

# Boosting Your Bottom Line: 10 Ways to Maximize A/E Firm Profitability

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by **ZweigWhite**  
**Compliments of Microsoft**

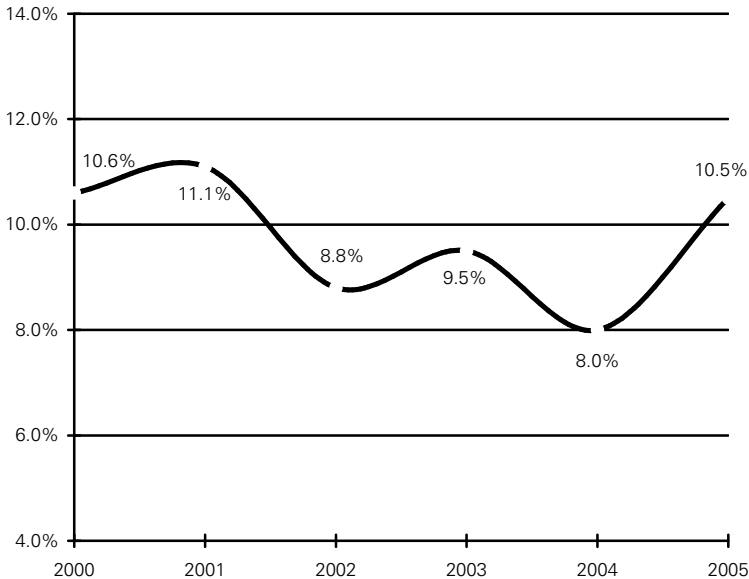
## Introduction

Successful architecture and engineering firms have one thing in common— a strong bottom line. However, today’s increasingly competitive environment is making it more and more difficult for A/E firm leaders and managers to maintain profitability levels.

By nature, architecture and engineering firms are project-driven businesses, which impacts all aspects of firm management, including profitability. Delivering projects on time and on budget is not only key to repeat business, but vital for a solid bottom line.

ZweigWhite’s *Financial Performance Survey of Architecture, Engineering, Planning & Environmental Consulting Firms* tracks the profitability of design firms on an annual basis. Since 2000, the median net pre-tax, pre-bonus profit on net service revenue has been between 8% and 11%, as Figure 1 shows. Because it is based on net service revenue (which excludes pass-through payments) and is calculated before bonuses are paid out, this statistic is considered the best measure of the typical design firm’s ability to generate a profit on operations and one that firms should use to benchmark their financial performance.

**Figure 1: Median Net Pre-Tax, Pre-Bonus Profit on Net Service Revenue for A/E Firms**



Source: 2005 *Financial Performance Survey of Architecture, Engineering, Planning & Environmental Consulting Firms* (ZweigWhite)

Unfortunately, not every architecture and engineering firm makes profits consistently, and when they do, they may still fall below industry medians. While some may try to blame a lack of profitability on the economy, the truth is that it's almost always in the control of business owners and managers to do something about the bottom line. Based on our industry research, ZweigWhite has identified 10 ways that architecture and engineering firms can take action to maximize their profitability:

1. Speed up your billing practices
2. Collect the money you're owed faster
3. Manage accounts payable
4. Forecast cash flow
5. Control costs
6. Raise prices
7. Hold the line on free work
8. Maintain project profitability
9. Track key financial metrics
10. Improve internal financial reporting

## 1. Speed Up Your Billing Practices

Adopting better billing practices can be a significant first step to increasing your design firm's profitability. Both your bottom line and cash flow depend on sending out invoices to the people who owe you money in a timely manner. But if your billing process is incoherent and inconsistent, you could be your own worst enemy when it comes to boosting your bottom line.

Bills should get out to the client at the earliest possible moment. However, ZweigWhite research shows that four out of every five A/E firms wait until the end of the fiscal month to bill clients. Conventional wisdom says this is the most convenient way of handling the billing process, but the result is that many invoices that could have been sent out earlier are held up for no good reason. In addition, by holding all invoicing until the end of the month, your firm is not using its administrative resources effectively. Administrative staff have to put in a lot of overtime hours during billing week (often at time-and-a-half), but are then underutilized for the rest of the month. One of the easiest steps a firm can take to maximize cash flow is to change from a monthly billing schedule to a continuous one.

Also, make sure your billing terms are clear in your contracts and invoices. Your contracts should clearly state the billing schedule for the project, the required payment terms, and the actions that will be taken if the terms are not met. Contracts should specify that payments are due within 30 days of invoice receipt with interest penalties for late payments. Only 48% of architecture and engineering firms, however, charge interest on late payments according to

*ZweigWhite's Fee & Billing Survey of Architecture, Engineering, Planning & Environmental Consulting Firms.*

The average firm takes five days to mail invoices after they are generated. This is typically due to delays in collecting timesheet and expense report data. A disciplined approach to collecting and posting time and expenses is an absolute must if you want to have good cash flow. Also, have the project manager or principal-in-charge sign the invoice. However, give them a day or less to check and sign invoices and return them to the accounting department for mailing.

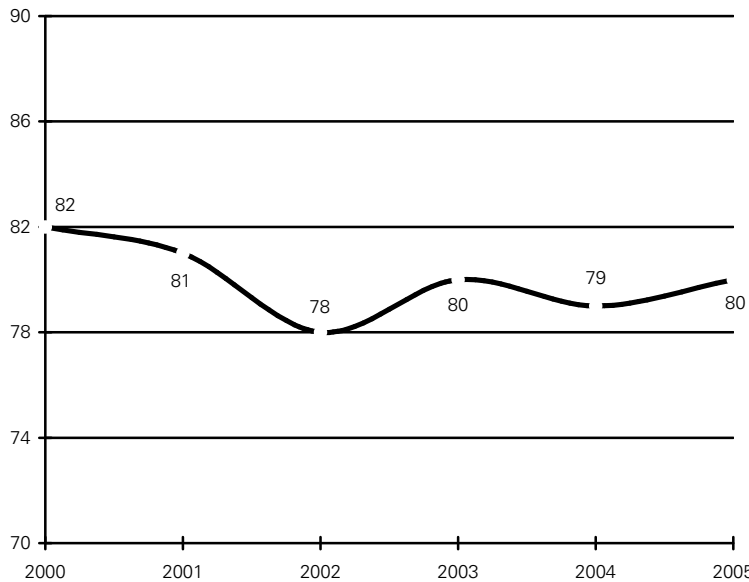
In addition, don't print draft invoices. Print invoices just as they would go out the door. Why waste the time, money, and expensive forms to print two or more sets of invoices? If the invoice is incorrect in some way, then print another. Otherwise, if the first one prepared checks out, get it signed and mailed immediately.

**2. Collect The Money You're Owed Faster**

Some architecture and engineering firms seem to place very little emphasis on the efficiency of their accounts receivable collection processes. It's easy to put off collection efforts, particularly if it's not a top corporate priority. Oftentimes, little attention is paid to accounts receivable unless there's a serious delinquency to be addressed. However, every dollar tied up in accounts receivable is a dollar that's not available to reinvest in the firm or a dollar that needs to be borrowed.

As Figure 2 shows, the median average collection period (the time between when an invoice is entered in accounts receivable to the time payment is credited) for A/E firms has hovered around 80 days in the past few years. But it doesn't have to be that way. Average collection periods of 45 or even 40 days are possible for industry firms.

**Figure 2: Median Average Collection Period for A/E Firms**



Source: 2005 *Financial Performance Survey of Architecture, Engineering, Planning & Environmental Consulting Firms* (ZweigWhite)

A simple but effective collection policy can make the difference between cash flow problems and drawing on the line of credit and keeping a healthy balance sheet. Develop a collection timeline that includes milestones for making follow-up calls on outstanding invoices, sending duplicate invoices, getting project managers involved, and if necessary, referring the matter to your attorney.

In general, you should make a follow-up or “courtesy” call before the invoice reaches the overdue stage. This is the time to make sure the invoice was received, address any questions or issues the client may have, and ask when it is scheduled for payment. This small step makes a big difference because it tells your client that you are closely monitoring the invoice and are expecting prompt payment. Most firms will wait until an invoice is over 60 days old before the first contact with the client. However, a call as early as five days after the invoice is mailed allows for problems to be addressed immediately, instead of two months later.

Once a receivable reaches the overdue stage, the next step is to send an overdue notice. This can simply be a duplicate of the original bill, now stamped “overdue.” If you have a policy of charging interest or assessing penalties for late payments, you may want to remind the client of this on the overdue notice.

If the client remains unresponsive or uncooperative, push the correspondence higher up the food chain by involving the project manager or principal-in-charge of the project. Sometimes, all it takes is a call from the project manager to the principal at the client firm to get an outstanding invoice taken care of.

In addition, nothing will improve your average collection period more dramatically than collecting advance installments or retainers on hourly projects. These essentially represent “pre-payments” where the cash flow actually precedes the recognition of revenue. Many firms do not do this because they believe their clients will refuse. But you might be surprised if you simply ask.

### **3. Manage Accounts Payable**

Controlling cash leaving the company is just as important as controlling the cash that comes in. Just as cash collection must be carefully managed, so should cash payments. That means knowing at all times what payment obligations are outstanding. This is impossible if you have people throughout your company sitting on invoices for one reason or another.

All invoices that come into your firm should go directly to the accounting department where they can be recorded as a liability and assigned an anticipated payment date. Only then should they go out to the person who needs to approve them. This will prevent a principal or project manager from catching accounting off guard with a subconsultant or supplier invoice that needs to be paid immediately.

Generate an accounts payable report that contains the vendor name, invoice number, scheduled payment date, invoice date, and amount due. Analyze this report along with other cash flow documents on a weekly basis.

### **4. Forecast Cash Flow**

As is the case with other project-driven businesses, cash is king for architecture and engineering firms. Design firms live and die by cash flow. Firms can be profitable on an accrual basis and still run out of money if they don't collect it. Small and mid-market firms lack the access to cap-

ital that much larger firms have, making cash flow management of particular importance for those firms. Plus, it's key for firms looking to finance growth initiatives.

Cash flow forecasting is crucial to making sure your firm never gets caught in a cash crunch. A cash flow forecast allows firm managers to know what's happening now and what to expect in the near and not-so-near future so steps can be taken to change the future if necessary. With a system like this, there are far fewer ugly surprises, and you can use this tool for decision-making and planning as well. If cash flow looks like it's going to drop, financial managers can adjust by delaying a payment or trying to speed up collection, instead of waiting until disaster looms and having to scramble to make payroll.

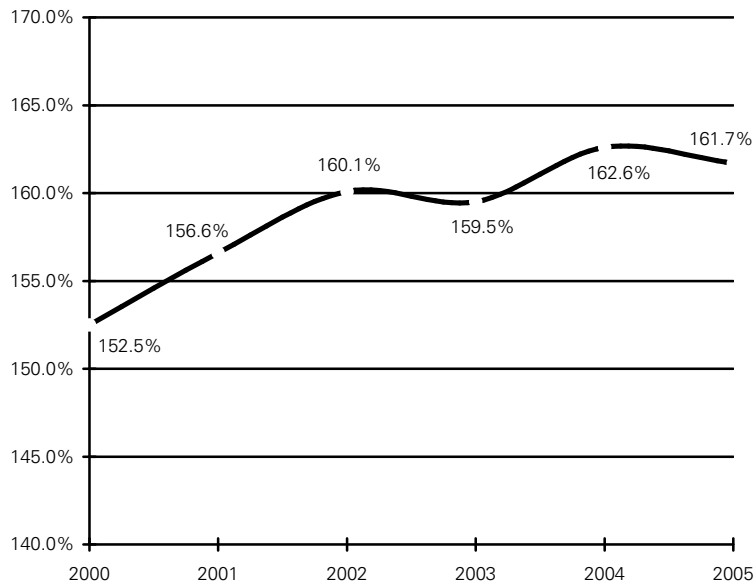
Despite its importance, 40% of the A/E industry does not perform regular cash flow forecasting or generate cash flow reports. In addition, only 37% of firms produce weekly cash flow reports.

Cash flow forecasting is not a complex process. Make sure your firm has a weekly cash flow forecast that looks out four to eight weeks in advance. This report should record cash receipts, cash payments, and the current cash and line of credit balances. By combining the projected cash flow for each week with your current cash balances, you will be able to forecast cash flow surpluses and deficits. You may then plan accordingly, stepping up cash collection efforts, drawing on your line of credit, or in the case of a cash surplus, making investment decisions to maximize your interest income.

## 5. Control Costs

Many architecture and engineering firms struggle with overhead costs, particularly mid-market firms that may be adding offices and overhead personnel as they grow. Rent, utility costs, and liability insurance costs as a percentage of net service revenue for A/E firms are at an all-time high, according to ZweigWhite's *Financial Performance Survey*. Rising health insurance premiums are also driving up overhead costs. This has contributed to significant increases in industry overhead rates over the past five years, as Figure 3 shows.

**Figure 3: Median Overhead Rate (Excluding Bonuses) for A/E Firms**



Source: 2005 *Financial Performance Survey of Architecture, Engineering, Planning & Environmental Consulting Firms* (ZweigWhite)

Cutting costs is one of the most direct steps you can take to boost your firm's profitability. Every firm has costs that could be cut. Unfortunately, too many firms fail to cut costs unless they are under some sort of threat (i.e., fear of bankruptcy, potential loss of banking credit facilities, etc.), but there's no time like the present to flush out and eradicate waste in your firm. And keep in mind that every dollar saved goes directly to the bottom line. It's pure profit.

A word of caution, however. Be careful that the cuts you make don't hurt the firm's ability to sustain growth and profitability over the long term. Managers of companies who are overly focused on cost containment don't invest, and this negatively impacts the firm in the long term. Slashing marketing, information technology, or other spending may ultimately have an adverse effect on profitability.

There are plenty of places to turn that will improve your bottom line but won't jeopardize your long-term future. Take a look at unbillable principal-level staff, unnecessary administrative assistants, unused office space, company vehicles, benefits, unnecessary overtime, principal salaries and perks, non-billable travel, and unnecessary branch offices, among other places.

## **6. Raise Prices**

Stiff competition in the marketplace can push down the prices that architecture and engineering firms feel they can charge. Mid-market firms have a unique challenge in competing against large firms that have greater name recognition and economies of scale and smaller firms that may be more aggressive in pricing in attempt to gain a foothold with a client.

The most-profitable companies never forget to pay attention to pricing. Get in the habit of raising billing rates every year at the same time. Positioning your firm as a unique provider of services and using billing rate classes as opposed to individual billing rates will make this easier. Remember, if you don't ask for a higher number, you will never get one.

## **7. Hold the Line on Free Work**

Out-of-scope requests can kill project profits faster than anything else. Every firm gets out-of-scope requests from clients, yet 42% of architecture and engineering firms have no formal process for dealing with out-of-scope requests from clients. How a firm deals with out-of-scope requests can go a long way to determining a firm's profitability.

When out-of-scope requests come up, they should be handled immediately. Train project managers to address requests for free work quickly and tactfully. Give every project manager a pad of "Out-of-Scope Request Forms." Train them on when and how to use them without alienating the client. Then track their use and compare it to client retention rates and project profits. Most clients will respect your position and be willing to pay, but you have to handle these issues before you respond to the request.

Publicize the issue internally. Project managers (and members of the project team) need to know their limits with respect to giving away their valuable time. Address the issues in meetings, e-mail, and other forums that suit your particular firm. Stress to project managers the impact free work has on their budget.

## **8. Maintain Project Profitability**

An architecture or engineering firm is the sum of its projects. Firms that manage projects poorly aren't going to be very profitable. Those that manage projects well will make money and win repeat business. Project cost overruns are a primary cause of financial distress, so it makes sense

when maximizing your firm's profitability to look for ways to improve project management, as relatively small changes can have a big impact on your firm's bottom line.

In the A/E industry, a median of 20% of projects do not meet target profitability goals. One of the reasons for this is that firms struggle with developing accurate cost estimates before projects are even begun. It's even more difficult for firms that lack a centralized database with project histories and cost data. Institutional knowledge of prior projects can help project managers develop more accurate fee estimates without resorting to guesswork.

Firms can also address project profitability in their project initiation procedures. Don't start work without a signed contract that clearly states the project scope and payment schedule. If there is no contract, insist on an authorization-to-work letter from the client. Don't issue a job number unless there is a complete project budget and schedule attached.

This is not a standard practice in many architecture and engineering firms, however. Only 60% of the time do A/E firms require a project budget before time is billed to a project, and only 32% of the time do firms require a project schedule before time is billed. Make it impossible for anyone to charge time to an incompletely initiated project, and don't allow any exceptions.

Providing project managers with real-time access to information is also essential if they are to be held accountable for project performance and make decisions that help ensure profitable outcomes. And project team members who are aware of the budgets for their phases and where they stand in relation to those budgets are better equipped to manage their efforts and complete their tasks within budget. However, many A/E firms lack online, real-time project management reports and systems.

## 9. Track Key Financial Metrics

Sound financial management requires tracking of key financial metrics, including predictive metrics, some of which are unique to architecture and engineering firms. Managers need to track these numbers consistently and periodically, and look at changes within the firm from month to month, quarter to quarter, and year to year. Some of the financial metrics design firm leaders should be tracking include:

■ **Net service revenue.** "Revenue" means what you earned on your jobs, which is not necessarily the same as "billings." Most firms track gross revenue and net service revenue— gross revenue less subconsultants and reimbursables. Unlike gross revenue, which can be inflated by high amounts of pass-through revenue, net service revenue represents only the revenue earned through services rendered by the firm's staff, and therefore is a better representation of its productivity.

■ **Profit on both a cash and accrual basis.** These numbers are self-explanatory. Look at both; both are important. If you over-emphasize accrual, it will result in no one worrying about collections. Over-emphasize collections, and no one will worry about what it takes to create the receivable in the first place. Net pre-tax, pre-bonus profit/loss on net service revenue is considered the best measure of the typical design firm's ability to generate a profit on operations.

■ **Average collection period.** This is the average number of days it takes to collect accounts receivable from clients— the average amount of time it takes to collect cash from the time that revenue is recognized. It's an indication of how effective a firm is at collecting its money. To calculate average collection period, take total accounts receivable (including subconsultants and reimbursables) at the end of the month and divide by the average daily billings for the firm.

This is a number that any firm should be trying to drive down. If it's going up, it indicates that clients aren't happy with you or that there's something wrong with your collection efforts.

■ **Revenue factor.** The revenue factor is the true litmus test in any professional services firm because it measures how efficiently a firm is converting labor to revenue. It is calculated by dividing net service revenue by total labor. Labor cost, which is generally a firm's largest single expense, should include all staff and should not include payroll benefits and taxes. This is the number that tells no lies because it cannot be easily manipulated by individuals who either charge hours to jobs without doing anything or those who protect their multipliers performing work on a project and not charging time to it.

■ **Backlog.** Backlog is defined as work under contract, not yet performed, and may be expressed in terms of either dollars or time (months of workload). To convert backlog expressed in dollars to backlog expressed in months, divide the dollar amount of backlog by the firm's gross annual revenue and multiply the result by 12. Therefore, if your firm has \$7.5 million in backlog and annual gross revenue of \$18 million, you have five months' worth of backlog. Backlog is the best indication of future revenue levels. If backlog is declining, projects are being completed faster than they are being replaced with new work. If that trend continues, revenue levels will soon decline. Careful monitoring of backlog can allow you to spot these potential downturns before they occur. It dictates how you spend money, when you spend money, and what you can spend it on.

Other key predictive metrics that firms should track include sales of new work, proposals pending, proposals made, proposal hit rate, and new client inquiries.

## 10. Improve Internal Financial Reporting

Consistent, timely, and accurate reporting of a firm's financial data is imperative to maximize your profitability. Without a lot of effort, you can whip your internal financial reporting into shape so that you have useful financial statements that you can provide to your company's shareholders and employees, banks and other lenders, business appraisers, outside consultants, and potential buyers or investors.

On a monthly basis you should be generating an income statement and balance sheet that include the current and past month. They can be even more powerful tools if you include the financial performance from the same month in the prior year. The typical income statement for an A/E firm includes gross revenue, subconsultants and other reimbursable expenses, net service revenue, direct labor, operating expenses, operating income, and net income.

In addition, distribute a streamlined monthly financial report to each employee with a summary of the company's financial performance. The monthly report should present a concise analysis of the firm's monthly and year-to-date financial performance and a short memo from the firm's leader. At a minimum, the report should include net service revenue, profits, liquid assets, new sales and proposals, backlog, and performance ratios such as chargeability, revenue factor, overhead rate, and average collection period. A copy of the report should be sent to everyone as soon as the monthly results become available.

Don't print out complete income statements and balance sheets and distribute them, and don't overload reports with tedious detail. Most employees are not going to be able to effectively interpret all of those numbers, and, in the worst-case scenario, they may misinterpret them. Focus on what's important. Use charts and graphs if you can to help communicate the firm's financial performance.

Providing a summary of your company's financial health along with some key numbers to every employee will also boost your firm's performance. Everyone will be more sensitive to what goes into making those numbers look good. You'll find employees taking greater ownership of their work and improved company morale from the trust you have placed in them.

## How Technology Can Help

A financial software solution specifically designed for project-based businesses is essential for architecture and engineering firms. The right financial software will provide a complete solution to monitor A/E financial performance and boost your bottom line. A poor financial system can be an impediment to profitability, and if your firm is using an outdated, inefficient financial software package that does not provide you with timely and accurate data, it's time to upgrade your system to improve your firm's financial reporting capabilities.

A comprehensive software package can eliminate the segmentation of information that exists in many design firms. Architecture and engineering firms need software that is very strong in its project management, invoicing, time and expense entry, budgeting, and reporting capabilities. In addition, a good financial software system for an A/E firm integrates project management with general ledger accounting.

The right software solution can help architecture and engineering firms with each one of the 10 ways to maximize profitability:

- 1. Speed up your billing practices.** Project-based financial software can help firms get invoices out faster and maintain a centralized billing schedule. Systematic billing, customizable invoices, and electronic routing of invoices to project managers for approval all help to accelerate billing. Electronic timesheet and expense data entry also help eliminate delays in mailing invoices. When invoicing is made easier, invoices get out the door and to the client faster, improving cash flow.
- 2. Collect the money you're owed faster.** The right software solution can help boost your bottom line with streamlined collection activities, including centralized customer and collection tracking and follow-up. It will help maintain tight control over receivables with capabilities that help you track invoices, process receipts, and analyze customer activity.
- 3. Manage accounts payable.** Financial software can help design firms establish payment priorities, set payment schedules, and know at all times what payment obligations are outstanding. It is also capable of generating an accounts payable report, which should be analyzed on a regular basis.
- 4. Forecast cash flow.** Your software vendor should provide robust forecasting functions that you can use to maximize your A/E firm's cash flow and generate regular cash flow reports that look out four to eight weeks in advance. You can improve cash flow by monitoring, predicting, and managing inflows and outflows with clear, customizable information views and forecasting capabilities.
- 5. Control costs.** Access to complete histories and instant recall of billing, payment, discounts, and other information can help firms negotiate better prices and manage vendors more effectively.

**6. Raise prices.** A project-based software solution will allow firms to access past project histories to help them with developing accurate project cost estimates and with monitoring the revenue generated by firm billing rates.

**7. Hold the line on free work.** Technology can help firms manage owner and subcontractor change orders more efficiently, providing greater detail and accuracy. It can help firms institute formal processes and systems for dealing with out-of-scope requests. It also allows immediate analysis of potential impact of change orders on project budgets.

**8. Maintain project profitability.** It's extremely difficult to manage projects effectively without up-to-date and accurate information regarding percentage completed, budget remaining, who's billing time to it and when, etc. Financial systems designed for project-based businesses provide project managers with the information they need on a real-time basis to manage their projects profitably. This allows project managers to spot cost overruns and other potential problems sooner. The ability to generate online, real-time project management reports is essential to A/E firms.

**9. Track key financial metrics.** Architecture and engineering firms need to be sure that their financial software supports the tracking and reporting of critical financial metrics, some of which are unique to design firms and are not able to be reported by generic accounting systems. With a generic system, tracking performance metrics such as chargeability or multipliers and keeping track of project-level profitability requires a maze of spreadsheets and much manual data entry.

**10. Improve internal financial reporting.** Finally, the right software solution should have robust reporting capabilities that allow you to access the data and information that's critical to decision-making. Systems should allow for the generation of income statements, balance sheets, and other financial reports.

It is critical for architecture and engineering firms to have a financial software solution that supports all of the key business processes and provides the key performance indicators. Design firms need technology that provides the ability to immediately access accurate, up-to-the-minute data across the entire organization, which leads to better decision-making and allows firms to maximize profit margins in an increasingly competitive marketplace.

## About ZweigWhite

ZweigWhite is the leading source of research, management consulting, and education for the U.S. design and construction industry. ZweigWhite brings together experts in strategic business planning, organization, operations, business valuation, ownership transition, human resources, recruitment, finance, information technology, mergers and acquisitions, market research, marketing, project management, and project delivery methods.



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