**CHAPTER 1  
  
The New Business Model**

Construction contracting has a new business model, which is the culmination of changes that have occurred over many years. Some of these changes are fair and some are not. Nevertheless, contractors are currently working under these conditions. As an aside, change in the industry will continue infinitely. It is part of our industry’s fabric.

One school of thought suggests that the construction industry is broken. Several times a year, you may hear or read such an assertion. People will point to labor, material, design, software, and other areas where chaos exists in the marketplace. This is a normal reaction from outsiders, who do not understand construction contracting.

Good labor is scarce. Craftspeople and operators are not being trained in great numbers. Few want to be in our profession. We are lucky to have a loose immigration policy. Hungry immigrants who grew up farming make good field people. To have an American (second generation) pursue a construction career is a rare thing. Strong work ethics, in general, are dying.

Others say current contracts are flawed. Contracts today, written by increasingly cunning lawyers, shift more risk to the contractor than ever before. The goal of the contract language is to give owners more control and contractors less.

Design drawings are less complete than 10 years ago. Savvy architects and engineers are under the same time pressures as contractors are, and the quality of plans and specifications show it. This leaves room for interpretation, conflict, and eventually, litigation.

Yes, troubling events are occurring in the construction industry today. I agree that many of these things are problematic. They do increase risk for contractors.

Some industry insiders and outsiders say we need to overhaul the entire system. I think that having a discussion about that would greatly benefit the industry.

Provocateurs abound. To sell books in the United States these days, you can take one of two paths. The first is to write as thoughtfully as your God-given talent allows you. The second is to cause as much controversy as you can. (For example, see the political books by Michael Moore and Ann Coulter.) Clearly, *Broken Buildings, Busted Budgets: How to Fix America’s Trillion Dollar Construction Industry* by Barry LePatner (2007) is of the second sort. His book has little redeeming value as a contribution to construction and contracting.

LePatner is guilty of litigating in the press instead of thinking through or building a better approach. He second-guesses writers of the first sort. He certainly will attract attention from owners who are looking for someone to sue. His billings should be very high. He might even make partner in his firm, if he hasn’t already.

Hank Harris of FMI Corporation, a well-respected management-consulting firm to the construction industry, wrote a five-page condemnation of *Broken Buildings, Busted Budgets*. I am sure Mr. LePatner thought it was too long. I think it was too short.

Professionals must choose between two options at some point in their career. Shall I strive for riches or significance? Barry LePatner will certainly become financially wealthy from his work. However, his significance is yet to be determined. He can point out what others have previously identified as problems. Good for him. His contribution to fixing those problems, however, is minimal.

If the industry is broken, we need to fix it. However, I respectfully disagree with the premise that the business is broken. It is not broken; it has changed. Many contractors continue to produce quality work at a fair market rate for clients who recommend them to others. These same contractors have excellent safety and craftsmanship records.

LePatner suggests that we need national contractor(s) in this country. For over 200 years, this has not occurred. Many factors figure into the reason it hasn’t. One is the variable-cost, as opposed to the fixed-cost, nature of construction. Scaling upward and being competitive are difficult to accomplish. Some attempts have been made to establish a 50-state construction firm, but they have consistently failed.

Construction rewards the fast, accurate, and experienced companies, not the big, slow, and book smart. We have a harsh industry, and it judges quickly. Each job well done builds relationships and good reputation by word of mouth. By the same token, poorly executed jobs deteriorate relationships and reputations.

However, our industry has many more positives than negatives. I cannot find a better one in the United States. Among the industry’s advantages is that as an industry, while it will always change to meet the times, it will never go away. Providing shelter is one of the three fundamental necessities of life. The products are tangible, the work merit based, and the workers well compensated for their labor. Unlike many products that used to be manufactured domestically, this is an industry that cannot be outsourced to a foreign country.

Ours is not a broken industry. Simply put, the industry and its business model have changed. It has evolved as most industries do. I agree the pendulum of risk has swung largely away from the contractor’s favor. (The natural ebb and flow of business shows that the pendulum should also swing back.) Contractors who have been in the business for decades say the business involves more risk than at any other time in their lives.

The business of construction has gone through this change steadily and it has arrived at an unfair place at the moment. Contractors did little to deserve the lot they have, but this is the situation in which we find ourselves. The changes—fair and unfair—all affect a contractor’s business.

In response, profitable contractors have adopted the attitude that they, themselves, must change as well. I will discuss those internal or intracompany changes. These are the controllable ones—approaches the construction firm can use to drive a good result.

I suggest that in the future we may want to modify some procurement practices, industry standards, and general career opportunities. These kinds of prescriptions are not overhauls, but improvements to an already good industry.

To start our discussion, let’s talk about what has occurred over the past four decades. Change is the only constant (along with death and taxes).

**What Has Changed in the Construction Industry over the Last Four Decades?**

***Construction Firms Have to Win Three Times to Win Profitable Work***

The traditional challenge of contracting is not a small one. First, contractors have to gain experience, pass a rigorous licensing requirement, and start their business. Second, they have to prequalify with clients against the population of competitors. Third, contractors must outdistance the short list of their competitors. In other words, they must win the job. This demands that the contractor be able to prove real value to the client. From the start of the business to acquiring profitable work is a long journey. Looked at another way, it favors the experienced contractor and handicaps the inexperienced contractor.

No longer is the maxim “if you’re green you grow” an apt one for our industry. Neither is growth in revenue the answer to increasing profitability. The construction business is not about attaining some particular size to be a “player.” The business model for success that we see is more complicated than that. We have several new demands and challenges in our environment. That’s normal for any industry, although I certainly think we have had more change than most.

Additional challenges that have arisen in recent years include the following:

*Workforce aging*. According to the U.S. Bureau of Labor Statistics, the average age of a construction worker in 2006 was 38.9 years. In 2009, it was 41.4 years. This means fewer young people are coming into our industry, many enter the industry at an older age, and people are working later in life. New construction workers have typically tried another industry and then decided to give construction a go. This is not good for a craft-hungry industry.

*“Faster”-track schedules*. This is a common phrase now, and it is descriptive. Owners continue to be more demanding. We are seeing a commensurate rise in accidents due to this unrealistic time pressure. Quality is harder to maintain with a contracted schedule.

*Restrictions/red tape*. Government continues to control more of our business operation by requiring additional documents, legal and otherwise, to regulate this already difficult process.

*Technology/computers*. Technological hardware and software have undergone a dizzying pace in their development, improvement, and applications to the construction industry. They are here to stay and have crept into our daily lives as well as into our profession.

*Competition*. Since 1964, we have seen a threefold increase in contracting firms, but a somewhat steady $400 billion volume of construction work (in constant dollars) according to the U.S. Department of Commerce. The resulting increase has caused many effects from greater competition on bid lists to increased fragmentations of construction services. This last effect is apparent in contractors excluding more work in their bids while focusing what they can do very productively. It is now rare for any construction firm to perform an entire Construction Specifications Institute (CSI) division of work.

*Work ethic*. Many young people do not believe in the work ethic as strongly as their mothers and fathers did. The work itself is not their goal; it is something else. For the most part, only immigrants have the work ethic focus. However, immigrants have their own unique set of management and legal issues.

*Design/build*. This approach continues to grow steadily as the value of the process is understood by more owners. It is a welcome change in some, but not all, sectors of the construction economy. Design/build gain for the contractor may be trumped by the advent of virtual design and construction (VDC). VDC is another way in which owners may place their priorities and agenda into a construction firm’s design/build process. Certainly, contractor-client arguments have continued over safety, cost, schedule, and quality in all projects, design/build or not.

*Material availability*. Distributors are stocking less and managing their inventory with contractors in mind. The effects are great. Disturbingly, FMI estimates that more than 70 percent of all wasted labor time is caused by material logistics issues. Commodity price swings are great and have resulted in some contractors becoming commodity market specialists. Lauri Koskela, professor at the University of Salford, and founding member of the International Group for Lean Construction, concluded that 11 percent of labor is wasted because of material problems.

*Environmental concerns*. Contractors have another hurdle to jump before they receive permits, and their liability for this piece of the total construction picture has grown. The Environmental Protection Agency and your state’s environmental protection department have more jurisdiction and regulatory power than ever before. Most of the delays caused by them are worthy, but are they billable to the client? This is one more risk and profit-stealing factor.

*Political interference*. More people have more of a say in what we do and how we do it—from a citizen complaining to the county commission to the policy bureaucrats in Washington, D.C., who would like to make every business perfectly predictable. Legislation directly influences what we are allowed to do and what or how we are required to document what we do. Early in this millennium, the federal government even delved into ownership of private firms.

Regardless of the reasons or the politics, we have to be more sensitive to local, state, and national politics.

*Declining perception of construction as a career*. In a *USA Today* poll, high school seniors ranked construction in the bottom 5 percent of all careers. According to the Associated General Contractors of America, among construction firm owners, 72 percent of respondents said they would not recommend this industry to their children.

*Greater sophistication of the client*. In 1970, 11 percent of Americans had a college degree; now the ratio is approximately 28 percent according to the U.S. Census. College degrees are more attainable. Information is available over the Internet and from other sources. The people you work for often have some degree of contempt for anything you do. They question more and trust less.

The Internet, I believe, has spawned so-called experts who write blogs that are more opinion and emotion than fact and expertise. Do-it-yourself centers and their experts only add to confusion about the construction process and products for users, funders, and owners.

*Contracting is more about business than craft*. There are more white-collar workers in the field than ever before. We count a dozen involved in a typical construction project. The current thinking seems to be that the craft is to be purchased, not managed. We have evolved into a subcontract mentality in our industry (and maybe our country). These buyers of construction services can think, but not do. They are generalists with the outsource approach.

Importantly, the specialist—the construction professional—can think *and* do. As a side note, those who manage the craft certainly can charge a nice margin for all the headaches with the flight of management talent to the generalist side. However, the contracts, schedules, quality demanded, and payment schedules are constantly tilted in the generalist’s (owner, funder, end user) favor.

*Lawyers are increasingly litigious and there are more of them*. The United States now has the greatest number of attorneys in its history. We have more than that number in law school. This high and growing number of attorneys continually looks for more creative ways to further the interests of owners over contractors.

*Designers are under the same cost and time pressures as contractors*. This is a problem that causes fewer complete drawings and specifications. The same smart people who brought you the generalist’s view of construction are also focused on designers. They are making their business more competitive and hurried.

The designs are not getting more clear and constructible. One of the outcomes is the use of overseas designers. These engineers and architects start from a deficit of knowledge of American construction practices as well as from a poor command of our language. On its face, this poses a problem for construction firms in the United States.

*Retention is released late*. According to Dennis Bausman’s breakthrough research on retainage practices in the construction industry, the range of retention release of all contractors on a project is from 30 to 900 days. The average for specialty contractors is 167 days from completion of the project, almost 6 months (2004).

As a side note, Stevens Construction Institute has concluded that one of the reasons retention is a growing problem in the industry is that it provides financial security for owners. Our research and the research of others make a strong case of retained earnings as a counterbalance against the risk incurred by a project owner or funder.

Look at the changes in past decades—less detailed plans and specifications, lack of owner coordination, and more—and you will see the reason for this conclusion. Negotiation at the end of a project to settle all the problems comes down to financial settlement. From our experience and discussions with our clients, part of that settlement discussion often concerns retention release.

*Forty years ago, developers and owners were financially conservative*. Developers and owners of the past paid as they went. Few exotic financing tools were available. Currently, such financial arrangements abound. In addition, complex relationships and contracts exist among all the white collars (insurance agents, lawyers, owners, end users) in the construction process. It is a new world.

This list represents a number of substantial changes. Your list probably includes more. I think the construction industry will agree that the list is going in the wrong direction in number and in effects on our ability to build work.

So, should we blow up the industry and start over? Is the industry broken as LePatner suggests? My vote is still no.

Owing to all the changes, we have less productivity than 15 years ago in constant (inflation-adjusted) dollars. For all the good and smart development, we have had more counter balancing changes. See [Figure 1.1](https://jigsaw.vitalsource.com/books/9781260464023/epub/ops/ch01.html#ch01fig1).

**Figure 1.1** With all the positive and negative changes, the industry has less employee productivity than it did 15 years ago.

[Figure 1.1](https://jigsaw.vitalsource.com/books/9781260464023/epub/ops/ch01.html#ch01fig1) and its trend tell a story. It is one of construction volume and productivity increasing from 1997 to 2005. We won’t go into the possible reasons here. There are several to discuss. However, good measurement is not an opinion. This data is not the “black box” type. Look no further than the U.S. Bureau of Labor Statistics and the U.S. Commerce Department. Whatever faults the government has in the collection of this data, it is consistent, and so the trend is trustworthy.

You may not trust data and the resulting statistical analysis. This is rational; however, it is the closest thing the industry has to facts. This is a simple measure of employment number divided by construction put-in-place volume in 2005 dollars. This reflects all personnel employed in the construction industry. Total productivity is measured. Office and field personnel consist of the total employment.

The upsurge of 2009 is noteworthy. Total employment dropped 1.5 million; however, the American Recovery and Reinvestment Act’s (ARRA’s) construction funding caused the put-in-place dollar volume to rise. It appears from the numbers that misalignment of stimulus to employment goals occurred.

***Good News or Bad News?***

The pessimist might see this as an indictment on the construction industry. We see it as a fact of life that is good news. A firm who seeks to work smarter will be rewarded by the market. You don’t have ever-increasing competitor productivity to keep up with. In fact, if you are producing at the same rate you were in 1997, you now have a greater competitive edge.

This should be the start of a long conversation about the construction process and people. Are the attitudes, conditions, technology, and processes making people more effective? The answer affects the owners and designers in different ways. Certainly as companies are harmed financially by project malfeasance they will seek legal redress. No one wins except the lawyers.

To not start strategically aligning your firm to be more productive is missing the point. The effort and care in which a firm executes productivity alignment ensures its future. We assert that this is the highest strategic priority for 2012. Said in a phrase for all to remember: “Do what we do better.” In 100 percent of all cases, highly productive firms are profitable.

**What We Know**

The construction industry can be overwhelming with all its changes and new demands on construction firms. To avoid confusion about how to handle this new era, let’s start with things we know are true. Construction’s business characteristics include the following:

*Good construction firms are a minority in the total construction population*. Each may ask for and receive special consideration owing to their skill and reputation.

*Craft*. Construction craft cannot be produced by machine, only by people. Quality craftspeople are hard to find but are our only means of production.

*The business of construction is complicated*. There are a thousand moving parts and increasing ways—from minor unexpected expenses to unplanned back charges—to have our profits drained.

*Construction is a variable-cost business (not fixed-cost)*. We have no need for volume, just the right work that a construction firm can do well. With little exception, we must make a specific percentage of profit on each job. Profit is not increased by raising volume.

*Generous long-term supply-demand curve*. The curve is unfair in the short term. Not many people will exit in poor economic times, and many more will enter in a good business environment.

*The risk-reward curve for construction firms is inverse to the risk-reward curve seen in general business*. Less risk equals a higher return on investment (ROI), more risk a lower ROI.

*Treated as a commodity*. Strangely, even though our business lives or dies on the quality of craftsmanship, customers assume craftsmanship is a constant. They focus on price and assume that they will get the same quality delivered regardless of price.

*Natural conflict*. In addition to customers expecting a minimal price for above-average quality, construction contractors face time pressures and safety concerns along with uncontrollable weather. Anything less than perfect can make end users unhappy. Overall, all shareholders are tied to a budget and a schedule that is tighter than either had been years ago.

*No road tests*. Product samples are nonexistent. Naïve customers don’t understand what the final product will look like or how long quality takes to produce.

*High expectations*. The earthmoving and structural work gets naïve end users excited because they see big things happening; the detail work afterward makes them frustrated and impatient.

*All projects are custom*. Even though the project may be cookie cutter, it is on a different site and built at a different time from any other like it.

To the average person, the construction industry may not seem like a rational place. There are hundreds of market segments, with each segment defined by geography. Individual counties where work is put in place have their own codes, inspectors, political issues, and the like that cause frustration when an outside construction company enters it.

Specialized trade skills define most contractors. That skill is what contractors trade with clients for income. The owner has usually grown the business from zero revenue to its present volume. Along the way, the owner has made thousands of decisions about how the work is built, estimated, and tracked. These series of decisions give the construction firm a unique way of conducting its business.

The contractor has hundreds of steps to execute on any individual project and in the business. These steps can be done in a variety of orders. However, the above-average contractor insists on mapping and executing the major steps in a good, efficient sequence. If they have a good sequence, the contractor will win more often (speed, cost, quality, and safety). Discipline has to be part of the new business model in construction contracting.

**Some Parts of the Construction Business Remain Unchanged**

In response to the aforementioned changes, consistently profitable contractors have adhered to two management principles for decades. Any successful contractor should adopt these regardless of size, region, type of work, or any other attribute:

 Disciplined approaches

 Financially conservative standards

Disciplined approaches eliminate risk factors or keep them minimized. Remember, there are dozens of steps to complete in a sequence with safety, time, cost, and quality pressures. Discipline is the best attribute to accomplish it all. Here are some ways successful contractors do this:

 They maintain high quality of their construction work.

 They emphasize and demand safety practices.

 They deal with clients they know well.

 They work with project partners they trust.

 They pursue work at which they are excellent.

 They find and stay in a niche, which is difficult for others to enter.

Consistently profitable contractors work hard at creating and standardizing good business and construction practices. To detail and document all parts of your business is wise. This planning should be embodied in a strategic business plan.

Overall, construction firms must know what they want. There can be little ambiguity.

Formal organization charts signal a serious business approach. To formalize anything is to keep rumor and wrong perceptions minimized. Confusion dampens productivity, quality, and safety.

Strategic planning must be implementable. That is where the value is. Otherwise, a million dollar idea with 0 percent implementation results in $0 profit. Strategic plans are necessary for established firms for a long and certain future.

Financial conservatism is not a new concept, but it might be forgotten as one reaches a level of success. Financial conservatism is valuable on the cost side as a contractor employs labor, manages overhead, or buys material, but it also applies to the revenue side. The profitable construction firm charges market price for work, including change orders. They don’t discount their proposals unless there is a compelling reason to do so. In addition, they insist on timely payment and use increasingly aggressive tactics to collect unremitted billing. The smart contractor knows that if you run out of cash it takes you out of the game.

Money is like oxygen; you can’t survive without it. It’s insurance against bad luck.

The business has changed, and so have profitable contractors. Their approach must change to match current times. To look at it another way, the business has changed from a largely subjective, intuitive one, to one that is largely objective (quantitative). The business is too risky and complicated to rely on anything other than a factual method.

In 25 words or less, let’s say it this way: Profitable contractors make fewer mistakes because of their disciplined approach. If they do make one, they have the financial cushion to weather it.

**Volume-Based, Fixed-Cost Business**

Material supply companies provide an example of a volume-based, fixed-cost business. Most (over 50 percent) of its expenses are already incurred before a month begins. Inventory is mostly paid for, inside salespeople are mostly on salary, their building has a mortgage due, and trucks have a bank note on them.

This means that revenue is needed to pay for all of this. More succinctly, revenue is needed this month. Selling something at some price level above cost pays for these expenses. More distributors have many transactions each month in selling material.

By the way, these transactions are very predictable with little chance of failure. The material is delivered undamaged, by a truck that uses a well-known road to the job site, to contractors who pay their bills. According to Risk Management Associates, wholesale distribution is an approximately 1 percent net profit business. Competition is high (downward pressure on margins), and risk is low (can push revenue very high without hesitation). So, driving volume is appropriate to make substantial net profit dollars.

As evidence, some distributors will sometimes cut their prices to sell product for orders placed and taken by at the end of the month. The payment reduces inventory cost and converts inventory into revenue. If you don’t replace the purchased inventory, the gain is greater. Sell your entire inventory without replacing it, and you have revenue to pay for all other expenses. During any recession, suppliers tend to be cash rich as they don’t replenish product on their shelves.

**Volume-Sensitive, Variable-Cost Business**

Contractors don’t need substantial infrastructure to operate. Whatever infrastructure they do need doesn’t have to be in a downtown or high-rent area. Because modest overhead is appropriate in construction, craft skill is rare, qualified managers are hard to find, and poor cash flow can take most of a contractor’s working capital, it is critical that a contractor get the right job, and not just any job. Selling many jobs will spread out qualified craftspeople and supervision (which is scarce) and cause mistakes (rework is approximately four times as expensive as original work).

To say it slightly differently, each project must have a minimum amount of profit. The contractor is committing rare resources—expertise, craftspeople, operators, and supervision, which must be sold for good margin. Once committed, contractors cannot disengage from the project without risking great harm to their professional reputation and financial health.

From the above summary list of characteristics of construction and changes in the industry during the past four decades, we can conclude the business needs to be managed differently than the way we did it a generation ago.

**Part of the New Approach: The Quantitative Method**

The quantitative method is one steeped in numbers. It lessens the importance of gut feeling and emphasizes the use of a fact-based approach, mostly using numbers. Measurements are derived from source documents or from source activities. These measurements are facts, not opinions or perceptions. They allow confidence and thus better and quicker decision making.

The simplest example of this is a construction firm’s bank account. The bank has no opinion about your balance. In bank officials’ minds, it is a fact based on documented numbers from source data such as your checks, client checks, and any agreed-to fees. It is straightforward; they trust it to a computer (a un-opinioned thing), limit human interaction, and rarely find an error in its work. That is a well-accepted quantitative method. It is the most basic one. It is certainly the only critical one in business. Without a positive bank balance, you are not solvent. Your business is not viable.

We are suggesting that the use of numbers and measures is an effective approach to managing a construction firm’s business. In a master’s of business administration program, a substantial part of the teaching centers on “quant” or statistical measures. It is not the only area taught, but it is crucial because all for-profit businesses live or die by the numbers they produce. As we have said, the ultimate number is your bank balance. No matter who you are, you can’t finesse a negative bank balance continuously. Ultimately, numbers determine our business fate.

Why the quantitative method? Without a compelling reason to pursue some business method, your operation becomes nothing more than a parlor game or an academic exercise. Any new idea is interesting but may not be of practical importance. Wealth building is always part of what a contractor’s business is about. That is why people pursue something as a career or as a business. It changes their personal outcome, improves financial security for them and their families and, in the end, their options. That is, it gives them choices during and after their life in commerce is over. In other words, “it provides.” This is a serious matter.

Construction firms provide for more than just owners. More than 7 million people in the United States are employed in our industry. This does not include related white-collar professionals. There are many, many more in other countries. To make better business decisions allows for more consistent results and greater profits. Companies can last longer under different leadership. The quantitative method allows for this. It keeps emotion out of the business, hence increasing rational thinking and decreasing risk.

The quantitative method is a great but limited approach to management. It unemotionally factors all variables and produces a sober result. Managers and executives are wise to recognize its power and consistency. It will give practitioners a “third-party” opinion of what a decision maker should do in a certain situation.

However, in our industry, we must recognize a weak factor in the quantitative approach. Our industry is composed of people and their issues. We say they are 50 percent of the business. Some say less, some say more. I think we can all agree the human factor is substantial and cannot be ignored.

As a principle for using quant in the construction industry, we assert the quantitatively derived result begins the discussion about making a decision but does not make the decision itself.

**The First Quantitative Model of Construction Contracting**

Where do we start using numbers in our pursuit of an effective quantitative method of management? We could pick a dozen or so formulas that would tell us many things about how we are managing our firm.

I think we should start with a general model. Just as my uncle often said, “Start at the beginning.” This is obvious to my way of thinking. Start with a general model, in this case the risk-reward curve, and introduce all subsequent discussion points later. This is the Christmas tree (structure) on which we shall hang ornaments (discussion points).

The model can be specific to a construction firm. However, the numbers will not be. They have to be market-sector specific, derived from banking information. I will give examples for discussion purposes.

The midpoint of the risk-reward curve is the construction firm’s average return on assets (ROA). Plotting the firm’s ROA will be placed on the curve. The variable will be the risk. The risk assessment of a firm will never be certain because too many unclear conditions exist in construction. Even to a practicing contractor of 30 years, some conditions are not ascertainable. However, the attempt to quantitatively assess this is worth the effort. From this exercise, a high sensitivity to the following negative and positive factors emerges:

 Business management

 Financial systems

 People

 Technical mastery

 Customer selection

 Niche ownership

Great strategic planning looks ahead to potential changes and events in the market. We have all seen them in retrospect—energy prices, labor shortage, immigrant surge, technology evolution, and the like. Part of your strategic plan is to anticipate these and to plan for those contingencies. It can make all the difference in acquiring significant clients, exceptional employees, or percentage points of profit.

***Ultimately, Management Is Using Numbers***

What is the ultimate number for any business? That is, which number do most for-profit construction firms use to gauge their success? The answer: net profit before tax (NBT). On which number should they also focus? Return on assets or ROA.

How to achieve a positive profit number is the subject of discussion in many trade and business magazines. Any DuPont chart shows interrelation of all the numbers in a construction business and ultimately how the NBT was derived.

After years of operating results, the firm has a record of accomplishment, clients, personnel, assets, liabilities, and other things that factor into another key number: the value of the firm. Said differently, the market price to buy the firm in its entirety is complicated. This is the last important number a retiring contractor will see. This may be the difference between many and few options in post-contracting life. It would be difficult to imagine going back to work at age 75. I am not sounding an alarm bell, but it is important to emphasize this reality. Let’s all get serious about being financially independent while we have a chance to actualize it.

***Quantitative Methods Transcend All Languages***

It is nice that quantitative methods translate into all languages. If you have 10 years or more left in your working life, globalization is a change that will confront you. For many reasons, too much wealth exists in other countries to ignore other places in the world.

Worldwide, millions of people are engaged in providing shelter and infrastructure to their citizens. Hundreds of languages are used. To write to these professionals in their native language is a possible but expensive task. However, because numbers translate, there is little miscommunication. All countries use math formulas to arrive at some decisions, business or otherwise. Except for units of measures (e.g., English vs. metric), there is minimal confusion in the use of numbers. Currency is relative; each company uses its own currency for expenses and revenue. Days and hours are the same; they do not change with geography.

The quantitative method has all the potential to start a change in the industry—one I think is overdue. It is very hard to argue against standardizing methods and measures. This leads to greater professionalism—something that can’t happen soon enough in an industry whose roots are family-owned companies.

***Quantitative Methods Bring Discipline to a Dozen Conversations***

In all situations, having conversations with others helps to gather information and clarify issues. In some cases, however, having dozens of conversations about a single subject only leads to confusion and slows decision making. This is not a recipe for meeting schedules, or financial, quality, and safety goals in the construction industry. Using quantitative methods is a faster management process.

Think of it this way: What is the purpose of a manager? Answer: to think, analyze, and decide. This is one of the highest payoff tasks a manager can perform. Placing people in a good position to do this produces better management outcomes.

Using a quant approach to manage a construction firm and construction projects is a great start. It gives specific numbers to lead managers into their next phase: the thinking phase. A manager (field supervisor, project executive, project manager, vice president) can only interpret the numbers and filter them if he has the facts on the ground.

But the quantitative method takes a professional only so far. It doesn’t dictate the decision; it only leads us to one. In my view, it begins a problem-solving session in a sane place. Still, people have to weigh the situation. Two things are superior about the quantitative method:

**1.** It allows us to be quicker in determining our course of action. Standard measures give us known facts. Through our use of them, we become very comfortable with their source and their meaning.

**2.** Measurement (Q.M.) is not an opinion. It lacks personification. There are no “nice guys” or “difficult people” in the numbers, no politics or personality clashes.

As we are paid for performance, the numbers help us keep extraneous factors out of the business. It is soberly objective and fair. As we said, using a quantitative method is effective for managing your business better. However, be very clear about what it does. It *starts* the conversation about what is occurring and what can be done. The decision that you make is yours, and that is the art in business.

**The New Business Model of Construction Contracting**

Changes to our business have come in a steady stream, increasing risk to contractors in the process. Today, in the opinion of many, risk stands at an all-time high. The construction business model has evolved into a three-phase cycle that has record keeping as an overarching process in all phases (see [Figure 1.2](https://jigsaw.vitalsource.com/books/9781260464023/epub/ops/ch01.html#ch01fig2)):

**Figure 1.2** In the new business model of construction contracting, the faster the cycle while maintaining excellent safety and craftsmanship, the better will be client satisfaction and financial reward.

*Work acquisition*. Work acquisition, which includes estimating, bidding, pricing, marketing, selling, and business development, is where the business of construction contracting starts. Contractors have several hurdles to overcome before finding profitable and well-paying work. It may take years of working for wages before billing at levels that allow wealth building. Once there, this business can be wonderful, but, again, a steep tuition is usually paid.

*Building work*. This aspect is as old as the business itself. This is where most people fall in love with construction. Like it or not, “mud-on-the-boots” types make building happen in construction. This is where more than 80 percent of construction business costs reside.

It is fair to say if you have to be an expert at any of these four, this is the one to choose. In our opinion, people who build work have the greatest chance of continuing as contractors. It is what drives the billing cycle while keeping the majority of costs down.

*Getting paid*. This is the largest business risk-focus of all contractors on contracts, change orders, and delays by others. Without payment and a subsequent positive balance in the bank account, the business ceases to exist. Getting caught up in a war between owners, funders, designers, contractors, and suppliers on any project has hurt the financial future of many construction firms. They were guilty of nothing except being involved in the construction project. Bad projects and bad years are hard to make up.

*Keeping track*. If you don’t keep track of everything, what will happen? Those activities (work acquisition, building work, getting paid) not closely tracked will get away from you. They may become unrecoverable regardless of your fire-fighting skills. With risk at an all-time high, it is rational to track more, not less.

The good news is that if you input time, cost, physical completion, safety, and quality into a computer, it can play the role of clerk. As we know, the computer can work faster than any clerk can.

**Profile of a Profitable Contractor in This Millennium**

There is no one solution in construction. Try as we may, it will always take several approaches working in concert to make a project come in on time and at or under budget while keeping a construction contractor profitable. Experienced contractors have learned many hard-won lessons about how to keep their business and projects running smoothly. They will be the first to tell you there is no one successful approach. “It depends” is not a cop-out but a truthful answer.

This is the answer of contractors who have earned the practical MBA. Through hard knocks, lessons learned, scar tissue, and generally overcoming several crises during their careers, they have learned “situational management.” Situation management is not a theory but a practical approach. Experienced contractors don’t react immediately to what someone may describe as a problem. Their first instinct is to seek facts before acting. As they gather more facts, clarity evolves, and a plan of action is easier to determine. Emotion is often the enemy when someone is troubleshooting.

Our firm has studied the subject as part of our focus on construction contracting. We aren’t the experts. The experts tend to be taller and better looking than we are. However, let me share with you several observations and a few conclusions about this trend. It is one for the ages, not just the decade. First, let’s go over the general ideas.

If someone is selling software, total quality management (TQM), recruiting, or other services, they may see their offering as the answer to construction’s problems. I see these valuable services as part of the answer, but these solutions must be balanced with other needs. Following one of these as the sole focus is to ignore the complexities of running a construction firm.

We have an industry that is sick from a thousand cuts. Many little things compose the majority of our ills. We have all searched the world for the answer to construction’s challenges and some of us are still searching. If you find that one great thing that answers all of our challenges, you will earn a boatload of dollars selling it.

As multiple approaches are the real answer, the characteristics of a profitable contracting firm can be categorized into three main groups. That is, any profitable construction business is based on three keystones; everything else is subordinate:

**1.** Processes

**2.** Compliance to those processes

**3.** Risk-reward curve position

Half of the fun of strategic planning is changing the market and watching your competitors squirm, blink, and generally react to your moves.

Processes are those things that work in making the cost and revenue of a project distant from each other. Thoughtful processes drive cost down and keep revenue the same (if not rising). For a construction company, good processes keep corporate expenses lower than the competition.

We are in a cost-side business, and the greater the distance of cost from revenue, the more secure the business. Said another way, if these two business numbers are close together, one bad event can cause cost to quickly outpace revenue (a loss).

I have spent several years creating, observing, and documenting “best practices.” I did so knowing many of my clients state that they make the most money consistently following a thoughtful approach. I have learned from many excellent contractors. In this pursuit, I am standing on others’ shoulders.

As my background is in construction, I know the power a good process has in building a project or managing a firm. As additional testimony, contractors show its power each day by example. A simple process can be as powerful as an elegant one. Simplicity means speed and is easy to monitor—an important point for any manager or executive.

We will share several dozen practices in this book. You will be rewarded by reading them. They may not be new to you, but these practices will constantly prompt you to think of better ways to run your firm. We may confirm your current practice’s value. Telling you that your process is a normal approach among successful contractors encourages you to keep using it and not get distracted by the latest fad.

Your good and decent employees can help. They have seen things that work for other companies, either as observers or while working for them. The process helps all people perform better. You can’t rely on good people to perform well if others aren’t in synch with them. These days, all members of your team need to be dovetailing their actions.

Skilled field labor is your ticket to a more predictable and profitable future. Quality labor is rare and has a high value to construction service buyers. Keep in mind the things that help keep your employees working with you. Keep everyone emotionally engaged in working for your firm. Besides the factors of pay and benefits, maintaining a family atmosphere helps everyone stay attached to your company.

Don’t underestimate the power of quiet thinking as you strive for financial independence. A better way can always be found. I am amazed that some people think that working hard is a physical endeavor. Working hard is both a physical and mental endeavor. Owners and managers of firms make more money per hour by thinking (creating fast business processes, negotiating with others, etc.) than through physical activity (wearing their tool belts).

Therefore, process is critical. In our current environment, process drives the other two parts of my critical three to profitability. Without thoughtful processes, compliance is moot and your risk-reward curve position is dangerous. Some processes are tactical (daily) and some are strategic (long-term). The daily ones can be documented in a business management manual and the long-term ones written in a strategic plan.

Above-average contractors recognize the need to motivate consistently. They use all means at their disposal: financial incentives, awards, team recognition, personal recognition, a pat on the back, and any charm they may possess. We work in a hard business, and it tends to wear even the toughest down. Don’t ignore anything that breaks up the day; in other words, keep the negative out of your employee’s lives. We all have enough of that. It is best to introduce the positive and look to the future.

Compliance to those processes means a high predictability in behaviors. Just as a construction company is well regarded when it scrupulously keeps its promises to clients, so is the payoff when everyone inside a company keeps their “promise” to follow the company processes. The faster and more accurate (disciplined) the compliance, the lower the cost of business. The right employees affect this key variable positively.

Compliance is critical as the contracting market does not allow even modest premiums over competitors. It is a cost-side business. That is where higher profits are made.

From my work with firms in the construction business, I have seen compliance as high as 88 percent in all processes. These are highly profitable firms. You may be surprised compliance is not over 90 percent. For best results, it should be.

Construction firms are the “tail on the dog” in many ways. We work for a funder and user (owner) and are subject to a designer’s (engineer or architect’s) vision. Each of these parties tends to have its own agenda; having a highly productive contractor on its projects is not a top concern. By way of example, insistence on a joint formal and thorough pre-job planning process is still rare.

We have asked some stellar contractors what their compliance is on a companywide basis—on time and done right the first time—and the answer has come back in the 70 percent range. You and I would characterize these thoughtful contractors as the best at what they do.

Good people are critical to any compliance improvement. Such employees seek to improve themselves—to be better and earn more. If their compliance is 80 percent, they strive for better. It is innate. To find these people makes your job of management much easier. These people care about the company.

In many cases, the company is you, the owner or manager. If you are a good and decent person, you will attract and retain like-minded people. Leadership training can only take you so far. Character shows, and if a good character is not evident, people can see it the first day on the job.

Your risk-reward curve position is where the business of construction contracting comes together. Find the sweet spot on that curve and your company is at a place where it will earn a high reward for the risk you are taking.

Remember, the risk-reward curve for the construction industry is inverse to the general business curve. Lessen risk and you make more money—odd but true. Increase risk and you will make less money on average. The effort to manage risk has a positive reward.

Some risks are not known (for example, who will be the next U.S. president, what an employee may do on the jobsite regardless of your policy, an owner’s financial situation, and the like).

**Figure 1.3** The contractor’s risk-reward curve. Fewer risk factors means higher return on investment (ROI). More risk may push ROI to low or negative long term.

Companies that follow a thoughtful process move upward in profitability because they lessen or eliminate profit impacts. It is important to note some of these risks, and thus your position on the curve, is chosen by you. These choices are clients, markets, projects, locations, methods, products, and many others.

Saying “no” or passing at times is a good business decision. To be fair, most risk in construction is organic. In simpler terms, it is just inherent in building custom work outdoors exposed to the weather at a breakneck speed. Some say the word “construction” is Latin for “high effort and low reward.”

Lower-risk construction situations (profit impacts) tend to have higher rewards (ROI).

Processes, compliance, and risk-reward position largely drive profitability in construction contracting. (Luck is not a controllable thing.) Because the business can be more quantitatively managed is comforting. We don’t believe in a bloodless business model that discourages people from creative and entrepreneurial thinking. However, we feel strongly that a quantitative approach makes cost, schedule, quality, and safety more predictable while driving them in the right direction. As a result, business relationships with clients flourish. No greater goals exist in the business of construction contracting.

**Two Sources of Personal Wealth for the Contractor**

Contractors have two sources of wealth from their businesses. One is the yearly earnings or dividends that derive from the business. The other is the value of the firm as they may sell it to others.

Management succession planning is best when done by the owner before age 50. After that age, robust health becomes more uncertain; it is a prudent move to plan early. As the owner continues to live, so does the plan. Each year, it should be reviewed and changed to reflect the owner’s current situation.

Making profits year in and year out is the reason we are in business. That yearly (daily) challenge of keeping the revenue line above the cost line is essential to having a profitable business. Without a profitable history, a firm sells for pennies on the revenue dollar. Few people want to purchase a losing concern. Certainly, people have paid something for a poor performing construction firm, but the buy was motivated by other considerations. In these situations, only fraction of the desired price was paid because no other interested parties were making offers.

There is the reality of construction firms being profit generators. These businesses have a value to the business investor or buyer. Construction firms can be sold; that adds wealth to a contractor’s personal portfolio.

***Niches***

A niche is defined as a business place that allows for less competition, more margin, and is subject to fewer reverses due to the economy. Entering a new market is a de facto executive duty. Because we are in a service business, our business is not patentable, thus not defendable. The only rational strategic move here is to enter niches. The skill to do this with efficiency is a must, and it is a profitable one.

Can’t everyone be in a niche and not a commodity? Great question. If you find yourself in a place that is considered common and you want to move to one that has higher profit margins, is recession resistant, and has high barriers to entry, there are three areas where you can diversify:

**1.** Geography

**2.** Construction project type

**3.** Client type

As you know, you don’t go into business today and become a niche player at the same time. The true power players in niches started out in a fairly common segment of the construction market, building four-corner houses or curb-and-gutter or mass excavation projects. These things are not easy but are straightforward.

You can diversify three things: (1) work type; (2) client type; (3) geographic location. If you are serious about the benefits of diversifying, start with these three basics; your efforts will be more efficient. Finding work with distinctive differences in these three areas is called filling a niche. Unoccupied and defendable niches are very profitable.

They did their best, met their payroll, paid their material bills, and worked very hard for wages. Clients and others saw their sincerity and conscientiousness in their work. Trust in them built slowly. At the same time, competitors fell away, giving this company a relatively senior position in the market.

After a time of struggling with dozens of competitors, they slowly sought (or were invited by a client) to do unique work. They found it paid a little bit better and the learning curve wasn’t overly daunting. After awhile, it felt normal.

The new business model is based on delivering four cardinal client benefits on projects. Knowing that only a minority of contractors can deliver all four benefits allows us to maximize profits. In other words, we can charge more for the same work. These benefits are *safety, cost, speed*, and *quality*.

Gaining a reputation for delivering safety, cost, speed, and quality is the ultimate value, which places the contractor in the “pole” position or trusted-advisor role to the client. All that’s needed is a new type of thinking. The changes of the last half century certainly suggest it. We need to use more objectivity, not more opinions to manage our firm. Measures that guide and confirm the contractor in his or her path are critical. They quickly alert and distill problems to their basic nature. In our deadline-oriented industry, this is an answer.

**Summary**

The new business model is a product of changes that have occurred in the construction industry over the past decade or more. According to many, overall risk stands at an all-time high. So our approach and attitude cannot be 20 years or older in thinking. This next business model reflects new thinking.

Because of all the changes, we have less productivity than 15 years ago. For all the good and smart development, we have had more counterbalancing changes. Our constant dollar productivity was less in 2011 than in 1997.

The four parts of the new model are work acquisition, work installation, getting paid for that work, while tracking it all.

The new business model is about addressing serious threats to a contractor’s business. No matter the length or depth of the contractor’s experience, some threats are new. There has to be a way of discovering them and addressing them more quickly that is not reliant on recognizing them from experience.

Tracking more, if not all, things allows the contractor to stay ahead of and confront potential crises. This is a primary behavior to keep a company from being tied up with bad clients, employees, or projects.

Since risk has increased, it is appropriate to use a faster method to discover negative events or trends. Gut feel is less effective than it may have been decades ago. We aren’t given a grace period in project schedules or forgiveness for well-intended but incorrect decisions. Project contract times have shortened. Fewer days (room to fix) means more immediate discovery, analysis, and action. The pressure on the contractor as well as designers, funders, and others is enormous. So using objective measurements gives us a clear signal not clouded by opinion. As a project is estimated, built, and paid for, we can take action earlier on any negative occurrence, thus minimizing any damage to a construction company’s financial health or craft reputation.

This chapter prompts discussion about the use of electronic systems to facilitate these four functions. The speed and power are undeniable, while the cost for these technologies continues to decrease. We don’t comment on specific software, but these times demand use of computer software for the management of a construction organization.

Last, I want to be clear about the largest value in the construction industry, the qualified craft hour—that person (or crew) who can put in place work with productivity, safety, and craftsmanship. Without that on a jobsite, the project suffers. We shouldn’t ignore it. It is the critical factor to a long-lived construction firm.

Growing and keeping quality craftspeople should be a top priority. In general contracting situations, growing and keeping great specialty contractors is a must as well.