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Business success centers on the ability of a company to correctly recognize and successfully manage the risks associated with its operations.

The realities of the construction industry certainly reflect this truth.

In fact, contractors face a number of risks that multiple levels within the company must continuously assess for implications and impact on profitability.

Operational RISK A HOLISTIC APPROACH Management

Critical decisions must be made with an understanding of these risks; otherwise, the uncertainty created by a lack of knowledge can have far-reaching consequences for success.



Company failure can often be traced to the failure of certain management-related tasks. And, frequently, outside influences are blamed for failures that are really the result of not implementing known management techniques.

Why Companies Fail

According to FMI, consultants to the construction industry, there are a variety of reasons why construction companies fail:

Project Selection, Sales, & Estimating

- Failure to determine target markets
- Bidding work outside the company's area of expertise or geographic knowledge
 - Building volume over profit

Poor Project Management Skills

- Little or no pre-project planning
- No "hand-off" between estimating and project management
- Lack of field crew coordination

Training & Motivation

- Lack of accountability
- Lack of career management ("career" vs. "job")
- Lack of project management training

Administrative Issues

- Company vision not communicated
 - Technology not embraced
- Employees not receiving feedback

Weak Financial Reporting

- Lack of emphasis on timely, accurate, and complete financial statements
 - Poor billing, change order, and collection processes
- Inaccurate cost-to-complete projections

The Big Picture

Risk is an essential part of any business – without it, there would be little reward. How well risk is managed determines if a company is more successful than its competitors.

Historically, construction risk management has focused primarily on the hazard component of a company's total risk portfolio – the risk or risks associated with injury to persons or property. While important, hazard risk management alone is not enough to ensure success in today's complex construction environment. In fact, it is only one piece of the risk puzzle.

FOUR TYPES OF RISK

Today, management must have a much stronger focus on the business in its entirety and should, in fact, adopt a holistic approach to risk management. Here's why:

Most, if not all, business risk can be placed in one of four quadrants (Operational, Financial, Hazard, and Strategic) as shown in Exhibit 1.

First, examples of key risks faced by all companies are listed in each quadrant, followed by examples of additional risks faced by construction companies.

Being positioned to manage each of these risk quadrants will deliver substantially more control over the profitability of any construction company.

BUSINESS IS RISK

The traditional risk management community has done an outstanding job of managing hazard risks through innovative insurance products and solutions.

In fact, studies show that few companies have sustained any significant impact on earnings per share (EPS) arising from instances where the risk management process within the hazard quadrant has failed.

While not construction-specific, the graph in Exhibit 2 shows the result of a study by Mercer Management Consulting, a subsidiary of the Mercer Consulting Group. For the companies surveyed in this study, the bar chart depicts how each of the four risk areas impacts EPS.

In reviewing Exhibit 2, it takes little imagination to convert this into construction company specifics. As with other industries, most of a construction company's major risks to EPS arise

more from its operational, strategic, and financial risk areas than from its hazard risk quadrant.

Managing Operational Risk

While financial and strategic risks are important to a construction company, it is those risks within the operational quadrant that furnish the most significant threat to profit preservation. Cost overruns, failure to coordinate the estimating process with project execution, and skillful contract management at the project level are key operational risks that any construction company must manage in order to maximize profits.

While not diminishing the importance of the other risk areas, let's look at some typical operational risks that construction companies face at the project level and identify some processes for successfully managing these risks. We'll begin by identifying the stages throughout the project life cycle where risk can be controlled and/or mitigated.

STAGE 1: ESTIMATING/BID

During this first stage of the project life cycle, many profit robbing situations can be avoided by paying strict attention to some important details.

For instance, attending the pre-bid conference and visiting the site can uncover some risk situations that can be avoided all together. Some other risk-mitigating factors include:

- Accurately assessing project risk
- Thoroughly understanding contractual obligations and duties
- Developing a complete understanding of the responsibilities of all parties during the estimating process
- Developing a process for solicitation/contract review, including special and general conditions
- Developing a preliminary schedule and project plan, in addition to a review process

STAGE 2: CONTRACT AWARD/NOTICE TO PROCEED

So, your company is the low bidder and it's time to build the project. How can the risk that threatens project profitability be avoided? One very useful strategy is to first prepare a project plan, which is different than a project schedule.

It is **IMPORTANT**
to recognize that
PROJECT CLOSEOUT
begins the day you **SIGN**
the **CONTRACT.**

Preparing this plan prior to, or in conjunction with, project mobilization can uncover and mitigate many operational risks before they have an opportunity to impact project costs and schedules. For example, factors such as minimal lay-down areas and limited site access can be dealt with prior to the actual start of construction.

In addition, attending the pre-construction meeting with a thorough and well-documented project plan establishes the method, manner, and sequence of construction. It also lays the necessary administrative groundwork with the owner to achieve a profitable project.

Other processes to undertake at this stage include:

- Risk review, assessment, and mitigation
- Baseline schedule development
- Cost accounting and contract administration
- Project control review and implementation

STAGE 3: PROJECT PERFORMANCE

During this stage, many things need to be done simultaneously. The project hand-off or kick-off meeting is an essential part of communicating the project plan and schedule. Safety, quality control, and quality assurance procedures are implemented, and reporting structures are put in place.

In addition, manpower requirements, schedule forecasts, and material/equipment requirements are continually updated to reflect the as-built condition of the project. Periodic evaluations are completed to assure that work is progressing per the project plan and schedule.

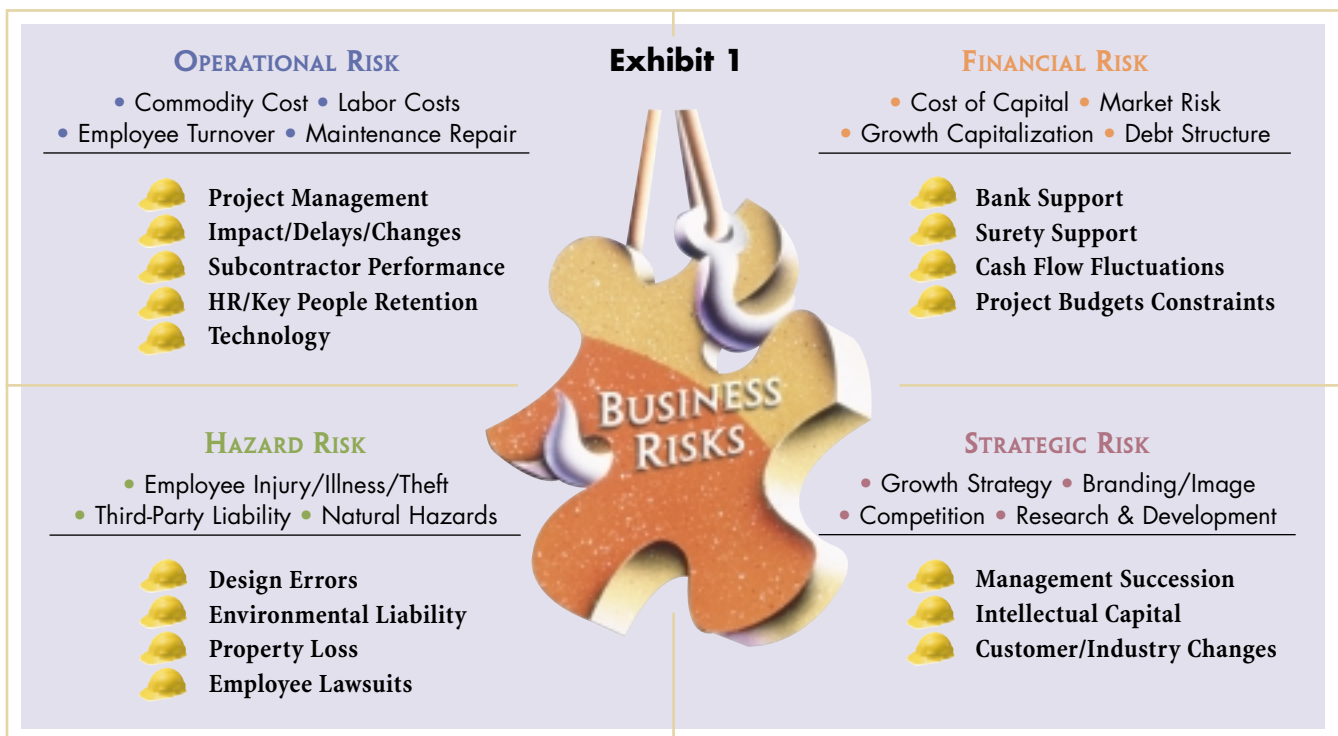
Other processes that can be followed to help identify and mitigate potential risks include:

- Contract administration
- Subcontract administration
- Change order proposal development
- Scheduling updates and analyses
- Construction delay and claims mitigation
- Periodic project evaluations

STAGE 4: PROJECT CLOSEOUT

On many projects, considerable profit loss is directly related to management's failure to successfully closeout a project on a timely basis. The longer it takes to complete this phase of the project cycle, the more the bottom line is diminished.

It is important to recognize that project closeout begins the day you sign the contract. Well-managed projects have the majority of their closeout procedures completed long before reaching





substantial completion, the point at which the project is turned over for its intended use.

During closeout, risk-mitigating factors and processes include:

- Finalizing change orders
- Finalizing equitable adjustment negotiations
- Managing the project closeout
- Evaluating subcontractor claims
- Completing the as-built drawing and finalizing turnover
- Completing punch list activities
- Finalizing project compliance and completion documentation

STAGE 5: NEGOTIATIONS & MEDIATIONS

Preparations for this stage in the project life cycle should be part of the daily project procedures. Even if the most perfect project management procedures are followed, the need for claims negotiations will not be completely eliminated. However, planning for this potential throughout the project will lead to a more efficient and effective negotiation process.

Several processes can be instituted to mitigate risk at this stage, including:

- Negotiation/mediation support
- Contractor claims evaluations
- Claims preparation assistance

Managing Contract Risk

A crucial need for any successful project execution plan is the ability to understand, manage, and control contract risk. The ability of the project management team to correctly understand all of the company's rights and responsibilities under each contract is vital to profit preservation.

Failure to understand either the company's rights or its responsibilities can lead to protracted disputes, loss of profits,

loss of retention, and/or the assumption of various other delay-related costs (such as liquidated damages).

Avoiding and/or mitigating the severity of contract disputes is one operational management strategy that all construction companies should implement. While not always 100% successful, such a practice will lead to better retention of project-level profits and will build stronger client relationships.

Let's examine some ways to achieve this goal.

Early Issue Recognition

There are two general methods in use today to determine the issues and events that impact project performance and profitability. They are the event-oriented (proactive) approach and the loss-oriented (reactive) approach.

In the event-oriented approach (also called the "in-control" approach), the contractor identifies current or future issues and/or events that have the potential of impacting project performance on a real-time basis.

When the event-oriented approach is used consistently, the project team can take immediate steps to identify the issue in the project record, notify the owner, and reschedule the project to correct and/or mitigate any potential loss.

Additionally, early resolution of these issues prevents the expenditure of valuable resources and mitigates the ultimate cost of protracted disputes without disruption to the ongoing work.

To demonstrate the difference between the two approaches, consider the following examples:

LOSS-ORIENTED APPROACH

An example of the loss-oriented approach would begin with a contractor who is consistently experiencing less-than-planned-for results, and is frequently trying to catch up with the project's momentum.

Consider a situation where three critical submittals are due within 30 days of the contract award: 1) concrete mix design, 2) concrete foundation rebar approval/design/placement, and 3) steel fabrication shop drawings.

All three submittals are on the project schedule's critical path. But, the contractor understaffs the project administration and expects the project manager (in conjunction with the estimator) to prepare the submittals and obtain approval while project mobilization is underway.

Typically in this situation, the submittals are poorly prepared, lack the necessary detail, and are subsequently returned

unapproved. The project schedule is then delayed from the outset and a potential loss situation has occurred.

Subsequently, other activities are delayed, generating additional project delays. In addition, the contractor lacks any contractual recourse to recover the necessary acceleration costs.

EVENT-ORIENTED APPROACH

The event-oriented approach, on the other hand, recognizes the importance of critical submittals, places this activity in the project schedule to track progress, and staffs the project accordingly. In addition, with this approach, the contractor provides contract administration staff to “walk” critical submittals through the approval process, thereby mitigating any delays that might occur.

Documentation is provided within the submittal that is sufficient under the contract to allow a smooth submittal approval process. Typically, after the process is complete, the contractor will remove the additional staff to lower the overhead attributable to the project.

In other words, the contractor manages the process, instead of the process managing the project.

By utilizing the event-oriented approach, the project team is more likely to:

- Maintain cost and schedule records, segregated and identified by issue
- Recognize the need to document the events that caused the change or delay
- Meet the contractual notice and change order requirements

- Secure an early negotiated settlement and receive payment and/or schedule extensions while the work is in progress

The moral here: “Early Recognition = Early Resolution.”

Timely Notification of Issues

Once an issue or event is identified, the contractor has a generally held obligation and responsibility under the contract to notify the owner of any potential cost and schedule increase.

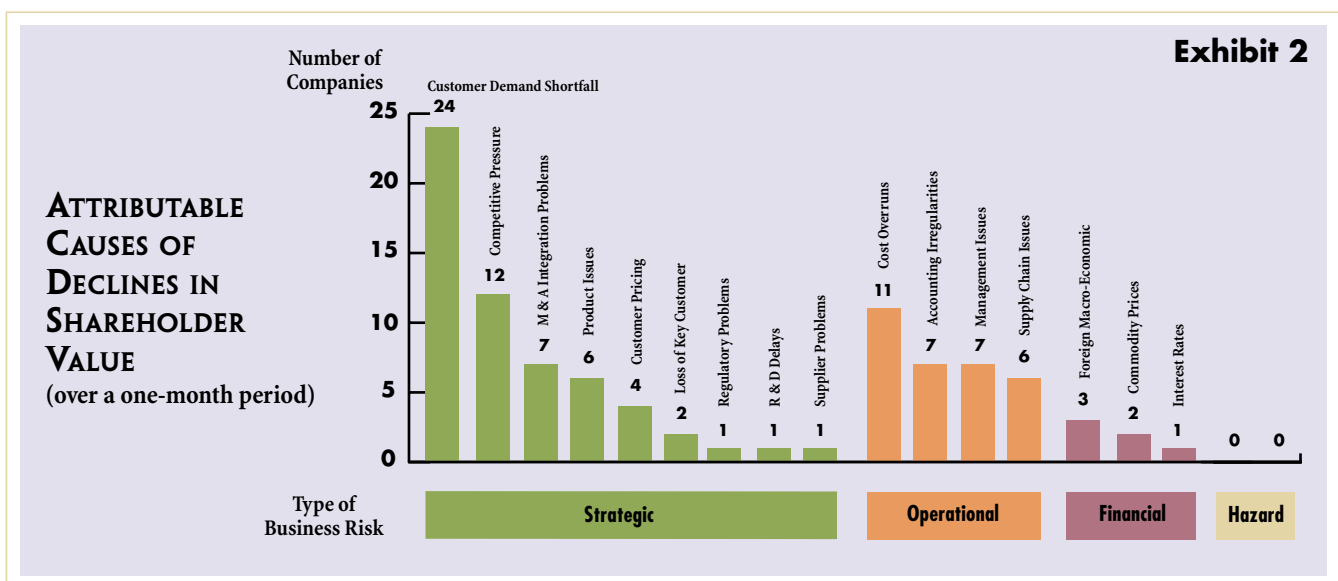
Contract clauses relating to changes in work, extra work, and delays generally contain detailed notice requirements along with the means and method of notifying the designated parties. (See specific contracts for details.)

Timely notice is essential. The owner must be given an opportunity to work with the contractor to mitigate any cost or schedule impacts.

Documentation of Impact Issues

Creating separate cost codes that are dedicated to the specific impact being tracked preserves the documentation of additional costs that result from the issue or event. This documentation provides the necessary link between the cause (the issue or event) and its effect (cost overrun, delay, etc.).

Segregating these costs from the unchanged (or baseline) work will isolate the costs of the issue or event and preserve the integrity of the cost record for future presentation and negotiation.



For example, owner approval of daily time sheets during the negotiation of the cost of a change will ensure that the proper documentation is available to support the requested price. Other factors that can help establish and preserve this so-called “causal link” include:

- Estimates of change costs
- Schedule revisions and updates
- Daily logs
- Photographs
- Meeting minutes
- Correspondence dealing with the issue or event

Identifying Cause-and-Effect Relationships

Impacts to the schedule are determined by revising the current project schedule to accurately reflect the current as-built condition, including all impacting issues and events.

This process is performed in conjunction with periodic schedule updates and revisions, and provides the quantification needed to determine the full extent of the impact.

As with the process of determining the impact on cost, updating the schedule is very useful in portraying the cause-and-effect relationship necessary to produce a successful settlement without disruption to the continuation of the work.

Due to both parties having some leverage while the project is still underway, resolution of any schedule and/or cost impact during the project leads to a greater probability of equitable settlements.

However, waiting to resolve issues until after the project is complete tips the scale in favor of the owner, who now not only holds the contractor’s retainage, but also has use of the facility the contractor built.

When Does Closeout Start?

If not handled correctly, the project closeout process has the potential to erode profitability on any project.

To prevent profit fade in the final stages of project completion, the following steps should be taken early in the project life cycle:

- Begin to establish goals and milestones related to project closeout on the day the contract is signed.

In other words,
the **CONTRACTOR** manages
the **PROCESS**, instead of the
PROCESS managing the
PROJECT.

- Identify required contractual items, including:

- As-built drawings
- Equipment manuals
- Warranty packages
- Final project documentation turnover
- Change order negotiation/resolution
 - Insert milestone activities into the project schedule and monitor their progress.
 - Execute milestone activities per the schedule, just like any other construction activity.

- Maintain the process and make adjustments to reflect the actual completion condition of each milestone.

Managing the Construction Project through Early Intervention

Perhaps the element most significant to resolving contractual disputes on construction projects is the early identification of issues that create schedule delays. Examples include:

- Critical submittal approval
- Lack of a project plan
- Vendor relations
- Insufficient understanding of contractual duties and obligations
- Lack of coordination of scheduling and work flow
- Insufficient manpower and/or equipment at crucial times
- Weather
- Differing project site conditions

Measuring Success

The holistic approach to risk management allows a company to better recognize and manage the full spectrum of risk faced on a project. This approach can be a key factor in the project’s success and profitability.

The success of this approach is measured by how well the management team accomplishes the following:

- 1) How, and to what degree, does management identify their company's risk in all four risk quadrants?
- 2) To what degree are they successful in recognizing the impact that such risks can have on the company's success?
- 3) To what extent have they been able to develop the means and methods to better manage such risk?
- 4) How successful have they been in communicating philosophies and procedures that field managers can follow *and* implement to achieve the increased success of a more holistic approach to the risk management process?

Where there is clarity to each of these tasks, project managers have a much stronger focus on the entirety of the project and will be less inclined towards crisis management.

When a Project Goes "South"

Early identification, together with proper communication between the involved parties, leads to prompt resolution of disputes and/or clarification of other important issues. This correlates to less impact on the project and will ultimately preserve, and even enhance, project profitability.

Each construction project is unique; but, all projects become universally identical when delays and corresponding issues develop. When not properly handled, these inevitable changes lead to a deterioration of profits.

When a project goes "south," several basic (yet critical) questions must be answered:

- 1) What went wrong?
- 2) How did it happen?
- 3) Will we recover our loss?

Without early delay recognition and adequate project record keeping, it may prove difficult or impossible to determine these crucial answers.

Reconstruction of documentation is expensive, time consuming, and often lacks the detail needed to justify an equitable adjustment in money and schedule.

There are many publications that tell how to resolve construction schedule and cost disputes *after* they have happened. However, you have just read some practical strategies to mitigate and even eliminate this potentially damaging and costly process – strategies that can be applied *prior* to entering into the dispute process.

The Big Picture, Revisited

In today's construction market, profitability resides not only in project execution, but also in effective contract administration and project management.

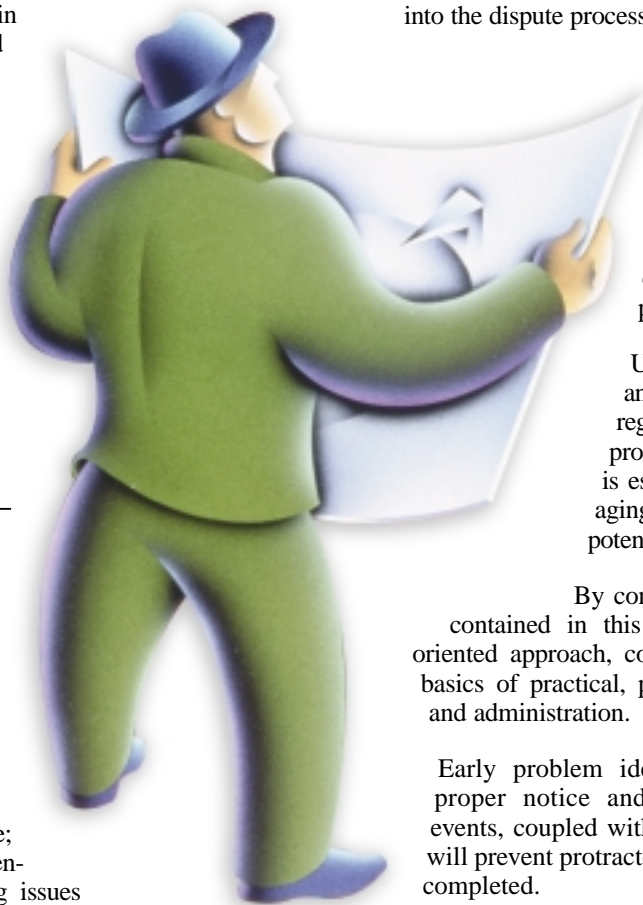
Unforeseen changes in work and the resultant delays are a regular part of the construction process. Recognizing this reality is essential to successfully managing a project to its fullest profit potential.

By consistently applying the tools contained in this article through an event-oriented approach, contractors can return to the basics of practical, proven project management and administration.

Early problem identification, together with proper notice and documentation of these events, coupled with fair negotiating practices, will prevent protracted disputes after the work is completed.

Contractors who are able to present factual cause-and-effect change order proposals in a timely fashion can expect to mitigate (and sometimes completely eliminate) profit fade throughout the project.

This course of action is always in the owner's and the contractor's best interest. Equally important, it will establish the basis for continuing sound relationships in this highly competitive market place.



To Sum Up ...

Operational risks (such as cost overruns, poor scheduling, and inadequate financial reporting) are inherent in the construction industry and are the leading causes of financial problems and subsequent failures.

Moving beyond the “traditional” risk management process and into a more holistic risk management style allows management to focus on often-overlooked areas of risk that can impact company/project profitability.

The holistic approach also allows a management team to focus (or refocus) its project managers on the driving forces behind profitability. Continual reminders through regular training at the project management level can make a significant difference in both the short- and long-term success of a company.

By being proactive, communicating with, and training project managers in holistic risk management techniques – and encouraging event-oriented project management – profit preservation becomes the norm. A healthy, stable, viable company then becomes the reality. **BP**

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