



JOB COSTING

Foundations of a Sustainable Business Model

March 2020

Agenda

The Radon Industry - An Outsider's Perspective

- ❖ Industry Overview
- ❖ Industry Challenges
- ❖ Business Ownership Challenges
- ❖ Job Costing
- ❖ Q&A



Industry Overview

The radon industry at a glance:

- ❖ **Regulated** - The industry is regulated and generally requires state licensing.
- ❖ **Fragmented** – Regional markets are often dominated by small practitioners, rather than large firms.
- ❖ **Changing** - The industry is ever-evolving as new information and technologies become available (*some helpful, some threatening*), and awareness, laws, and concerns shift .

Industry Overview

The radon industry at a glance:

- ❖ **Standardized Process** - Despite the changing industry, the key processes of testing are somewhat standardized from provider to provider; competition is (presumably) largely based on market presence and price.
- ❖ **High Variability** - Despite standardized processes, there is a high degree of variability from one job to the next (e.g. each job will have different floor plans, number of entrances and windows, ceiling heights, etc.)

The Challenge

The challenge is to find a way to deliver services as a small practitioner, in this regulated, shifting industry, given a standardized workflow and a highly-variable environment.

To add to the degree of complexity, these small practitioners must:

- ❖ Adapt to change and update business processes accordingly.
- ❖ Train & keep staff up to date.
- ❖ Ensure compliance with all industry / regulatory requirements.
- ❖ Do all of this PROFITABLY!

The Challenge

Those who have been in the business for a while will eventually find a model that works well and generates a profit (*often through trial and error*)...



or alternatively go out of business before they unlock that *combination*.

The Challenge After the Challenge



For the firms that are successful in navigating these challenges, the model tends to work well, (or at least predictably) until... those changes we spoke of are thrust on the industry (expected or unexpectedly).

Changes in regulation, laws, technology, testing equipment, attitudes or awareness of the dangers of radon, or even seemingly distant factors such as the cost of crude oil, can send the business back to square one.



The Challenge After the Challenge



What just happened to my profit?

The *Challenge* isn't only adapting the business model to change but ensuring that any new/updated model can still deliver a sustainable profit.

The Inescapable Margin

A universal principle in free market businesses is that price alone does not matter - and cost alone does not matter; any proposed model must consider both figures in relation to each other.

- ❖ The spread between these rates, otherwise known as the “margin”, must cover all direct and indirect costs, and hopefully have something left over for profit.
- ❖ This simplifies the goal of business to some degree - specifically, we must set a price for our services which exceeds both the delivery (direct) costs and general overhead costs.

Common Scenarios

If only it were that easy – as a consultant focused on small and mid-tier companies these last 8 years, we will work with businesses each year who struggle with the seemingly simple task of setting a price that will allow them to be profitable.

Some common conversations:

- ❖ We had a “great month”, but our numbers only look ok.
- ❖ We have to wait until Q4 to find out how we’ll do this year.
- ❖ Holy cow! How did we lose money this year? We better increase prices (...by some arbitrary amount!)

The Challenge Before the Challenge



For most small business owners, radon is no exception, it often comes down to *the challenge before the challenge*.

- ❖ Practitioners are busy with day-to-day operations.
- ❖ Many businesses lack sufficient resources / bandwidth.
- ❖ No experience, background, business majors, or tools.
- ❖ Without making some change, owners are likely to repeat the trial-and-error cycle... some will win and some will go out of business.

Job Costing: The Missing Tool



Cost recovery is critical to the continued operation of every business – all costs must somehow be recovered.

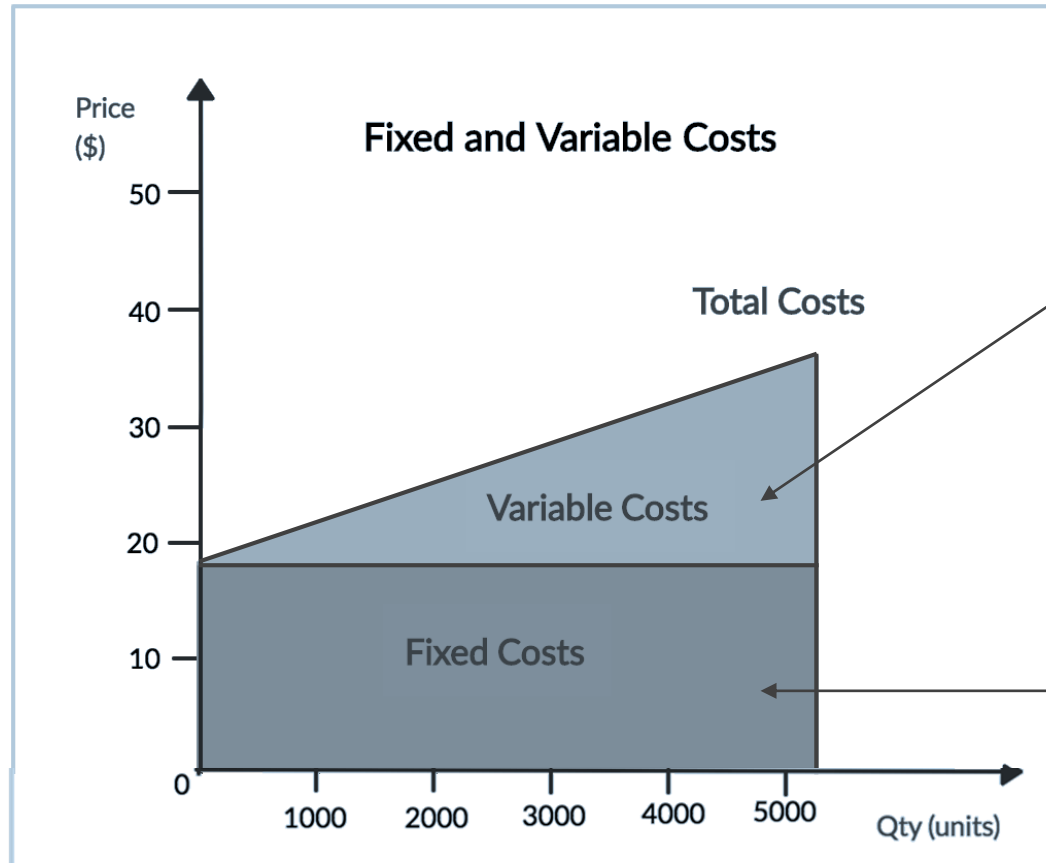
- ❖ Understanding cost structure is key to profitability.
- ❖ The purpose of Job Costing is to understand the total sum of expenses applicable to a particular “job” (e.g. a project, a customer, a unit manufactured, etc.)
- ❖ Employing a Job Cost approach allows for accurate and consistent quoting.
- ❖ The final price must cover direct and indirect costs + profit!

Accounting 101

Costs (expenses) may be classified in a few ways:

- ❖ **Fixed Expenses** – Refers to expenses which do not vary with volume (*within a given range of activity*). Fixed expenses are commonly easy to budget for and predict (e.g. insurance, rent, salaries, etc.)
- ❖ **Variable Expenses** – Refers to expenses which vary in direct proportion to production / activity. Variable expenses can be more challenging to estimate because they require an estimate of sales activity (e.g. hourly wages, materials, consumables, etc.)

Accounting 101



Expenses vary with changes in activity / production.

Expenses remain constant regardless of activity levels.

Accounting 101

Additionally, costs may be categorized based on how they're incurred:

- ❖ **Direct Expenses** – Costs which can generally be traced to a specific, service, customer, or project and are typically easy to assign (*e.g. direct labor, materials, supplies, etc.*)
- ❖ **Indirect Expenses** – Costs which are not directly associated with any particular item, service, or customer activity; they're part of the company's general overhead costs (*e.g. rent, insurance, marketing, etc.*)

Direct Costs

Direct Expenses will likely include:

- ❖ Labor
- ❖ Materials
- ❖ Consumables / Supplies
- ❖ Fees / Permits
- ❖ Travel Expenses

Easy to assign

Direct Labor must often be adjusted for billable hours to be fully recovered.

Ex.

An employee earning \$20/hr. will cost the company ~\$45K.

(\$20 x 2080 Hours + Burden)

However, the employee may only work 800 'billable' hours per year.

Company will need to bill \$57.20 to break even.

Indirect Costs

Indirect Expenses will likely include:

- ❖ Rent
- ❖ Marketing
- ❖ Licensing
- ❖ Indirect Labor
- ❖ Office Supplies
- ❖ Marketing
- ❖ Insurance

Indirect costs must be recovered somehow; commonly done through an **allocation**. Requires an estimate of activity levels to fully recover all costs.

Ex.

Recover \$100,000 over 1,000 jobs.

$$(\$100,000 \div 1,000 = \$100/\text{Job})$$

Allocations may be made in a fixed amount, by %, or by some other method or combination that meets the businesses needs

Setting a Price

Back-End Work:

1. Calculate / Estimate the overhead for the year.
2. Calculate / Estimate the number of jobs per year.
3. Decide on an appropriate allocation method for recovering Indirect Costs.
4. Estimate billable hours for direct labor.
5. Establish a base labor rate for the year.



Setting a Price

Per Job Work:

5. Calculate / Estimate the required labor (time) and multiply by the billable labor rate.
Labor is often 'marked up' above and beyond the calculated labor rate (break even point) – this may cover the indirect costs and profit.
6. Calculate / Estimate materials, supplies, etc.
Materials and supplies are commonly 'marked up.'
7. Apply the indirect cost allocation, if not already covered.
8. Apply a profit margin if not already covered (ordinarily a % of the total job.)
9. Add Contingency and/or Management Reserves as appropriate.

Setting a Price

Company Expense Summary

5 Technicians @ \$20 Ea., 10% Burden	\$ 228,800
Estimated to sell \$200K in Parts & Materials	\$ 200,000
Estimated \$100K Overhead	\$ 100,000
Desired Profit Margin is 10%	\$ 52,880
<hr/>	
Total Revenue Goal	\$ 581,680

* 1000 'Jobs' Expected for the Year

** Each works ~800 per year, (\$57.20 Base Rate)

Setting a Price

Job Expense Summary

Direct Labor:

STAFF	QTY	RATE	TOTAL	+	CHARGE
Tech 1	5	\$57.20	\$286.00	10%	\$314.60

Direct Materials:

ITEM	QTY	COST	TOTAL	+	CHARGE
ABC	1	\$55.00	\$55.00	10%	\$60.50
XYZ	5	\$10.00	\$50.00	10%	\$55.00

TOTAL COST: \$391.00

Setting a Price (Model 1)

Model 1 – All Labor Recovery

Recover \$110,000 over 4,000 Billable Hours (27.50/hr.)

Direct Labor:

STAFF	TOTAL	+	CHARGE	+	CHARGE
Tech 1	\$286.00	10%	\$314.60	\$27.50/hr	\$452.10

$((\$57.20 * 1.1) + 27.50) * 5$

Direct Materials:

ITEM	TOTAL	+	CHARGE	+	CHARGE
ABC	\$55.00	10%	\$60.50	-	\$60.50
XYZ	\$50.00	10%	\$55.00	-	\$55.00

TOTAL COST: \$391.00

TOTAL Price: \$567.50

Setting a Price (Model 1)

Model 1 – All Labor Recovery

Recover \$110,000 over 4,000 Billable Hours

ITEM	TOTAL	REVENUES
Tech Billing Rate	\$90.42	\$361,680
Materials	\$200,000	\$220,000

$(\$57.20 * 1.1) + 27.50$

Total Revenue Goal

\$ 581,680

* 1000 'Jobs' Expected for the Year

** Each works ~800 per year, (\$57.20 Base Rate)

Setting a Price (Model 2)

Model 2 – All Materials Recovery

Recover \$110,000 over \$200,000 in Materials Sales (\$0.55/Dollar)

Direct Labor:

STAFF	TOTAL	+	CHARGE	+	CHARGE
Tech 1	\$286.00	10%	\$314.60	-	\$314.60

Direct Materials:

(\$55 + \$5.50 + (\$55 * .55)

ITEM	TOTAL	+	CHARGE	+	CHARGE
ABC	\$55.00	10%	\$5.50	\$30.25	\$90.75
XYZ	\$50.00	10%	\$5.00	\$27.50	\$82.50

TOTAL COST: \$391.00

TOTAL Price: \$487.85

Setting a Price (Model 2)

Model 2 – All Materials Recovery

Recover \$110,000 over \$200,000 in Materials Sales (\$0.55/Dollar)

ITEM	TOTAL	REVENUES
Tech Billing Rate	\$62.92	\$251,680
Materials	\$200,000	\$330,000

$$(\$200,000 * 1.1) + (\$200,000 * .55)$$

Total Revenue Goal \$ 581,680

* 1000 'Jobs' Expected for the Year

** Each works ~800 per year, (\$57.20 Base Rate)

Setting a Price (Model 3)

Model 3 – Add Profit & Overhead (P&O)

Recover \$110,000 over 1,000 jobs

Direct Labor:

STAFF	TOTAL	+	CHARGE	+	CHARGE
Tech 1	\$286.00	10%	\$314.60	-	\$314.60

Direct Materials:

ITEM	TOTAL	+	CHARGE	+	CHARGE
ABC	\$55.00	10%	\$5.50	-	\$60.50
XYZ	\$50.00	10%	\$5.00	-	\$55.00

Profit & Overhead: \$110.00

TOTAL COST: \$391.00

TOTAL Price: \$540.10

Setting a Price (Model 3)

Model 3 – Add Profit & Overhead (P&O)

Recover (\$110,000 + \$52,880) over \$1,000 jobs

ITEM	TOTAL	REVENUES
Tech Billing Rate	\$62.92	\$251,680
Materials	\$200,000	\$220,000
P&O	-	\$110,000

Total Revenue Goal \$ 581,680

* 1000 'Jobs' Expected for the Year

** Each works ~800 per year, (\$57.20 Base Rate)

Comparing the Models

	Cost	Model 1 (Labor Recovery)	Model 2 (Material Recovery)	Model 3 (P&O Recovery)
Labor	\$286.00	\$452.10	\$314.60	\$314.60
Materials	\$105.00	\$115.50	\$173.25	\$115.50
P&O	-	-	-	\$110.00
Total	\$391.00	\$567.60	\$487.85	\$540.10
Profit	-	\$176.60	\$96.85	\$149.10

All 3 models are expected to yield the same Y/E result of \$581,680

Fine Tuning Your Price



Know your Customers - Get to know your customers to determine how valuable your service is in their eyes. Understand why they are buying your service, their needs, income, occupations, etc.

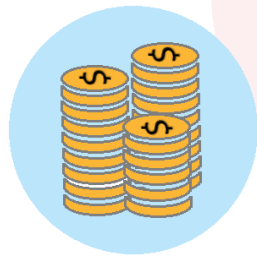


Know your Market - Get to know your local market to determine how competitive your services and pricing are. Consider how necessary your service is, how many competitors are in the market, or if there are alternatives to your service, etc.

Fine Tuning Your Price



Understand Costs - Add together all direct costs and indirect costs to determine your break even point. If it becomes necessary to negotiate, you must understand where the 'price floor' is.



Come up with a *Fair* Profit Margin - This is the key to turning a profit. Decide what percentage you want the profit margin to be. You want to mark your prices high enough to earn a good profit margin but remain competitive against competitors.

Fine Tuning Your Price



Decide Rate – You may decide to bill customers an hourly rate or a per-project rate. Choose a pricing model that allows you to recover costs and is palatable to customers. Regardless of how it's presented, all costs are always accounted for.



Leverage Job Costing – Job costing (or similar pricing tools) will allow you to develop well thought out, consistent prices for your services.

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