



PLUMBING SERVICE 101

Module 4 of 6

Cash is King

Managing the relevant financial aspects of the business is critical for a plumbing services operation. This module will give service contractors an understanding of the key, important financial concepts and factors in planning a successful start-up and profitable operation of their businesses.



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Plumbing Service

Learning Objectives

At the end of this webinar, you will be able to:

1. Define fundamental accounting terms that are used for analyzing the financial health of a plumbing service company.
 2. Calculate the cost of one hour of labor in determining the billing rate for plumbing services.
 3. Identify costs and expenses associated with the start-up of a new plumbing service division.
 4. Understand the advantages and disadvantages of hourly versus flat billing rates as they apply to plumbing services.
 5. Determine factors that impact the profitability of different plumbing services and the operation itself.
 6. Outline billing and collection processes for maintaining positive cash flow.
 7. Create a timeline of action steps to be taken for the operation start-up.
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INTRODUCTION

The famous expression “Cash is King” is as relevant to every business owner today as it was when it was first stated many years ago. No one is sure who first coined the phrase, but investor circles credit Pehr G. Gyllenhamer, former CEO of Volvo, with using it to describe how smart businesses could stay afloat after the stock market crash in 1988. It was widely used again following the global financial crisis that started in the fall of 2008. There was even a 40-episode Hong Kong drama titled “Cash is King.” While we are not sure of its origin, no one questions the wisdom inherent in that phrase and it has become a fundamental concept



applicable to almost every business. **Good financial management, access to needed capital, and positive cash flows can make the difference between success and failure.** For plumbing service providers in start-up mode, understanding and implementing good financial management practices that ensure profitability and positive cash flow is essential to the fiscal health and long-term success of the business.

Historically speaking, most businesses in the plumbing industry started small, often with the original owner as the sole employee. With business success over time, additional employees were needed to increase capacity and add specialized skills to take on greater volumes of customers with more complex systems. Transitioning from a single person to a multiple employee operation can affect businesses in many ways. While expansion is essential for growing the business, it can dramatically increase the amount and complexity of business expenses needed to handle the demands for compensating, maintaining, and managing these additional resources.



Generating positive cash flows during start-up and rapid growth phases can be difficult because expenses seem to multiply more quickly than anticipated as necessary supporting infrastructure is developed. To manage expenses and profitability during this time, owners need to have a clear idea of the business financial picture for

their companies, including an accurate analysis of what it actually costs to deliver the services they plan to offer.

BASIC ACCOUNTING TERMS

To better understand the financial aspects of their business, it is essential that contractors become familiar with the specific financial terms that are generally used for their businesses in the accounting world. The first financial term to be aware of is “burden.” The word “burden,” by definition, means “something that is carried.” In the business sense, **burden** refers to all the costs “carried” while providing service. The burden can be broken down further into “labor burden” and “overhead expense.”

Burden – All costs carried while providing service.

Labor burden describes the total costs a business incurs to employ a worker. This is more than just the hourly wage employees receive in their paychecks. Burden includes all business costs associated with the employee, classified as both direct and indirect costs. **Direct costs** are the cash wages, union fringe benefits, payroll taxes, insurance, holidays, paid vacation and any other hiring incentives offered to obtain the labor necessary to do the plumbing work.

Indirect costs are those incurred in support of employees delivering services, but not directly attributable to a specific job or work activity. This includes such items as uniforms, cell phones, computers, software, trucks, truck insurance, and tools. Labor burden is a significant portion of the total cost of carrying employees, especially when employers provide many fringe benefits.

General and Administrative (G & A) Overhead Expenses are those expenditures relating to the day-to-day operations of a business. Even if there is no work or sales activity taking place, other support personnel are working in their roles, contributing to the organization, and their expenses must be taken into consideration. The general and administrative overhead expenses may be broken down even further by isolating service department overhead. This separates roles such as the service manager, salespeople and dispatcher, from the general and administrative overhead personnel that serve the entire company, such as accounting support, executive assistants, and human resources.

Profit, the ultimate goal of every company, is any financial gain realized from a company’s activities after considering all expenses, costs and taxes.

COST OF ONE HOUR OF SERVICE

With labor being the largest cost component in providing services, most work assignments or projects are managed according to the number of labor hours required to perform the service. A firm financial foundation, and often the difference between profit and loss, comes down to knowing exactly what an hour of plumbing service costs the business to provide. The direct and indirect costs associated with having a technician in the field, along with the overhead expenses, must be determined to accurately calculate what it actually costs the business to deliver one hour of service.



In the real world, each newly hired technician needs certain things to work efficiently: truck, cell phone, tablet PC, hand tools, and other items required to do the job. Each technician added to payroll also requires acquisition of additional supporting tools and services. However, adding a plumbing technician may not necessarily require an increase in staff or equipment for other areas, such as dispatch or accounting.

These support departments can often handle the demand from the additional technicians without additional department resources, and those department costs can then be spread across the total number of technicians for purposes of calculating the hourly cost of service. With the labor burden and overhead expenses defined, the actual cost of one hour of labor for plumbing services can now be accurately calculated.



Companies with existing HVACR businesses probably have already done a full cost analysis for their HVACR technicians, so they may see strong cost similarities and little difference in the cost per hour between their HVACR technicians and the plumbing resources they are adding. This is likely if employees are in the same union or if the hourly wage is similar, but plumbing has significantly different needs, so “similar” costs should not automatically be assumed.

The checklist on the following page is designed to help contractors consider all potential costs of delivering one hour of plumbing service. What’s important to remember while going through this exercise is that everyone looks at costs differently and may even categorize the direct and indirect costs differently. While there is no magic formula, the key to an accurate hourly cost of labor is to ensure that **all** costs are captured.

Potential Costs for Delivering One Hour of Services

Total Union Package

- Base wage
- PTO
- Vacation/holiday

Fringe Benefit Costs

- Pension
- Health and welfare
- Industry fund
- Other

Payroll Taxes and Insurance

- FICA
- Unemployment
- Insurance
- Other

Non-productive Labor Costs

- Training
- Callbacks
- No charge sales assistance
- Other

Truck Costs

- Lease or depreciation
- Insurance
- Fuel/repairs/licenses

Department Expenses

- Dispatcher/salesperson
- Cellphone/computers/software
- Uniform
- Forms

Small Tools

Average Over Scale Pay

On the following page is an example of how the rate for one hour of service was determined for a typical plumbing business. This is a sample worksheet only. Numbers and categories should be changed to reflect specific company practices, costs, and markets.

Direct Field Costs	Sample	Your Costs
Plumber wages	\$42.31	_____
Over scale (average)	2.85	_____
Union fringe	11.90	_____
Payroll taxes	4.10	_____
Insurance	4.09	_____
Holidays	.58	_____
Paid vacation/PTO	<u>1.73</u>	_____
Total Direct Field Costs	\$67.56	_____
Indirect Field Costs		_____
Uniform	\$.35	_____
Cell phone	.35	_____
Computer/tablet	.30	_____
Software/forms	3.04	_____
Truck	7.50	_____
Truck insurance	2.85	_____
Tools	.91	_____
Non-productive labor costs	<u>2.30</u>	_____
Total Indirect Field Costs	\$17.60	_____
Total Cost of One Hour of Labor		_____
		\$85.16
Total Cost of One Hour of Service at 35% Gross		_____
		131.02
Gross Profit		_____
		45.86
Less Service Department Overhead	6.16	_____
Less G & A	<u>17.03</u>	_____
Net Profit (EBITA)*		_____
		\$22.67

**Earnings Before Tax, Interest Expense and Amortization Expense*

HOURLY VS. FLAT BILLING RATES

It is important for financial control and profitability to know the hourly cost to deliver plumbing services. Charging by the hour is not necessarily the best way to quote every type of service. A common dilemma for contractors is whether to charge an hourly or a flat rate for different types of customers and work performed.

Most contractors tend to use an hourly rate for their commercial customers. For plumbing services, commercial customers usually have maintenance or engineering staff with a better understanding of the scope and variable nature of the work involved. They just want the work completed properly and efficiently, realizing that it may be hard to determine up front exactly how much time is required. Often contractor internal systems are already set up for hourly rate billing with those customers.



Regardless of customer characteristics, there are other reasons why an hourly rate is preferable. It minimizes risk for the contractor when working with unfamiliar systems where hidden problems can greatly complicate the time and work needed to complete the job. A flat rate quote may have to be priced somewhat higher based on an average for that type of job. An hourly rate charge, on the other hand, ensures customers get billed fairly for the actual work and materials required to do the job based on their specific requirements and that charge may be significantly lower than what the flat rate charges would be.

A flat rate system is more useful where the work can be well defined and where the customer is more likely to be uncomfortable with an hourly rate billing. Hourly rates can be perceived as “open ended” and subject to excessive charges. Flat rate pricing is more commonly utilized in the residential market. Flat rates may also be required to win business for routine services where there is significant competition with few barriers to market entry.

A flat rate system can work as well as an hourly billing system for certain types of work, but it requires a somewhat different approach with customers. There can be significant risk of cost overruns for the contractor if work needed is much greater than what the flat rate has allowed for. Additionally, plumbers may not be comfortable dealing with this situation if they feel they are being thrown into the position of “salesperson” who must

explain or justify why additional hours are needed to complete a job because of extraordinary problems or system conditions that fall outside the scope of the flat rate charges.

One option for overcoming the flat rate objection is to institute a “diagnostic fee.” This fee is designed to cover most of the cost of the technician getting to the site, investigating and diagnosing the problem, and providing the price to correct the situation. This also gives the customer some “buy-in” and incentive to proceed with the work since they now have some skin in the game. Diagnostic fees usually range from \$49.00 to \$99.00. Often these fees are applied to the flat-rated price and other times they are in addition to the flat rate, depending on market and costs.

To reduce risk and potential problems in using a flat rate system, sales personnel, plumbing technicians, and dispatch staff who interface with customers need to be trained to clearly explain what the flat rate work specifically includes, making it clear up front that additional charges will be incurred for work beyond that provided for in the flat rate quote.

While an hourly billing system may be generally preferable for most plumbing services, there are instances when labor requirements are more predictable, making flat rate pricing feasible and often necessary, especially if competition is a factor.

Typical candidates for flat rates are drain jetting, sewer camera inspections, and well-defined work in confined spaces.

Typical candidates for flat rates are drain jetting, sewer camera inspections, and other services for predictable or well-defined work that may also specify a certain number of labor hours allowed for in the quote. However, with a new customer whose system is unfamiliar to the technician, “Not to Exceed” pricing should be considered due to the unknown underground/in pipe situations. This can reduce the amount of surprises at the end of the job regarding cost as this type of work is often difficult to flat rate due to the unknown factors.

Regardless of the type of work involved, every flat rate proposal should clearly include a provision that extra work hours required due to unforeseen problems or issues will be charged in addition to the flat rate amount and billed separately.

When using an hourly billing system, make sure the structure is clear, understood and followed by all departmental and accounting personnel. Here are some policies to consider implementing.

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1. Time starts on the first call, when technicians reach their first job.
 2. All subsequent calls are billed when the technicians leave their prior jobs and finish the jobs they are on.
 3. Trips to supply houses are billed to the customer.
 4. Customers are billed for all labor, material and equipment rental (snakes, cameras, large tools, jettors, etc.). Additionally, be sure to charge for the equipment used to perform the service work, such as drain cleaning machines, jettors, video inspection cameras, and other equipment as this is the best way to recoup these equipment costs.
 5. All work after eight hours is billed at overtime.
 6. Customers are billed a trip charge to cover gas, tolls, and incidentals attributed to travel.
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PLUMBING INVOICES AND PROFITABILITY

For the most part, plumbing invoices contain two primary items: labor and materials. Labor typically makes up approximately 80 percent of the total invoice while materials and equipment used make up the other 20 percent. Markups on material or equipment are standard in this and most service businesses. A markup is simply a percentage amount added to an item's cost in calculating the total amount charged to a customer. It is designed to take into account overhead and profit apportioned to that item.

In many ways plumbing is like a retail business in that every item of material or equipment is marked up individually based on that item's cost. This is opposed to a markup on the total cost of all materials, regardless of their cost or nature, an approach used typically with construction projects. This way it creates a consistency in the selling price of material no matter what the quantity is on the work order. Savvy business owners will adopt a "retail-oriented" mindset rather than looking at plumbing service markups the same as for a construction job.

Markup percentages are left to individual contractors based on their costs and marketplaces. Companies with HVACR divisions may choose to use the same markup

percentages for their plumbing divisions. They may also choose to use a slightly lower schedule for PM clients. A sliding scale, such as the one below, is one approach to markups. However, remember that markups are as individual as marketplaces. Where one contractor marks up a \$100.00 part at 65 percent, other contractors may find that 35 percent works best for them.

Sliding Scale	
Markups for Plumbing Materials and Sub-contractors	
\$0 - \$100	35%
\$101 - \$500	25%
\$501 - \$1,000	20%
\$1001 +	15%
Large equipment	35%
Subs	10% - 35%

Because much of the work required in a plumbing job is often hidden until the job is underway, time and materials (T & M) is often the preferred way of operating. This creates less uncertainty and a higher level of profitability due to the nature of the service. In terms of overall profitability, 35 percent gross profit or gross margin is a reasonable expectation for plumbing services.

Selecting the right services can impact profitability, depending on the talent, equipment and market demands. While backflow testing, PM contracts and drain cleaning are the most profitable services for one contractor, another might find that the pumper truck, jetting and camera work, and emergencies create higher profitability. There's no question that emergency services, such as underground utility work, stoppages and water line breaks are profitable, but the higher upfront costs for equipment and resource requirements must be carefully considered in pursuing these types of business.

ANTICIPATING START-UP EXPENSES

An existing HVACR company has a distinct advantage over those start-ups that have no current operation because much of the infrastructure for a service department is already in place. The ability to leverage an existing service department and its resources can significantly reduce start-up costs. The following table shows typical items needed to get started in plumbing services along with a break down between existing available HVACR resources and those that will be new and specific for plumbing requirements.

Start-up Requirements	
Existing HVACR Resources to be Used	New Plumbing Needs
<ul style="list-style-type: none"> ▪ Service van ▪ Uniforms ▪ General power tools ▪ Inventory for vehicles ▪ Service department personnel ▪ Sales team ▪ Telephone number ▪ Email 	<ul style="list-style-type: none"> ▪ Plumber's hand and power tools ▪ Rolling stock standard to plumbing ▪ Sewer snakes, auger, jet and camera, backflow tester and other specialized equipment/inventory ▪ Enhancements to include plumbing on website and other social media ▪ Marketing/advertising materials ▪ Additional training for sales and dispatch ▪ Salesperson, if necessary

Nearly everyone who ever started a business has experienced times when costs were underestimated and capital reserves inadequate to meet ongoing needs. The key to avoiding this pitfall is adopting a rigorous approach to research and planning for the business start-up.

While the typical equipment list below will help to estimate initial start-up expenses, some of the large ticket items, such as the hydro jet and camera, are investments made to expand your service offerings when the market supports the purchase of these assets. Use this as a guide to begin planning efforts for your plumbing services business.

One extremely important start-up necessity is a willing, hard-working technician whose values and work ethic are consistent with the company's.

As a general practice, always get proposals from multiple vendors to compare and contrast what each offers. While price is important, terms of payment, delivery, reliability

and service should also be considered. Finally, don't forget to add a reserve allowance for contingencies.

Estimated Initial Investments (SAMPLE)

Necessary Start-up Costs

Trucks with racks and lettering	\$40,000
Tools (on truck)	5,000
Drain cleaning equipment	5,000
Stock	4,000
Hiring an expert plumber, with burden	125,000/year

Business Expansion (Future Investments)

Camera	11,000
Hydro jet	50,000
Propress tools	2,500
Marketing	TBD

CUSTOMER QUALIFICATION

Everything necessary to get the plumbing services business up and running with the right staff, equipment and strong financial foundation is now in order. There is only one thing missing – customers. Customers are the lifeblood of any business, but it's not enough for a new plumbing division to just have customers. It must have the right customers. There will be some significant differences in the handling of new plumbing customers compared to established HVACR customers. Plumbing customers who are calling for the first time usually have an emergency and often there is little time to go through a thorough vetting process. Therefore, a COD or credit card policy for the initial service call must be in place until credit has been established for that customer.

Using a prepared customer questionnaire that also serves as a credit application can lower the risk of non-payment. Also, target the right companies, such as national companies and sophisticated operators with established histories to increase the likelihood of payment.

Companies with an existing customer base have a real advantage because those accounts have already established their creditworthiness. If emergency situations arise, those customers are already qualified and won't involve credit risks that can negatively impact the company's cash flow. A good rule of thumb is to only do business with companies where a relationship exists or those that are a known entity with potential ongoing demand and trustworthiness that justifies extending credit for services provided. Otherwise, COD is the only form of acceptable payment.



PAPERWORK AND ITS IMPACT ON PROFITABILITY

It is of little benefit to have the most detailed financial analysis and estimate of service costs if profits are allowed to be eroded by poor documentation and lax invoicing practices. The importance of accurate paperwork for a services business cannot be over-emphasized. Many services are by their nature somewhat intangible, where it is not immediately or physically obvious what work was actually done except through the documentation that records details of that service.

Missing or incomplete information can have an enormous effect on company profitability and productivity if the time and charges aren't accurately identified. From a customer service and dispute resolution point of view, it is the company's only historical record of the contact made and services provided to customers. Any discrepancies between the customer's perception and what the plumber did will be settled based on the submitted paperwork.

Technology and digital resources have attempted to eliminate some of the problems created by service people who have difficulty with this aspect of their jobs. However, the investment in tablets, software, and specific apps can be extensive with little assurance this alone will ensure good documentation practices are followed. Whether using a paperless system with all service orders being handled via dispatch software and dispatched on electronic devices or a paper-based system, the following general steps should be followed to ensure accuracy in billing and retention of valuable information impacting future customer visits and current cash flow.

1. Detailed explanation of work performed by technician.
 - a. Who was seen?
 - b. Where was the work performed? Floor, room, stall, etc.
 - c. What were the start and stop times?
 - d. What was done and to what specific fixture or system?
 - e. What materials and equipment were used? Sewer machine, inspection camera, etc.
 - f. Digital pictures showing system and work area before and after work is completed
2. Work order signed by customer with terms and conditions included, submitted electronically to the service group and customer at the end of the day or service call, whichever is sooner.
3. Designated service personnel review the ticket for accuracy and follow-on work. Ticket is either closed or follow-on work coordinated.
4. Closed ticket is sent to billing to correct spelling and grammatical errors and detail the ticket, including material and equipment used, description of work performed, and compiled pricing.
5. Invoice generated and emailed or sent to the customer after appropriate internal review.

MAINTAINING ONGOING CASH FLOW WITH TIMELY INVOICING

The sooner an invoice is sent, the sooner payment is received. The goal is to keep enough cash coming in to cover the immediate expenses. If cash is insufficient, then the company is forced to tap into their bank's credit line. A well-honed billing process can ensure a steady, positive cash flow, eliminating the need for short-term borrowing.

Invoices should be sent as quickly as possible after the work is performed. Any delay in receiving complete work tickets from the technician means a delay in starting the billing process. With a strong paperwork process in place, simple invoices should go out the next day.

Who is responsible for billing? While it may seem logical to have billing as part of the dispatching role, that type of set-up can create delays in the billing process. The primary dispatcher responsibilities are to move manpower productively and efficiently while getting work orders completed. Billing is not their top priority. However, a billing clerk's

priority is to invoice. When invoicing occurs every day, it minimizes the number of days an invoice is outstanding and helps improve cash flow.

Payment by credit card reduces the challenges with invoices and delayed payments. It's a relatively easy process. Credit cards are taken over the telephone, the number is entered in the terminal and an authorization is then given to the customer. As a company security and risk management policy, make sure those numbers are never retained on file.

COLLECTING PAST DUE ACCOUNTS

One of the biggest mistakes made by business owners is letting accounts go past due for too long. Accounts that are 30 to 60 days past due are still early enough for favorable results, but once they go beyond that time, chances of collection are diminished. Rather than immediately turning past due accounts receivables over to a collection agency, put procedures in place to ensure they are collected in a timely, fair and cost-effective manner. The age of an account will determine steps to be taken.

The first step in collecting past due invoices is to send out a collection notice. This notice is sent when the debt is approximately 30 days past due. It gives the customer a chance to make good on the money owed. This letter is also a kind reminder for overdue customers to review their records as sometimes a missed payment truly is just an oversight on their part.

If there is no response from the letter after five to 10 days, a follow-up call or email is always a good next step. A phone call is an important step because it's more personal. While many people may avoid phone calls from their creditors, some will be straightforward and speak to someone regarding their debt. These phone calls are opportunities to find out if there are any issues keeping them from paying the invoice, such as dissatisfaction with the work performed.

Continue customer follow-up with phone calls or emails if there is still no response. After the invoice is 60 days old, take a more aggressive approach, letting the customer know if the account is not paid, it will be turned over to a collection agency and may impact their company's credit standing. An account which is overdue by 90 days is a good candidate for turning over to a collection agency.



Hiring a collection agency may be the best bet for getting money back into the business. The down side is that the agency charges a fee, but recovering a percentage of the original invoice is certainly preferable to a complete write-off of the charges.



Collection agency professionals have solid backgrounds in the recovery of past-due accounts. Hiring these firms allows service department personnel to focus on their core competencies instead of spending hours each day tracking down missed payments. Above all, remember to put these accounts on credit hold so the same mistakes aren't made in the future.

START-UP PROCESS

The decision to add plumbing services is one that should not be taken lightly. It requires much more thought than simply acquiring a truck, tools and a service plumber. If the company already has an existing HVACR service division, the start-up time will be significantly less than if the owner is starting at ground zero. Regardless of how well established the existing HVACR business is or how long it takes to get a plumbing services business up and running, don't short change the planning process. To ensure a successful business from the beginning, follow these key start-up steps.

1. Begin with a financial model that projects one year of project revenue and expenses.
2. Hire or assign an industry expert, one who will do some of the marketing, sales, hiring and help with coordination.
3. Determine your core markets and profit centers, starting with low hanging fruit and the existing customer base.
4. Buy and equip the service vehicle.
5. Interview and hire competent technicians, looking especially for someone who doesn't mind working at any time. Remember, most profit is made on emergency services.

SUMMARY

Plumbing services offer an attractive way for HVACR companies to build on their existing success and customer base by expanding into this high profit potential market. To be successful and take full advantage of this opportunity, a good understanding of the financial impacts, issues, and costs associated with delivering plumbing services is essential. Incorporating solid financial analysis with the start-up research and planning process will help to ensure the plumbing services business can “hit the ground running” and be highly profitable from the start.