyzing amounts that are insignificant in the overall production process.

Potential Issues in Accounting for Inventory and COGS

A number of issues can arise in tracking and accounting for inventory and COGS. Among them are lack of reliable data, general data availability, resource availability, and system limitations. Of these potential issues, data availability and reliability are the most significant. There are no substitutes for reliable data and, if systems do not provide data in a useful format, it cannot contribute to sound accounting.

Data reliability and availability issues are usually the result of system restrictions or capacity issues, which are sometimes attributable to process flaws that do not provide for proper

data collection and analysis. Resource constraints can also be a major hindrance to accounting for inventory and COGS. Without an adequate accounting department and/or supporting staff, brewery or brewpub operators can find it difficult to manage the day-to-day payables and invoicing processes, and even more so to calculate and apply allocations for indirect costs to inventory.


Within a perpetual system, timely information is critical. Numerous issues can delay the process as well as create variances within the system.

- Purchasing and receiving
 - Price – Differences between when the product is ordered and received can result in a variance.
 - Quantity – A mismatch between the quantity of a received shipment and the quantity ordered can delay receipt into the system.
 - Unit of measure – Using a different unit of measure (e.g., pounds, kilograms, gallons) from the one used by the ERP could impact the costing system.
 - Delayed landed fees – Operators may not know processing fees and shipping costs at the time the product is ordered. These items would be included in the raw material price.
- Production orders
 - Duplication– One brew actually started in the brewhouse while two brews initiated within the ERP. This situation could result from a system or operator error.
- Overhead application rates
 - Time-intensive beers
 - Special release beers or barrel-aged beers
 - Efficiencies (or inefficiencies) within the system
 - Production gains and/or losses
- Physical inventory count adjustments

All of the above items can create variances within the ERP system that impact inventory cost. Some variances can be prevented with training and a focus on accuracy. Others will be generated through regular operations. Tracking variances within an ERP system will assist the brewery in identifying changes within production activities that impact product costs both positive and negative to COGS.

Addressing Issues

Overcoming obstacles to accounting for inventory and COGS begins with system and process design and function. With proper planning and system setup, accounting for inventory and COGS can be a routine process rather than a burdensome endeavor.

-  Comprehensive upfront training for all users of the system is key. Breweries should ensure the system has adequate system controls to address potential issues. Internal or external technology support is a must. Timely detection of issues will help keep operations on track. To allow issues to be resolved quickly, operators can design systems to notify users of routine and/or triggering events that require attention.
- Analyze and review
 - Regularly analyze operating benchmarks to help identify changes in the system.
 - Track trends.
 - Focus on larger issues or areas over which the brewery has control.

Understanding cost flow and system capacities to track that flow enables brewery and brewpub operators to maximize efficiencies in the accounting process. With processes designed to fit the cost flow and the use of automated systems where possible, even small accounting groups

or individual accountants will be able to handle a much greater reporting load while providing high quality, useful information. This comprehensive approach addresses both system and resource constraints while providing useful data for decision making. In certain instances, operators may need to hire additional staff or find a more appropriate system for individual accounting needs; however, more often the first step is to develop an understanding of the accounting environment to determine what solutions can be overlaid on current processes to address issues more cost effectively.

See APPENDIX C for an example of a more complex income statement that would be reflective of one created within an ERP.

Conclusion

Although accounting for COGS can be a complex endeavor, utilizing well-designed processes and systems can greatly alleviate the difficulties faced in arriving at a reasonable COGS value. While no two breweries or brewpubs will have identical processes for recording COGS, implementing a process designed around the best practices outlined in this manual can greatly increase comparability across the brewing industry. Brewpubs and breweries of similar size should have similar processes in place based on available resources and their ability to implement best practices. By developing a better understanding of COGS in the brewing industry, individual breweries and brewpubs can get a better perspective of their own operations through benchmarking against comparable organizations.



Balance Sheet ⁽¹⁾

A balance sheet is a financial statement that summarizes a company's assets, liabilities, and shareholders' equity at a specific point in time. These three balance sheet segments give investors an idea as to what the company owns and owes, as well as the amount invested by shareholders.

Budget ⁽¹⁾

A budget is an estimation of revenue and expenses over a specified future period of time; it is compiled and re-evaluated on a periodic basis. Budgets can be made for a person, family, group of people, business, government, country, multinational organization, or just about anything else that makes and spends money. Among companies and organizations, a budget is an internal tool used by management and is often not required for reporting by external parties.

Cash vs. Accrual Accounting ⁽²⁾

The cash basis and accrual basis of accounting are two different methods used to record accounting transactions. The core underlying difference between the two methods is in the timing of transaction recordation. When aggregated over time, the results of the two methods are approximately the same. In cash basis, revenue is recorded when cash is received from customers, and expenses are recorded when cash is paid to suppliers and employees. In accrual basis, revenue is recorded when earned and expenses are recorded when consumed.

Chart of Accounts ⁽¹⁾

A chart of accounts is a listing of each account a company owns, along with the account type and account balance, shown in the order the accounts appear in the company's financial statements. It includes both balance-sheet accounts and income-statement accounts. The chart of accounts shows assets, liabilities, equity, revenues, and expenses, all in one place and broken down into subcategories. Each chart is assigned a multi-digit number to identify the account type.

Cost of Goods Sold (Manufactured) ⁽¹⁾

Cost of goods sold (COGS) are the direct costs attributable to the production of the goods sold by a company. This amount includes the cost of the materials used in creating the good along with the direct labor costs used to produce the good. It excludes indirect expenses such as distribution costs and sales force costs. COGS appears on the income statement and can be deducted from revenue to calculate a company's gross margin. Also referred to as "cost of sales."

Current Assets ⁽¹⁾

Current assets are balance sheet accounts that represent the value of all assets that can reasonably expect to be converted into cash within one year. Current assets include cash and cash equivalents, accounts receivable, inventory, marketable securities, prepaid expenses and other liquid assets that can be readily converted to cash.

Current Liabilities ⁽¹⁾

Current liabilities are a company's debts or obligations that are due within one year, appearing on the company's balance sheet, and include short term debt, accounts payable, accrued liabilities, and other debts. Essentially, these are bills that are due to creditors and suppliers within a short period of time. Normally, companies withdraw or cash current assets in order to pay their current liabilities.

Depreciation ⁽¹⁾

Depreciation is an accounting method of allocating the cost of a tangible asset over its useful life. Businesses depreciate long-term assets for both tax and accounting purposes. For tax purposes, businesses can deduct the cost of the tangible assets they purchase as business expenses; however, businesses must depreciate these assets in accordance with IRS rules about how and when the deduction may be taken.

Gross Margin ⁽¹⁾

Gross margin is a company's total sales revenue minus its cost of goods sold, divided by total sales revenue, expressed as a percentage. It represents the percent of total sales revenue that the company retains after incurring the direct costs associated with producing the goods and services it sells. The higher the percentage, the more the company retains on each dollar of sales, to service its other costs and debt obligations.

Income Statement ⁽¹⁾

An income statement is a financial statement that reports a company's financial performance over a specific accounting period. Financial performance is assessed by giving a summary of how the business incurs its revenues and expenses through both operating and non-operating activities. It also shows the net profit or loss incurred over a specific accounting period.

Indirect Costs ⁽²⁾

Indirect costs are costs that are not directly associated with a single activity, event, or other cost object. Such costs are frequently aggregated into an overhead cost pool and allocated to various activities, based on an allocation method that has a perceived or actual linkage between the indirect cost and the activity.

Inventory ⁽¹⁾

Inventory is the raw materials, work-in-process products, and finished goods that are considered to be the portion of a business's assets that are ready or will be ready for sale. Inventory represents one of the most important assets of a business because the turnover of inventory represents one of the primary sources of revenue generation and subsequent earnings for the company's shareholders.

Overhead ⁽¹⁾

Overhead refers to all ongoing business expenses not including or related to direct labor, direct materials, or third-party expenses that are billed directly to customers. A company must pay overhead on an ongoing basis regardless of whether the company is doing a high or low volume of business. It is important not just for budgeting purposes but for determining how much a company must charge for its products or services to make a profit. For example, a service-based business that operates in a traditional white-collar office setting has overhead expenses such as rent, utilities, and insurance.

QuickBooks ⁽³⁾

QuickBooks is Intuit Inc.'s set of software solutions designed to manage payroll, inventory, sales, and other needs of a small business. The software's features include marketing tools, merchant services, product and supplies, and training solutions. Each solution is developed according to different industries and their needs.

Selling, General, and Administrative Costs (SG&A) ⁽¹⁾

Selling, general, and administrative expenses (SG&A) are reported on the income statement as the sum of all direct and indirect selling expenses and all general and administrative expenses of a company. There are many factors that go into manufacturing a product, such as a warranty, and therefore SG&A expenses are deducted to generate a net income. SG&A expenses are also monitored to ensure proper cash flow is being managed.

Standard Cost ⁽²⁾

Standard costing is the practice of substituting an expected cost for an actual cost in the accounting records, and then periodically recording variances showing the difference between the expected and actual costs. Standard costing involves the creation of estimated (i.e., standard) costs for some or all activities within a company. The core reason for using standard costs is that there are a number of applications where it is too time-consuming to collect actual costs, so standard costs are used as a close approximation.

Taproom ⁽⁴⁾

A barroom; a room or establishment whose main feature is a bar for the sale of liquor.

Sources:

- (1) Investopedia.com
- (2) Accountingtools.com
- (3) Whatis.techtarget.com
- (4) Merriam-webster.com

appendix a

The Benefits of Using GAAP



Generally accepted accounting principles (GAAP) are a common set of accounting principles, standards, and procedures that companies must follow when compiling financial statements. Most banking agreements require financial statements that have been prepared in compliance with GAAP. Investors typically require that the companies they invest in have GAAP-compliant financial statements. When public companies file financial statements, those statements are required to be prepared in compliance with GAAP.

GAAP provides a level of consistency for recording transactions to enable financial statements users to analyze and extract useful information. Without a set of standards such as GAAP, financial statements would not be of much use to those outside the company.

Accrual basis accounting is the standard method accepted under GAAP. Other methods of financial reporting—cash basis, modified cash basis, and income tax basis—are referred to as other comprehensive basis of accounting (OCBOA) by GAAP. Financial statements may be presented under OCBOA methods, but they must be clearly marked as such to indicate that they have been prepared using a non-GAAP method.

Not all breweries have the personnel and/or resources to ensure their financial statements are in compliance with GAAP. The nanobrewery or brewpub that opened last year likely doesn't have the expertise to prepare GAAP-compliant financial statements unless they have an investor group that requires them. However, consistency in accounting is important for analyzing results and ensuring that financial statements are useful for management decision making. GAAP methodology is used as a basis to ensure consistency. As a brewery grows, the operator should have personnel and/or resources in place to report on a GAAP basis.

GAAP provides guidance on costs that should be included in cost of goods sold (COGS), which generally carries through to the cost assigned to inventory. Therefore, while this manual focuses on accounting for COGS, it also addresses the costs that are assigned to inventory in Section 3 of this manual.

Under GAAP, the basic financial statements impacted by COGS and inventory are the balance sheet and statement of operations.

The balance sheet includes all assets, liabilities, and equity of a brewery or brewpub. "Inventory has financial significance

because revenues may be obtained from its sale."³ Since beer has an associated future cash inflow, it is accounted for as an asset on the balance sheet. Inventory is generally broken out between raw materials, work in progress, and finished goods. Since beer inventory generally turns over on a short-term basis, it is usually classified as a current asset. Simply put, this means that the asset will be converted to cash (or accounts receivable) in less than a year. A classified balance sheet has the following classifications:

- Current assets
- Noncurrent assets
- Current liabilities
- Noncurrent liabilities
- Stockholder/member equity

Note: Inventory has been expanded on the example balance sheet to show the three stages of inventory: raw materials, work in progress, and finished goods.

| BREWING CO. | |
|---|--------------------|
| Statement of Operations | |
| For the year ended December 31, 2016 | |
| Sales revenue | |
| Beer sales, net of returns and discounts | \$ 17,900,000 |
| Less excise tax | <u>(3,500,000)</u> |
| Net beer sales | 14,400,000 |
| Merchandise sales | <u>600,000</u> |
| Total sales revenue | 15,000,000 |
| | |
| Cost of goods sold | <u>7,900,000</u> |
| Gross profit | <u>7,100,000</u> |
| | |
| Operating expenses | |
| Selling expenses | 3,900,000 |
| General and administrative expenses | <u>2,800,000</u> |
| Total operating expenses | <u>6,700,000</u> |
| | |
| Income from operations | <u>400,000</u> |
| | |
| Other income (expense) | |
| Other income | 150,000 |
| Interest expense | (370,000) |
| Other expense | <u>16,000</u> |
| Total other (expense) | <u>(204,000)</u> |
| | |
| Net income | <u>\$ 196,000</u> |

The statement of operations is where all revenues, COGS, operating and selling expenses, and other revenues and expenses are reported. The COGS section immediately follows the primary revenue (revenue from the normal course of business, i.e., beer sales) section of the income statement. The revenue, less COGS, gives the gross margin for the brewery or brewpub and can be used to monitor profitability to varying degrees. COGS should include all costs attributable to the production of the beer that is sold. This process is detailed in Section 2 of this manual. For a brewery or brewpub, the statement of operations typically includes the following classifications:

- Revenue – net of discounts and allowances
- COGS or cost of sales – net of estimated returns
- Gross profit
- Operating expenses – can be one line item or multiple
 - Selling expenses
 - General and administrative expenses
- Operating income/loss
- Non-operating expenses/income
- Net income/loss – before income taxes if a C corporation
- Taxes – if a C corporation
- Net income/loss

³ FASB ASC Topic 330-10-05-2

appendix b

Survey Responses and Current Industry Practices

Overview and Summary

This project included an online survey open to all members of the Brewers Association, as well as follow-up interviews with a sample of breweries via phone or in person. The section below includes a summary of survey responses by size and/or operating category (i.e., brewpub versus production brewery). For the purposes of this breakdown, a brewpub is defined as a restaurant-brewery that sells 25 percent or more of its beer on-site. The microbrewery segment has been broken into those that produce up to 1,000 barrels and those that produce more than 1,000 barrels. Regional breweries were also reported in two segments: (1) those producing between 15,000 and 50,000 barrels and (2) those producing more than 50,000 barrels. The summarized information notes how accounting is being performed by the survey respondents and interviewees.

As noted in the Brewers Association Cost of Goods Sold Manual, operators of each brewery and brewpub must review their own needs and stakeholders to determine how to implement best practices for their operations. As previously discussed, no two breweries or brewpubs are exactly the same; thus, accounting will vary from operation to operation. Using best practices as a guideline, individual adjustments may be made where reasonable based on the individual needs and resources of a given brewery or brewpub. The information that follows gives insight into how breweries and brewpubs of various sizes are currently handling some of the cost of goods sold (COGS) areas considered in this manual.

Survey and Interview Results and Selected Data

Brewpubs/Multiple Brewpubs Under 5,000 Barrels of Production

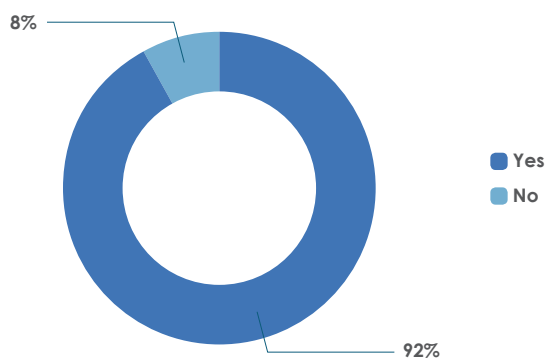


Survey and interview respondents have varying views of the definition of COGS. Certain brewpubs account for very few costs in COGS, aside from direct materials input into products, for the following reasons:

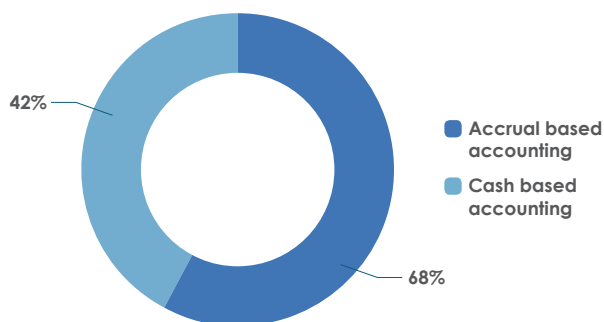
- Small overall contribution of brewing operations to overall business when restaurant/tasting room operations are included
- Lacking the internal resources to track detailed costs
- Ability to manage business well without it, and the additional effort does not return enough benefit to justify the time spent calculating and accounting for everything to the degree required under generally accepted accounting principles (GAAP)
- Inability to control fixed costs based on production, so they are not included
- Ability to essentially calculate COGS numbers and margins with shortcuts that allow management from the financial statements and do not require any entries or accounting work to include in financial reports

As indicated in survey responses and interview discussions:

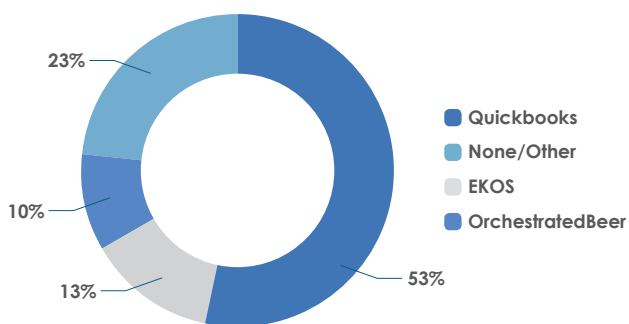
- A majority (92%) of brewpubs maintain their books on a GAAP basis.



Yet only 58% of respondents use accrual basis accounting in conformance with GAAP. The 42% who use cash basis accounting are not in conformance with GAAP.



- Over 80% of brewpubs have basic general ledger or partial enterprise accounting systems and over 50% are on QuickBooks.

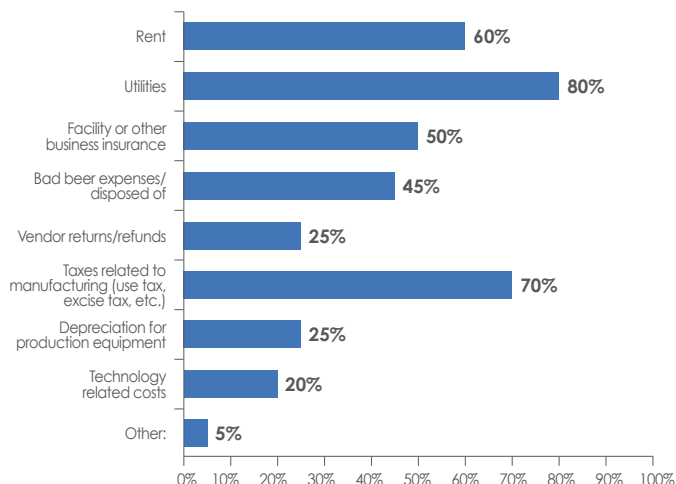


- Regarding cost inclusion in COGS, 100% of brewpubs include materials (GAAP compliant) and 54% include labor, although there are discrepancies between direct and indirect labor and inclusion of all labor costs (e.g., benefits, retirement plan contributions, payroll taxes).

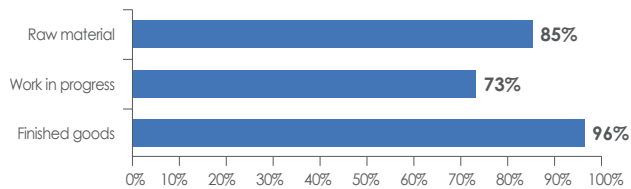
For COGS labor, the related retirement benefits, other benefits, and payroll taxes should be classified as COGS as well.

| Position | Wages/salaries | Retirement plan benefits (e.g. 401(k) contributions, ESOP contributions, etc.) | Other benefits (health insurance or other) | Payroll taxes | Total |
|--------------------------------|----------------|--|--|---------------|-------|
| Head brewer | 100% | 19% | 44% | 81% | 16 |
| Other brewers | 100% | 14% | 36% | 86% | 14 |
| Production/packaging personnel | 100% | 14% | 29% | 71% | 7 |
| Maintenance personnel | 100% | 0% | 25% | 75% | 4 |
| Sales/marketing | 100% | 14% | 43% | 57% | 7 |
| IT/HR/operations | 100% | 50% | 50% | 50% | 2 |
| Warehouse | 100% | 20% | 40% | 60% | 5 |

- 73% of brewpubs include packaging materials in COGS, 92% include freight in, and 15% include freight out. GAAP treats freight out as a selling expense vs. COGS. 75% of brewpubs include quality control tests in COGS and 67% include temporary labor. 50% include training and education expenses in COGS.
- About half of brewpub respondents use average cost to allocate overhead and indirect costs, and the other half use standard costs.
- Overhead and indirect cost allocations to COGS vary greatly within the brewpub respondent group.



- Inventory is accounted for at the following stages: raw material (85%), work in progress (WIP) (73%), and finished goods (FG) (96%).



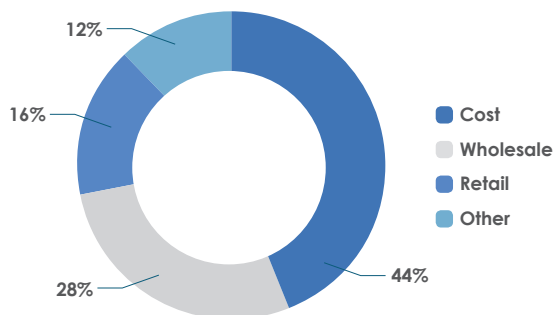
Raw material (purchases of the ingredients or components of your products to be used in production)

Work in progress (inventory that has been put into the production process but is not a finished good)

Finished goods (inventory that is complete and ready for sale)

Physical inventory counts can help reduce waste and excess inventory along with ensuring proper accounting cutoff between periods. Even smaller brewing operations would benefit from monthly procedures.

- Physical inventory counts are performed on a regular basis by most respondents: 12% perform them weekly, 54% monthly, and 12% quarterly. Some of the more regular physical inventory counts are taken on the restaurant/tasting room operations rather than the beer production due to more frequent turnover on this side of the business.
- Most of the brewpubs interviewed mentioned that they have the ability to look at gross margin on a more detailed level but choose not to due to time constraints and their ability to manage the business without doing so.
- Most brewpubs (77%) indicated that they track restaurant/tasting room operations separately to some degree and most pass beer COGS along to the restaurant/tasting room at cost (44%) or wholesale (28%).



- Additionally, most brewpubs (65%) assign draught losses to restaurant/tasting room operations.

Production Microbrewery With Up To 1,000 Barrels of Production

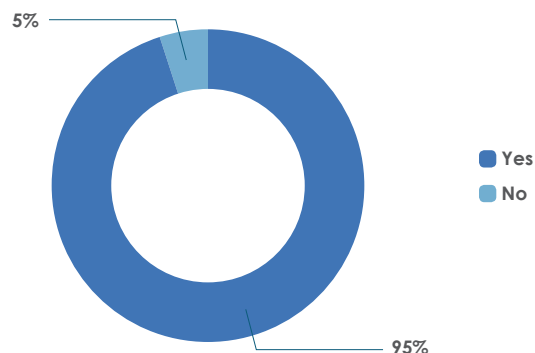


Among survey and interview respondents, the definition of COGS varies, and the methodology for deviations from GAAP—whether knowingly or unknowingly—occurs for a number of reasons:

- Lack of focus on allocations for COGS since customers don't care what goes into the beer; i.e., decisions are made based on sales and not costs.
- Lack of internal resources to track detailed costs to some degree. Necessary resources include employees with a technical accounting background and an advanced accounting system.
- Lack of spending time determining allocations of overhead since the overhead is fixed and production decisions drive any cost savings.
- Inability to control fixed costs based on production, so they are not included.
- Ability to calculate COGS numbers and margins with shortcuts that allow management from the numbers and do not require any entries or accounting work to include in financial reports.

As indicated in survey responses and interview discussions:

- A majority (95%) of breweries maintain their books on a GAAP basis.

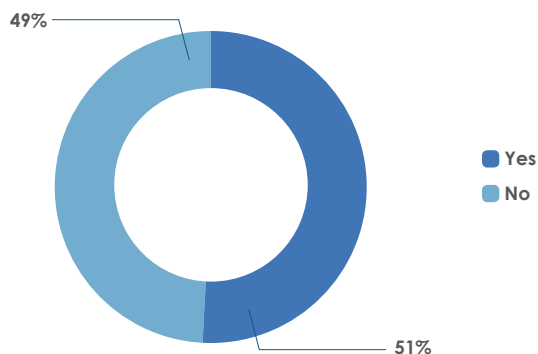


For COGS labor, the related retirement benefits, other benefits, and payroll taxes should be classified as COGS as well. For breweries with 0 – 1,000 barrels of production, there are more classifying payroll taxes as COGS but benefits are still below 50% on categories that should be classified as COGS.

| Position | Wages/salaries | Retirement plan benefits (e.g. 401(k) contributions, ESOP contributions, etc.) | Other benefits (health insurance or other) | Payroll taxes | Total |
|--------------------------------|----------------|--|--|---------------|-------|
| Head brewer | 100% | 22% | 33% | 63% | 51 |
| Other brewers | 100% | 20% | 31% | 65% | 49 |
| Production/packaging personnel | 100% | 18% | 26% | 59% | 39 |
| Maintenance personnel | 100% | 20% | 30% | 70% | 10 |
| Sales/marketing | 100% | 8% | 15% | 62% | 13 |
| IT/HR/operations | 100% | 25% | 25% | 50% | 4 |
| Warehouse | 100% | 20% | 40% | 60% | 10 |

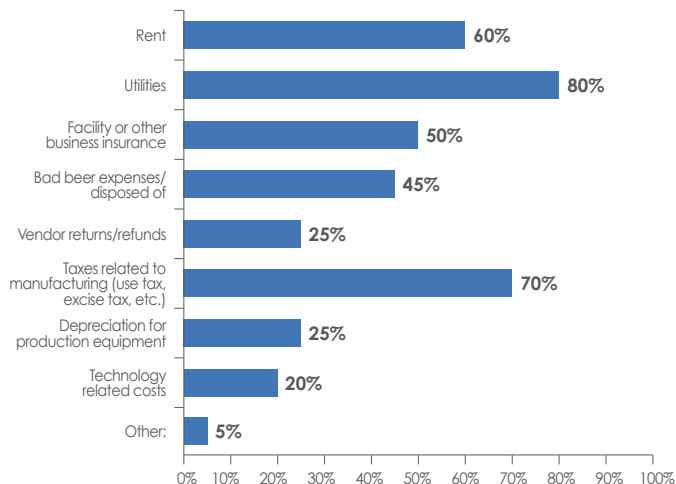
Still a large gap between GAAP and accrual basis accounting at this level of brewery.

Yet only 51% of respondents use accrual basis accounting (which is in conformance with GAAP). The 49% who use cash basis accounting are not in conformance with GAAP.

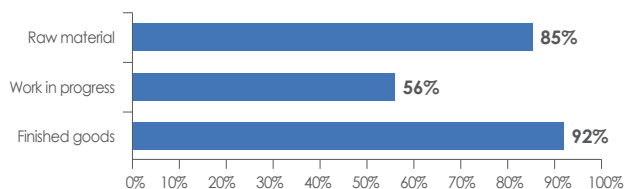


- 76% of breweries include packaging materials in COGS, 84% include freight in, and 9% include freight out. GAAP treats freight out as a selling expense vs. COGS. 63% of breweries include quality control tests in COGS and 69% include temporary labor. 23% include training and education expenses in COGS.
- Overhead and indirect cost allocations to COGS vary greatly within the brewery respondent group.

- Regarding cost inclusion in COGS, all breweries include materials (GAAP compliant) and 65% include labor, although there are discrepancies between direct and indirect labor and inclusion of all labor costs (i.e., benefits, retirement plan contributions, payroll taxes).



- The most commonly allocated costs are utilities (85%), manufacturing taxes such as excise and use taxes (62%), and rent (52%). Less than 40% of respondents allocate portions of bad beer (disposed) expense, facility or other business insurance, depreciation, vendor returns/refunds, and technology related costs.
- Based on responses, operators account for inventory at the following stages: raw material (85%), WIP (56%), and FG (92%).



Raw material (purchases of the ingredients or components of products to be used in production)

Work in progress (inventory that has been put into the production process but is not a finished good)

Finished goods (inventory that is complete and ready for sale)

- Most respondents perform physical inventory counts on a regular basis: 16% perform them weekly, 49% monthly, and 12% quarterly.
- About 50% of breweries track overall gross margin while about 29% track individual SKU gross margin.

Production Microbrewery With 1,000–15,000 Barrels of Production



Among survey and interview respondents, the definition of COGS varies (although GAAP is recognized and adhered to where possible):

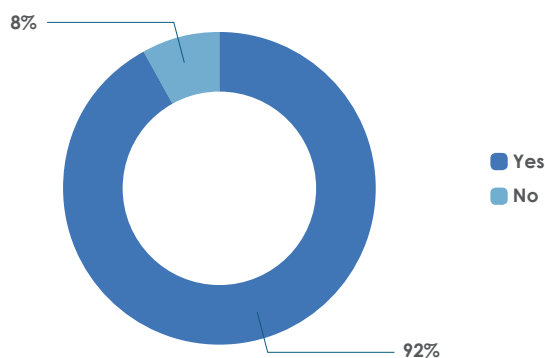
- A lack of focus on “by the book” COGS accounting and deviations in practice are the result of time constraints and available information.
- Operators do not want to spend time allocating costs that do not drive business decisions on the production of one beer over another. For example, sales of one beer might make up a large part of the

product mix, so operators don't analyze this from a margin perspective; instead they focus only on delivering the product.

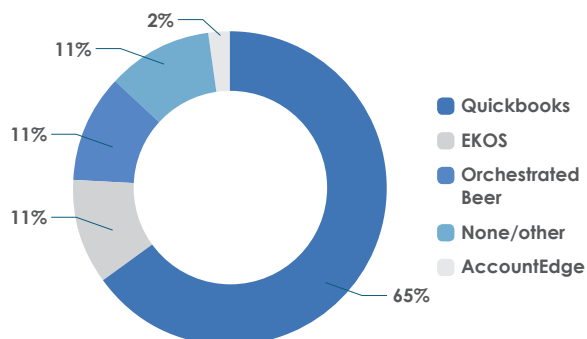
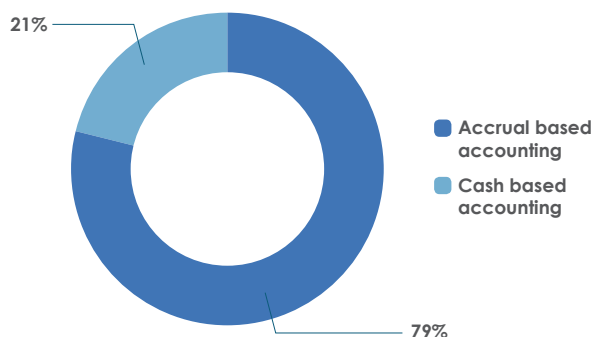
Our survey noted that 70% of respondents in this category have compiled, reviewed, or audited financial statements. Expanding operations often requires debt and/or additional investors who might require the compiled, reviewed, or audited financial statements.

Our survey responses and interview discussions revealed the following points of interest:

- A majority (92%) of breweries maintain their books on a GAAP basis.



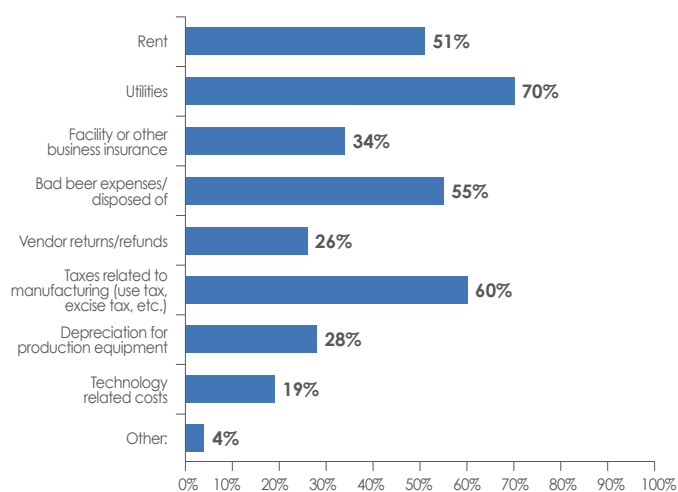
Yet only 79% of respondents use accrual basis accounting (which is in conformance with GAAP).



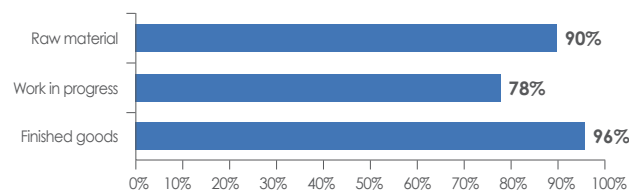
- Regarding cost inclusion in COGS, all breweries include materials (GAAP compliant) and 53% include labor, although there are discrepancies between direct and indirect labor and inclusion of all labor costs (e.g., benefits, retirement plan contributions, payroll taxes).

| Position | Wages/salaries | Retirement plan benefits (e.g. 401(k) contributions, ESOP contributions, etc.) | Other benefits (health insurance or other) | Payroll taxes | Total |
|--------------------------------|----------------|--|--|---------------|-------|
| Head brewer | 100% | 21% | 46% | 72% | 39 |
| Other brewers | 100% | 21% | 46% | 74% | 39 |
| Production/packaging personnel | 100% | 18% | 26% | 59% | 39 |
| Maintenance personnel | 100% | 21% | 42% | 68% | 38 |
| Sales/marketing | 100% | 29% | 50% | 79% | 14 |
| IT/HR/operations | 100% | 29% | 29% | 86% | 7 |
| Warehouse | 100% | 27% | 50% | 73% | 22 |

- 96% of breweries include packaging materials in COGS, 90% include freight in, and 29% include freight out. GAAP treats freight out as a selling expense vs. COGS. 70% of breweries include quality control tests in COGS and 63% include temporary labor. 30% include training and education expenses in COGS.
- About 45% of brewery respondents use average costs to allocate overhead and indirect costs. 36% assign standard costs to allocate overhead and indirect costs.



- Based on responses, operators account for inventory at the following stages: raw material (90%), WIP (78%), and FG (96%).



Raw material (purchases of the ingredients or components of products to be used in production)
Work in progress (inventory that has been put into the production process but is not a finished good)
Finished goods (inventory that is complete and ready for sale)

- Operators perform physical inventory counts on a regular basis by most respondents: 26% perform them weekly, 58% monthly, and 7% quarterly.
- About 51% of breweries track overall gross margin while about 32% track individual SKU gross margin.

Production Regional Brewery With 15,000–50,000 Barrels of Production



Among survey and interview respondents, the definition of COGS varies (although GAAP is recognized and adhered to where possible). Most breweries in this category adhere to GAAP on a reporting level.

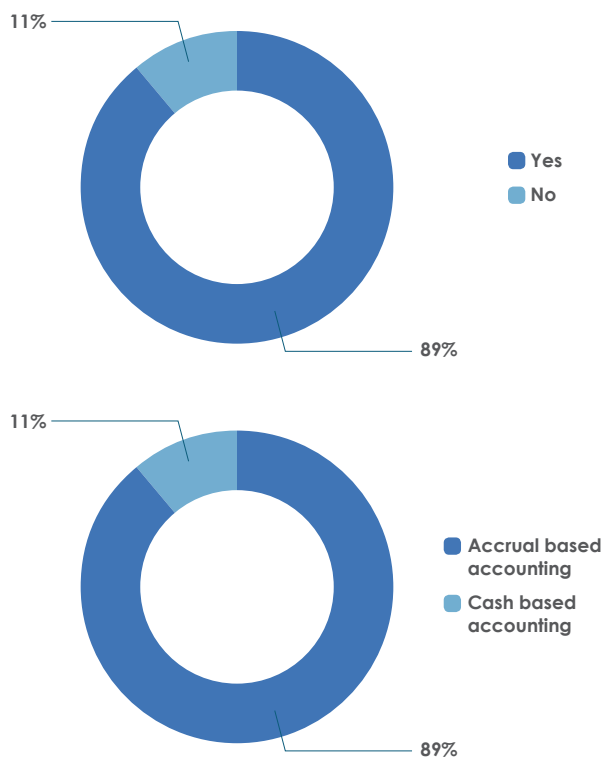
- Operators do not focus on GAAP reporting when audited, reviewed, or compiled financials are not required.
- Operators factor internal considerations into COGS accounting decisions; some managers want to see information presented a certain way and are not concerned about comparability with financial information from other breweries.
- Operators find certain allocations of costs to COGS too cumbersome to calculate; if they do not drive business decisions, operators do not perform these calculations regularly.

- Operators perform some adjustments more infrequently (e.g., annually or quarterly vs. monthly) because the process is manual or adjustments are not material on a monthly basis.

The majority of breweries implement a partial or full enterprise resource planning (ERP) system at this stage. While using an ERP allows a brewery to implement a more complex inventory costing methodology, more than 60% of respondents consider their costing pretty basic. Expansion costs generally result from the need to increase volume; however, other opportunities enable operations to add equipment that increases efficiency.

Our survey responses and interview discussions revealed the following points of interest:

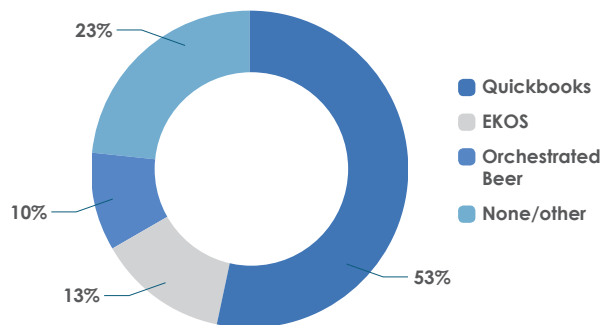
A majority (89%) of breweries maintain their books on a GAAP basis.



Consistency in use of accrual basis accounting and GAAP financial reporting at this brewery size.

And 89% of respondents use accrual basis accounting (which is in conformance with GAAP). 84% of respondents receive audited, reviewed, or compiled financial statements that are prepared by a CPA or other independent auditor.

- Only 26% of breweries have basic general ledger accounting systems. The remaining 74% have partial or full enterprise accounting systems (although 32% of respondents are on QuickBooks, which is not generally classified as an enterprise accounting system).



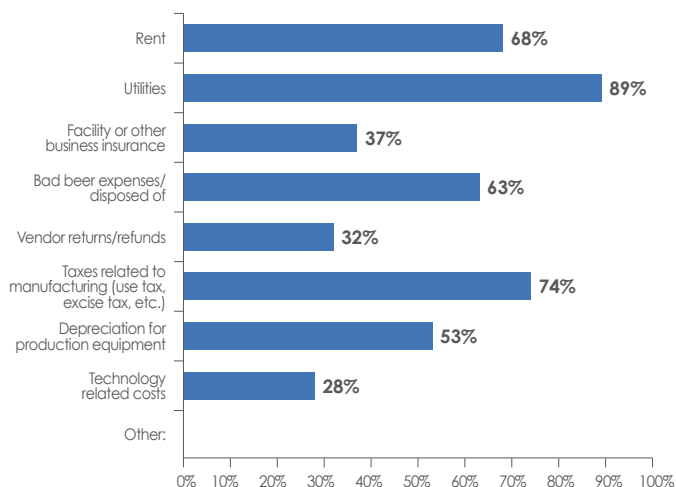
- Regarding cost inclusion in COGS, all breweries include materials (GAAP compliant) and 84% include labor, although there are discrepancies between direct and indirect labor and inclusion of all labor costs (e.g., benefits, retirement plan contributions, payroll taxes).

| Position | Wages/salaries | Retirement plan benefits (e.g. 401(k) contributions, ESOP contributions, etc.) | Other benefits (health insurance or other) | Payroll taxes | Total |
|--------------------------------|----------------|--|--|---------------|-------|
| Head brewer | 100% | 50% | 63% | 69% | 16 |
| Other brewers | 100% | 50% | 61% | 72% | 18 |
| Production/packaging personnel | 100% | 53% | 65% | 76% | 17 |
| Maintenance personnel | 100% | 40% | 60% | 70% | 10 |
| Sales/marketing | 100% | 0% | 0% | 0% | 1 |
| IT/HR/operations | 0% | 0% | 0% | 0% | 0 |
| Warehouse | 100% | 42% | 58% | 67% | 12 |

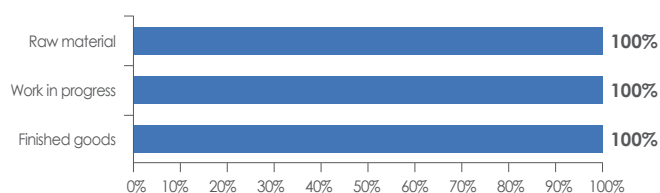
- 95% of breweries include packaging materials in COGS, 95% include freight in, and 42% include freight out. GAAP treats freight out as a selling expense vs. COGS. 100% of breweries include quality control tests in COGS and 57% include temporary labor. 36% include training and education expenses in COGS.
- About 53% of brewery respondents use average costs to allocate overhead and indirect costs.

21% assign standard costs to allocate overhead and indirect costs. For standard cost users, 60% of respondents review/update standard costs on a quarterly basis and 40% do so on an annual basis.

- Overhead and indirect cost allocations to COGS vary greatly within the brewery respondent group.



- The most commonly allocated costs are utilities (89%), manufacturing taxes such as excise and use taxes (74%), rent (68%), bad beer (disposed) expense (63%), and depreciation of production equipment (53%). Less than 40% of respondents allocate facility or other business insurance, vendor returns/refunds, and technology-related costs.
- Based on responses, inventory is accounted for at the following stages: raw material (100%), WIP (100%), and FG (100%)



Raw material (purchases of the ingredients or components of products to be used in production)

Work in progress (inventory that has been put into the production process but is not a finished good)

Finished goods (inventory that is complete and ready for sale)

- Physical inventory counts are performed on a monthly basis by most respondents (89%).
- About 61% of breweries track individual SKU gross margin while the remaining 39% track overall gross margin.

Production Regional Brewery With Over 50,000 Barrels of Production



Among survey and interview respondents, the general view of the COGS definition is based on GAAP; variations are minimal as all breweries receive GAAP financial statements. For operators to focus on the COGS process, they must perform ongoing maintenance to ensure that processes are adhered to consistently.

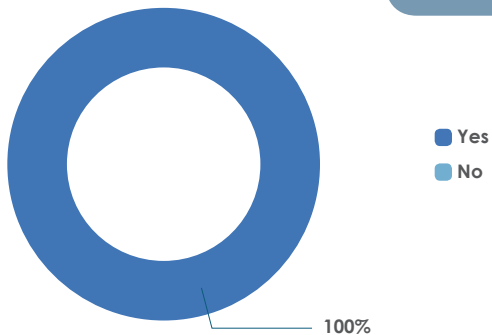
- Management teams and many boards look at financial information on a GAAP basis.
- Brewery or brewpub accountants have the ability to pull reports—which may or may not reflect GAAP—for management from the system without impacting their overall ability to report financial information on a GAAP basis.
- Many former public accountants filling accounting roles for these breweries are well-versed in GAAP reporting.
- Certain costs may be fully allocated to COGS when they could technically be broken out between COGS and selling expenses, but the cost benefit analysis does not support breaking them out. These costs are adjusted for in financial statement reporting if they are significant enough to warrant adjustment.
- Generally speaking, these breweries have resources that allow them to maintain GAAP or near-GAAP basis financial information year-round. The key to success for this group is setting up processes to properly account for COGS; managing those processes has become a daily task.

All of the breweries in this category who responded to our survey use either partial or full ERP software. Almost 75% consider their costing system to be complex.

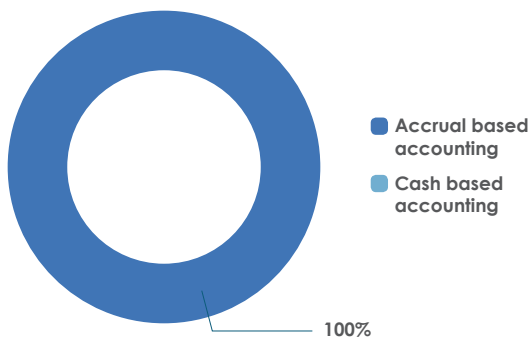
Our survey responses and interview discussions revealed the following points of interest:

- 100% of the breweries in this category maintain their books on a GAAP basis

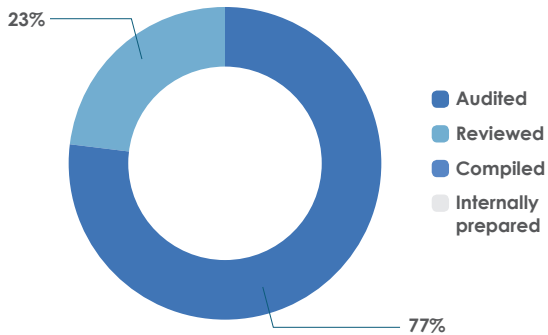
Consistent use of GAAP across this category of brewery



and use accrual basis accounting

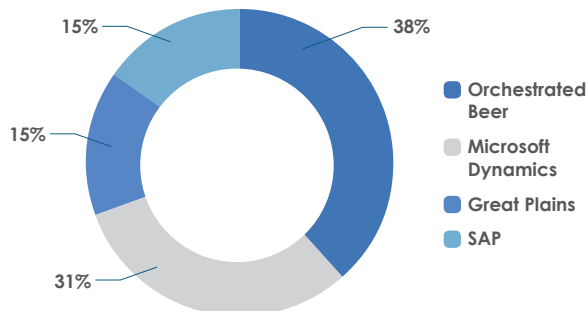


(which is in conformance with GAAP). 100% of respondents receive audited or reviewed financial statements that are prepared by a CPA or other independent auditor.

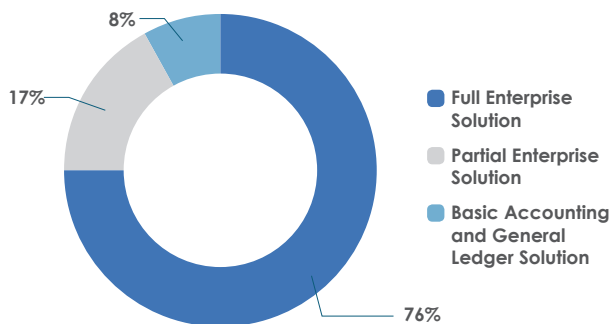


Audited (an audit completed by an independent auditor with a report issued regarding the fairness of the presentation of financial statements and related disclosures)
Reviewed (a financial statement review completed by an independent auditor to provide limited assurance regarding the fairness of the presentation of the financial statements and related disclosures)
Compiled (a financial statement compilation completed by a CPA to conform to GAAP with a compilation report noting no opinion or assurance regarding financial statements)

- All of the breweries in this category are on partial or full enterprise-level accounting systems.



8% believe their system to be basic. About 85% of breweries are at least somewhat satisfied with their accounting system



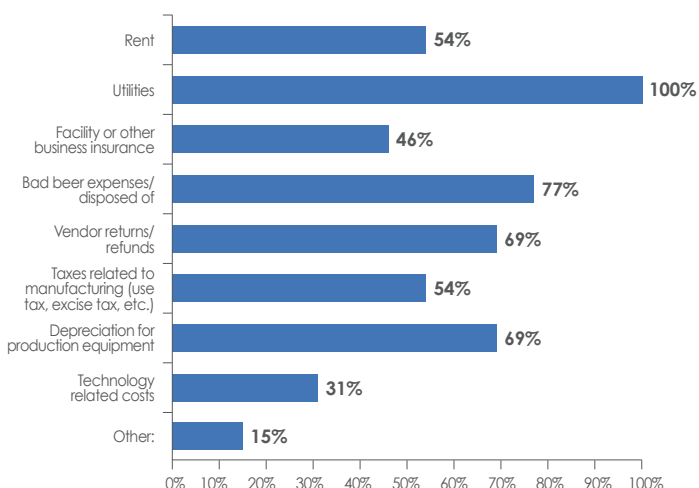
Full Enterprise Solution – Single ERP or multiple integrated solutions are supporting key processes including accounting / inventory management / production & packaging / sales & shipping / purchasing & receiving / production planning and scheduling / quality control / brewery reporting
Partial Enterprise Solution – Multiple functions listed above are being supported by a core accounting package and integrated add-on solutions but two or more of the key functions above are still completely manual or being performed in Excel, Access, or similar internally developed databases
Basic Accounting and General Ledger Solution– Accounting, financial reporting, and sales and disbursements cycles are being supported by an accounting system, while most key brewery operation functions are being performed manually, in solutions like Excel or in other separate applications with limited or no integration

77% report that they track COGS at a complex level.

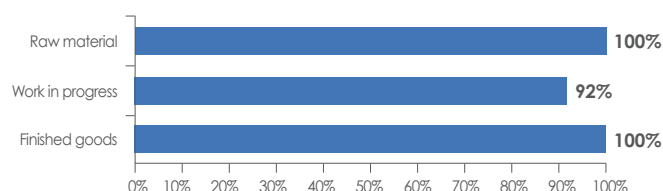
- Regarding cost inclusion in COGS, all breweries include materials (GAAP compliant) and labor, although there are discrepancies between direct and indirect labor and inclusion of all labor costs (e.g., benefits, retirement plan contributions, payroll taxes).

| Position | Wages/salaries | Retirement plan benefits (e.g. 401(k) contributions, ESOP contributions, etc.) | Other benefits (health insurance or other) | Payroll taxes | Total |
|--------------------------------|----------------|--|--|---------------|-------|
| Head brewer | 100% | 75% | 75% | 83% | 12 |
| Other brewers | 100% | 77% | 77% | 85% | 13 |
| Production/packaging personnel | 100% | 77% | 77% | 85% | 13 |
| Maintenance personnel | 100% | 73% | 73% | 82% | 11 |
| Sales/marketing | 0% | 0% | 0% | 0% | 0 |
| IT/HR/operations | 0% | 0% | 0% | 0% | 0 |
| Warehouse | 100% | 64% | 64% | 73% | 11 |

- 100% of breweries include packaging materials in COGS, 100% include freight in, and 31% include freight out. GAAP treats freight out as a selling expense vs. COGS. 92% of breweries include quality control tests and temporary labor in COGS. 15% include training and education expenses in COGS.
- About 31% of brewery respondents use average costs to allocate overhead and indirect costs. 62% assign standard costs to allocate overhead and indirect costs. For standard cost users, about 63% of respondents review/update standard costs on a monthly or quarterly basis and 37% do so on a semi-annual or annual basis.
- Overhead and indirect cost allocations to COGS vary within this brewery respondent group.



- The most commonly allocated costs are utilities (100%), bad beer (disposed) expense (77%), depreciation of production equipment and vendor returns/refunds (69% each), manufacturing taxes (such as excise and use taxes), and rent (54% each). Less than 50% of respondents allocate facility or other business insurance and technology-related costs. Certain breweries include an allocation of property taxes in COGS.
- Based on responses, inventory is accounted for at the following stages: raw material (100%), WIP (92%), and FG (100%)



Raw material (purchases of the ingredients or components of products to be used in production)

Work in progress (inventory that has been put into the production process but is not a finished good)

Finished goods (inventory that is complete and ready for sale)

- Physical inventory counts are performed on a daily (cycle count), weekly, or monthly basis by most (92%) respondents.
- About 54% of breweries track individual SKU gross margin, 23% track overall gross margin, and 15% track general product line gross margin.

appendix c.1

Complex Income Statement

Below is an example of a more complex income statement that breaks out how expenses could be captured, allocated, and reported within an ERP.

| Sales | |
|-------------------------|------------------|
| Bottle sales | 1,000,000 |
| Draft sales | 750,000 |
| Total beer sales | 1,750,000 |

| Cost of Goods Sold - Beer | |
|---------------------------------|----------------|
| Package | 484,000 |
| Draft | 351,000 |
| Adjustments and Variances | 21,000 |
| Total Cost of Goods Sold | 856,000 |
| Gross Profit | 894,000 |

| Cost of Goods Sold breakout | |
|---------------------------------|------------|
| Material costs | 451,000 |
| Materials applied to production | (451,000)* |

*Materials applied to COGS above

| Payroll and Related | |
|--|------------|
| Wages/payroll taxes for: | |
| - Production | 67,500 |
| - Packaging | 24,750 |
| - QC/Lab | 27,000 |
| - Warehouse | 22,500 |
| - Engineering and maintenance | 22,500 |
| Overtime (departments above) | 4,500 |
| Temporary, outsourced, and/or indirect labor | 6,750 |
| Health Insurance | 35,550 |
| 401k/profit sharing/bonus | 23,400 |
| Overhead Application | (234,450)* |
| Total Payroll and Related | - |

*Payroll allocated to COGS above

| Other Production Expenses | |
|---|------------|
| Rent | 63,000 |
| Excise taxes | 23,625 |
| Other taxes (mfg license/fees, personal property, real estate, etc) | 4,950 |
| Utilities | 17,550 |
| Insurance - facilities | 5,850 |
| Workers compensation | 5,625 |
| Obsolete, Damaged, or Lost Inventory | 3,825 |
| Dues/Training/Travel/M&E | 6,750 |
| Consumables, Service and Parts | 4,410 |
| Freight in | 7,200 |
| Memberships/subscriptions | 2,025 |
| Vendor returns/refunds | 3,915 |
| Spoilage/dumped beer, free beer/merch | 5,175 |
| Overhead Application | (153,900)* |
| Total Other Production Expenses | - |

*Overhead applied to COGS above

| | |
|-----------------------------------|-----------|
| Production equipment depreciation | 16,650 |
| Overhead Application | (16,650)* |
| Total Depreciation | - |

*Depreciation applied to COGS above

| Operating Expenses | |
|--|----------------|
| Payroll and Related | |
| Wages/payroll taxes for: | |
| - Administrative/Officer/Sales | 292,000 |
| Overtime, Temporary, outsourced, and/or indirect labor | 7,500 |
| Health Insurance | 58,000 |
| 401k/profit sharing/bonus | 46,000 |
| Total Payroll and Related | 403,500 |

| Other Operating Expenses | |
|---------------------------------|----------------|
| Rent | 80,000 |
| Utilities | 10,000 |
| Insurance - office | 36,000 |
| Workers compensation | 6,700 |
| Dues/Training/Travel/M&E | 11,400 |
| Memberships/subscriptions | 2,900 |
| Operating Depreciation | 21,000 |
| Total operating expenses | 168,000 |
| Total Operating Expenses | 571,500 |

| | |
|-------------------|----------------|
| Net Income | 322,500 |
|-------------------|----------------|

appendix c.2

Expanded Accounts for Brewpub

Below is an example of a chart of accounts that a brewery or brewpub could implement.

| Accnt. # | Account | Type |
|----------|--|---------------------|
| 12500 | 12500 · Inventory - Taproom | Other Current Asset |
| 12501 | 12500 · Inventory - Taproom:12501 · Bottle | Other Current Asset |
| 12502 | 12500 · Inventory - Taproom:12502 · Keg | Other Current Asset |
| 12503 | 12500 · Inventory - Taproom:12503 · Glassware and merch | Other Current Asset |
| 12504 | 12500 · Inventory - Taproom:12504 · Food | Other Current Asset |
| 12505 | 12500 · Inventory - Taproom:12505 · Bulk beer | Other Current Asset |
| 15300 | 15300 · Taproom Furniture & Equipment | Fixed Asset |
| 15301 | 15300 · Taproom Furniture & Equipment:15301 · Bar Equipment | Fixed Asset |
| 15302 | 15300 · Taproom Furniture & Equipment:15302 · Furniture & Fixtures | Fixed Asset |
| 45000 | 45000 · Taproom Sales | Income |
| 45100 | 45000 · Taproom Sales:45100 · Taproom Bottle Sales | Income |
| 45200 | 45000 · Taproom Sales:45200 · Taproom Keg Sales | Income |
| 45400 | 45000 · Taproom Sales:45400 · Taproom Bulk Beer Sales | Income |
| 45300 | 45000 · Taproom Sales:45300 · Growlers | Income |
| 45400 | 45000 · Taproom Sales:45400 · Food | Income |
| 45800 | 45000 · Taproom Sales:45800 · Taproom Comped Beer | Income |
| 45900 | 45000 · Taproom Sales:45900 · Taproom Discounts | Income |
| 55000 | 55000 · Taproom COGS | Expense |
| 55050 | 55000 · Taproom COGS:55050 · Bottle COGS | Expense |
| 55060 | 55000 · Taproom COGS:55060 · Keg COGS | Expense |
| 55070 | 55000 · Taproom COGS:55070 · Bulk Beer COGS | Expense |
| 55200 | 55000 · Taproom COGS:55200 · Taproom Glassware | Expense |
| 55300 | 55000 · Taproom COGS:55300 · Food | Expense |
| 55400 | 55000 · Taproom COGS:55400 · Music | Expense |
| 55500 | 55000 · Taproom COGS:55500 · Soda/Water for Taproom | Expense |
| 61100 | 61000 · Taproom Selling:61000 · Taproom Direct Labor | Expense |
| 61110 | 61000 · Taproom Selling:61000 · Taproom Direct Labor:61110 · Taproom Payroll | Expense |
| 61120 | 61000 · Taproom Selling:61000 · Taproom Direct Labor:61120 · Taproom Payroll Taxes | Expense |
| 61130 | 61000 · Taproom Selling:61000 · Taproom Direct Labor:61130 · Taproom Benefits | Expense |

appendix d

Q&A from 2017 Craft Brewers Conference Seminar

1. **Depreciation and section 179 expensing?** See discussion on overhead costs in Section 1: Cost of Goods Sold Overview.
 - a. Question from CBC: Including section 179 depreciation in COGS seems sketchy since it is not a variable cost that can be controlled based on production.
 - b. Answer from CBC: The assumption is that depreciation is included based on GAAP, which would be on a straight-line basis with the understanding that there would be a difference on the tax side for section 179 to maximize tax savings.
2. **How to allocate labor cost for each batch of beer?** See discussion on labor costs in Section 1: Cost of Goods Sold Overview for best practice.
 - a. Question from CBC: How do you allocate labor cost by each batch of beer separately?
 - b. Answer from CBC: You can come up with either a standard amount or an average cost and allocate that to batches.
3. **Include indirect labor? Property taxes?** See discussion in the Cost Allocation Methodology Expanded callout.
 - a. Question from CBC: Indirect labor (lab, mechanics, warehouse labor)—is that included in COGS? Property taxes included in COGS?
 - b. Answer from CBC: A more extensive list will be included in the manual but yes, these three labor costs would be included in COGS. Again on property taxes: if this is not significant, it's not worthwhile. If it is significant, you can allocate these between production vs. general and administrative space, likely on a square footage basis.
4. **What about barrels used for aging beer?**
 - a. Question from CBC: Are breweries considering barrels a component of cost of goods sold?
 - b. Answer from CBC: It depends on whether this is a material component of cost of goods. If it is gone after one or two beers, it could be included as a cost of the particular beer that is brewed. If it is resold, it would not be part of cost of goods sold.
5. **How to remove old packaging materials no longer being used?**
 - a. Question from CBC: How would you take old packaging, old seasonal, etc. off of cost of goods sold?
 - b. Answer from CBC: For costs that are not going to be used, make sure that there is no way these will be reused. They would then be written off through cost of goods sold.
6. **Shipping cost of returning dunnage of materials that are a part of COGS?**
 - a. Question from CBC: Shipping to return dunnage to the manufacturer: is that part of cost of goods sold since we are getting a credit back?
 - b. Answer from CBC: I have not seen a consistent way of doing this—it is generally one of the smaller costs. You can likely make the case to treat it as either cost of goods sold or a sales expense.
7. **Insurance: general liability, worker's comp, product liability?**
 - a. Question from CBC: General liability and worker's comp—are these included in cost of goods sold? What about product liability once product is on the market?
 - b. Answer from CBC: Since the insurance is directly related to the process (i.e., worker's comp), it would be included. I would include product liability as a general and administrative expense but would want to understand where the liability starts to make sure this treatment makes sense.
8. **Cooperage: leased vs. owned and cooperage storing beer?**
 - a. Question from CBC: Cost of storing cooperage. We lease a lot of cooperage and own a lot of barrels. We currently divide the lease cost by production for the month and do the same thing for square footage for stored beers.
 - b. Answer from CBC: This sounds like a reasonable approach. As activities evolve, continue to revisit this process.

- 9. Pervasiveness of actual vs. standard costing?** Based on the survey that was conducted to provide a basis for the manual, anywhere from 21 to 62 percent of breweries and brewpubs of all sizes apply standard costs.
- Question from CBC: Do most people use actual or standard costing and what do you recommend?
 - Answer from CBC: There's not a huge difference if you run through the different methods. Several systems use a weighted average cost or standard costing approach. If you use an ERP system, you probably use a standard cost or weighted average cost.
- 10. How to account for production and packaging losses?**
- Question from CBC: How would you account for production or packaging losses in cost of goods sold?
 - Answer from CBC: Usually this would flow through as a cost of production (cost of goods sold) since they were part of the process to produce goods to sell. An exceptional event may change this, but generally speaking these would be included in cost of goods sold.
- 11. Yeast: how to account for cost with variable number of generations?**
- Question from CBC: We rely on house yeasts and many times run these for multiple generations.
 - Answer from CBC: Make a reasonable effort to spread the costs as it makes sense, but don't focus on this if it is not significant overall.
- 12. New canning line: should depreciation of equipment be allocated directly to the beer coming off of that line?**
- Question from CBC: New canning line added: would you include the depreciation in the new canning line specifically?
 - Answer from CBC: There will be a jump in the cost initially, but the depreciation costs will level out once production ramps up. Depreciation would be straight-line so this would spread the cost out. It would not all hit immediately. You can manually adjust this or just know that this event caused the spike in cost and continue operating without adjusting the financials.
- 13. Brewpub with distribution: selling costs into pub from brewery?** See discussion in the Brewpubs/Multiple Brewpubs under 5,000 Barrels of Production section in Section 2: Considerations and Best Practices for Breweries of All Sizes.
- Question from CBC: What is best practice for selling cost of beer from brewery into the brewpub?
 - Answer from CBC: A brewpub should treat this cost as it would in a third-party transaction (if they bought the beer from someone else). Accounting for this at wholesale cost vs. "free" beer allows the brewpub to effectively manage its costs and financials.
- 14. Include gas such as CO₂?**
- Question from CBC: How do you treat gas (CO₂) for forced carbonation vs. taproom use?
 - Answer from CBC: It depends on the significance of the cost—is this something that is material in either location? If so, you can allocate the cost out. Otherwise you can treat this as a sales expense in the brewery or brewpub separately.
- 15. Multiple locations and internal shipping costs? Moving from production to packaging.**
- Question from CBC: Should internal shipping costs from location to location be included in cost of goods sold? This is moving from where it is made to where it is packaged.
 - Answer from CBC: I would want to understand the activities a little more in depth, but at first glance this would likely be included in cost of goods sold. More detail would be the best way to determine a specific answer.
- 16. Chemicals and labor for CIP?**
- Question from CBC: Chemicals and labor for CIP process can be expensive. Should I allocate labor on a per-tank basis and chemicals to cost of goods sold via the bill of materials?
 - Answer from CBC: Yes, you could determine an average cost for this process and add that into the bill of materials.