

Requirements for 21st Century Spreadsheets

Uses and misuses of a
critical business technology

Executive Summary



V E N T A N A
R E S E A R C H

Aligning Business and IT To Improve Performance

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Ventana Research performed this research for a fee to determine the needs and practices of organizations that use spreadsheets. This document is based on our research and analysis of a quantitative survey administered via the Web to qualified respondents. Qualification was based upon involvement with spreadsheets in midsize, large and very large companies.

This research was designed to investigate the practices and needs of individuals and organizations that use spreadsheets; its purpose was to understand how companies can use them more appropriately and to outline and quantify where they are using them improperly. This research is not intended for use outside of this context and does not imply that organizations are guaranteed success by using only these results to improve organizational productivity. Moreover, gaining the most benefit from changing how your organization uses spreadsheets requires an assessment of its unique needs.

We certify that Ventana Research wrote and edited this report independently, that the analysis contained herein is a faithful representation of our evaluation based on our experience with and knowledge of spreadsheets and their uses, and that the analysis and conclusions are entirely our own.

A stylized, handwritten signature of 'Ventana Research' in black ink.

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Executive Summary

What's one way to destroy a finance department's productivity? Get rid of spreadsheets. Or one way to immediately improve the finance department's productivity? Get rid of spreadsheets.

This is the conundrum finance groups face. Desktop spreadsheets are inexpensive and versatile, and millions of people work with them every day. They're a handy way to do ad-hoc analysis and reports, prototyping and other common tasks.

In a corporate setting, however, the disadvantages and dangers of spreadsheets outweigh these conveniences. They are error-prone; you need only do a Web search on "spreadsheet error" to get a feel for the pervasiveness of this problem. People also frequently have to combine spreadsheets, a task most find arduous. And spreadsheets are difficult to audit and clumsy to work with in collaborative, repetitive business processes such as budgeting, sales and operational planning and compensation management, to name just three.

The extensive benchmarking research reported on here confirms some key points about the nature and use of spreadsheets:

- There is a large reservoir of experienced spreadsheet users; many people use them extensively in their work.
- People use spreadsheets for a wide range of tasks even when they know better alternatives exist, because they think they are easy and free. But in fact there are many hidden costs.
- Problems occur often when using spreadsheets in a business setting. Out-of-date data, inadvertent errors and a proliferation of conflicting versions are common. Four out of 10 participants said they find out-of-date information in spreadsheets frequently or all the time.
- Combining and verifying multiple spreadsheets is a necessary but arduous task.
- Few users check their spreadsheets thoroughly, which may be why about half of our research participants said errors in numbers and formulas are common even in the most important spreadsheets they use.
- Dealing with errors in spreadsheets takes up what otherwise could be productive time.

This benchmarking research confirmed that people use spreadsheets in all facets of business, often extensively. They wield these tools to support and manage important processes across the organization because, even if they know there is a better alternative, spreadsheets are readily available, easy to work with and less expensive than the alternatives. Finance people use spreadsheets to manage budgeting, forecasting, analysis and reporting. Sales and marketing people use them to forecast pipelines, analyze customers and assess the effectiveness of advertising campaigns. Others use them to plan production, manage projects and calculate commissions.

But while spreadsheets were designed to be an individual productivity tool, most business people use them collaboratively to pull information together or to help manage processes. This usage extends to collaboration with people outside the organization, something that nearly one-quarter of our participants do frequently. In

short, spreadsheet use is pervasive; one might say that the business economy runs on spreadsheets.

One routine use of spreadsheets is as a reporting tool, and they have no equal when it comes to one-off, ad-hoc reporting. Yet when used for recurring reports, they become error-prone time-wasters. This is particularly true when organizations grab data from central IT systems and (as is typical) perform additional analysis on them to create presentation materials. Often the change is not simply the addition of a “percentage change” column but the creation of pivot or dynamic matrix tables, incorporating data filters or live charts. Some users may incorporate Visual Basic code to automate additional steps in a process. When reports become this complex, many things can go wrong.

This research confirms that spreadsheets are fraught with problems. For example, half the participants reported they find major errors in data and formulas in the most important spreadsheets they use. As our analysis makes clear, the reason there are so many mistakes is that people mainly check by “eyeballing” the spreadsheet, looking for obvious errors, and so don’t catch many others. Yet even this streamlined (and not especially effective) approach can be a time-consuming chore.

Perhaps because dealing with errors is time-consuming, people report they are more concerned with the timeliness of the spreadsheet reports they receive than with their accuracy. When there are multiple contributors to the spreadsheet, fixing mistakes can take even longer. Nearly half of participants said that resolving issues about spreadsheets stretches out the time it takes to complete business processes. And 42 percent find out-of-date information in spreadsheets frequently or all the time.

Multiple versions of the same spreadsheet circulating in a company is also a common occurrence: More than half of participants said it happens frequently or all the time. Since spreadsheets are often used collaboratively, and because they are used as an analytical tool to combine different sets of data, almost all participants have to roll up spreadsheets. More than two-thirds said this process, too, is usually or always time-consuming.

An important source of errors is links between spreadsheets. It is difficult for people to spot errors when one spreadsheet links to another and much more difficult if two are “owned” by two different people. And it is extremely difficult to spot errors if the link is to a database (typically Microsoft Access) or a Web-based data feed because in these instances transparency is limited even more.

The paradox of spreadsheet use is that despite these shortcomings, users overwhelmingly embrace them as a tool and do not want to give them up. The source of this paradox is the training and experience many people have with spreadsheets. While they may pose difficulties when used repeatedly in business processes, they are an IT tool that most people feel comfortable using. They are fast and flexible. Mistakes happen, but usually the consequences are not dire. These factors appear to cause people to turn a blind eye to the cumulative impact on company performance.

This was one of the most striking findings from our research: the degree to which people who use spreadsheets have become numb to the difficulties they pose and the extent to which using them hinders their efficiency. Half of the participants said the time they spend addressing problems with spreadsheets is noticeable, but two-

thirds of these said that spending that noticeable amount of time has a minimal impact on their productivity. We suspect they feel this way because they think their job description includes “debugging spreadsheets” as a regular duty. Indeed, we believe one of the biggest barriers to addressing spreadsheet shortcomings is people’s acceptance of them as an inevitable cost of doing business.

For the other half, who said the problems with spreadsheets consume very little of their time, we accept that this might be the case for those who spend less than half of their time working with them, but the 44 percent of these participants who almost always work with them also said it consumes very little of their time and has little or no impact on their productivity. The weight of evidence suggests this is not likely true for many such users. Even though most users have grown inured to frittering away hours checking spreadsheets, Ventana Research advises executives to regard this as a hidden drag on the productivity of their company.

Wasting time is something management always wants to curtail, but spreadsheet use carries a more serious risk. Over the past several years, larger publicly held companies in the United States have come to grips with the risks posed by spreadsheets because they need to control any that come within the scope of a Sarbanes-Oxley section 404 audit. By now, most manage very tightly access to and use of these spreadsheets, but this addresses only part of the problem. The business risks extend beyond SOX compliance and can have a significant impact on a company’s results and reputation. Spreadsheet users record, manage and analyze important processes that can have a negative impact on a company’s bottom line or propel its name into the news for undesirable reasons. Our research shows that spreadsheets are used extensively throughout corporations – not just in finance departments – to manage almost all critical business processes.

Amid the gloom of inefficiency and risk, however, there is a ray of light. Technology created this problem, and now technology is available to fix it. Today, organizations have a range of options that can allow them to keep the benefits of spreadsheets but address their shortcomings. Software now exists to help solve the issues that frequently arise whenever spreadsheets are used in collaborative, repetitive processes.

These take the form of tools that help companies manage and control comprehensively the spreadsheets in use, facilitate the use of spreadsheets that are part of a business process and automate the creation of spreadsheet-based reports. Likewise, there are services that allow companies to use spreadsheets more effectively and safely in collaborative efforts, even when these involve (as is common) people who are not part of the company. In addition, formal applications that have been designed to supplant some common uses of spreadsheets (such as budgeting) often have a familiar grid for data entry or manipulation, and some use Microsoft Excel as their user interface to take advantage of the high degree of people’s familiarity with the software.

Left to their own devices, many users will prefer to continue with spreadsheets, in spite of their shortcomings and even when they know better alternatives exist. In the past, the only choice was to replace spreadsheets with a formal application or a rigidly controlled report format. Today, there are a range of products that allow organizations of all sizes to “eat their cake and have it, too,” making spreadsheets mind their manners when used in the collaborative, repetitive business processes spreadsheets were never designed to address.

What To Do Next

Despite their obvious appeal, spreadsheets in their current form may be the most pernicious technology-related problem organizations face today – all the more so because most do not know how much spreadsheet errors are costing them.

Ventana Research advises companies to replace spreadsheets where it is cost-effective to do so. Where they cannot, they should use tools to limit their potential for errors and facilitate their use in collaborative, repetitive enterprise processes.

The first step in addressing the “can’t live with ‘em, can’t live without ‘em” conundrum is to acknowledge that spreadsheets, used improperly, reduce productivity and pose business risks. In other words, your company cannot fix the problem until it sees that it has one. For many companies, that can be hard because people recognize the benefits but, as this research suggests, often are oblivious to the costs. Spreadsheets have been a huge source of productivity. They have allowed just about anyone to harness the considerable power of computers to analyze, communicate or support almost any kind of business process. They are an unparalleled prototyping application. We believe that under time pressure to pull together some analysis (especially if it involves multiple data sources), most people will turn to a tool they are familiar with because they need to be certain they will complete their work.

As such a one-time situation, spreadsheets work well. The slippery slope begins when a spreadsheet is reused more than a few times and becomes part of a collaborative process. At that point, users (and their organization) have made a dangerous bargain. Errors will multiply as the spreadsheet is passed through multiple sets of hands. In almost all cases, no documentation will be produced on how the spreadsheet actually functions, and there will be no record of who did what when.

The second step is to understand that options are available and to identify the one that works best. For a long time, there were few workable alternatives to spreadsheets, leaving a large – to many, unbridgeable – gap between the time and effort required to create, on the one hand, a spreadsheet and, on the other, a more formal analysis, report or workflow-enabled application. In practical terms, people either get the work done quickly and exactly the way they want it (and then deal with the ongoing, recurring hassles of spreadsheets) or they have to wait (perhaps months) and play a role in the development process. The up-front hassle and cost of the latter option have been too high, or at least people perceived them to be.

Today, though, given the expanding range of options, the reach from spreadsheet to alternative is not as far as it used to be.

One option is to replace your spreadsheets in a given process or functional area with an application dedicated to a particular task. In some cases (budgeting, incentive compensation management and sales and operations planning, to name just three), ditching spreadsheets for a dedicated application from a software company may be the way to go, particularly for larger organizations. For smaller companies, there is a growing list of software-as-a-service (SaaS) options. For certain repetitive collaborative tasks, the ability to manage the process and workflows in addition to eliminating the problems associated with rolling up multiple spreadsheets (which is time-consuming and prone to error) can make this the best option.

However, in many other cases, there may be no specific alternative to using spreadsheets that is workable. In such instances, consider managing more closely the large number of spreadsheets that can pose business risks, using what Ventana Research calls discovery, management and control software. Such applications can locate every spreadsheet on every desktop or laptop on the corporate network. Companies then are able to monitor all spreadsheets in use and the relationships between them. The software provides a comprehensive range of controls for error-detection. It tracks when changes are made to the spreadsheets and by whom, and also provides a degree of formula validation. All companies will find these capabilities useful, especially those that must comply with the U.S. Sarbanes-Oxley Act. These companies stand to reduce their internal and external audit costs and the risk of material misstatements in their financial statements.

A third area worth investigating is management reporting using spreadsheets. Spreadsheets are ideal for ad-hoc reports, but there may be better ways for your organization to manage recurring reports that you want to distribute as spreadsheets. Generating dozens if not hundreds of recurring reports efficiently and accurately is hard enough, but today's management reports often incorporate pivot tables, links to one or more spreadsheets or other applications, nested functions and other complications that make them much more difficult to maintain. Tools that make this process far easier to manage and maintain can provide a quick payback.

Fourth, companies frequently collaborate in processes using spreadsheets. Unfortunately they don't always have the tools that enable them to deal with access and version control. They use e-mail and file servers – and, not surprisingly, frequently encounter problems. Tools now exist so that even small and dispersed companies can share and control spreadsheet files more easily.

It is also worth noting that tools that link desktop spreadsheets to database servers have been around for a couple of decades. Technology continues to advance and these tools have become easier to use. Still, they require a level of expertise that is a barrier for most spreadsheet users, in our judgment.

Spreadsheets, as this research shows, are a fixture in running all parts of the business, and the decision to make this change can begin anywhere but should spread everywhere. Starting at the top, senior executives must acknowledge the cost and business risks associated with spreadsheets and drive initiatives to replace them. CFOs and controllers must recognize that just controlling the spreadsheets that are within the scope of a Sarbanes-Oxley audit is not enough, both because there are other risks at play and because spreadsheets are a significant productivity issue in their part of the organization. Heads of business units should understand that they, too, have productivity issues and would benefit from having better information sooner, which they can achieve by replacing many of their spreadsheet-based management reports with technology that will get accurate business information to them sooner.

Ventana Research asserts that every company has a spreadsheet problem. But now you can keep the spreadsheet and get rid of the problem.

How Ventana Research Can Help

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