

Part one of three

BUILDING A MICROBREWERY

*The step-by-step approach to
planning, building and running a small brewery
is the only way to fly.*

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So you want to build and operate a brewpub or microbrewery, huh? This article is intended as a brief reference and summary of the steps to building a brewing operation from start to finish.

GETTING STARTED

You have been reading "The New Brewer" for a couple of years, maybe even right back to the premier issue in November, 1983. You have become an enthusiastic homebrewer producing an excellent beer in your basement. You have sampled a number of speciality and imported beers. You have seen a proliferation of microbrewers suddenly appear in the market place and you believe that now is the time to stop thinking and talking about it and to do something about it since you see a great potential in an exciting new industry that has all kinds of possibilities for growth, profit, and fun.

Your problem at the moment is that you still have a few unanswered questions on how to go about it. And a lot of answers about brewing and the brewing industry about which you are not sure what the question is.

You have already determined the following facts and have arrived at the following conclusions:

- Imported and specialty beer sales in the U.S. have been growing at 8-10% every year in the 1980's to a market share of over 20,000,000 Bbls., while the total beer market in the country has remained essentially flat.
- The new microbreweries and pub breweries are competing in the specialty and imported beer market and are able to command a premium price for their products.
- Pub breweries are illegal in some states (and you know the status in your state).
- Licensing and distribution laws are different from state to state and in some cases not clearly defined or are in a state of flux (You know where you stand in your state).
- It is going to take a lot more money than you originally thought to get into the brewing business in the right way.
- Mankind has been brewing beer for 5,000 years so it can't be that complicated a process. After all, over 90 new breweries have sprung up in the U.S. and Canada in the 1980's, mostly successful (and naturally a few failures amongst people who didn't do it right).

Out of the above known facts, you are left with the primary question - How do I go about building a microbrewery the right way to minimize risk and maximize the chance of success? From all your reading of the articles in The New Brewer and other national magazines aimed at the brewing industry such as Modern Brewery Age, Brewer's Digest, the Master Brewer's "Technical Quarterly" and other periodicals; from the many textbooks on brewing technology; from conferences, exhibitions, beer tasting

competitions, you have acquired a wealth of information on the subject. In fact, you have too much information on some subjects, some of it even conflicting and contradictory, and not enough information, data, or hard facts on other topics.

What you have probably found is that you are still not quite sure how to boil down all this information to suit your particular circumstances so that you can devise a good, sound business plan. In saying this to yourself, you have just recognized the most important point to remember which is that, unlike homebrewing, building and operating a microbrewery or brewpub is a business, a commercial venture, that must be profitable to survive, not just a hobby. Just because an enthusiastic homebrewer can produce an excellent beer in his basement which his friends and acquaintances applaud and encourage him to branch out and commercialize, does not guarantee that he can successfully own, operate and sell his great brew commercially.

And even if you build the brewery right, you must remember that you have identified and have decided to enter the speciality and imported beer segment of the market which represents less than 5% of the total beer market. The major distinction between your beer and that of the top 10 is that yours will definitely be different.

TYPES OF BEER

A good beer is one that customers **buy**. The top 10 Brewers had 95% of the beer sales market in 1986 because they marketed products that people wanted to buy. By this definition then, they make good beer. A better beer is one that customers will pay a premium price for. By this definition then, you hope to produce and sell a "better" beer. The simple definition of a **bad** beer is one that customers don't buy. You have no guarantee that the products you finally produce and market will fall into the "better" or "bad" category. These are the only two choices that you have since there is no point in trying to duplicate an A-B or Miller or Stroh beer as they do an excellent job at producing and selling this type of beer.

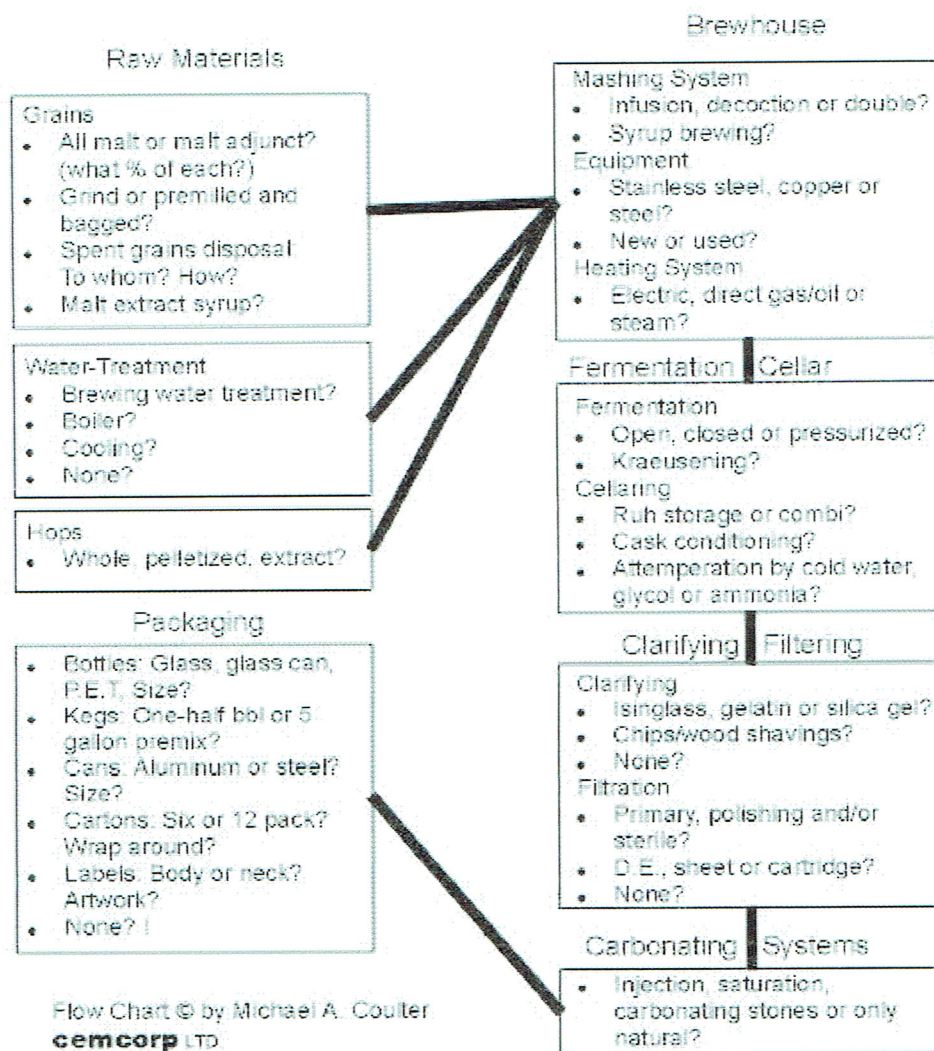
The primary objective of any commercial venture is to make a profit. However, in order to make a profit, you must resolve a myriad of problems covering all facets of marketing, financing, engineering design, construction, administration and operation of a commercial enterprise. What you must know before you even begin building a microbrewery is how to start a business. If you have never been in business for yourself before, the first thing you will have to learn is how to create and develop a successful business, the fundamentals of which apply to any business not just a microbrewery. That is a subject all on its' own. For the sake of space in this article we are going to assume that you understand the basic principles in starting and successfully managing your own business.

FUNCTIONS OF A NEW CAPITAL PROJECT

If you are going to build a brewing operation from scratch, what you are considering is a capital project that can be broken down into nine basic functions. Each function must be managed properly, from conceptualization to start-up. Whatever the type, form, style of brewing operation that you are

contemplating, whether it be called a boutique brewery, craft brewery, cottage brewery, brewpub, microbrewery, etc., there are many questions, not just a few, that you will need to obtain the answers for as they apply to your situation. You may already know the answers to some of the questions but others you will have to research. To assist you in organizing the answers that you have obtained to date and to identify some important questions which you may not have considered, the following is a list of nine function steps that you must systematically and professionally proceed to do. Important questions that you need to ask yourself and find the answers for are listed in point form for your reference as a checklist of topics, problems, etc. to be covered under each function. The only difference between the answers for the brewpub as compared to the mini-brewery will be the depth and detail of the answers, but the questions are common to all new brewery ventures. The answers may be quick to find, or may involve a lot of time and money to ensure getting the best answers. Before you start, you need to have "seed" money available to pay for various studies, deposits, legal fees, etc. which should figure you may never recover.

Conceptual Design Decision-Making Chart



STEP-BY-STEP FUNCTIONS OF A BREWERY PROJECT

1. Conceptual Examination

- reasons/objectives for entering brewing business
- brewpub or microbrewery
- solo or partners or corporation
- location, size
- what products, how packaged
- distribution system; direct, brokers, agents, on-site
- financial resources; who, how much, when

- malt extract or whole grain
- resources; lawyer, accountant, engineer, brewer
- where to find missing skills
- what answers are missing?

2. Market Examination

- products; types, qualities, containers, volumes
- structure and size of target market
- significance of size of target market to size of project
- localization of demand for specialty beers, competition
- consumer preferences
- consumer local area income elasticities, price elasticities
- size of investment proposed
- distributive trade practices, restrictions, preferences
- regulatory requirements, licencing, product approvals
- marketing strategy and sales program
- estimates of sales revenue, costs of sales, distribution costs
- who does the Market Study? why?

3. Feasibility Examination

- define company, resources, skills, deficiencies
- reasons for selected marketing strategy, detail
- reasons for selected technology and equipment, detail
- market and plant capacity, location and site, detail
- preliminary design
- drawings/schematics; site plan, building layout, process
- capital cost estimates
- alternatives, options, variables
- operating cost estimates
- construction cash flow projections
- proforma financials, profit & loss, balance sheets, sensitivity analysis, working capital, debt service
- return on investment, tax considerations
- schedule, bar chart
- management identified, qualifications
- who does the Feasibility Study?

4. Project Justification

- At this point, you will know if it is worth proceeding, The assumptions in the Feasibility Study can be tested and formalized to enable a final investment decision to be made.

5. Financing

- market study, feasibility study - done!
- site secured (option, lease, own - and zoned OK)
- manpower requirements, payroll, taxes
- consultants; legal, engineering, accounting, marketing

- risk capital; shareholders, partners, co-op, venture capital
- debt available; mortgage, SBA loan, lease financing, tax exempt bonds, operating line, interim construction financing
- use known technology
- sales contracts
- technical and operations management; qualifications, hiring date
- secure project funds

6. Project Planning

- work breakdowns - who does what?
- master schedule, milestones
- critical path planning
- detailed engineering, working drawings
- develop suppliers lists
- contract & procurement strategy
- procurement commercial terms and conditions, warranties
- liability insurance; during construction, operation, product
- definitive cost control estimates
- cash flow forecasts, establish contingency
- major equipment firm priced
- minor equipment factored
- project control philosophies established

7. Construction/Implementation

- CPM/PERT network, detailed schedules
- progress monitoring procedures established
- reports; types, frequency, scope, for who
- order major equipment and long delivery items
- working drawings
 - foundations and steel
 - drains
 - architectural
 - piping, electrical
- specifications and technical bid documents
- call tenders and subcontracts
- award contracts
- review Vendors' drawings, program details, projections
- construction management systems and procedures; what, who
- temporary facilities; requirements, design, safety
- licence/ legal requirements
- expediting
- change notices
- invoice processing and payments

8. Final Inspection/Testing

- equipment inspections; ex factory, on-site

- mechanical acceptance tests
- documentation, certifications
- manuals; installation, operation, and maintenance
- state and local authorities approvals, tests
- UL, AGA, National Board approvals
- material testing, reports
- as-Built drawings
- deficiencies short-list
- provisional acceptances
- final inspection

9. Operational Management

Commissioning and Startup

- Commissioning plan and start-up procedures
- manuals; design, operating
- spare parts
- operators and staff: hiring and training
- dry start-up
- performance and acceptance testing
- trial brews, product testing, formulating
- performance evaluation and report
- start-up
- final acceptance

Operation

- implement sales and marketing plan
- trouble shooting, corrections for sustained operation
- modifications
- operation of plant and process; production
- plant maintenance
- inventory and production control
- operations accounting

Now You're in Business!

In the next couple of articles we will discuss some of the key questions in each function and offer some suggestions of possible answers.

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