Module 12 / Lesson 01

Introduction

"You know you're priced right when your customers complain—but buy anyway." – John Harrison

This facetious quote is one of my favorites regarding pricing, because it is so accurate for our industry!

One of the hardest, yet most important tasks a soap and skin care startup must do is price their products. If you price them accurately, you will experience profitability by attracting the right people who are willing to pay. If you price inaccurately, you may attract the wrong buyers, which may not always seem evident at first. Furthermore, as you will see, pricing too low may cause you to squander precious time, energy and resources.

Pricing accurately takes time, research, and guts. Pricing, along with inventory management, matters more than almost anything else in the artisan soap and skin care industry.

You actually have a lot of flexibility in how you choose your prices. It is important to understand that pricing "correctly" is a bit of a misnomer. I prefer to use the term, "accurately" to determine pricing, as there is no real "correct" way to do it. Pricing is subjective to your business.

Yes, you must factor in market trends and industry norms, but you also must factor concepts that solely matter to *your* business, such as your target audience and what your mission/objective is.

In this module, we will consider 3 important factors that determine how you should price your products based on how much expense your company takes on. Each of these factors will be broken down into tangible action steps for you to consider and work on.

Why are we talking about pricing? I thought this module was about manufacturing costs…

…Because you need to be financially informed about your undertaking. Before you set your pricing, you *must* work out the costs involved with running your business. This requires time and organization, and it cannot be avoided. Total manufacturing cost, which is broken into 3 main elements, can be tedious to get through, so please take your time and come back to it as many times as needed.

There are three main elements to understanding total manufacturing costs:

1. **Raw materials cost**
    a. Micro-version costing to find the cost-per-unit based on a recipe
    b. Macro-version costing, which takes into account all raw material expenses for a given period.
2. **Labor**
    a. Direct labor
    b. Indirect labor
3. **Overhead**
    a. Fixed expenses
    b. Variable expenses

Let's Get Started!

These 3 factors need much examining, so we will cover each in depth. At the end of this module, you should have a much better idea what your prices should be. The most overlooked concept of pricing products is understanding the true cost of producing them, so let's start there.

Module 12 / Lesson 02

Total Manufacturing Cost: Part 1/3

Knowing how much it costs your soap and skin care business to make a unit (product) helps you price them appropriately so that you can not only cover your costs but also make a profit. Thus, determining the *cost* to set an effective *price* is as necessary as anything else you will ever do in business.

It is important to understand that the cost of raw materials is not the only element to consider when calculating the total manufacturing cost per unit.

Labor and overhead are equally important and should *never* be excluded from the per unit cost. Only when we factor in the cost of 1) raw materials, 2) labor *and* 3) operating expenses (overhead) to a single unit can we find the total manufacturing cost. And doing this takes a bit of organization on your part.

We will discuss the 3 parts to finding the total manufacturing cost in detail. Let's begin with the first, raw materials.

We must look at the cost of raw materials from 2 different scales:

1. The microscale, which determines the cost per unit based on a recipe, and
2. The macroscale, which determines the total raw materials cost for a given period

Finding the Raw Materials Cost Per Unit: Micro and Macro

The steps below are an easy-to-follow overview of costing a single product from a bulk of different raw materials based on a given recipe. This part of costing is the micro-version of what it means to obtain the manufacturing cost per unit, which is vital to your profitability.

But as you will soon see in this lesson and the lessons forthcoming, you also need to understand the macro-version of the total manufacturing costs per unit. This larger-scope of total manufacturing costs is viewed more from an accounting perspective versus the granular, every-day use of the micro-version.

Raw Materials Cost: Micro (cost per unit based on a recipe)

Below is a step-by-step process to finding the true costs of all your raw materials in any particular recipe, which then uncovers the cost per unit (in raw materials). The process below is done by "hand," which has its flaws both in the time investment it takes to accomplish, as well as its accuracy over time, as the cost of raw materials are constantly changing. With that said, I would highly recommend using a manufacturing software like Soapmaker or Crafty Base.

Step One

Write out your recipe, along with the number of units it yields.

My Recipe:

Olive Oil	51.2 oz.
Coconut Oil	44.8 oz.
Palm Oil	32 oz.
NaOH	18.5 oz.
Lavender Oil	4 oz.
Packaging	40 units
Yield	40 bars

Step Two

Uncover all purchase order receipts associated with your recipe's ingredients.

Item Description	Amount	Price	Qty	Subtotal
Almond Oil	7 lb.	$18.35	1	$18.35
Avocado Oil	7 lb.	$18.35	1	$18.35
Beeswax	8 lb.	$44.60	1	$44.60
Coconut Oil	50 lb.	$67.00	1	$67.00
Olive Oil	70 lb.	$86.45	1	$172.90
Palm Oil	50 lb.	$47.00	1	$47.00

Shopping Cart Subtotal: $634.80
Shipping: $138.13
Grand Total: $772.93

Item Description	Amount	Price	Qty	Subtotal
Sodium Hydroxide	1 lb.	$1.55	32	$49.60

Shopping Cart Subtotal: $49.60
Shipping: $28.00
Grand Total: $77.60

Item Description	Amount	Price	Qty	Subtotal
Grapefruit	33.3 oz	$35.41	1	$35.41
Lemongrass	16.6 oz	$13.11	1	$13.11
Sweet Orange	33.3 oz	$22.02	1	$22.02
Peppermint	33.3 oz	$34.17	1	$34.17
Rosemary	16.6 oz	$31.83	1	$31.83
Spearmint	16.6 oz	$32.94	1	$32.94
Lavender	105.6 oz	$181.27	1	$181.27

Shopping Cart Subtotal: $350.75
Shipping: $22.36
Grand Total: $373.11

Step Three

Figure in appropriate shipping costs for each ingredient purchased.

Let's do the sodium hydroxide first, as it will be the easiest.

First let's look at the equation:

$$\frac{\text{Ingredient Cost + Shipping Cost}}{\text{Units Purchased (in weight)}} = \text{Price Per UOM (Unit of Measure)}$$

Now let's look again at the purchase order and then apply the equation.

Item Description	Amount	Price	Qty	Subtotal
Sodium Hydroxide	1 lb.	$1.55	32	$49.60

Shopping Cart Subtotal: $49.60
Shipping: $28.00
Grand Total: $77.60

$$\frac{\$49.60 + \$28.00 = \$77.60}{32 \text{ (pounds)}} = \$2.43 \text{ (per pound)}$$

The result is $2.43 per pound.

Now that was easy, as there was only one item on the purchase order, therefore *all* the shipping costs could be applied to that *one* item. It gets a bit trickier when applying the appropriate amount of

shipping to an item when there are multiple line items coming at different weights. Soapmaker software takes care of this for you automatically.

But if you do not yet utilize a manufacturing software, fear not! It can be done by hand. Let's look at how to apply the appropriate amount of shipping per item to the invoice containing all the base oils:

Item Description	Amount	Price	Qty	Subtotal
Almond Oil	7 lb.	$18.35	1	$18.35
Avocado Oil	7 lb.	$18.35	1	$18.35
Beeswax	8 lb.	$44.60	1	$44.60
Coconut Oil	50 lb.	$67.00	1	$67.00
Olive Oil	70 lb.	$86.45	1	$172.90
Palm Oil	50 lb.	$47.00	1	$47.00
Shopping Cart Subtotal: $634.80				
Shipping: $138.13				
Grand Total: $772.93				

Notice, of course, that we are only using three of the six ingredients from this particular purchase order. Even though these ingredients will not find their way into our recipe, it is still important to include them in your shipping cost figuration.

When applying the appropriate amount of shipping to any certain item on a big purchase order, the first thing to do is add up the entire amount of weight purchased on the order.

When we totaled the order above in weight, it looks like this:

Almond Oil	7 lbs.
Avocado Oil	7 lbs.
Beeswax	8 lbs.
Coconut Oil	50 lbs.
Olive Oil	70 lbs.
Palm Oil	50 lbs.
Total Weight:	192 lbs.

The next step is to then divide each ingredient's weight by the total:

Almond Oil	7 / 192	0.04
Avocado Oil	7 / 192	0.04
Beeswax	8 / 192	0.04
Coconut Oil	50 / 192	0.26
Olive Oil	70 / 192	0.36
Palm Oil	50 / 192	0.26

The answers to each of these equations in the far right represents a percentage:

Almond Oil	0.04	4%
Avocado Oil	0.04	4%
Beeswax	0.04	4%
Coconut Oil	0.26	26%
Olive Oil	0.36	36%
Palm Oil	0.26	26%

So, of the total number of ingredients purchased, almond oil accounts for 4 percent of the total by weight (7 lbs. / 192 lbs. = 0.04), while coconut oil accounts for 26 percent of the total weight (50 / 192 = 0.26).

Now that we have the percentages from each ingredient by weight, we can apply it to the total amount of shipping that was charged on the entire order. Let's look at the purchase order receipt again:

Item Description	Amount	Price	Qty	Subtotal
Almond Oil	7 lb.	$18.35	1	$18.35
Avocado Oil	7 lb.	$18.35	1	$18.35
Beeswax	8 lb.	$44.60	1	$44.60
Coconut Oil	50 lb.	$67.00	1	$67.00
Olive Oil	70 lb.	$86.45	1	$172.90
Palm Oil	50 lb.	$47.00	1	$47.00
Shopping Cart Subtotal: $634.80				
Shipping: $138.13				
Grand Total: $772.93				

As we see from the purchase order, we've been charged $138.13 total for shipping. Now we apply this total shipping charge to each ingredient we purchased by weight. Here is how that looks:

Almond Oil	0.04	x $138.13	=	$5.53
Avocado Oil	0.04	x $138.13	=	$5.53
Beeswax	0.04	x $138.13	=	$5.53
Coconut Oil	0.26	x $138.13	=	$35.91
Olive Oil	0.36	x $138.13	=	$49.73
Palm Oil	0.26	x $138.13	=	$35.91
		Total		$138.13

Now, we simply add these costs back into each ingredient's subtotal cost.

Item Description	Subtotal	Subtotal + Shipping	True Total
Almond Oil	$18.35	$18.35 + $5.53	$23.88
Avocado Oil	$18.35	$18.35 + $5.53	$23.88
Beeswax	$44.60	$44.60 + $5.53	$50.13
Coconut Oil	$67.00	$67.00 + $35.91	$102.91
Olive Oil	$172.90	$172.90 + $49.73	$136.18
Palm Oil	$47.00	$47.00 + $35.91	$82.91

Now we have a pretty good look at how the shipping breaks down for each ingredient purchased in this invoice.

Step Four

Now it is time to break each of these down into the appropriate unit of measure (UOM):

Ingredient	Quantity	True Total	Total / UOM	Price Per Pound
Almond Oil	7 lb.	$23.88	= $23.88 / 7	$3.41 per lb.
Avocado Oil	7 lb.	$23.88	= $23.88 / 7	$3.41 per lb.
Beeswax	8 lb.	$50.13	= $50.13 / 8	$6.27 per lb.
Coconut Oil	50 lb.	$102.91	= $102.91 / 50	$2.06 per lb.
Olive Oil	70 lb.	$136.18	= $136.18 / 70	$1.95 per lb.
Palm Oil	50 lb.	$82.91	= $82.91 / 50	$1.66 per lb.

We would then use the same methodology to find the true, adjusted price per unit of measure for our Lavender essential oil, which is used in our recipe. If you do the work based on the above information for Lavender, your answer should come to be $1.83 per ounce.

The final step before implementing these costs into your recipe is to ensure that all units of measure are the same. In the purchase order receipts above, the base oils and sodium hydroxide are in pounds, while our essential oils are in ounces. Because our recipe is in ounces, we need to make a quick adjustment for the base oils and sodium hydroxide. Since there are 16 ounces in a pound, we simply divide our price per pound for each ingredient by 16:

Ingredient	Price Per Pound	Price Per Ounce
Almond Oil	$3.41 / 16	$0.21
Avocado Oil	$3.41 / 16	$0.21
Beeswax	$6.27 / 16	$0.39
Coconut Oil	$2.06 / 16	$0.13
Olive Oil	$1.95 / 16	$0.12
Palm Oil	$1.66 / 16	$0.10
Sodium Hydroxide	$2.43 / 16	$0.15

Now let's get rid of the ingredients we aren't using in our recipe and add our Lavender essential oil into the list:

Ingredient	True Price Per Ounce
Almond Oil	$0.21
Avocado Oil	$0.21
Beeswax	$0.39
Coconut Oil	$0.13
Olive Oil	$0.12
Palm Oil	$0.10
Sodium Hydroxide	$0.15
Lavender Oil	$1.83

Now, let's say your true, adjusted price per unit for packaging comes out to be $0.35 per unit. As mentioned, some companies exclude packaging from their raw materials, however I *do* consider them to be a raw material. Ultimately, the choice is yours.

Now we have our true, adjusted price per unit of measure for each raw component of our recipe:

Step Five

Olive Oil	51.2 oz.	x $0.12	= $6.14
Coconut Oil	44.8 oz.	x $0.13	= $5.82
Palm Oil	32 oz.	x $0.10	= $3.20
NaOH	18.5 oz.	x $0.15	= $2.78
Lavender Oil	4 oz.	x $1.83	= $7.32
Packaging	40 units	x $0.35	= $14.00
		Total	= $39.26
Yield: 40 bars		Total / 40	= $0.98

As you can see, we've come up with $0.98 per bar in raw materials cost.

Raw Materials Cost: Macro (total)

Uncovering your total manufacturing costs from an accounting perspective requires you to look at your raw materials from a much broader view than the micro-version above. With this perspective in mind, you must take into account the *entire* amount of your raw materials cost in a specific reporting period. Reporting periods can be different, but the vast majority of businesses use the calendar year as their reporting period for tax filing, as it is certainly the least complicated method. Keep in mind, however, once you learn the following information, you can quickly find your total manufacturing costs for *any* period you choose, such as one month or one quarter.

This macro-version of raw materials cost is where the real total manufacturing cost configurations come into play. Remember, the TMC includes 1) raw materials, 2) labor and 3) operating expenses:

1. The cost of raw materials is the *total* cost of all raw materials used for the manufacturing of a product during a given period.
2. The cost of labor is the *total* cost of labor that contributes to the manufacturing of a product during a given period.
3. Operating expenses (overhead) are the *total* costs that are not directly related to the manufacturing of a product, but still contribute to the company's profit-making activities during a given period.

We'll cover number 2 and 3 in lessons forthcoming. Right now, let's look at the *total* cost of all raw materials used for the manufacturing of a product during a given period. Remember, the micro-version above is the simple math to allocate the cost of a unit based on a particular recipe. The macro-version is:

Beginning inventory + Purchases added - Ending inventory = Total Cost of Materials

- **Beginning inventory** is the monetary value of the raw materials you have on hand on day 1 of the given period.
- **Purchases added** is the monetary value of all the raw materials you purchase during the same period.
- **Ending inventory** is the monetary value of the raw materials you have on hand at the end of the same period.

Let's break this down:

Step 1

Determine the period of time you would like to track. In this example, we will use the calendar year, January 1 – December 31.

Step 2

Establish your beginning inventory of raw materials by obtaining the value of all raw materials you had on hand on day one: January 1st. In an ideal world, you would have conducted an inventory audit at close of business, December 31st (the day prior), which would give you the correct count. If you have a manufacturing software program such as Soapmaker and you've kept everything up to date, this is as easy as looking on the screen and adding up the totals.

Let's say the value of your beginning inventory looks something like this:

– Coconut oil	$186
– Olive oil	$112
– Castor oil	$18
– Rice bran oil	$89
– Packaging	$102
– Avocado oil	$67
– Shea Butter	$8
– Sodium hydroxide	$58
– Distilled water	$4
– Essential oils	$436
– Colorants	$121
– Additives	$10
Total:	$1,211

Let's look again at the raw materials cost equation:

Beginning inventory + Purchases added - Ending inventory = Total Cost of Materials

We now have established beginning inventory:

$1,211 + Purchases added - Ending inventory = Total Cost of Materials

Step 3:

Establish all your added raw materials purchased within the time period. In our example of the calendar year, you would simply add up all raw materials receipts that you purchased between January 1 – December 31. Let's use this example:

- Total raw materials purchased for the year: $11,397

We now have established beginning inventory *and* purchases added:

$1,211 + $11,397 - Ending inventory = Total Cost of Materials

Step 4:

Much like Step 2, we simply find the value of all remaining raw materials on hand at close of business, December 31:

– Coconut oil	$91
– Olive oil	$86
– Castor oil	$0
– Rice bran oil	$44
– Packaging	$78
– Avocado oil	$34
– Shea Butter	$0
– Sodium hydroxide	$14
– Distilled water	$0
– Essential oils	$297
– Colorants	$79
– Additives	$35
Total:	$758

We now have established all 3 elements to account for the cost of raw materials for the year:

$1,211 + $11,397 – $758 = $11,850

Thus, the total cost of raw materials for the calendar year in this example is $11,850. We have now found the first of three elements to obtaining the total manufacturing cost. Now let's move onto the next lesson, labor costs.

Be advised, we will use these example numbers to expound upon in the next lesson.

Module 12 / Lesson 03

Total Manufacturing Cost: Part 2/3

Remember, labor and overhead are *equally* important and should *never* be excluded from the per unit cost of your soap and skin care products. Only when we factor in the cost of 1) raw materials, 2) labor *and* 3) operating expenses to a single unit can we find the total manufacturing cost.

Just like the cost of raw materials,

We must look at labor costs from 2 different scales:

1. Direct labor, which determines the cost of labor per unit based on a recipe, and
2. Indirect labor, which determines all of the labor cost that cannot be traced back to a specific unit produced.

Furthermore, as you will soon discover, there is a micro and macro version of labor costs, much like raw materials. We must find the per unit cost of direct labor *but also* the larger-scale total of labor costs in a given period. We will take the examples from the previous lesson and build on them in this lesson.

Finding Labor Cost: Direct & Indirect

Direct labor is pretty straightforward and is easy to incorporate into the per unit cost of a product.

Indirect labor is more nuanced. Indirect labor refers to worker's hours that are spent working on projects that cannot be traced back to specific production units or products. Since indirect labor is a bit of an intangible concept, it might be best to look at an example.

To reiterate, direct labor consists of work done on specific products. One of my first employees was hired solely for production. She would come in on her scheduled days, look at the production board and immediately know what to craft next. After putting up her personal belongings and donning gloves and goggles, she would get to work making product. This was 2013, and I paid her $12.00 per hour. Based on the time it took her to craft any given batch of product, I could monetarily translate her timed efforts into the cost of a single unit, as you will soon see.

Shortly after employing my main production person, I hired another individual, who took care of customers in the store, helped me with administrative tasks, ran errands and performed the janitorial work on both the retail side and the production side of our operation. She would prepare shipments and print invoices and packing slips. She would vacuum the office and pick up and clean all of our randomly placed coffee cups. She performed a plethora of tasks, none of which included making products.

This person's efforts aided in the production of products, no question. But it was impossible to directly tie her efforts to specific product creation, especially per unit. Nonetheless, I still had to account for her wage labor just as much as I did for my production person's labor to find the true, total manufacturing cost of my business.

Much like the micro and macro version of costing raw materials, direct and indirect labor are viewed in much the same way. Factoring indirect labor into the total manufacturing costs is done so from a larger, accounting perspective.

Let's first look at how direct labor effects the cost per unit and then move onto the larger-scaled indirect labor effects.

Finding Direct Labor (cost per unit based on a recipe)

Let's look at some familiar information and then add direct labor to it. In the previous lesson, we looked at an example recipe and came up with the following raw material cost per unit (bar of soap):

Olive Oil	51.2 oz.	x $0.12	= $6.14
Coconut Oil	44.8 oz.	x $0.13	= $5.82
Palm Oil	32 oz.	x $0.10	= $3.20
NaOH	18.5 oz.	x $0.15	= $2.78
Lavender Oil	4 oz.	x $1.83	= $7.32
Packaging	40 units	x $0.35	= $14.00
		Total	= $39.26
Yield: 40 bars		Total / 40	= $0.98

In this example, the per unit cost of the bar is $0.98 in raw materials. Now we need to account for labor.

When does direct labor begin? When does it end?

Does the labor begin when the scale turns on? Or when the stick blender fires up? Or when the first cup of coffee is poured?

Ultimately, this is up to you, which is why it is so crucial to be organized and responsibly observing Good Manufacturing Practices (Module 09). To put it broadly, I believe the labor process looks something like this:

- Establish/retrieve recipe
- Retrieve all necessary tools, equipment and supplies
- Retrieve all necessary raw materials
- Put on safety goggles, gloves, hair net or hat, apron, etc.

- Main production (weighing, pouring, etc.)
- If applicable, packaging and labeling each unit produced.
- Placing product in appropriate place (whether a packaged, finished good or work-in-progress, such as a soap curing rack) to await sale or further their work-in-progress status
- Paperwork (batch records/batch sheets…all necessary GMP components)
- Raw materials inventory reduction in manufacturing software (i.e., clicking "make batch" in Soapmaker software)
- Cleaning/wiping of the immediate workspace
- Returning all raw materials used to their proper storage
- Returning all tools, equipment and supplies to their proper storage, or to the cleaning station, such as the kitchen/sink/dishwashing area
    - If applicable, washing all soiled (or oiled!) tools, equipment and supplies used in production
    - Return all tools, equipment and supplies to their proper storage

If the product made requires no cure time (i.e., a sugar scrub) and has been completely packaged, the product is now a finished good, placed in the appropriate place and the labor time has ended.

But if the product requires cure time or needs more done to it (soap), the direct labor picks back up after the time lapse. For example, 24-48 hours after all previous steps would look something like this:

- Retrieving tools necessary for cutting bars and preparing dedicated space to curing
- Cutting soap mass into bars
- Placing cut bars onto curing rack
- Identifying the curing batch with the appropriate information tag or label (name, date made, batch number, etc.)

After another time lapse for curing…

- Retrieving the cured batch
- If applicable, polishing/cleaning/finalizing their appearance
- Retrieving all necessary packaging/labeling units
- If applicable, packaging and labeling each unit
- Placing the bars (now finished goods) in their appropriate place to await sale

As you can see, there are several steps to complete a product. At first glance, most soapmakers only account for the main production time, which are just the first 5 – 8 steps in the example above. They generally don't account for the record-keeping, cleanup and all steps after curing. This is a recipe (no pun intended) for disaster when it comes to labor-costing a production batch. You must account for each and every painstaking step in the process for a precise measurement of direct labor time. This is also why you must be very, *very* organized when hiring an employee for manufacturing/production.

Let's make a pretend production run of the 40-bar batch of lavender soap from the example recipe above. We'll put a time to each applicable step and give the direct labor wage $10 per hour:

Recipe with raw material cost:

Olive Oil	51.2 oz.	x $0.12	= $6.14
Coconut Oil	44.8 oz.	x $0.13	= $5.82
Palm Oil	32 oz.	x $0.10	= $3.20
NaOH	18.5 oz.	x $0.15	= $2.78
Lavender Oil	4 oz.	x $1.83	= $7.32
Packaging	40 units	x $0.35	= $14.00
		Total	= $39.26
Yield: 40 bars		Total / 40	= $0.98

Steps with labor time:

- Establish/retrieve recipe — 1 minute
- Retrieve all necessary tools, equipment and supplies — 3 minutes
- Retrieve all necessary raw materials — 4 minutes
- Put on safety goggles, gloves, hair net or hat, apron, etc. — 1 minute
- Main production (weighing, pouring, etc.) — 30 minutes
- Place bulk soap somewhere safe for saponification — 1 minute
- Paperwork — 4 minutes
- Raw materials inventory reduction in manufacturing software — 1 minute
- Cleaning/wiping of the immediate workspace — 3 minutes
- Returning all raw materials used to their proper storage — 4 minutes
- Take all tools, equipment and supplies to the sink, wash/dry — 15 minutes
- Return all tools, equipment and supplies to their proper storage — 3 minutes

Next day…

- Retrieving tools necessary for cutting bars, put on gloves — 1 minute
- Cutting soap mass into 40 bars, placing bars on rack — 7 minutes
- Identifying the curing batch with the appropriate information — 2 minutes

After cure…

– Retrieving the cured batch	1 minute
– Polishing/cleaning/finalizing their appearance	10 minutes
– Retrieving all necessary packaging/labeling units	1 minute
– If applicable, packaging and labeling each unit	15 minutes
– Placing the now finished goods in their appropriate place	3 minutes

After totaling the time from each step above, we discover that the real, *total* time it takes to make the 40-bar batch of lavender soap is 110 minutes, or 1 hour and 50 minutes, or 1.83 hours.

The labor cost, at $10 per hour, comes to $18.30: $10 x 1.83 hours = $18.30

Now let's add this back into the recipe cost:

Olive Oil	51.2 oz.	x $0.12	= $6.14
Coconut Oil	44.8 oz.	x $0.13	= $5.82
Palm Oil	32 oz.	x $0.10	= $3.20
NaOH	18.5 oz.	x $0.15	= $2.78
Lavender Oil	4 oz.	x $1.83	= $7.32
Packaging	40 units	x $0.35	= $14.00
Direct Labor	1.83 hrs x	$10 per hr	= $18.30
		Total	= $57.56
Yield: 40 bars		Total / 40	= $1.44

As you can see, we raised the cost of the bar $0.46 (47% increase) by adding direct labor at $10 per hour to the recipe. If you were to provide wage labor at $15 per hour, this same recipe would cost $1.67 per unit.

What if I'm the only one in my business? Do I still need to include labor?

This is probably my most-asked question from budding soapreneurs. And it isn't a simple answer. Let's discuss the crux of the matter – the difference between salary and wage labor.

The essential difference between salary and wage labor is that a salaried person is paid a fixed amount per pay period and a wage earner is paid by the hour. Someone who is paid a salary is paid a fixed amount in each pay period, with the total of these ***fixed payments*** over a full year summing to the amount of the salary ("I make $60,000 a year in salary."). There is no linkage between the amount paid and the number of hours worked.

For example, if a person has a $52,000 salary and she is paid once a week, then the gross amount of each of the 52 paychecks she receives during the year is $1,000 ($52,000 / 52 weeks). She is not paid

a smaller amount for working fewer hours, nor is she paid more for working overtime. In fact, salaried people are exempt from overtime pay.

Someone who is paid wages receives a pay rate per hour, multiplied by the number of hours worked. For example, if you hire a person and pay them a wage of $20 per hour, she will receive a gross pay of $800 if she works a standard 40-hour week ($20/hour x 40 hours) but will only receive gross pay of $400 if she works 20 hours in a week ($20/hour x 20 hours). To review the parameters of overtime, refer to Module 07.

As you will see in the forthcoming lesson, salaries are considered a fixed cost to your company, which does ***not*** change from month to month. Conversely, wage labor is considered a variable cost to your company, as it changes based on how much a wage laborer works in a given period.

So now that we understand that your salary is a fixed cost, (which will be detailed in the next lesson), we can apply it as an expense, just like paying rent every month for a retail space, into the total manufacturing cost (again, next lesson). If you never plan on hiring an employee, you don't necessarily have to incorporate a labor wage to your recipe costs, as long as you still account for your personal payments as fixed overhead. That said, as a one-person manufacturer with lofty goals, one will have to pay more for automation technology (email marketing costs, website design and updates, etc.) and contracting help as time goes on, so creating a wage labor into your unit costs—even if you don't have an employee—can provide a financial buffer of sorts, to expense needed help when necessary or to retain it as profit.

Finding Indirect Labor

The above recipe costing with added direct labor is as straightforward as it gets. Finding indirect labor, which, much like finding the macro-version of raw materials, is done so from an accounting perspective, which requires a broader perspective. But fear not, it is an easy process. We will look at this from the perspective of a company who has been in business and has employees that are not at all involved with manufacturing. This will give you the knowledge you need to move forward in better understanding your total manufacturing costs, even if you don't plan on hiring anytime soon.

Step 1

Let's use the same company example from Lesson 02, where we found both the micro and macro versions of raw materials cost and add the following labor costs to it.

The first step is to pull the payroll reports from the previous year.

Step 2

Sort payroll rates by job type by separating the employee's job types into the following example list:

- Manufacturing/production (direct labor)
- The business owner (indirect labor)
- Store clerk (indirect labor)

Step 3

We add together the earnings for each job type, per employee:

- Manufacturing/production (direct labor)
  - One employee | $30,000
- Business owner (indirect labor)
  - One person | $24,000
- Store clerk (indirect labor)
  - Two employees:
    - #1 | $12,000
    - #2 | $8,000

Please note, these dollar amounts can represent either salary or wage labor. Let's say, for example, the two store clerks and the manufacturer are per-hour wage earners. Their respective earnings in this example represent the total amount of hours they earned in one calendar year. The business owner in this example is earning a $24,000 salary. **Direct and indirect labor have nothing to do with whether someone in the company is a wage laborer or salary earner.**

Also keep in mind that these totals are not their "take-home" pay. These totals assume payroll costs and other earnings-related expenses, such as benefits. For more information on payroll costs, taxes related to employment and employee benefits, please speak with a professional.

In this example, the company has 2 job types (3 total positions) that are *indirectly* tied to the manufacturing of their products and 1 position that is *directly* tied to manufacturing.

Step 4

Find the total number for each (direct and indirect):

- Direct labor cost total: $30,000
- Indirect labor cost total: $44,000

Now we know that the total labor expense for this example company amounts to $74,000 for one calendar year!

The Importance of Direct & Indirect Labor

Most startups in our industry start their business as a one-person kitchen crafter, so they tend to come up with a cost/price method that is very small in scale (which is understandable).

Moreover, many will apply a labor cost per recipe, much like the example we did earlier, but then confuse the expensed labor in the recipe with their own salary. As touched on, wage labor and your salary should be two different things, at least as you progress your business forward. You are not a wage laborer, just like Sara Blakely, the CEO of Spanx® isn't one. She is a salaried employee of the company. She does not get paid by the hour. Furthermore, her responsibilities within the company have nothing to do with manufacturing. Her job is *indirectly* related to the production of her goods.

But that doesn't mean her salary shouldn't be accounted for in the total manufacturing costs of her company.

You see, it is easy to incorporate a labor charge into a per-unit recipe, but there is more to it than that. Your manufacturing process, which is the lifeblood of your business, needs to afford *more* than the per-hour production time it takes to craft a given product. Furthermore, as you will see in the next lesson, you must account for a plethora of other expenses.

We have completed 2 of the 3 major parts of configuring the total manufacturing costs:

- **Raw materials cost**
    - **Micro-version costing to find cost per unit based on a recipe**
    - **Macro-version costing, which takes into account all raw material expenses for a given period.**
- **Labor cost**
    - **Micro-version costing to find cost per unit based on a recipe**
    - **Macro-version costing, which takes into account all labor expenses for a given period, whether directly involved in production or not:**
        - **Direct labor**
        - **Indirect labor**

- ☐ Overhead (Next lesson)
    - ☐ Fixed
    - ☐ Variable

Let's take our example company from the previous lesson and combine it with our example numbers from this lesson to see our totals thus far, knowing we still must include overhead in the next lesson:

Total cost of raw materials: $11,850

Beginning Inventory ($1,211) + Purchases Added ($11,397) - Ending Inventory ($758) = $11,850

Total cost of labor: $74,000

Direct labor cost ($30,000) + Indirect labor cost ($44,000) = $74,000

Total so far: $85,850

Module 12 / Lesson 04

Total Manufacturing Cost: Part 3/3

Operating expenses, or overhead, refers to *all* expenses required to operate your business. These expenses are not necessarily tied directly to manufacturing. From office supplies to administrative costs to the electric bill, these expenses are essential to running your business, even though they have nothing to do with the actual making of products. Accounting for overhead is necessary for finding the true cost of running your business, and thus is crucial to how you price your products. Accounting for all overhead is just as important as understanding the cost per unit in raw materials or finding labor costs.

Typical Operating Expenses of a Soap & Skin Care Company

Below is an example list of expenses that your company is sure to come across if in business long enough. Keep in mind that this is not exhaustive list, as you may have a few expenses required to run your business that are not shown below.

- Taxes
- Salaries, benefits
- Wage labor and/or independent contractors
- Payroll costs
- Rent or mortgage
- Utilities
- Phone
- Marketing
- Brand development
- Packaging / design
- Booth fees
- Advertising costs
- Promotion costs
- Website / internet
- Raw materials
- Office supplies
- Tools & equipment
- Membership dues & subscriptions
- Liability and other insurance
- Administrative costs
- Legal and accounting costs
- Research & development
- Coaching / mentoring
- Travel costs
- Shipping

Fixed & Variable

All the costs your company can be broken into two main categories: fixed and variable.

Fixed costs are independent of output. No matter how much you make and sell, fixed costs remain constant (fixed).

Variable costs vary with output. Variable costs go up and down depending on how much you make and sell. Let's go over each in more detail.

Fixed Expenses

No matter what the sales volume is for your business, fixed expenses must be met every month, quarter or year. Typical fixed expenses include:

- Rent or mortgage
- Salaries
- Payroll costs
- Liability and other insurance
- Utilities
- Membership dues and subscriptions
- Legal and accounting costs.

The timing of these expenses does not change, regardless of whether a company's revenue goes up or down. These expenses are easy to plan and make a budget for, as you know when they are coming.

If you own a home and have a mortgage, your monthly mortgage payment is a recurrent, fixed expense to your household. Whether you personally make $200,000 a year or $20,000 a year does not change what you owe every month on your mortgage. Thus, it is a fixed, or unchanging expense, no matter your household income.

What expenses does your company have that are fixed?

When I conducted my business from a storefront, I had a variety of fixed costs. I had to pay rent, trash, water, electric and gas every month. These were fixed costs. Please note that my water bill, for example, was not the same amount every month; that is not what I am referring to as fixed. The "fixed" aspect of my water bill was the fact that it came every month, period. It was "fixed" into my yearly budget 12 times. Expenses like a water or gas bill are sometimes considered semi-variable or mixed costs, as they come every month, but fluctuate in cost. I'd rather not use that term for simplicity's sake. I just refer to them as a fixed cost and budget accordingly. When it comes to semi-variable costs, budget according to what feels right for you.

Variable Expenses

Variable expenses fluctuate from month to month in relation to sales and other factors such as promotional efforts and variations in the prices of supplies and services.

Examples of variable expenses:

- Office supplies
- Printing
- Packaging
- Postage / Parcel delivery
- Advertising & promotion
- Wage labor
- Raw materials

An easy way to understand variable costs is the more business you generate, the greater the variable costs are likely to be. Conversely, the less business you generate, the lesser the variable costs are likely to be.

If, for example, you create more sales via wholesale and website, which requires you to ship your products all over the country and/or world, the following list of expenses will increase:

- Office and shipping supplies: copy paper for invoicing, tape, bubble wrap and boxes for shipping, printing cartridges for the uptick in printing invoices and packing slips, etc.
- Raw materials: the more you sell, the more you will manufacture, which means the more you will spend on ingredients and packaging.
- Wage labor
- Commission checks if you have a sales rep landing you these new accounts.

And, for example, if none of this occurred, you wouldn't have to spend extra money on the items above, hence their variability!

Variable expenses are difficult to plan for when budgeting for the upcoming fiscal year. Based on the market's buying habits, you know you probably won't spend as much on printing, shipping, packaging and advertising in February as you will in December, so how do you realistically account for it?

Two Things to Consider When Estimating Variable Expenses:

1. Remember, variable costs go up as your sales go up. Variable costs go down as your sales go down. They almost always work in conjunction.
2. When estimating variable expenses, use an average figure based on an estimate of the yearly total in sales.

Let's use the same $100,000 total sales example from Module 10. Please take a moment to refer back to the module to refamiliarize yourself with the following information:

A soap and skin care company generates $100,000 in total sales and the break down looks like this:

Total Sales: $100,000

- 1st Quarter of Sales: 15% of total profit ($15,000)
- 2nd Quarter of Sales: 20% of total profit ($20,000)
- 3rd Quarter of Sales: 30% of total profit ($30,000)
- 4th Quarter of Sales: 35% of total profit ($35,000)

Based on this example (this, by the way, could also be a *projection* into your future sales if you do not currently have any sales history—it works the *exact* same way for planning), the first thing to do is make a list of all your variable expenses. Let's take the list from above:

- Office supplies
- Printing
- Packaging
- Postage / Parcel delivery
- Advertising & promotion
- Wage labor
- Raw materials

After compiling the list of all variable costs, total up the cost of these in previous years of business (this, by the way, could also be a *projection* into your future variable costs if you do not currently have any sales history—it works the *exact* same way for planning). Let's say that number comes to be $40,000 for the year. We can simply allocate this $40,000 in conjunction with what the percentage breakdown was for each quarter of the total profits above:

Variable Expense Projection: $40,000

- 1st Quarter of Variable Costs: 15% of total variable cost projection ($6,000)
- 2nd Quarter of Variable Costs: 20% of total variable cost projection ($8,000)
- 3rd Quarter of Variable Costs: 30% of total variable cost projection ($12,000)
- 4th Quarter of Variable Costs: 35% of total variable cost projection ($14,000)

This isn't a perfect science—nothing is in business—but since variable costs are directly related to sales volume, utilizing this method is a great way to safely project your expenses when setting up your budget. Remember, as sales go up, so do variable expenses. As sales go down, variable expenses go down.

Factoring in Profit

It sounds a bit strange to factor in profit as an expense, but think of it as a glorified savings account, or even a tithe to your own business account.

Nobody got into business to break even. The idea is to not only put money in your pocket, but also grow the business. When creating an appropriate price for your products, I recommend you include a percentage that "looks" like an expense but is really just an amount that your business retains as profit.

Let's say you sell a bar of soap for $8.00. Of that $8.00, what if 3 percent of it was to be retained and simply not touched? This retained earning just builds on itself with every sale, safeguarding your company's bottom line to make a profit.

Let's see how this example shakes out:

$8.00 x 3% (0.03) = 0.24, or $0.24

In this example, the retained amount is 0.24, or 24 cents. On a timely basis that fits your schedule, extract this retained amount and put it into a savings account or simply keep it in the main business account, preferably untouched. Though $0.24 does not sound like much, this is just one bar of soap sold. If we extrapolate this to 5,000 bars sold at the same price, the retained amount becomes $1,200.

So, this of course is not an "expense," especially from an accounting perspective. But if you act as if it were, you can see the monetary value in doing so.

Factoring in Taxes and Interest

This includes federal, state, and local income and payroll taxes, as well as any interest owed on business debt, such as a business loan. These are expenses that cannot be avoided. Because the tax system is so complex and varies by state, I recommend you talk to a professional number cruncher when it comes to accounting for these costs. Suffice it to say here, they *will* be present in your company, so you must plan for them.

Total Manufacturing Cost

Let's take our example company from the two previous lessons and add overhead. So far, the expenses look like this:

- Total cost of raw materials: $11,850
- Total cost of labor: $74,000
  - **Total so far: $85,850**

Let's look at all of the typical operating expenses again:

- Taxes
- Salaries, benefits
- Wage labor and/or independent contractors
- Payroll costs
- Rent or mortgage
- Utilities
- Phone
- Marketing
- Brand development
- Packaging / design
- Booth fees
- Advertising costs
- Promotion costs
- Website / internet
- Raw materials
- Office supplies
- Tools & equipment
- Membership dues & subscriptions
- Liability and other insurance
- Administrative costs
- Legal and accounting costs
- Research & development
- Coaching / mentoring
- Travel costs
- Shipping

There are two expenses that have already been accounted for—labor (and expenses related to labor) and raw materials—so we can take them off our list.

- Taxes
- ~~Salaries, benefits~~
- ~~Wage labor and/or independent contractors~~
- ~~Payroll costs~~
- Rent or mortgage
- Utilities
- Phone
- Marketing
- Brand development
- Packaging / design
- Booth fees
- Advertising costs
- Promotion costs
- Website / internet
- ~~Raw materials~~
- Office supplies
- Tools & equipment
- Membership dues & subscriptions
- Liability and other insurance
- Administrative costs
- Legal and accounting costs
- Research & development
- Coaching / mentoring
- Travel costs
- Shipping

Let's say this company went back through their year and categorized every expense into one of the expense categories above. After totaling the years' worth of expenses for each, it looks like:

– Taxes	$540
– Rent or mortgage	$12,000
– Utilities	$3,600
– Phone	$660
– Marketing	$3,000
– Brand development	$2,200
– Packaging / design	$1,000
– Booth fees	$900
– Advertising costs	$1,700
– Promotion costs	$800
– Website / internet	$200
– Office supplies	$870
– Tools & equipment	$400
– Membership dues & subscriptions	$250
– Liability and other insurance	$100
– Administrative costs	$670
– Legal and accounting costs	$1,000
– Research & development	$90
– Coaching / mentoring	$2,100
– Travel costs	$800
– Shipping	$2,000
Total	**$34,880**

Now let's add this total to the total raw materials and labor expenses for the year:

– Total cost of raw materials:	$11,850
– Total cost of labor:	$74,000
– Total operating cost:	$34,880
Total	**$120,730**

And there you have it. Taking the same example company from the previous two lessons and including this one, we have derived at its total manufacturing cost. $120,730 represents every single penny the company spent for one calendar year (Please note that this is somewhat of a simplified company example and the expenses of your business will not necessarily reflect this. I showcase this to you to explain how pricing your products is crucial to your bottom line).

Pricing Based on the Total Manufacturing Cost

Based on this example information, pricing products becomes a numbers game. When you decide on how you'd like to price your products, you can surmise, to a degree of specificity, how many products you need to make and sell to reach profitability.

If this company sells soap bars at $6.00 per unit, they will need to sell 20,122 units at full price to cover the total manufacturing costs. Selling 20,122 units at full price would create an approximate break-even, meaning that the company spent $120,730 in order to make $120,730.

- $120,730 / $6.00 = 20,121.67

If they sell their bars at $8.00 per unit, they will need to sell 15,092 units at full price to cover the total manufacturing costs. Selling 15,092 units at full price would create an approximate break-even, meaning that the company spent $120,730 in order to make $120,730.

- $120,730 / $8.00 = 15,091.25

If they sell their bars at $10 per unit, they will need to sell 12,073 units at full price to cover the total manufacturing costs. Selling 12,073 units at full price would create an approximate break-even, meaning that the company spent $120,730 in order to make $120,730.

- $120,730 / $10.00 = 12,073

As you can see, to reach the same conclusion, which is covering the total manufacturing costs and thus breaking even, pricing makes an ***enormous*** difference in how much time, energy and resources it will take to get there.

This company would have to sell over 8,000 more bars at $6.00 than at $10.00 to reach the exact same conclusion. This is a 67% increase in production and sales to cover the ***same amount*** in total manufacturing costs.

To arbitrarily set your prices without understanding your total manufacturing costs is a formula for tragedy. You must understand *all* costs associated with your business before pricing, as only then can you equate this into a real-life, physical undertaking of making and selling.

You should intellectually project all costs in one calendar year before pricing your units, as you will save an immense amount of time, energy and resources in doing so. This cannot be emphasized enough.

Aforementioned, the example company we've been showcasing in this lesson is just that…an example. The costs associated with running your company will be more complex and nuanced, so you need to

develop a deep understanding of your numbers and I recommend doing that with a professional accountant. I am not a professional accountant or tax person, and so my explanations for pricing based on total manufacturing costs are done so in brevity and with the use of generalizations.

That said, you have to start somewhere, and projecting your total manufacturing costs in rough draft form, as we have done with the example company in this module, is a great place to begin.

Furthermore, this example company above assumes only selling one item (soap) at the same price. Your company is likely to be more dynamic, which lends itself to differing margins for different products. Because of this complexity, I recommend reading and following the 27 steps lined out in my book, *Pricing Handmade Soap for Profit*. This book will be a great resource to accompany this program for you to create specificity in your costs and showcasing how different pricing scenarios will contribute to a loss, a break-even or a profit.