

Plumbing Service 101



Financial Tools and Profitability

Module 4 of 5

LEARNING OBJECTIVES

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

1. Define fundamental accounting terms used for analyzing the financial health of a plumbing service company.
2. Calculate the cost of one (1) hour of labor to determine the billing rate for plumbing services.
3. Identify costs and expenses associated with the startup 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 entire plumbing operation.
6. Outline billing and collection processes for maintaining positive cash flow.
7. List the action steps recommended for the operation startup.





IMPORTANT

The MSCA helps contractors with management and marketing skills, training and educational programs, and government and labor relations.

The Mechanical Service Contractors of America (MSCA) produced this module on “Financial Tools and Profitability.” The module is designed to give service contractors an understanding of key financial concepts and factors in planning a successful startup of a plumbing service operation and methods to ensure profitable business. It is the fourth of five (5) Plumbing Service 101 modules designed to review all aspects of adding plumbing service to an existing HVACR service operation, including ways plumbing service can complement an existing business, recognizing and understanding markets for plumbing services, identifying possible recruiting sources for finding quality service plumbers, identifying costs and expenses associated with the startup of a new plumbing service division, and highlighting a workable organizational structure and key roles needed to create a successful plumbing service operation.

The modules are designed to include fundamental industry concepts, presented in a thorough, real-world way that will help you to better understand the plumbing service business.

MSCA PLUMBING SERVICE 101 MODULES

- | | |
|--|--------------------------------------|
| #1 Plumbing Service Business Basics | #4 Financial Tools and Profitability |
| #2 Markets for Plumbing Services | #5 Operations |
| #3 Finding and Developing Great Plumbing Technicians | |

INTRODUCTION

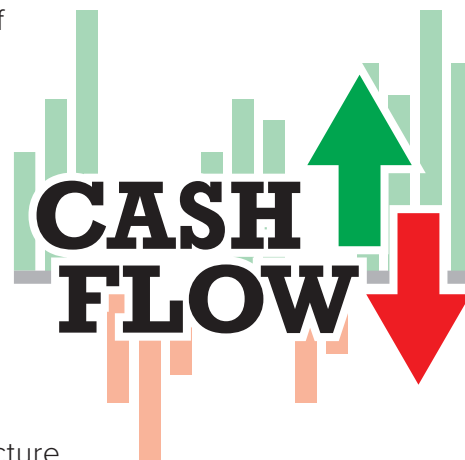


The famous expression “Cash is King” is as relevant to every business owner today as it was when it was first stated many years ago. No one is sure who first coined the phrase, but investor circles credit Pehr G. Gyllenhammar, former CEO of Volvo, with using it to describe how smart businesses could 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 its origin is cloudy, no one questions the wisdom inherent in the phrase and it has become a fundamental concept applicable to almost every business.

Good financial management, access to needed capital, and positive cash flow can mean the difference between success and failure. For plumbing service providers in startup 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 a greater volume 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 a 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 flow during startup 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, an owner needs to have a clear idea of the financial workings of their company, including an accurate analysis of what it actually costs to deliver services they plan to offer.



BASIC ACCOUNTING TERMS

To better understand the financial aspects of business, it is essential that contractors become familiar with specific financial terms that are generally used 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 business, burden refers to all the costs “carried” while providing service. Burden can be broken down further into labor burden and overhead expense.

Labor burden describes the total costs a business incurs to employ a worker. This is more than just the hourly wage an employee receives in their paycheck. 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.



IMPORTANT

Burden – All costs carried while providing a service.



IMPORTANT

Many companies fail because they neglect to consider the entire scope of costs required to employ a worker.



IMPORTANT

Overhead costs are ongoing business expenses that support necessary functions/activities which don't directly generate revenue.

- **Indirect costs** are those incurred in support of employees delivering services, but not directly attributable to a specific job or work activity. This includes items such 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 and contributing to the organization, and their expenses must be taken into consideration.

The G&A 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 G&A 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.



Calculate hourly cost.

In the real world, each newly hired technician needs certain things to work efficiently, such as a truck, cell phone, tablet, 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 and accounting.

Dispatch and accounting departments can often handle the demand from the additional technicians without additional 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 business 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 following checklist 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 calculation is to ensure that all costs are captured.

POTENTIAL COSTS FOR DELIVERING ONE HOUR OF SERVICES

Total Union Package

- Base wage
- PTO
- Vacation/holiday

Non-Productive Labor Costs

- Training
- Callbacks
- No-charge sales assistance
- Other

Fringe Benefit Costs

- Pension
- Health and welfare
- Industry fund
- Other

Truck Costs

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

Payroll Taxes and Insurance

- FICA
- Unemployment
- Insurance
- Other

Small Tools

Department Expenses

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

Average Over Scale Pay

Shown below 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

Plumber wages	\$42.31
Over scale (average)	\$2.85
Union fringe	\$11.90
Payroll taxes	\$4.10
Insurance	\$4.09
Holidays	\$0.58
Paid vacation/PTO	\$1.73

Total Direct Field Costs \$67.56

Indirect Field Costs

Uniform	\$0.35
Cell phone	\$0.35
Computer/tablet	\$0.30
Software/forms	\$3.04
Truck	\$7.50
Truck insurance	\$2.85
Tools	\$0.91
Non-productive labor costs	\$2.30

Total Indirect Field Costs \$17.60

Total Cost of One Hour of Labor \$85.16

Your Costs

Total Cost of One Hour of Service at 35% Gross

Sample

\$131.02

Your Costs

Total Cost of One Hour of Labor

\$85.16

Gross Profit

\$45.86

Less Service Department Overhead

\$6.16

Less G&A

\$17.03

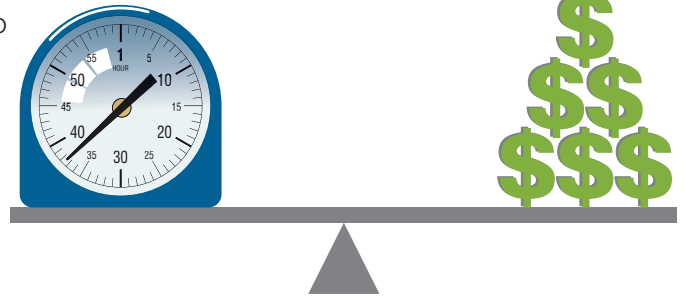
Net Profit (EBITA)*

\$22.67

*Earnings Before Interest, Tax, and Amortization

HOURLY VS. FLAT BILLING RATES

A common dilemma for contractors is whether to charge an hourly rate or a flat-rate for different types of customers and work performed. Although 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.



Cost per hour of service.

Hourly Rate - Most contractors tend to use an hourly rate for their commercial customers. This is preferable because 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. Using an hourly rate ensures customers get billed fairly for the actual work and materials required to do their specific job. In addition, in certain situations, the hourly charge may be significantly lower than what the flat-rate charges might be.

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:

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, jetters, etc.). Additionally, be sure to charge for the equipment used to perform the service work, such as drain cleaning machines, jetters, 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.

Flat-rate - 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 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 there are certain situations that may arise that require a somewhat different approach with customers.

Because there is a risk of significant cost overruns if work needed is much greater than the flat-rate price, it will sometimes be necessary to impose additional charges. 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.

all inclusive



IMPORTANT

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

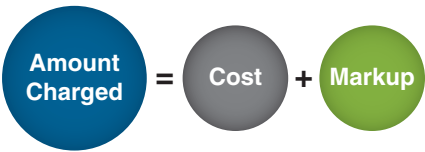
One option for overcoming the flat-rate objection is to institute a diagnostic fee. This fee is designed to cover most of the cost of the technician getting to the site, investigating and diagnosing the problem, and providing the price to correct the situation. This also gives the customer some “buy-in” 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 towards the flat-rated price but 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.

There are instances when flat-rate pricing is preferable and often necessary, especially if competition is a factor. 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 unknown conditions. This can reduce the amount of surprises at the end of the job regarding costs. 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.

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 to calculate the total amount charged to a customer. It is designed to factor in overhead and profit allocated 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 typically used with construction projects. Marking up items individually 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 way as markups on 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 SAMPLE		
Markups for Plumbing Materials and Sub-Contractors		
\$0 – \$100	.....	35%
\$101 – \$500	.....	25%
\$501 – \$1000	.....	20%
\$1000 +	.....	15%
Large equipment	.....	35%
Subs	.....	10% – 35%



IMPORTANT

Customers tend to like T&M charges because it allows them to pay for precisely what they get as well as providing a sense of transparency.

Because much of the work required in a plumbing job is often hidden until the job is underway, charging for 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 could be the most profitable services for one contractor, another contractor might find that pumper truck, jetting, and camera work are more profitable. Moreover, emergencies can create even higher profitability. There's no question that emergency services such as underground utility work, stoppages, and waterline breaks can generate significant revenue, but the higher upfront costs for equipment and resource requirements must be carefully considered before pursuing these types of business.

ANTICIPATING START-UP EXPENSES

An existing HVACR company has a distinct advantage over those startups 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, sorting them into existing available HVACR resources and resources that will be new and specific for plumbing requirements.

START-UP REQUIREMENTS	
Existing HVACR Resources	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 startup.

The 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 that may be made to expand your service offerings when the market supports such purchases. Use the list as a guide to begin planning efforts for your plumbing services business.



IMPORTANT

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

ESTIMATED INITIAL INVESTMENTS (SAMPLE)

Necessary Startup Costs

Trucks with racks and lettering	\$40,000
Tools (on truck)	\$5000
Drain cleaning equipment	\$5000
Stock	\$4000
Hiring an expert plumber, with burden	\$125,000/year

Business Expansion (Future Investments)

Camera	\$11,000
Hydro jet	\$50,000
Propress tools	\$2500
Marketing	TBD

As a general practice, always get proposals from multiple vendors to compare 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.

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 cash-on-delivery or credit card policy for the initial service call must be in place until credit has been established for that customer.



Financial vetting of new plumbing customers is a must.

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

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 service business cannot be over-emphasized. Many services are by their nature somewhat intangible, where it is not immediately or physically obvious to discern what work was done except through the documentation process.

Missing or incomplete information can have an enormous effect on company productivity and profitability if work time and charges aren't accurately identified. From a customer service and dispute-resolution point of view, company documentation (paperwork) is the only historical record of the contact made and services provided. 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, investments in tablets, software, and specific apps can be expensive with little assurance this alone will ensure good documentation practices are followed. Whether using a paper-based or paperless system, general steps should be followed to ensure accuracy in billing and retention of valuable information:



Capture financial-related information.

1. Detailed explanation of work performed by the technician must be documented.
 - 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 should be taken showing system and work area before and after work is completed.
2. Work order signed by customer with terms and conditions included should be submitted electronically to the service group and customer at the end of the day or service call, whichever is sooner.
3. Designated service personnel should review the ticket for accuracy and follow-up work. Ticket is either closed or follow-up work coordinated.
4. Closed ticket is sent to billing to correct spelling and grammatical errors (if required) and to add description of work including material and equipment used. Pricing is added to the bill.
5. Invoice is generated and 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, a company is forced to tap into their bank 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 completed work tickets from technicians means a delay in starting the billing process. With a strong paperwork process in place, routine 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 setup 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 bill collecting challenges 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. A collection notice is also a kind reminder to prompt overdue customers to review their records as sometimes a missed payment truly is just an oversight on their part.

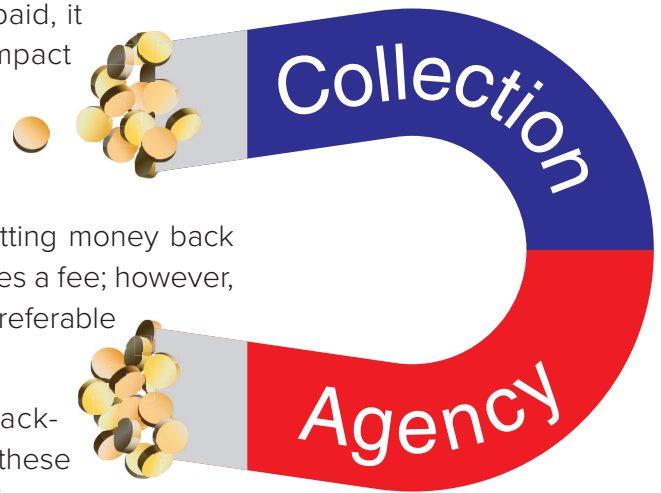


If there is no response from the collection notice after 10 days, a follow-up call or email is always a good next step. A phone call may be preferable because it's more personal. While many people avoid phone calls from their creditors, some will be straightforward and accept such calls. These phone calls are opportunities to find out if there are any issues keeping customers from paying invoices, such as dissatisfaction with 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, which 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 your business. The downside is that the agency charges a fee; however, 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. Follow the key start-up steps below to ensure a successful business from the beginning.

KEY START-UP STEPS

1. Begin with a financial model that projects one (1) year of revenue and expenses.
2. Hire an industry expert or assign a qualified person in your company to do some of the marketing, sales, hiring, and coordination.

3. Determine your core markets and profit centers, starting with low-hanging fruit such as your existing customer base.
4. Buy and equip at least one service vehicle.
5. Interview and hire competent technicians, looking especially for people who don't mind working odd hours and on short notice. 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 a high-profit-potential market. To be successful and take full advantage of this opportunity, a good understanding of the necessary financial foundation, potential issues, and costs associated with delivering plumbing services is essential. Incorporating solid financial analysis with startup research and a solid planning process will help to ensure the plumbing services business can hit the ground running and be highly profitable from the start.

Module 4 is designed to expand your understanding in the areas of establishing financial tools for profitability. It follows on Modules 1 through 3, which covered the basics of adding plumbing services to an existing HVACR company, detailed potential markets and skill sets required of plumbing service candidates, and identified sources where qualified candidates may be found. The last module, Module 5, covers how to implement effective plumbing operations.