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Decision Making at the Best Run AE Firms

Creating a Culture of Fact Versus Gut

Contents

Executive Summary

Historically, architecture and engineering (AE) firms have been able to rely on the merits of their work for success, growth and profitability. Accordingly, decision making used to be relatively informal, and was largely guided by gut instinct and/or considering past performance as a barometer for future performance. While that is still true in many organizations, the opportunity for AE businesses is changing based on the emergence of Business Intelligence (BI) as one of today's most popular business disciplines.

BI, also known as fact-based decision making, performance management or analytics, is significant because of its ability to significantly impact growth and profitability. Equally important, Business Intelligence gives firms the ability to foresee and proactively avoid problems that could negatively impact performance.

BI flips the historical decision making process on its head: in the past, decisions were based on intuition, without the benefit of a concrete, data-driven foundation. Today, firms are instead achieving a competitive advantage by creating cultures where BI sits at the core. In this new AE business dynamic, the premium is on decisions informed by data and data analysis.

Because of its many merits, BI has been widely discussed and adopted in other industries—especially in financial services and retail. Little attention has been paid, however, to how AE firms can harness the power of BI in their own organizations. Given an AE firm's singular focus on projects, this factor becomes increasingly significant: what works for a credit card company will not have the intended effect for an architecture or engineering firm.

To fill this void, Deltek's experts worked with leading consultants and Deltek Vision customers to create this best practices whitepaper. By providing an inside look at how the best run AE firms are using business intelligence to improve company-wide performance, we are offering specific, proven lessons that peer firms can learn from.

It's clear that firms that systemize their BI or fact-based decision-making processes have a strong competitive advantage over those that don't.

Smarter Decisions, Better Results

Is your firm spending a lot of time and effort managing problems after negative effects have already taken their toll? Are you struggling with data accuracy? Spending more time finding data than analyzing it? Or worse, basing business decisions on sheer guess work? These are the hallmarks of firms running their businesses on gut versus fact, and the prime candidates that could benefit from a BI solution.

On the other hand, firms that already have formal BI strategies in place are taking a different approach to decision making that is both deliberate and methodical, resulting in a more accurate perspective of their business. Consider having a historical, current and future view of firm performance with which you can:

- Spend more time analyzing data and making decisions than running reports
- Share performance data across the firm in role-appropriate ways
- Use goals to drive the decision-making process

And perhaps most important:

- Predict the impact of decisions on firm performance

These are the distinct, and sometimes critical, advantages that BI provides. When looking at what BI offers, it's clear that firms that systemize their BI or fact-based decision making processes have a strong competitive advantage over those that don't. The challenge then becomes where to begin and/or how to best manage the existing BI programs in place.

Setting Expectations: Three Considerations

AE firms have their own distinct processes and cultures. In considering how to apply BI within their organizations, it's important to start with three factors: A firm's maturity level, defining and measuring as specifically as possible and creating a clear bias towards action.

1. Consider Your Firm's Maturity Level

Christine Brack, principal, business planning for ZweigWhite, stresses the importance of assessing a firm's "maturity level" first and foremost.

How committed are you to changing? This factor is key, Brack says, noting "A firm using business information to make decisions about growth and using metrics to improve, has to have a culture that is prepared for these initiatives and expect change."

At the same time, strong communication practices are an absolute must for BI to deliver value. A firm that is run based on numbers and metrics (all of which are shared across the organization) is vastly different from one that simply collects reports that management doesn't use (and certainly doesn't share). Accordingly, consider the cultural implications of information-based business strategies, and how they can be impacted by a lack of structured communication.

2. Be As Specific As Possible

Once you've decided that BI has a role within your firm, it is time to create specific initiatives. After identifying what you'll measure and improve, it's imperative to be laser focused on ensuring the data is easy to access, easy to read and relevant to the appropriate decision makers. Additionally, it is essential that firms identify goals for all of the data that is being measured so that it's clear what success looks like. Without goals, measurement

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becomes irrelevant. Brack emphasizes this, stating, "Leaders and managers need to concentrate on data that is actionable, rather than informational. In other words, get the right data and do something with it."

By being as specific as possible, firms will have a clear sense of the numbers it wants to change and what its benchmarks are. With acceptable ranges developed and decisions made as to which direction the numbers need to go, AE companies are putting themselves in a position to be successful.

3.Take Action

Finally, once a firm has quantifiable data it needs to be able to apply it accurately. This means that someone has to look at the numbers and be able to decide if they can be changed in a favorable manner. If it has been determined that proactive action can be taken, the firm also has to decide how much change it wants and be willing to make the necessary changes to produce results. As the last step, a feedback loop must be in place so that the effect of a change can later be evaluated (measurement is, after all, BI's fundamental principle).

For successful optimization of BI, action is critical. The business has to be ready to make operational or strategic changes– not an easy feat, and one that doesn't happen by accident. Change, therefore, requires many willing participants across the firm, and must be led from the top-level of the organization down.

BI Best Practices

Once AE firms have committed to pursuing a BI strategy, Deltek suggests the following best practices:

Communicate openly and often

Vicki Morton, Information Systems Manager at Bonestroo, says that firms with the best BI programs are those that champion openness and transparency. Not only in sharing the numbers, but in talking about how decisions were made based on that information.

Christine Brack adds that communicating the firm's business drivers to all levels of the staff is equally important. While not everyone needs to be fluent in finance, a baseline understanding and common vocabulary facilitates that communication.

Leverage BI software

To be as effective as possible, Morton stresses the importance of leveraging purpose-built BI tools (like Vision Performance Management). Though these are relatively simple to implement, Morton reiterates their significance, explaining that these systems, "Were designed specifically to do the heavy lifting for you. Firms that attempt to use multiple spreadsheets that require manual calculations run the risk of negating the very purpose of a BI strategy." Firms employing a spreadsheet strategy, she adds, can end-up creating silos of information within the organization and/or generating data that isn't reliable or consistent across the company.

Set realistic goals

With the changing business atmosphere, it has become much more important to focus on the future rather than looking at past firm performance. While this means setting immediate goals to make improvements, it also reaffirms that these goals should be realistic. Likewise, it is crucial that firms are careful to not try to tackle too much at once.

For this, Brack recommends to, "Choose metrics you want to focus on, and start small. As time goes on, you might be ready for more advanced metrics. But start by getting managers and leaders together to decide what's important for the future of your firm."

In conjunction with setting your goals, establish what data you have and whittle it down to a more manageable size. Choose benchmarks that are good indicators of the health of a project/firm (such as utilization, WIP, backlog, effective multiplier). And remember, each firm needs to determine what is right for them, as these benchmarks are individually dependent on the firm's culture, size, location and strategic plans.

In its case, Bonestroo looks at two primary metrics: direct hours and revenue forecasting (backlog and opportunities).

Show the value across the firm

Firms must also have a focus on proving the value of its BI program. Driving adoption, understanding and buy-in is a critical part of managing expectations – so don't underestimate the need for some internal PR. Without actively demonstrating to the entire firm why a business intelligence system is being utilized – in addition to the the success it's generating - the tools used can quickly become seen as another piece of extraneous technology for technology's sake. To catalyze adoption of BI throughout all levels of your organization, be sure to openly share credit where it's due: when there are improvements and achievements that can be attributed to the effective use of the BI strategy, they need to be shared with everyone! As a critical best-practice, this principle remains consistent with Brack's recommendation of communicating openly and often to the organization as a whole.

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>
> » Vicki Morton, Information Systems Manager, Bonestroo

Ensure staff understands the business fundamentals

"You may not have 100% buy-in when you start certain initiatives based on business intelligence, but the solution really will work for you. There's no way anyone can escape the value it brings," says Brack.

While that's true, it also requires grasping the business fundamentals. "If you're in management, you should be interested in these numbers anyway," notes Brack. This may be the case for the rest of the firm. Because the reports generated by a business intelligence system can seem daunting at first, anyone who looks at the data needs to have at least an understanding of accounting fundamentals. Similarly, throughout the company there needs to be a common language of terms and metrics to keep everyone on the same page. Training is absolutely key!

Morton adds that, ideally, project managers should update a system continuously, however that can certainly be a struggle. To overcome this challenge, it's good to start with a monthly revenue forecast. Once people start to see the information they could get from putting more into the system, they realize that updating frequently is a beneficial idea. Subsequently, when those same users understand that their performance will be measured from that information, their engagement with the system will continue to increase.

Though BI's benefits are undeniable, firms shouldn't expect every person to participate right away. However, even the "hold-outs" (those who remain attached to old processes due to their familiarity, rather than their effectiveness) will eventually understand and adopt centralized, data-centric strategies in time. When someone isn't engaged or participating while everyone else is talking about it and doing it, those hold-outs will start to feel like the odd men/women out. The evolution of the internal culture will help drive additional adoption and buy-in. Be that as it may, if softer prodding does not work, it's up to the firm to decide if this is a non-negotiable component of someone's role.

Sometimes sitting down with those who are having trouble and finding out what they are struggling with is all that is necessary. Once someone is able to see what they can get back in return—in addition to the fact that it is the basis for which their performance is being measured—they are usually convinced!

Put the results to use

In today's technology-centric world, firms have more information available than ever before. But BI isn't about data for data's sake – it's about improving the company's success.

Keep the end in mind, as BI isn't a one-time initiative. Rather, it's an ongoing, iterative process encompassing three steps. Only when an organization can:

1. Distill its data into a format that is easy to consume and relevant to its own firm structure;
2. Use it to achieve clearly defined goals; and
3. Implement a feedback loop that puts its data to use and fosters continuous improvement will it truly have a successful BI strategy.

For example, when firms look at revenue based on project types, they may realize they are inefficient at one type of project or client type, which in turn is dragging them down. Using BI as the foundation of your marketing and business decisions can help in delivering a stronger "go" or 'no" decision. This type of intelligence will in its essence show firms if they are doing things in the right way—including everything from pursuing projects, planning projects, hiring and training.

Success requires commitment

It's important to keep in mind that the amount of effort to get end-users to comply with entering information may not be insignificant. A culture of project management and proper training, coupled with both the commitment to improve and the knowledge that progress doesn't happen overnight, will get a firm through these challenges.

Conclusion

Across every part of the firm, AE organizations have more information than ever. The opportunity therefore, is to transform that raw transactional data into insights and intelligence that in turn informs every core decision the firm makes.

Research shows that decision making at the best run AE firms is both deliberate and methodical. Bonestroo and other high-performing organizations have made a strategic choice to move away from basing project, personnel or other decisions on gut instinct. Instead, the premium is placed on decisions informed by data and data analysis.

Deltek has looked at how AE firms can best bring the benefits of BI to their organizations and offers these final three recommendations:

- Top-down support and enforcement: Creating or evolving a culture of fact-based decision making can only happen when it's required and enforced by management. If that isn't present, old habits will resurface throughout all levels of the firm.
- Set appropriate metrics: Don't try to reinvent the firm overnight. Instead, identify and focus on those key metrics appropriate to your company, such as WIP or AR. Over time, with demonstrated successes and processes in-place, you can add additional, more complex metrics.
- Focus on project management: Project profitability fuels firm growth – nothing else. So if profitability is slipping away at the project level, your bottom line isn't as strong as it could or should be. To combat this challenge, create a true culture of project management by putting solid managers in place with the tools they need in an environment that foster continuous improvement. Not only does this address both project profitability and efficiency, but it also develops your staff—i.e., the future leaders of your firm.

These recommendations – coupled with diligence and discipline – will allow AE firms to achieve the significant benefits and competitive advantage that BI provides.

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Case Study: Bonestroo

Bonestroo (St. Paul Minn.,) is a 300-person, multi-disciplined engineering, planning and environmental science firm.

Vicki Morton, Information Systems Manager, says that due to the economic changes and challenges facing the industry, Bonestroo needed the ability to make time-efficient and effective decisions to react to market conditions. Additionally, the firm was looking at too many metrics, too many reports and had generally too much information that then became overwhelming and disorganized to its users. Collectively, these factors cluttered management's ability to interpret the data effectively and/or use it in any actionable way.

All of this meant that too much time was spent dealing with problems and making decisions after the fact, rather than being able to stop the issues before they occurred. In a highly competitive market, Bonestroo was holding itself back. To combat these problems, Bonestroo began using Deltek Vision as part of a comprehensive BI strategy.

The firm is particularly focused on metrics that include direct hours and revenue forecasting (backlog and opportunities). Secondary metrics that hold critical value to Bonestroo range from net revenue, profit, effective multiplier, sales, AR, WIP, write-downs and write-offs to discretionary spending.

Though Bonestroo faced some initial difficulties in getting everyone to comply, Morton says that overall, "The response was quite positive."

She adds that, most importantly, "The ability to compare historical information and predict future revenues gives Bonestroo an advantage over our competitors that aren't using this type of information."

BI is also critical, in that executives are better focused on where they need to be in order to drive the business. With this foundation in place, company leaders can quickly determine the areas that need attention, enabling them to make more effective decisions. Additionally, team leaders have easy access to real-time information that can assist them in managing both their staff and the firm's projects and clients.