Business-Driven Agile Enterprise Business Intelligence (BI)
Transforming BI To Get The Best Of Both Worlds
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Executive Summary

Recent Forrester Research studies and surveys uncovered a golden nugget: Companies can improve their performance, industry ranking, and competitive advantage by making their business more agile. As part of that research, Forrester identified 10 dimensions of business agility, three of which directly correspond to business intelligence (BI) and analytics capabilities, such as market responsiveness and knowledge dissemination. However, while organizations of all sizes made huge progress over the past several decades in their BI accomplishments, many enterprises still struggle with making their BI environments agile.

In January 2014, SAP commissioned Forrester Consulting to evaluate the benefits of technology-driven versus business-driven BI environments in terms of their agility. Then to further explore this trend, Forrester developed a hypothesis that tested the assertion that: 1) technology-driven enterprise BI can be scalable, but often at the expense of agility and flexibility; while 2) business-driven BI can be agile, but not scalable or fit for mission-critical applications; and 3) the real answer to scalable and agile BI environments is in the so-called “business-driven agile enterprise BI,” where the two separate worlds merge in a win-win approach.

In conducting in-depth surveys with 368 business and technology management professionals, Forrester found that those organizations that embrace this new approach generally achieve higher levels of BI maturity, success, efficiencies, and effectiveness.

KEY FINDINGS

Forrester’s study yielded three key findings:

› Technology-driven enterprise BI implementations, while often successful in other areas, still struggle with agility. Top-down data governance, centralization of BI support on standardized infrastructure, scalability, robustness, support for mission-critical applications, minimization of operational risk, and drive toward an absolute single version of the truth are indeed strategies that allow organizations to reap multiple business benefits. But these strategies have still only scratched the surface of displacing “homegrown” BI applications. Why else does Forrester research often find that a large percentage of BI content still resides in homegrown, not enterprise, BI applications? Why do the business users often label technology-driven enterprise BI platforms as complex, inflexible, slow to react — and not agile?

› Business-driven, homegrown BI applications are agile, but do not scale. While homegrown, desktop-based BI applications are flexible and agile, and do provide that instant gratification — an instant answer to an urgent business question — they do not scale. Such applications are siloed and can lead to decisions based on incorrect information. They can be more costly in the long run than enterprise BI platforms, and they are not suited to support mission-critical applications. Furthermore, they pose significant operational risk to all organizations.

› Forrester finds the best approach to scalable and agile BI is in a merged world of business- and technology-driven enterprise BI. This best practice approach calls for empowering business users with BI tools that have the agility and flexibility of their homegrown desktop tools, but can also grow and scale if and when needed. In this merged environment, technology management — while still responsible for most mission-critical and complex BI applications — invests time and resources into monitoring the usage of business users’ created BI applications. Technology departments can then operationalize/productionalize these applications as necessary. In the modern age of the customer, this approach also has an added benefit of helping both camps be more customer-centric, rather than self-centric (focusing on their own agendas).
Current State

The power to define how business is won has shifted into the hands of digitally empowered customers — both businesses and consumers — displacing information and control over distribution or manufacturing. With mobile devices, the Internet, and all-but-unlimited access to information about products, services, prices, and deals, customers are now able to understand the companies they do business with, find alternatives, and bring peer pressure to bear to drive change. Forrester calls this phenomenon “the age of the customer.”

Over the past 10 years, there has been over 70% turnover for the Global Fortune 500 companies, and we know that, at least in part, this turnover is due to failure to adapt to these age-of-the-customer trends. More specifically, there is one common thread running through the profile of most of the companies that disappeared in that time period — they did not succeed to manage change. Business agility is the predominant capability that enables businesses to flourish amid ever-accelerating market changes and dynamics. Forrester finds that agile organizations make decisions differently by embracing a new, more grassroots-based management approach. Employees down in the trenches, in individual business units, are the ones who are in close touch with customer problems, market shifts, and process inefficiencies. These workers are often in the best position to understand challenges and opportunities and to make decisions to improve the business. It is only when responses to change come from within, from these highly aware and empowered employees, that enterprises become agile, competitive, and successful.

But what does business agility mean in tangible, quantifiable terms? In researching this question with C-level executives, Forrester identified that business intelligence and analytics, knowledge dissemination, and market responsiveness (the latter two mostly based on BI) are three key attributes of business agility. Business intelligence allows organizations to compete and differentiate on information. Knowledge dissemination supports faster decisions when the necessary knowledge to make those decisions is available at all levels of the organization. Agile companies tap the minds of employees throughout the organization, enabling crisp and rapid decision-making while wasting less time on turf battles. Last but not least, market responsiveness is critical in the age of the customer where online social interactions create rapid change in customer demands and attitudes.

Agile enterprises must gather customer and market knowledge and rapidly incorporate it into decisions.

In order to support and promote business agility, enterprise knowledge workers need to be empowered with easy access to agile, flexible, and responsive enterprise BI tools and applications. While organizations of all sizes made significant headway over the past several decades in their BI accomplishments, many enterprises still struggle with making their BI environments agile:

- **Information is often not easy to find.** When asked how easy it is to determine which enterprise BI application has the relevant enterprise BI content (i.e., existing reports, dashboards) they need, 52% of the survey respondents indicated they did not find that task easy.

- **Getting answers to business questions is also not an easy task.** As a follow-up to asking how easy it is to find the proper BI application, we next asked respondents how easy it is to find an answer to their business question once inside an enterprise BI application, to which 50% of the respondents indicated they did not find that task easy.

- **Business users still depend on technology support.** Responding to the question, “What do you do when you have a new BI business requirement?” 40% of the respondents (and 45% of BI project managers) indicated that they would call tech management for help, and 50% (and as high as 57% of managing directors/directors) indicated that they would submit an “official request.”

- **Technology support can be slow to react.** Enterprise technology management and BI platforms have made huge improvements in the past few decades. Responding to the question, “When asking for help from technology management, how quickly do they turn around an average BI request (for a report from a single data source)?” 18% of the respondents reported turnaround within minutes and 47% within hours. However, some of these BI technology requests do get stuck in a long queue, with 31% reporting waiting for days or even weeks (see Figure 1). In the age of the customer, this usually means that customers will find other sources of products or services.

Current Challenges

Top-down data governance, centralization of BI support on standardized infrastructure, scalability, robustness, support for mission-critical applications, minimization of operational
risk, and drive toward an absolute single version of the truth are all strategies that allow organizations to reap multiple business benefits. Interestingly, even with all the business benefits provided by technology-driven BI applications, enterprise applications have only partially displaced the use of homegrown BI applications. Our survey indicated that approximately 40% of companies are using an equal amount or more of homegrown versus enterprise BI applications. Only 15% of companies reported using solely enterprise BI applications (see Figure 2).

TECHNOLOGY-DRIVEN ENTERPRISE BI

We probed on the challenges people were facing with their technology management-driven enterprise BI environments and this is what we found:

- **Enterprise BI applications are quite complex.** Most large, global, heterogeneous, multiproduct line enterprises need to integrate multiple components to support end-to-end BI processes. These include, but are not limited to, data sourcing, data extraction, data integration, data cleansing, data modeling, creating and maintaining business metrics, reporting and analyzing data, and integrating the results with office applications. While many modern enterprise BI platforms have made significant improvements in integrating these components, when asked why they sometimes choose not to use enterprise BI applications, 32% of the respondents indicated that enterprise BI applications “are too complex, complicated, or cumbersome to use.” As well, 45% of respondents felt that enterprise BI applications “do not have all the data you need.” This could be a result of the complexity of the applications, which impacts users’ ability to find data, as discussed earlier (see Figure 3).

- **Enterprise BI applications are not as agile as the age of the customer demands.** In the age of the customer, organizations only have minutes or hours to address ever-shifting customer demands. Yet, most modern BI platforms are based on relational database management systems (DBMSes) with fixed data models or schemas. These DBMSes can be tuned to be very powerful and scalable, but it often takes too long to change the data models. When asked why they sometimes choose not to use enterprise BI applications, 31% of the respondents felt that enterprise BI applications “do not have the right data model, relationships, attributes, [and] hierarchies,” and 23% found “data models to be too restrictive” (see Figure 3).

### FIGURE 1
Quick Turnaround For BI Data Requests Is Vital For Business Agility

“When asking for help from technology management, how quickly do they turn around an average BI request (a report from a single data source)?”

<table>
<thead>
<tr>
<th>Time</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minutes</td>
<td>18%</td>
</tr>
<tr>
<td>Hours</td>
<td>47%</td>
</tr>
<tr>
<td>Days</td>
<td>26%</td>
</tr>
<tr>
<td>Weeks</td>
<td>5%</td>
</tr>
</tbody>
</table>

31% wait days or weeks for an average BI request

Base: 171 business decision-makers who influence BI decisions
Source: A commissioned study conducted by Forrester Consulting on behalf of SAP, March 2014

### FIGURE 2
Homegrown BI Applications Are Still Widely Used Among Enterprises

“When which BI applications do you use more, enterprise BI applications or your own homegrown BI applications?”

<table>
<thead>
<tr>
<th>Application Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I use only enterprise BI applications</td>
<td>15%</td>
</tr>
<tr>
<td>I use more enterprise BI applications than homegrown</td>
<td>43%</td>
</tr>
<tr>
<td>I use the same amount of enterprise and homegrown BI applications</td>
<td>29%</td>
</tr>
<tr>
<td>I use more homegrown than enterprise BI applications</td>
<td>11%</td>
</tr>
</tbody>
</table>

40% using an equal amount or more of homegrown applications

Base: 368 business and IT decision-makers who influence BI decisions
Source: A commissioned study conducted by Forrester Consulting on behalf of SAP, March 2014
Other challenges to the enterprise BI environment are related to differences between business and technology stakeholders. Business and technology professionals often speak different languages. Business pros speak in terms of customer satisfaction and improved top and bottom lines, whereas technology pros speak in metrics, star schemas, facts, and dimensions. This is not surprising, as business users mostly care about their requirements, which are driven by their roles and responsibilities, daily tasks, internal processes, and dealings with customers. These requirements often trump tech-management goals and objectives to manage risk and security and be frugal and budget-minded by standardizing, consolidating, and rationalizing platforms. These differences can present others challenges for enterprise BI environments:

- **Data ownership is not clearly defined.** When asked the question, “Who owns data in your organization?” 27% of business respondents said they do, and when asked, “Who should own the data?” 31% of business respondents said that the business should. However, when asking the same questions of technology respondents, only 13% said the business owns the data, and 20% said the business should own data in their organizations.

- **Separate objectives may inadvertently influence proliferation of “shadow IT.”** The main paradox of even the most successful BI implementations is “build it and they will come.” The more data that technology makes available to business users, the more information the users want. This insatiable demand for more metrics and more reports is something that even the best-staffed and most-efficient technology organizations find hard to keep up with. When asking BI business users to report on how much data resides outside of enterprise BI environments, we found, on average, that 45% of the data resides outside of the enterprise BI environments. This is undoubtedly connected to 76% of business respondents indicating they continue to resort to spreadsheets and other homegrown BI applications to analyze BI data.

**BUSINESS-DRIVEN SHADOW BI**

Business-driven, homegrown BI applications have had their own share of successes and challenges as well. They are flexible and agile, and do provide those instant answers to business questions, but they lack some of the robust features of enterprise applications:

- **Homegrown applications are not scalable.** Even with the most powerful 64-bit desktop workstations, while having a theoretical limit of addressing up to 3 terabytes (TB) of memory, desktop BI applications in practice are still limited to processing only a few gigabytes of data at a time. That will surely not scale to the 80% of survey respondents whose organizations reported processing and analyzing greater than 10 TB of data.
Homegrown applications proliferate information silos.
No executive wants different answers to the same question. Yet only 24% of the business respondents indicated they had full trust in the data that enterprise BI applications provide, and 67% trust the data in some, but not all, enterprise BI applications (see Figure 4).

Homegrown applications can increase long-term cost of ownership. No organization has bottomless pockets and unlimited budgets. Thirty-three percent of survey respondents cited high levels of technology support per business user ratios — 50 to 1 or less. Technology professionals’ fully loaded costs are often the most significant part of any technology, including BI, implementation, and support budgets. Most organizations are attempting to reduce these costs: 50% of the survey respondents cited initiatives to increase the ratio of tech support per business user, but it is near impossible to achieve such objectives with proliferation of information silos.

Homegrown applications pose significant operational risk to all organizations. Lack of enterprise-grade safeguards for mission-critical applications (i.e., backup, load balancing, disaster recovery, and others), multiple answers to the same questions, absence of transparency, and lack of knowledge of what data and information actually exist in enterprise repositories all contribute to a significant increase in operational risk.

Solution: Business-Driven Agile Enterprise BI

It’s clear that neither approach — technology-driven enterprise BI nor business-driven (homegrown/shadow BI) — is enough on its own in a modern 21st century organization. Indeed, only 17% of the survey respondents claimed high levels of enterprise BI maturity, success, and satisfaction. So, how does an organization balance business users’ need to produce their own content with little dependence on complex IT processes and infrastructure, while at the same time minimizing enterprise risk, achieving economies of scale, and getting rid of silos? The answer lies in business-driven agile enterprise BI.

Forrester defines agile BI as an approach that combines processes, methodologies, organizational structure, tools, and technologies that enable strategic, tactical, and operational decision-makers to be more flexible and more responsive to the fast pace of customer, business, and regulatory requirements changes.

First and foremost, business-driven agile enterprise BI is about flexible organizational structures. For example, Forrester recommends that agile organizations:

Pick their data governance battles wisely. Data governance is one of the thorniest challenges of business technology. A clear-cut, technology-centralized approach is illusive. Organizations must root their data governance deep in business strategies and objectives, not just in the theoretical single version of the truth. Best practices call for direct alignment between business (not technology projects) and data governance priorities. Aligning and prioritizing data governance initiatives should be one of the key responsibilities of enterprise BI competence centers (BICC).

Loosely couple data-preparation and data-usage support organizations. Aligning the BI objectives and priorities of the business and technology organizations is often quite challenging. Some of the challenges are due to disconnects between business and technology organizations is often quite challenging. Some of the challenges are due to disconnects between business and technology program drivers — for example, the business goal of revenue generation and risk mitigation versus the technology goal of cost savings and the business priority of selecting the best tool for the job versus the technology priority of using enterprise-standard BI tools. Don’t fight such potential disconnects — leverage them. Technology
management professionals should do what they do best: control, manage, and plan, handling the data preparation layers of the BI stack like data integration, metadata, and data warehousing. For example, in our survey, 80% of technology professionals claimed responsibility for data integration. Business users can then get more involved and own the data governance and master data management (reflected by 67% of the business professionals from this survey). Other tasks include data usage layers of BI, individual reports, ad hoc queries and dashboards, and analyzing the data that has been integrated and standardized according to corporate policies (58% of the business users in this survey claimed authoring BI content for themselves and their colleagues).

- **Use different guidelines for supporting front-office and back-office BI applications.** Back-office (non-customer-facing like finance and HR) and front-office (customer-facing, like sales and marketing) departments have very different tolerances for risk, accuracy, and latency. Control, a single version of the truth, compliance, and reduced operational risk are nonnegotiable requirements in the back office. But front-office priorities often differ, as when a salesperson needs to do something quick and dirty to retain a customer or close a deal, even at the expense of potentially jeopardizing accuracy and compliance with standards. It is not uncommon that in certain situations — such as addressing a competitive threat, closing a deal, or keeping a customer from defecting — a business user may prefer the speed and agility that self-service BI gives over an enterprise application. Our survey confirmed that only 29% of the employees in the back office, compared with as many as 51% of the front office, author their own BI content.

These loosely coupled but still well-coordinated organizational structures will form a solid foundation for business-driven agile enterprise BI, but that’s not enough. Next, organizations need to deploy agile BI technologies to enable additional capabilities:

- **Business user self-service.** In this study and other research, Forrester constantly finds correlation between business users’ reduced reliance on technology support, authoring most of their own BI content, and higher levels of BI maturity, satisfaction, and success. For example, in this study, 41% of the business professionals who reported authoring their own BI content identified themselves as being part of highly mature BI organizations, while only 24% of business professionals authored their own BI content in immature BI environments. The reverse is also true. In immature organizations, as many as 61% of business professionals reported mostly receiving/looking at BI content, while mature organizations reduced that number to 49%.

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**FIGURE 5**
Higher BI Maturity Is Highly Correlated With Ease Of Use And Access To Data

“How easy or difficult is it to determine which enterprise BI application has the relevant enterprise BI content (existing reports, dashboards) you need?”

<table>
<thead>
<tr>
<th></th>
<th>Easy</th>
<th>Neither easy nor difficult</th>
<th>Difficult</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mature</td>
<td>57%</td>
<td>37%</td>
<td>5%</td>
</tr>
<tr>
<td>Immature</td>
<td>18%</td>
<td>57%</td>
<td>24%</td>
</tr>
</tbody>
</table>

“Once you are in an enterprise BI application, how easy or difficult is it to find an answer to your business question?”

<table>
<thead>
<tr>
<th></th>
<th>Easy</th>
<th>Neither easy nor difficult</th>
<th>Difficult</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mature</td>
<td>62%</td>
<td>32%</td>
<td>6%</td>
</tr>
<tr>
<td>Immature</td>
<td>18%</td>
<td>55%</td>
<td>24%</td>
</tr>
</tbody>
</table>

Base: 363 business and IT decision-makers who influence BI decisions
Source: A commissioned study conducted by Forrester Consulting on behalf of SAP, March 2014
Intuitive information access. Easy, intuitive information access is a key part of business user self-service and significantly contributes to successful BI implementations. Fifty-seven percent of respondents in mature BI organizations reported being able to easily find the right BI application, and 62% reported easily getting answers to their questions from BI applications. Conversely, only 18% of respondents in immature BI environments reported easily finding the right BI application and easily getting answers to their questions from BI applications (see Figure 5).

Information access anytime, anywhere. The time of telling a client, “I’ll call you when I get back to the office,” has come and long gone. Getting back to the client even a few hours after the meeting may be too late. The client may have changed his or her mind or wavered, and your competitors took advantage of the opportunity. Modern customer-facing business professionals need to be able to make decisions on the spot — where the customer is — not just when “back in the office.” Our survey confirmed this trend, showing that 51% of respondents in mature BI environments are able to access information on tablets, 41% on mobile phones, and 37% anywhere, since their data resided in the cloud. Conversely, in immature organizations, only 29% had access on tablets, 16% on mobile phones, and 17% cloud-based (see Figure 6).

BI sandboxes. Here is where business professionals should anchor the majority of the BI content with few constraints or limitations. This is where data exploration, discovery, and what-if analyses happen. But rather than using spreadsheets, technology management should empower business users with scalable enterprise tools that include desktop-based, in-memory BI applications; cloud/self-provisioned elastic BI sandboxes; and others. These sandboxes must combine the agility and flexibility of spreadsheets with the power, scalability, and reduced risk of enterprise BI platforms.

Collaborative, shared, user-generated BI content. As business users generate their own BI content, they’ll start sharing it with their colleagues. Business-driven agile enterprise BI must support this capability with features like report and dashboard annotations, discussion threads, and social tagging of BI content. In this study, Forrester found direct correlation between higher BI maturity and success and collaborative BI: 57% of respondents in mature BI organizations indicated leveraging collaborative BI, versus only 34% in immature environments.

Enterprise BI environment monitoring. It’s paradoxical that technology pros often struggle with convincing their business counterparts to manage business by the numbers and not intuition, while not doing a great job themselves monitoring and managing enterprise BI environments by specific metrics. Enterprises still rely largely on intuition and qualitative hearsay assessments of business users’ level of satisfaction with BI applications and tools. What Forrester terms “BI on BI,” meaning the monitoring of enterprise BI environments and business user-generated BI content for usage patterns, has a direct correlation to maturity and success. Eighty-six percent of survey respondents in mature organizations reported BI-on-BI capabilities, compared with only 51% in immature environments. BI on BI is another key component of a mature enterprise BICC.

User-generated BI content for mission-critical applications. Once BI technology managers empower themselves with BI on BI, they can make informed, quantitative decisions on what business user-generated BI content is ready for the next step, which is moving it to production, with all of the security, scalability, and risk management steps associated with such a move. Our survey results showed that 54% of mature organizations have such quantitative monitoring approaches to productionalizing business user-generated content, while only 20% have such approaches for immature environments.
Key Recommendations

In this study, Forrester uncovered the following best practices to merge technology-driven enterprise BI with business-driven shadow BI into a win-win merged environment of business-driven agile enterprise BI:

› **Realize that old approaches to enterprise BI are no longer enough.** Traditional technology-driven approaches to enterprise BI that emphasize centralization, rationalization, a single version of the truth, scalability, and reduced costs and risk were all strategies that took enterprises in the right direction. These environments helped millions of organizations throughout the world with streamlined, top-down strategic, tactical, and operational management. However, even the most successful BI implementations only scratch the surface of all possible use cases and insights that enterprise data can provide.

› **Teach technology management to learn how to pick its BI battles.** Not every BI project needs 100% accurate, trusted data — many of them do, but not all. Furthermore, as organizations strive for a single version of the truth, they will find that the two-dimensional (accurate, trusted versus not trusted) world of enterprise data is outdated. For example, data that used to be contained in a single customer record has been replaced by relative, contextual information. A customer record in your customer relationship management (CRM) system may include the customer’s tweets about your brand saying that he loves your new product, even as he’s on the phone telling your call center that he’s going to abandon your service next month. These interactions contain conflicting messages, but both are a true part of a multidimensional view of the modern 21st century customer data.

› **Embrace the new world of business-driven agile enterprise BI.** There’s a reason for the letter “B” in BI — it’s business, not technology, intelligence. Leave the creation of most of BI content to people in your organization who have the intimate knowledge of the customer, regulatory, and other business requirements. But empower them with tools and platforms that will make them think twice before resorting back to spreadsheets. Ensure that the enterprise BI tools do have all of the agile capabilities of spreadsheets, while residing on a scalable, robust, and secure large enterprise-grade BI platform that supports and encourages data governance and quality. Then, technology departments can operationalize/productionalize (such as test, QA, scale, and secure) business user-generated BI content and applications as necessary. In the modern age of the customer, this approach will ensure that both camps are customer-centric, rather than self-centric (focusing on their own agendas).
Appendix A: Methodology

In this study, Forrester conducted a global online survey of 368 business and IT decision-makers from enterprise organizations to evaluate their organization’s BI environment. Survey participants included primarily those in team leader/manager/director/VP roles with direct influence in elements of their organization’s BI environment. Respondents were offered a small incentive as a thank you for time spent on the survey. The study began in January 2014 and was completed in April 2014.

Appendix B: Survey Demographics

FIGURE 7
Company Size, Industry, And Location

Approximately how many employees work at your company worldwide?

- More than 10,000: 35%
- 1,001 to 10,000: 53%
- 500 to 1,000: 13%

“Which of the following best describes the industry to which your company belongs?”

- Manufacturing: 23%
- Financial services: 13%
- Business services: 11%
- Utilities: 6%
- Transportation and logistics: 6%
- Telecommunications: 3%
- Public sector: 7%
- Healthcare: 4%
- Insurance: 4%
- Other (please specify): 8%
- Don’t know: 0%

“Where is your company headquartered?”

- United States: 28%
- China: 10%
- Brazil: 9%
- United Kingdom: 10%
- Germany: 9%
- France: 9%
- Mexico: 8%
- Japan: 8%
- India: 9%

*Note - values reflect rounded totals and may not total exactly 100%
Base: 368 business and IT decision-makers who influence BI decisions
Source: A commissioned study conducted by Forrester Consulting on behalf of SAP, March 2014
“Which category best describes your current role in your company?”

- Technology executive, manager or an individual contributor: 51%
- Non-customer-facing (AKA back office) business area such as finance, HR, legal, operations, risk management, audit: 23%
- Customer-facing (AKA front office) business area such as sales, marketing, customer service: 24%
- Other (please specify): 2%

“What is your position/title in your organization?”

- C-level executive: 16%
- Senior VP/VP: 10%
- Managing director/director: 23%
- Project/program manager: 36%
- Team leader: 11%
- Individual contributor: 3%

*Note - values reflect rounded totals and may not total exactly 100%

Base: 368 business and IT decision-makers who influence BI decisions

Source: A commissioned study conducted by Forrester Consulting on behalf of SAP, March 2014

Appendix C: Endnotes


3 Forrester explored and validated these projections with Global Fortune 500 data and found that over 70% of companies experienced turnover between 2002 and 2012 in the Global Fortune 500. Other studies have reached similar conclusions. For example, a high and increasing corporate turnover trend was observed in *Built to Change: How to Achieve Sustained Organizational Effectiveness*, by Christopher Worley, senior research scientist at USC and professor at Pepperdine University. He projected that corporate turnover would reach 70% for the 2003 to 2013 decade. Source: Christopher Worley, *Built to Change: How to Achieve Sustained Organizational Effectiveness*, Jossey-Bass, 2006.