



SPECIAL ISSUE

Quarterly

**Why
Contractors
Fail:**

**A Causal
Analysis
of Large
Contractor
Bankruptcies**

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Why Contractors Fail: A Causal Analysis of Large Contractor Bankruptcies

FMI's in-depth study and analysis of the causes of large-contractor bankruptcies reveals a deeper understanding of these contractor collapses.

By Hugh Rice and Arthur Heimbach, Ph.D.

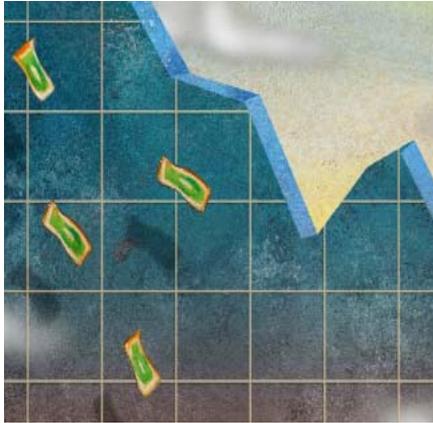
Too big to fail. This phrase has been used to describe large banks whose failure would cause a chain reaction among other banks and financial institutions in their network.

The theory is that it is in the best interests of the national economy for the Federal Reserve to provide liquidity to assure that these banks don't fail. Some analysts have said that GM falls into the too-big-to-fail category. However, most in the United States agree that government bailouts should be rarely, if ever, applied in a free market system.

So can a corporation be too big to fail? Recent history has shown that construction firms are not too big to fail even though they may have annual revenues ranging from hundreds of millions to several billions of dollars. During the past few decades, there have been dozens of large contractors who, after many years of growth and apparent prosperity, experienced notable financial disasters, resulting in bankruptcy or a reincarnation of the business in a much different form. The following is a partial listing of recent casualties.

- The Austin Company
- Dillingham Construction

- Encompass Services Group
- Fishbach & Moore
- Guy F. Atkinson
- IT Group
- J.A. Jones
- JWP Group
- Modern Continental
- Morrison Knudsen
- Morse Diesel
- Railworks Corporation
- Raymond International
- Stone & Webster



There are bonding safeguards to protect project owners and others when a contractor fails; however, there are no such safeguards for the contractors themselves. Such an event affects not only the employees and shareholders of the firm but the industry as a whole.

WHAT CAUSES LARGE AND HISTORICALLY SUCCESSFUL CONTRACTORS TO SELF-DESTRUCT?

The industry has regularly witnessed smart leaders making what appear to be the same fatal mistakes others have made before them. While lists of the major reasons for contractor failure have been circulated in the past, many industry leaders said something was missing in those lists. FMI Corporation (FMI), spurred on by particular interest from the Construction Industry Round Table (CIRT), chose to search for a deeper understanding of why seemingly successful contractors, many of whom had been in business for several decades, experienced financial distress.

Our mission was to provide a richer understanding of large contractor failure by identifying the root causes behind the “surface level” causes that are so frequently blamed (e.g., ventures into new geographic markets, choosing to offer types of

construction in which the firm has no experience, taking on excessively large projects etc.). It is our hope and expectation that this effort will improve the endurance and longevity of the high-quality contractors serving the needs of our society.

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RESEARCH SCOPE

When contractors fail, a rather standard set of reasons is given for the failure. Our review of trade publications and other printed materials on the subject of contractor failure provided an initial list of the most-often cited causes for why large contractors fail. (Some causes frequently cited in other

lists are more relevant to smaller contractors.) To help understand the general sources of each “cause,” we grouped the items in the list into three major categories: strategic, organizational, and uncontrollable.

MOST-OFTEN CITED CAUSES OF CONTRACTOR FAILURE

Strategic

- Unrealistic growth/over expansion/unfamiliar new markets and/or entry into new types of construction
- Volume obsession
- Unrealistic promises/bad contracts/poor project selection

Organizational

- Insufficient capital/profits
- Lack of business knowledge/poor financial management/poor sales skills/inadequate marketing
- Poor leadership/poor leadership transfer
- Project losses/poor field performance
- Owner court battles/owner bankruptcy

Uncontrollable

- Industry/economic weakness
- Banking and surety changes

While helpful, the list provides insufficient clarity regarding the causal roots of failure. A review of the list, in addition to our industry experience, told us that in order for firms to have stronger preventive guidance, we needed to identify the causes behind the causes. Why do contractors grow unrealistically? Why are they obsessed with volume? Why do they have insufficient capital? Why do they go from good performance to poor? With that goal in mind, FMI’s Research Services Group consulted a wide variety of sources, including:



- Written case studies of more than 80 large contractors who suffered a major financial crisis, many of which resulted in bankruptcy
- In-depth book studies of the issues that generally led successful companies into tenuous situations
- Leading management consultant reports, such as the *McKinsey Quarterly*
- Academic articles focusing on company failures in the construction industry
- Cross-industry comparative analysis of financial data
- Cross-industry analysis of Myers-Briggs profiles
- U.S. Census data on failures in the construction industry
- Surety-based historical data on past failures

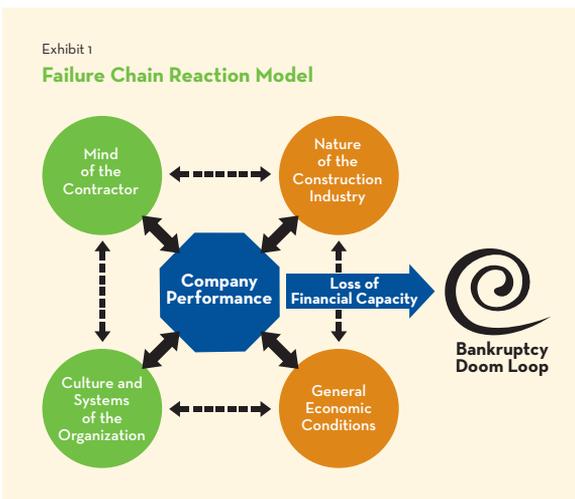
- Reviews of financially-based predictive models for failure
- A nationwide survey of senior executives and middle managers from contracting companies with annual revenues over \$250 million
- In-depth case studies of more than 25 failed contractors, representing a wide range of industry segments
- In-depth personal interviews with 35 top executives of contracting companies and surety firms

A MODEL OF THE PATHS TO FINANCIAL CRISIS

Overall, our research isolated about 200 potential factors that can lead to contractor failure. In digging behind these factors, we realized that no single factor would usually signal the impending doom of a construction firm. More than one issue is most always involved. We found that failing companies usually exhibited a combination of factors that interacted, causing company performance to spiral toward inevitable bankruptcy. Construction is a dynamic and risky business, and as such, it appears that the causes of contractor failure are similarly dynamic and involve a number of difficult-to-manage risk factors.

Failure Chain Reaction Model

To illustrate the causes of contractor failure and how they relate to one another, we created a preliminary model called the Failure Chain Reaction Model. This model categorizes the causes of contractor failure into four major groups, ranging from macro to micro conditions. “General Economic Conditions” and the “Nature of the



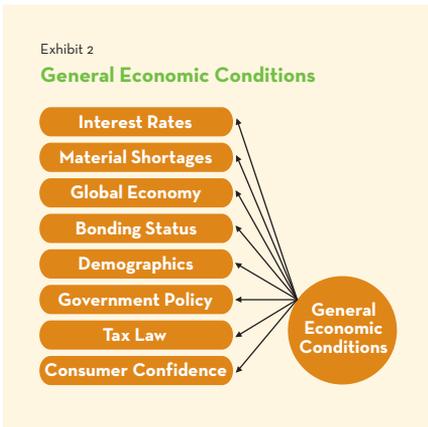
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Construction Industry” represent the macro conditions in the model. The micro conditions are represented by the “Culture and Systems of the Organization” and the “Mind of the Contractor.” (See Exhibit 1.)

“Company Performance” results from the combination of these four categories. Ultimately, poor company performance leads to a

“Loss of Financial Capacity,” which is the final step toward a downward spiral we call the “Bankruptcy Doom Loop.”

Each component of the model is explained further in the following sections.



General Economic Conditions

Specific economic forces affect contractors through many paths, including bonding issues, demographics, government policy, tax law, consumer confidence, and even material shortages. (See Exhibit 2.)

The items in Exhibit 2 are often blamed, in whole or in part, as causes for contractor failure. For example, contractors may blame their financial disaster on a lack of available work due to a suppression of construction plans

that is caused by an increase in interest rates. However, we question the validity of blaming external economic conditions as the primary cause of a firm’s financial collapse. The fact that not all contractors fail during difficult economic times indicates that there are other causes that are more relevant.

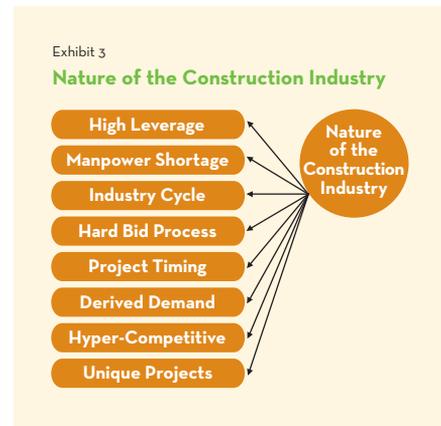
The Nature of the Construction Industry

Many of the characteristics that are unique to the construction industry are also key contributors to contractors’ financial difficulties. Exhibit 3 lists several such items, which are explained in more detail below.

High leverage for contractors does not usually mean a lot of debt, though that can be the case, too. More typically for the construction industry, this refers to the amount of revenue pushed through the pipeline compared to the underlying equity base or level of working capital.

Contractors, especially in the building market, can do a large amount of business with a little bit of equity. In the late 1990s, some building contractors turned their working capital 40 or 50 times. Leveraging working capital or leveraging equity is what we mean by “leverage” in the construction industry.

Workforce issues represent an industry-wide problem that is becoming more and more critical to the success of a construction industry firm. The construction industry is a people business, and without the right people in the right places, contractors are bound to get into trouble. Where are these people going to come from, and where will a construction firm find technically qualified people to do the work in the pipeline now and in the future?

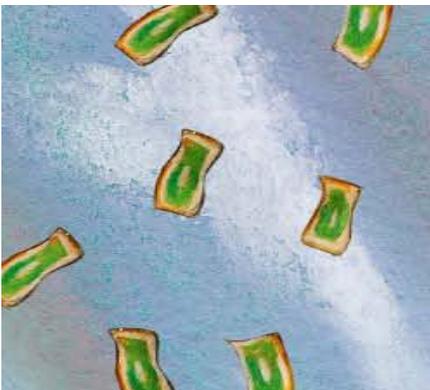


The cyclical nature of the industry signifies that construction activity rises and falls faster than the overall economy. Such fluctuations lead to being over-committed or scrambling for work to keep people busy. Both can lead to problems.

The hard-bid process is unique to the construction business. The way work is procured in a large part of the construction industry is different from the way most businesses work. The owner wants a building and wants to know exactly how much it is going to cost before the project is built. Increasing complexity of projects, fluctuating materials costs, and labor concerns all conspire to make this a dangerous get-work practice for contractors. While the predominance of this method is changing with new delivery methods, it is easy to see how contractors still get into trouble here.

Project timing is dictated by owners' schedules, leaving contractors with little control over project start dates. Sometimes project opportunities become available at the same time, leading to over-commitment of company resources. In other cases, project start dates slip, creating staffing and financing challenges for the contractor. Backlogs can fluctuate widely. A related issue is the long project durations, which can result in project impacts due to material, labor, weather, and related issues.

Derived demand is an interesting concept when applied to a contractor. Most businesses think they have the ability to affect the demand for their service or product. If a company wants more business, then it conducts more marketing to create the demand for its product or service. On the other hand, contractors are always responding to opportunities (unless they are able to create a new project and provide the financing as in some design-build, public-private-partnership type



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projects). Still, 99% of the work done in the construction industry comes from contractors responding to available work. So contractors are at the mercy of the work that comes their way. This easily leads to the project timing issues noted previously.

The construction industry is hyper-competitive, especially in the United States, with tight, low-margin business. Why is the industry so competitive? Construction is an easy business to get

into; low barriers-to-entry and price-driven competition lead to a very competitive industry. In addition, when every project is unique, contractors don't get to practice. The learning curve can be expensive and not all learning is portable to the next project.

Culture and Systems of the Organization

In our research, we found that the "Culture and Systems of the Organization" played an important role in a construction firm's downfall.

Under this general category are several issues and management areas. Several of these are listed in Exhibit 4.

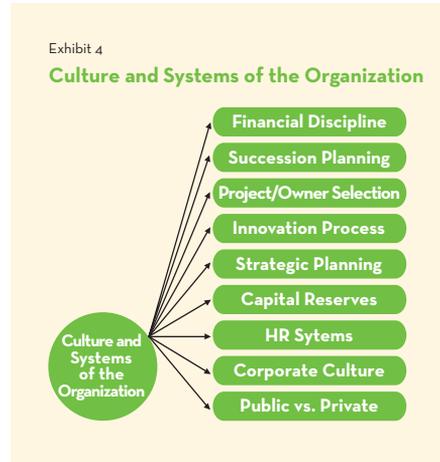
Lack of financial discipline generally means the business is not being managed like a real business. Some contractors are not good business people. They are good builders, but they don't give the financial side of the business the attention it deserves. For example, at some firms the financial people aren't involved in decision-making; instead, they are relegated to bookkeeper status with the thinking that the only real work of a construction business is construction.

Succession planning is often missing or mismanaged in the construction industry. This makes it a particularly precarious time when, for example, the long-time leader or founder is ready to leave the business, or when unforeseen circumstances cause sudden leadership changes. Similar concerns occur in transitions that involve subsequent generations, as well. Ensuring that a strong leader is replaced with another strong leader when the time is right assures the continuity of the business and future growth. This does not happen often enough in the construction industry.

A poor project/owner (or customer) selection process ties back to the project timing and hard-bid process macro causes for contractor failure outlined above. Many contractors do not have a well-defined process for making go/no-go decisions when deciding whether to take on a project. In a highly competitive business, one bad project can mean an unprofitable year, or worse.

Failure of the innovation process usually indicates that there is no innovation process. There is often a sense that construction is a business that never changes. If that was ever true, it isn't any more. Innovation is required to win the work and to build it profitably.

Strategic planning that is not strategic is another way to enter the Failure Chain Reaction Model. We have found that many construction



Ensuring that a strong leader is replaced with another strong leader when the time is right assures the continuity of the business and future growth.

companies do strategic planning but don't have very good strategies. They tend to be so caught up in the process that they forget that their task is really to determine what kind of company they are and where the company should be headed. Instead, their "strategic" planning becomes an operational fix-it list.

Companies that do not maintain adequate capital reserves are running on the razor's edge. One misstep can cause them to fall into the cycle of failure. This management aspect is a critical area that affects the long-term sustainability of a contractor. It is often sabotaged by other corporate and personal demands, leading to the company's demise.

Since the construction industry is a people business, all aspects of human resource management are important. Finding and retaining the talent needed to do the job is critically important for construction firms.

Corporate culture issues have gained recognition in recent years as being more important than historically thought. This area is especially notable when clashes in corporate culture are cited as leading to a company's end. Ethical and moral issues are some of the more serious areas of corporate culture failures, but a company's culture also affects decisions about the company's strategy and hiring needs. The strength of the company's culture dictates not only its ability to hold firm on the practices needed to maintain a financially disciplined organization but also its capacity to change and meet the never-ending evolution of the market and the competition. Our research on failed organizations indicates that cultural issues often contributed to company failures.

The Mind of the Contractor

One of the most surprising and perhaps most interesting results of our research is a greater understanding of the role played by what we call "The Mind of the Contractor." After reviewing our research, we wondered if we could identify



certain mentalities that also increase a company's probability for running into trouble. We found that some of the characteristics that contributed to the success of an individual leader, also contributed to the company's collapse. Exhibit 5 lists some of the characteristics potentially leading to construction company failure.

Since all the items on the list are psychological factors, a broad range of interpretations can be drawn. Our research included our own consultants' experiences working with contractors as

well as interviews and comparative results from accepted personality tests such as the Myers-Briggs Type Indicator. Generally, if you are a contractor or know those who lead and own construction firms, most characteristics on this list will ring familiar.

Most contractors are by nature driven to grow their business. They want to build the biggest job or perform the most volume. They readily buy into the "if you're not growing, you're dying" mentality. If the firm is a public firm, the market expects it to

Construction is a high-risk business, so it is not surprising that those who venture into this business are numb to its inherent risks.

A project focus to the business can lead to a feast or famine mentality. Getting the next project and building the backlog seems to overshadow all other considerations — frequently leading to taking the wrong job for the wrong reasons.

Construction is a high-risk business, so it is not surprising that those who venture into this business are numb to its inherent risks. Or, after decades of facing these risks and succeeding, the contractor often develops calluses to these risks. Many people outside the industry consider the risk contractors assume compared to the low margins gained, crazy. Yet, the people running construction companies don't see it that way. Instead, they sign personally for bank loans and bond guarantees thinking it is "no big deal." They believe they can control the risks. They have strong egos and a can-do attitude. This supreme confidence can be a great characteristic for a contractor, but it can similarly lead to the downfall of the business.

Being afraid of layoffs is linked to the concern contractors have for finding and keeping the right people as well as the drive to grow the business and the cyclicity of the industry. Construction firms that have built up a good workforce in good times naturally want to keep people busy until the next big job comes along. But this can lead to inflated overhead, fattened job costs, and poor project selection.

Loss of Financial Capacity

When the contractor's mindset, company culture, general economic conditions, and the nature of the industry combine to create Poor Company Performance (the red octagon in the middle of the Failure Chain Reaction

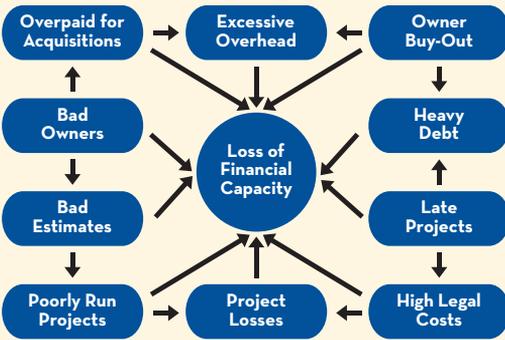
grow. Part of that expectation is the belief that profits will grow along with revenues. In construction, this result is often not the case.

Contractors are also by nature action-oriented, rapid decision makers who sometimes act too quickly when a more deliberate approach is needed. Most leaders in the construction industry came from the operations side of the business. Most were former project managers or superintendents. While this is a critical background for a construction executive, the CEO's job is to run the business, not the projects. Some leaders never make this transition.

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Exhibit 6

Loss of Financial Capacity



Model illustrated in Exhibit 1), the result is oftentimes the Loss of Financial Capacity. See Exhibit 6 for example causes behind this loss. Before a firm loses financial capacity, however, symptoms of this impending loss can be detected through measures of Company Performance. In fact, most models that predict

the potential of a firm’s failure employ some of these financial measures. Unfortunately, by the time these lagging metrics indicate a problem, it is usually too late. The company will typically have already lost its Financial Capacity and will be scrambling to pay its bills and employees.

End Stages of the Model

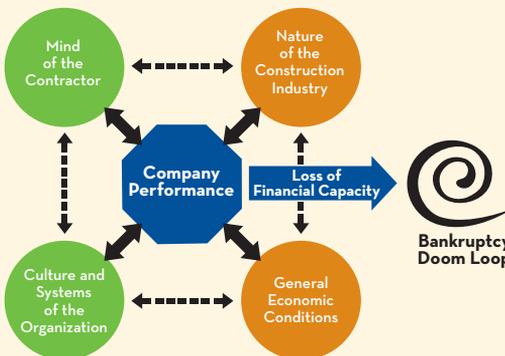
The End Stages of the Model in Exhibit 7 shows the interactivity of causes that can lead to a Loss of Financial Capacity, which in turn can lead ultimately to what we call the “Bankruptcy Doom Loop.” If these terms sound ominous and scary, they should. Once a firm has lost its financial capacity, failure is almost inevitable. Loss of Financial Capacity is the ultimate trigger of the downward spiral that includes a decline in surety bonding, the calling of bank loans, and the inability to make payroll and pay suppliers.

THE FAILURE CHAIN REACTION MODEL IN ACTION

One of the most important aspects of our preliminary model is the interaction of factors leading to contractor failure. As an example of this interactivity, the Failure Chain Reaction diagram shown in Exhibit 8 illustrates how two micro factors (Ego and No Strategic Plan)

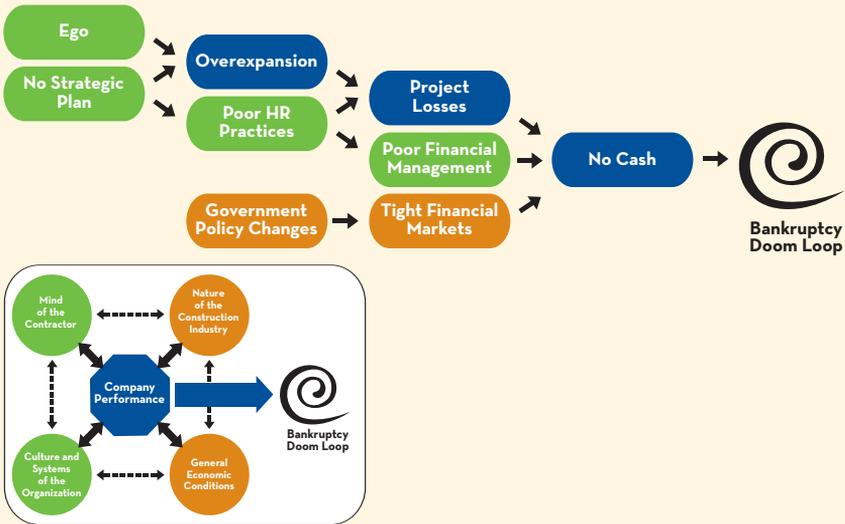
Exhibit 7

Failure Chain Reaction Model



and No Strategic Plan) can begin the chain reaction. The ego of the leader, a factor from the “Mind of the Contractor” category, causes him or her to drive rapid growth for the company. However, this growth is being driven without a strategic plan, a factor in the “Culture and Systems of the Organization.” Combine these initial causes with poor human

Exhibit 8

Failure Chain Reaction Model in Action

resource planning during a period of over-expansion, and project losses are inevitable. At the same time, the organization may make poor financial decisions.

It is not hard to imagine how these initial factors would come together if everyone is focused on rapid growth, and the organization doesn't have the discipline to create a strategic plan. It may be possible to recover at this point in the chain reaction if someone inside or outside the organization says, "Wait a minute, I think this company is in deep trouble." However, this is not likely to happen when the leader has an oversized ego. Although we noted above that general economic conditions were rarely the root cause of failure, a declining market can provide the tipping point or last straw to this impending disaster. At this point, being over-extended due to rapid expansion, late projects, poor cash flow, and a host of other poor performance factors, can lead to financial failure.

The above scenario is just one of many possibilities using our Failure Chain Reaction Model. After clarifying the items involved in the model and their general interrelationships, we then focused on identifying which elements and relationships are the most common and/or most powerful in the process that led to the failure of large contractors over the past two decades.

THE CAUSES BEHIND THE CAUSES MODEL

Our preliminary model clarified that a systems approach was the best method for understanding the process of going bankrupt. We used that model's framework to organize

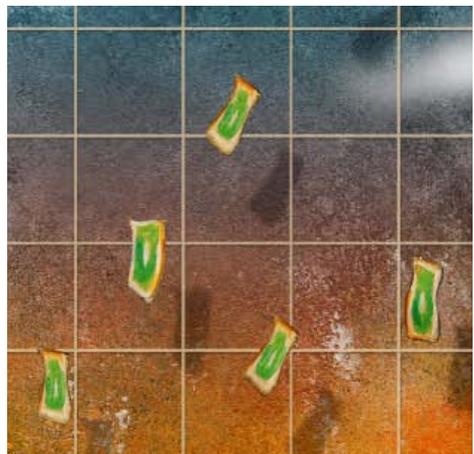
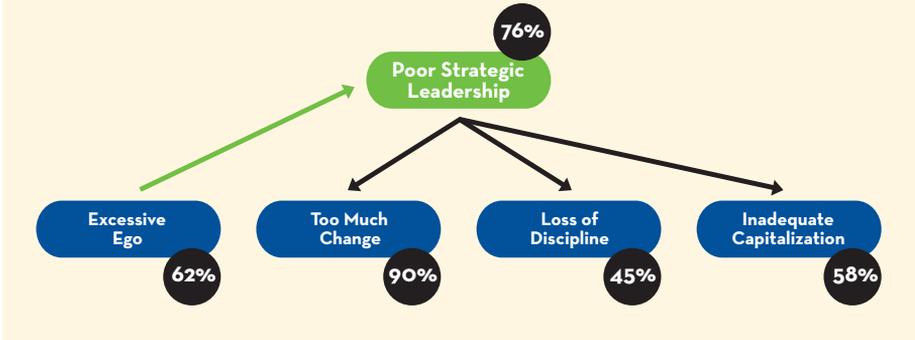


Exhibit 9

Causes Behind the Causes



the information we obtained from our in-depth interviews with a wide array of senior executives involved with many of the recent and large failures in the construction industry. We then identified five dominant root causes — Excessive Ego, Poor Strategic Leadership, Too Much Change, Loss of Discipline, and Inadequate Capitalization. Exhibit 9 illustrates a new model that illustrates our perspective on the relationship of these root causes.

Excessive Ego

The interviews we conducted indicated that in 62% of the company-failure cases, ego-related issues were a crucial element in the actions that led up to the disaster. According to one industry executive:

Ego-driven people scare me the most. In this business, pride and ignorance go together, and experience and humility go together. If you have been around construction long enough, you have failed and been humbled. If you are prideful and arrogant in construction, you simply have not been hit yet.

The concept of excessive ego embodies a constellation of attitudes and beliefs that in many ways point to a leader's ability to succeed. However, those same attitudes can often be identified as the root causes leading the company to failure. The concept of a two-edged sword could not be more applicable here. Pride, arrogance, over-

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optimism, and blindness to realities (to name just a few of the traits) are often characteristics of a leader who fails to develop a team, or seek candid feedback. Such leaders may also develop a sense of invincibility. There are many ways in which an excessive ego can distort reality, leading to misperceptions concerning the market, the company's capabilities, and the leader's personal needs, any of which can put the firm at much greater risk of failure.

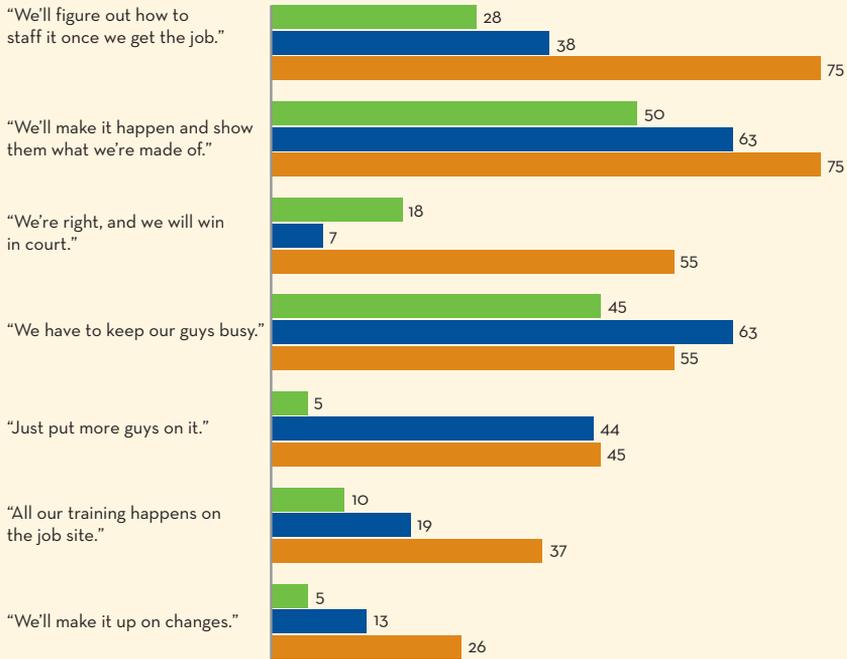
When we asked managers and executives of construction firms across

Exhibit 10

Evidence of a Relationship Between Excessive Ego and a Financial Crisis

Percentage of survey respondents answering "yes" to statements concerning their company's attitudes and culture. (Sorted by the company's risk of financial crisis)

■ Least risk of financial crisis
 ■ Low risk of financial crisis
 ■ Had a financial crisis

**Notes to chart key:**

Least Risk of Financial Crisis = responses from people employed with a contractor that they believe to be well below average in terms of its risk level for having a financial crisis within the next five to 10 years.

Low Risk of Financial Crisis = responses from people employed with a contractor that they believe to be about average, or near average, in terms of the risk level of having a financial crisis within the next five to 10 years.

Had a Financial Crisis = responses from people who have been employed with a contractor that had a financial crisis.

the nation to select the statements that best describe their culture, the responses from companies that are experiencing financial crisis displayed high-ego attitudes more frequently than firms with lower risk. (See Exhibit 10.)

Most of the statements on our list are familiar to those who have worked in the industry for any length of time, and it isn't hard to see how such attitudes can get a contractor into trouble. For instance, a project manager's policy of, "We'll figure out how to staff it once we get the job," often results in a poorly or incorrectly staffed job. As mentioned relative to Exhibit 6, leaders who are trying to grow the company too fast may lack a good strategic plan and/or good human resource planning. While this approach sometimes works as the company scrambles to put people on the job, it also frequently leads to lower margins and late projects. When this approach does work, it builds the leader's ego to the point that a sense of invincibility is reinforced, which can lead to taking greater risks until disaster strikes. As illustrated in Exhibit 10,

even companies that we considered low risk for failure said some of these statements described the attitudes in their company. When too many of these ego-centric attributes come together with other factors, the risk for failure in these companies appears to increase.

If the perils of excessive ego appear to be obvious, why do companies or leaders let these attitudes get them into trouble? One reason, as mentioned above, is that

Often, there is a short distance between the self-confidence needed to assume the risks typical to an entrepreneur and the over-confidence that precipitates the fall of the unsuccessful contractor.

sometimes these attitudes work; however, more often, in our daily culture, we do what feels right to succeed and stay blind to the dark side of many of our thoughts, beliefs, and actions. Often, there is a short distance between the self-confidence needed to assume the risks typical to an entrepreneur and the over-confidence that precipitates the fall of the unsuccessful contractor.

Poor Strategic Leadership

In 76% of the company failures studied, poor strategic leadership was cited as a leading factor in the business failure. For instance, one executive of a public company that ran into serious financial difficulty said:

“Everything comes back to leadership; all the decisions were made by me and a few other people in upper management. We are relatively democratic, considering a broad range of options; we ultimately make the decisions, so

problems are our fault. Once we made poor leadership management decisions, there were certain operational failures where lower-level people made erroneous decisions, causing systems and business processes not to work as intended. The problems all stemmed from bad choices made at the top.”

A leader’s excessive ego often leads directly to “Poor Strategic Leadership,” which is typically the root of a contractor’s financial difficulties. Another leadership weakness leading to corporate collapse is not having any (or enough) “skin in the game.” This results in a renter’s attitude rather than that of an owner. The lack of a personal presence, i.e., absentee leadership, results in insufficient awareness and control of the organization. As we examined cases of contractor failure, we noted that many leaders, due to their excellent building and technical skills, ended up running large companies that far exceeded their business management capabilities. Strategic mistakes resulted. Just as over-confidence can produce wrong decisions bringing down companies, indecision can lead to problems not getting resolved, which can equally topple companies.

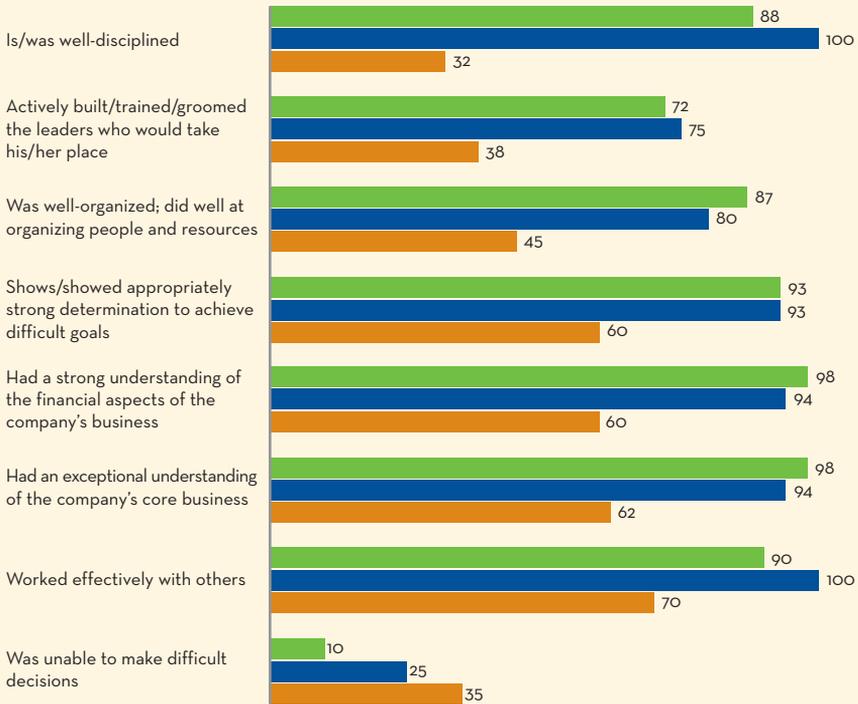
We asked executives and managers of construction firms to choose from a list of

Exhibit 11

Evidence of a Relationship Between Leadership Quality and a Financial Crisis

Percentage of survey respondents answering "yes" or "generally yes" to statements concerning the behavior and skills of their company leader.

■ Least risk of financial crisis
 ■ Low risk of financial crisis
 ■ Had a financial crisis



statements related to the skills and behaviors of strong strategic leaders. Only 32% of executives who had worked with companies that had experienced a financial crisis replied that leadership was well-disciplined. (See Exhibit 11.) Not grooming new leaders and successors; showing little understanding of the finances and core aspects of the business; not having an ability to make difficult decisions; and other factors from our responses indicate poor strategic leadership. Sometimes the wrong person gets the top job.

Too Much Change

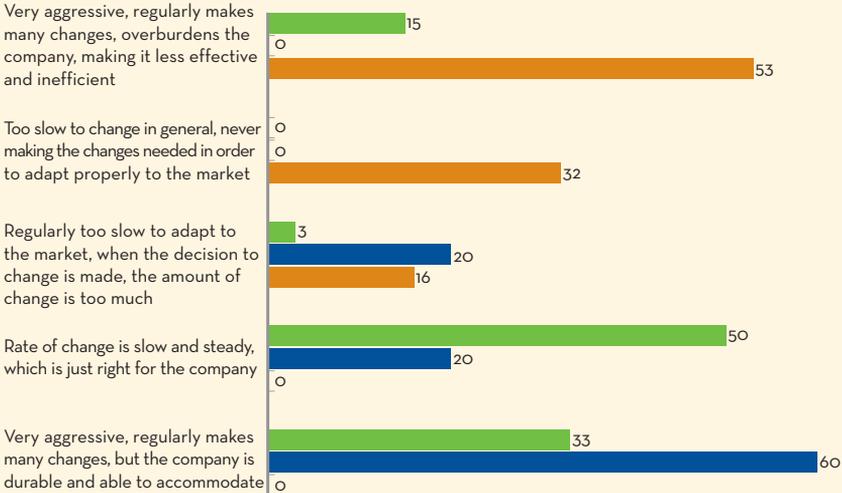
For the large-contractor failures that we studied, a startling 90% of the organizations had initiated a considerable amount of change preceding their crisis. In fact, excessive change appears to be the root cause behind many of the more surface-level causes that are often identified. Examples of these surface-level causes include a sudden increase in the volume of work, entry into new geographic markets, working with new owners, and choosing to offer new services. In addition, hiring new senior leaders, changing ownership, hiring new project managers, and even installing a new accounting system can all be changes that set events in motion toward the failure of the organization. With each increment of change, there is an exponential increase in the risk of losing the systems of procedure and control that are so fundamentally critical to bringing projects in on time and on budget, and maintaining satisfied

Exhibit 12

Evidence of a Relationship Between the Rate of Organizational Change and a Financial Crisis

Percentage of survey respondents answering “yes” to the statement most accurately expressing how they would characterize the amount and rate of change their company was initiating.

- Least risk of financial crisis
- Low risk of financial crisis
- Had a financial crisis



owners and employees. Changing too much, too fast leads to problems.

The results of our survey support the concept that a constant, yet moderate, pace of change is the best route for a company. (See Exhibit 12.) Whereas about half of the respondents from companies rated as “least at-risk” believed their company made changes at a slow and steady pace, none of the executives and managers from companies that had experienced a financial crisis believed this to be true for their companies. Rather, these managers and executives reported their companies to be far more likely to approach change with a very aggressive and overburdening style.

Pushing the Speed Limits of Change

“Fire fighting” and “spinning out of control” are phrases that executives often use in their descriptions of companies that took on too much change on their way to

“We blew-up because we had too many moving parts. We couldn’t keep our focus and fight the fires at the same time.”
 — Ex-executive of a failed firm

financial meltdown. With the obvious importance of managing the rate of change for the survival of a contractor, we felt a need to more clearly understand how the pace of change leads to added difficulties. To illustrate the problem, we created a graph along the lines of the supply/demand graphs used

in economic theory. (See Exhibit 13.) The X-axis along the bottom of the diagram represents the total amount of change within the organization occurring at one time. The vertical Y-axis represents amounts of resources, which can be machines and internal systems (computers, construction equipment, accounting systems etc.), but primarily is used to represent human resources (the mental capacity for change as well as simply the number of employees in the firm). The upwardly sloping green

line represents the resources required to accommodate change, and the downwardly sloping blue line represents the resources available or remaining to accommodate the changes being made in the company. As the amount of change increases, the amount of resources used to accommodate the change increases and the amount of resources available to accommodate additional change decreases.

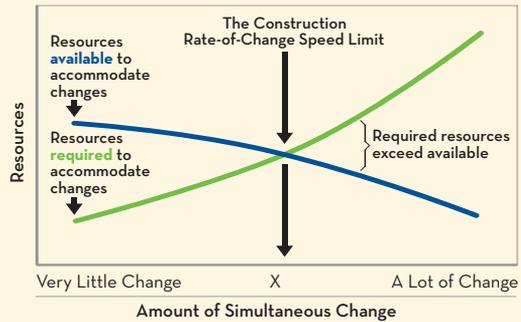
The Rate-of-Change Speed Limit is the point at which the upwardly sloping line intersects the downwardly sloping line. It is at this point that the company is operating at its speed limit, or maximum level of change, using all of its resources to accommodate the changes being made. If the company exceeds its speed limit, the ability for it to maintain its discipline and quality of work is severely compromised, and there is an increasing risk of instability leading to failure.

Loss of Discipline

Whether it occurs because of too much change or is a gradual decay, the Loss of Discipline is one of the most caustic root causes of contractor failure. About 45% of the large contractors we studied reportedly experienced this erosion of discipline. The importance of maintaining discipline in the management and operations of the

The importance of maintaining discipline in the management and operations of the company is no different from the importance of discipline in the processes employed in constructing a building.

Exhibit 13
Contractor Resource Equilibrium vs. Rate of Change



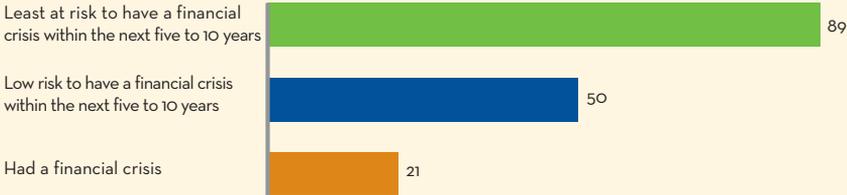
company is no different from the importance of discipline in the processes employed in constructing a building. If the measurements are off or attention to detail is neglected, cost overruns and on-the-job accidents become the focus of attention. The analogies for management include, but are not limited to, staying true to appropriate project selection and pricing policies, taking efforts to maintain an entrepreneurial spirit, avoiding bloated overhead and complex organizational structures, and not succumbing to the impulse of needing to “feed the beast,” or take the seldom-actualized “break-even” project just to keep people busy.

The results from our nationwide survey of construction executives and managers show that how well a company

Exhibit 14

Evidence of a Relationship Between Maintaining Organizational Discipline and a Financial Crisis

Percentage of survey respondents who answered “yes” or “generally yes” to a statement concerning their company’s consistency in maintaining organizational discipline.



is believed to be “keeping its eye on the ball” is directly related to its risk of financial crisis. (See Exhibit 14.) We defined “keeping the company’s eye on the ball” as not changing from proven practices regarding solid hiring, training, employee retention, accepted project risk level, or proper job estimating and/or cost controls.

Executives and managers in companies that had experienced a financial crisis more frequently reported their company took on strategies that didn’t fit core competencies, and seldom had a culture that supported learning from mistakes. (See Exhibit 15.) In contrast, executives and managers from companies believed to have a low likelihood for a financial crisis reported their company’s behavior as being more disciplined.

One individual we interviewed illustrated this by saying: “We have about eight offices. I say that could be about seven too many.” Companies that lack a good growth strategy or are inattentive in deploying their strategy can end up with more infrastructure than the company can support. The result is a lack of focus, a drain on resources, and, in order to keep people busy, the urge to chase projects that don’t fit the business. Lack of discipline is often seen in the lack of a “way” that the company does things. There is no standardization of processes or systems. There are many ways that a loss of discipline can get a company into trouble, and it is a strong sign that a company may be heading toward failure.

Companies that lack a good growth strategy or are inattentive in deploying their strategy can end up with more infrastructure than the company can support.

Inadequate Capital

The last major root cause for contractor failure is having “Inadequate Capital.” This was the case in 58% of the crises we studied. This refers to companies that maintain a level of capital that is inadequate for ensuring a sufficient buffer for sudden, unexpected needs (despite what the

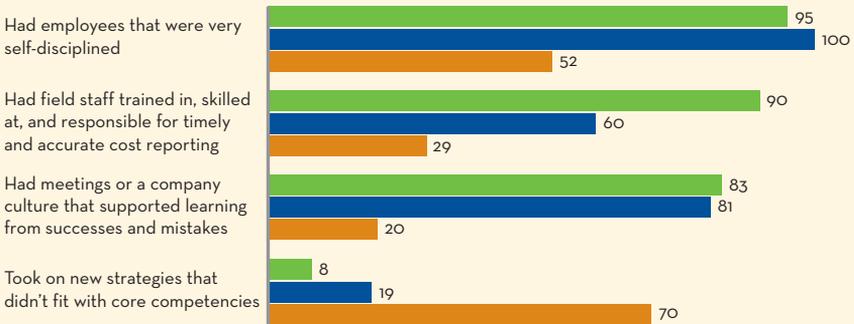
company leader may think). The economics of the construction industry are rather unique, and many leaders fail to grasp the severity of risk that the company is exposed to by maintaining an inadequate amount of capital. There are many forces tugging, even yanking, on the leader to take funds from reserves in order to fund

Exhibit 15

Additional Evidence of a Relationship Between Maintaining Organizational Discipline and a Financial Crisis

Percentage of survey respondents who answered “yes” to statements revealing company practices characteristic of maintaining organizational discipline.

■ Least risk of financial crisis
 ■ Low risk of financial crisis
 ■ Had a financial crisis



other, seemingly more pressing, needs. The list of issues related to an inadequate amount of capital is long. The following is a partial list:

- A financial policy that is too liberal and that consistently targets a level of contingency/reserves that is inadequate.
- Being forced to litigate disputes since the capital base is inadequate to allow compromise.
- Large, long duration projects causing significant equity, cash, and working capital to be tied up in uncompleted work (or claims).
- Pressure to show profits prematurely. Equity reflected in percent of completion estimates does not reflect real profits.
- Ownership-related capital depletion. For instance, stockholder buyouts lower the capital base of the company.
- Diversification into illiquid assets. Assets tied up in real estate do not provide cash available to solve problems that may arise.
- Surety availability. Lower equity means reduced bonding capability.
- Managing cash vs. managing the business. As cash runs short, too much time is spent managing cash, taking focus away from the business.
- Over-leveraging — too much debt, too little “real” equity.
- Over-payment for acquisitions.
- Leadership’s unspoken assumption that the firm will incur no bad luck.
- Leadership’s reliance on “phantom” capital, which is the equity reflected on a balance sheet that is made up largely of estimated profits on uncompleted work.

Prudent management dictates that the firm’s equity and working capital levels be maintained at a level to survive unforeseen problems.



THE NATURE OF THE CONSTRUCTION INDUSTRY AND GENERAL ECONOMIC CONDITIONS

Many people from failed companies point to issues outside the control of their company as the causes of its demise. Yet, in any market, at any time, you can find examples of companies that succeeded despite the same external force being

It is a rather thin edge on which successful contractors live. A significant misstep can end the life of the company.

present when another company suffered a catastrophic financial event. In fact in our study, many seasoned industry executives emphatically rejected the notion that luck or other extraneous forces are responsible for a company's decline.

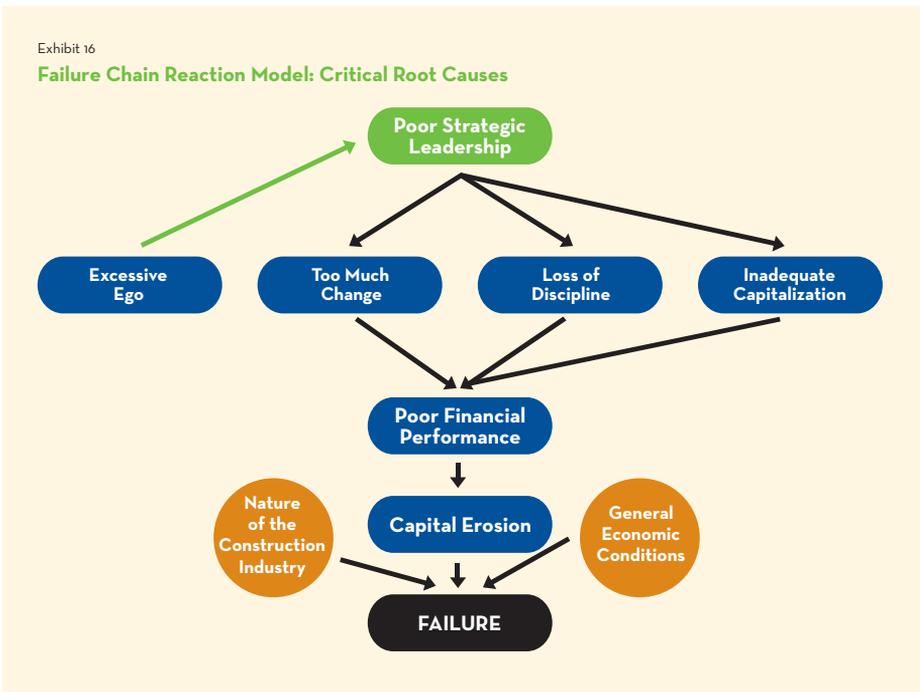
Nonetheless, we do see a need for identifying the role that external economic conditions can play. Our study indicates that these externalities are not root causes but actually accelerants that quicken the pace of demise for those companies that already suffer from one or more of the root causes noted. It is a rather thin

edge on which successful contractors live. A significant misstep can end the life of the company. The depth and complexity of the troubles that take large contractors down is evident; we see more liquidations than reorganizations.

Using parts of our original Failure Chain Reaction Model and focusing on the critical root causes results in the simplified model below. (See Exhibit 16.) This model illustrates the interplay of the critical root causes that lead to poor financial

Exhibit 16

Failure Chain Reaction Model: Critical Root Causes



performance, which aggravates the issue of maintaining adequate capital (creating “Capital Erosion”). Finally, additional input from external forces may accelerate the firm’s pace to failure.

FMI is working on the development of diagnostic tools that are based on this model and that will provide new ways to assess a contractor’s level of risk for incurring a financial crisis. Whereas the majority of our work has always been to help our clients improve their corporate strength and value, it is now clear that the activities required for a contractor to grow and prosper are not exactly the same as those necessary for it to have sustainable success. The tools resulting from this research, and the continuing knowledge-building in this area will be valuable aids in building a better construction industry. ■

Hugh Rice is a chairman of FMI Corporation. He may be reached at 303.398.7223 or via e-mail at hrice@fminet.com.

Arthur Heimbach, Ph.D., is a senior research consultant with FMI Corporation. He may be reached at 303.398.7243 or via e-mail at aheimbach@fminet.com.

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- ⁸ U.S. Census data on failures in the construction industry.
- ⁹ Surety historical data on past failures.
- ¹⁰ Reviews of financially based predictive models for failure.
- ¹¹ Nationwide FMI survey of a sample of senior executives and middle managers from contracting companies with annual revenues over \$250 million.
- ¹² In-depth case studies of more than 25 failed contractors, representing a wide range of industry segments. List of companies available upon request.
- ¹³ In-depth personal interviews (anonymous) with 35 top executives of contracting companies and surety firms.



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