The Seven Deadly Sins of SAP® Maintenance

A Blueprint for Surviving End of Life for SAP® ECC 5 and Other Upgrades

WORKSOFT®

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Introduction

Do you hear that, "tick tick tick?" That's the sound of your ECC 5, 4.7, 4.6c, and even earlier versions of SAP® approaching end of life. In early 2012, SAP® confirmed that it will cease to support even "Extended Support" of many versions of its software by March 31, 2013. That leaves many SAP® owners–as much as one-third by some estimates–with a ticking time bomb on their hands.

Upgrades to major ERP systems can be incredibly costly when measured in time, effort, distraction and risk. For organizations with large numbers of users (>2500) median efforts for an SAP® upgrade have been estimated at 3,350 days over 31 weeks at a cost of over 1.4 million US dollars.[1] The incidence of failure is also extremely high, with 41% of companies failing to realize at least half of the business benefits they expected from their ERP systems and 40% experiencing major operational disruptions after go-live (e.g., the inability to ship products or to close the books).[2]

The prospects of an upgrade can be daunting but the obstacles aren't unknown. We refer to them as the 7 Deadly Sins of SAP® Maintenance, and knowing is indeed half the battle. By recognizing the perils presented by the Seven Deadly Sins prior to beginning this major upgrade process, companies that are being caught by SAP®'s mandatory upgrade now can guard against ever being in this uncomfortable position again.

How did we get into this mess?

Worksoft's confidential poll of SAP® users revealed commonly cited reasons for organizations to be significantly behind on upgrades.

- Our process to upgrade is heavy and unwieldy; it's too much trouble
- We looked at our SAP® implementation like it was a one-time event instead of an ongoing process
- Upgrading SAP® isn't very sexy, so it takes lower priority behind mobile, cloud, CRM, etc.
- We no longer have a relationship with the SI team that did our original implementation
- We're so far behind now that the whole process seems overwhelming
- Our implementation is highly customized, which complicates the upgrade path
- Our documentation is outdated and inaccurate

Warning: The Following is Counterintuitive

Fundamentally changing the way you look at SAP® upgrades and enhancements–including implementation of new process methodology–while undertaking a major upgrade may seem counterintuitive, but avoiding the Seven Deadly Sins will not only guard against falling behind in the future, but may also save you time and reduce risk during the upgrade to ECC 6 and other updates.

1) Panaya Inc. SAP® Upgrade Benchmark January 2012
2) Krigsman, Michael "ERP failure: New research and statistics", ZDNet, February 3, 2010

The good news for the 43% of companies that are ECC 5 or earlier and who have NOT begun their upgrade process is that they are in luck: Using Seven Deadly Sins thinking at the beginning of a major upgrade gets you the biggest bang for the buck. Not only are you already likely to revisit most major business processes during the course of an upgrade of this magnitude, but this may also be the rare occasion you will have a high degree of dedicated attention by business owners.

The First Sin: Treating SAP® Maintenance as an Isolated Event

Worksoft research shows that companies that viewed their original SAP® implementation as a one-time project are more likely to be behind on upgrades, enhancement packs and transports than companies that look at–and resource–SAP® maintenance as an ongoing endeavor. Coca-Cola's project name for its original SAP® rollout, Project Infinity, was more than a clever play on a visual branding element. There was explicit acknowledgement that it was a long-term endeavor to bring all business processes into alignment and provide visibility across the organization.

"Coca-Cola's project name for its original SAP® rollout, Project Infinity, was more than a clever play on a visual branding element."

Staying current on interim transports, support packs and enhancements reduces the amount of change that needs to be undertaken when a major upgrade is due. Given that SAP® announced in the fourth quarter of 2011 that it plans to accelerate the pace of enhancements and include both incremental and "breakthrough" functionality in agile fashion, devoting steady, ongoing resources to the maintenance of SAP® is essential to avoiding accumulation of a backlog so daunting that it begins to look insurmountable.

The Second Sin: Treating a SAP® Project as an IT Project

Installation is not the same as implementation. Installation is a technical function, but for systems as full of dependencies as SAP®, successful implementation must rely on full participation and buy-in from your business community. For SAP® to work well with your business processes requires up-to-date knowledge of what those business processes are, which demands agreement from business users that this upgrade is a priority and urgent to complete.

This may require the technical organization to do something a bit outside its comfort zone: Selling.

While technology transformation makes complete sense to people in the CIO organization, it can be experienced as a severe, long-term migraine to other employees. The sooner leadership can bridge that gap and create a common understanding, the more efficiently and effectively you'll optimize your multi-million dollar technology investment.[3] Techniques for bridging that gap start with getting buy-in at a senior level that the upgrade is a critical business priority, but it doesn't stop there. The most successful maintenance events with the longest-lasting benefits drive a sense of shared ownership at the employee level with techniques like:

- **Branding:** Develop a brand identity around your ongoing efforts that emphasizes the business-critical nature of your mission.
- **Integration:** Incorporate participation in SAP® maintenance into broader business processes, e.g., into performance evaluation measures and regular meeting agendas.
- **Explanation:** Make clear, simple and compelling explanations for how participation in SAP® maintenance ties into the overall success of the organization.

- **Evangelizing:** Find influential people at all levels of the business that believe in the value of SAP® maintenance and give them the opportunity to evangelize to the rest of the organization.

Seem like extra work? It is. But keep in mind that your goal is to plug people into supporting SAP® as a business-transforming tool over the long haul, not just for a single project (see Deadly Sin #1). An investment up front in getting and keeping people engaged will pay off in the long run.

The Third Sin: Ignoring the Burden Imposed by Heavy Enhancement Processes

When companies that are significantly behind in SAP® upgrades were asked how they got where they are today, the number one reason cited was having heavy processes that overburdened resources and made it difficult to stay up-to-date.[4] The old adage applies here: "The definition of insanity is doing the same thing and expecting different result." Through arduous effort you may get through the upgrade to ECC 6 using the same heavy processes, but chances are you will find yourself back in the same position again soon.

So where can you begin to lighten the load? Many companies have adopted impact analysis solutions. Conducting an impact analysis before making changes to an existing system is a recommended practice to ensure that all system interdependencies are known, and that changes to one or more components will be understood in terms of the effects on other components.[5] Impact

3) Nielsen, John, "ERP: The Ultimate Business Imperative" March 2011
4) Worksoft 2010 customer poll
5) Description courtesy of IBM Rational

analysis can help reduce risk by focusing efforts on high risk areas, and can be used to optimize your plan of attack. However, impact analysis will not significantly lighten heavy enhancement and upgrade processes for two reasons: 1) During a major upgrade such as moving to ECC 6, there is so much functionality changing, that it's imperative to thoroughly test all functionality, not just that which is directly impacted, and 2) While impact analysis is generally useful to understand what to test, it doesn't accelerate the testing efforts itself.

The importance of focusing on testing itself is illustrated in the figure above. Although of less relative importance in an initial SAP® implementation, testing is half or more of the entire effort when implementing upgrades, service packs and minor releases. Therefore, when the goal is to lighten burdensome enhancement processes, testing itself must be the focus.

> "Imagine a world where the marginal cost of running another test is nothing but CPU cycles."

The good news is that whether you're using manual testing or one of the legacy script-based test automation systems, alternatives exist that can make testing for upgrades and enhancements a compact, repeatable process, reducing the time and effort required to make changes and making it easier to stay current. Imagine a world where the marginal cost of running another test is nothing but CPU cycles. With products like those from Worksoft, in about the same amount of time it takes to test manually today, you could build a full regression of automated tests that allow you to test twice, or 5 or even 100 times with little incremental effort.

A major upgrade is the perfect time to adopt these new technologies. Adopting them at the beginning of your upgrade process gets you the biggest bang for the buck because of the reusability of the test assets created. And since a major upgrade will almost inevitably require multiple test cycles in the same project, you will generate savings on the current project as well as providing compact, repeatable processes that will help you stay current going forward.

The Fourth Sin: Using Custom Code Testing Methods to Test Packaged Applications

Testing for packaged applications like SAP® is inherently different than testing for custom code. Traditional QA tests provide little value, proving primarily that the software functions as it should, but not providing any meaningful information about whether changes that you may be considering will create significant issues for the critical business processes you rely on to serve your customers. Instead, focus on how the software supports those critical business processes.

> "Traditional QA tests provide no meaningful information about whether changes will create significant issues for critical business processes."

Sound daunting? It's not. When analyzing a typical company, the first thing that becomes apparent is that there aren't nearly as many critical processes as one might have imagined. Few, if any, companies have thousands of these processes. Most large companies might have between 200 and 300 critical end-to-end business processes, a much more manageable situation to deal with. Software like Worksoft can help you automate the testing of those critical business processes in ways that bring speed and agility to SAP® and the "ecosystem" of software that surrounds it. And the valuable by-product from this end-to-end business process approach is that the company generates a repository of core business process documentation that preserves institutional knowledge and supports compliance and audit activities.

Learn how you can adopt risk-based testing without automating thousands of existing manual test cases by downloading Worksoft's paper, "Risk-Based Test Automation from a Business Process Perspective: Automating the testing of critical business processes enables you to manage change more effectively" at www.worksoft.com.

The Fifth Sin: Satisfaction with Outdated Testing Standards and Processes

While giving up old versions of SAP®, it's high time to also give up dated standards for what constitutes testing excellence in SAP®. For years, companies–especially those using legacy test automation solutions–have been satisfied with levels of test coverage as low as 20-30%, primarily

because tests were so difficult to maintain that, despite significant ongoing investment, test coverage metrics remained stubbornly stagnant.

With newer test automation processes like those offered by Worksoft, that standard is no longer valid. The new standard is recurring, automated and unattended validation of all essential business processes.

The New Standard for Testing: "Lights Out"

- Tests that can be run after every change without time-consuming set-up or maintenance
- Tests that can be run without human intervention–implying that the tests are resilient enough to cope with unexpected conditions without either aborting the entire test cycle or generating cascading downstream errors
- Tests that trace the outcome of business rules and flow of data across platforms, applications and operational areas in a way that covers all essential business processes (typically 80-90%)

For more information on the concept of "Lights-Out Testing", including real-world examples of the types of problems it can address, download Worksoft's paper, "Lights Out Testing for End-to-End Business Process Validation. What It is and Why You Need It" from www.worksoft.com.

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The Sixth Sin: Sub-Optimizing Resource Utilization by Testing at the End

One of the biggest challenges of traditional upgrade and enhancement processes is that you have expensive, trained QA resources that are vastly underutilized until the upgrade is nearly complete, at which time everyone other than the testers must sit and wait for testing to take place before they can move forward. The result? 1) Underutilized assets throughout the process, 2) Slippage in the timeline resulting in compressing testing and raising risk, 3) Endangered or missed go-live dates.

What if you could use your existing systems to build automated tests while analysis and development of the upgrade was still underway? With newer test automation tools like

those offered by Worksoft, tests can be developed on the current version of the software and then easily converted to the upgraded platform in a fraction of the time needed for changes to traditional test scripting. Developing tests in the current platform creates significant efficiencies by allowing testers to work on the well-known "home turf" of the current version instead of fumbling through the unfamiliar territory of the new version.

Smoothing testing across the entire upgrade cycle allows for better resource utilization across all technical groups involved in an upgrade by removing dependencies. It also provides a larger window for more thoughtful and thorough test development and execution, which reduces risk and increases the chances of hitting go-live dates with precision.

Benefits accrue beyond your technical staff as well. The costs and distraction of an upgrade to business users who contribute to testing and validation can be greatly mitigated if the work is spread out across a bigger window "as time allows" instead of planted in an immovable, narrow testing window.

The Seventh Sin: Reinventing the Wheel

SAP® is an incredibly complex and powerful tool. Knowledge of its intricacies can significantly accelerate almost any project. Finding a partner that has significant domain knowledge in SAP® can be invaluable in creating a compact, repeatable process for upgrades and enhancements, reducing the time and effort required to make changes and making it easier to stay current.

"Even with significant customization, Worksoft customers typically find 80% coverage out of the box, greatly reducing the time and effort necessary to build out tests that cover all critical business processes."

With a company like Worksoft that specializes in automating testing for SAP® and the "ecosystem" of software that surrounds it, you get the advantage of access to a vast library of pre-built test content for standard SAP® business processes. Even with significant customization, Worksoft customers typically find 80% coverage out of the box, greatly reducing the time and effort necessary to build out tests that cover all critical business processes. Imagine having the ability to leverage pre-built test assets for a host of modules including OTC, P2Pay, FI/CO, HCM, and more.

Working with SAP® specialists that understand the intricacies of SAP® and have learned through first-hand experiences the best path for a smooth upgrade can save you time and greatly reduce risk.

Case Example: Dow Corning Automated 70% of Its Test Cases During Its ECC 5.0 to 6.0 Upgrade

Since adopting SAP® over 15 years ago, Dow Corning had performed testing manually. Though the company had a history of quality testing, the demand on high-value business process experts reached an all-time high. Without a formal test group, busy subject matter experts were spending as much as 500 person-hours conducting functional testing for every SAP® support pack. When faced with the major upgrade from ECC 5.0 to ECC 6.0, Dow Corning decided it could not afford to continue testing manually–it was time to automate.

"Dow Corning was looking for one tool to help us automate our end-to-end SAP® testing to optimize efficiency," said Jeff Duly, senior enterprise architect. "The biggest challenge was that we had a 3-month window to analyze, purchase, install and then automate as many processes as possible." To accomplish this aggressive goal, Dow Corning selected Worksoft because of its expertise in SAP®, and because it gave Dow Corning's subject matter experts a single solution to validate, document and record end-to-end validation tests without writing, generating or maintaining any code.

With 13 years of manual testing, Dow Corning had developed more than 1,100 discrete, manual test cases. However, the company knew it should consolidate many test cases by packaging then into end-to-end business test cases that simulated the real business process. Dow Corning business and IT teams collaborated with Worksoft experts to convert and automate all of its critical legacy test cases using approximately 250 end-to-end test cases in Worksoft's flagship product, Worksoft Certify™. The process happened fast, with over 70% of the former test cases converted within just three-months. All of this was done in the existing, familiar ECC 5.0 environment, where Dow Corning experts could draw upon deep knowledge of current processes for maximum efficiency.

After successfully completing the test automation, it was time to focus on the ECC 5.0 to ECC 6.0 upgrade. In less than one day, the Dow Corning teams converted all the ECC 5.0 tests to run on the new ECC 6.0 version, almost instantly creating the environment necessary to test all critical business processes on the ECC 6.0 platform.

With the smooth upgrade behind them, Dow Corning next began to integrate Worksoft into its weekly processes for testing SAP® transport changes, support packs and enhancement packs. By using Worksoft's lights-out testing approach and production data extraction, the entire suite of end-to-end tests now runs in six hours and can be run on nights and weekends without any human involvement.

"Seeing was believing," Duly said. "Once we started using the tool, it gained momentum. After the first couple of weeks, we were really seeing a lot of energy around using the tool and moving it forward." He added, "Worksoft has proven to be the right partner for us."

Conclusion

There's an increasing level of complexity in SAP® and the "ecosystem" of software that surrounds it. Companies are already under pressure to roll out upgrades faster, with fewer resources. Business users are demanding access to the newest features but many companies are multiple upgrades behind. Now SAP® is further accelerating release cycles to deliver even more complex breakthroughs. Companies want to spend time driving innovation in the business, but 40 cents of every dollar spent supporting SAP® goes simply to validating changes.

Now nearly one-third of SAP® customers are impacted by the end-of-life of ECC 5 and earlier. For many, the upgrade will take place, but with no clear progress towards improving processes in such a way as to avoid ending up in the same uncomfortable position again in the future. A lucky few, however, will look at this upgrade as an opportunity to fundamentally change the way they look at maintaining SAP® and will discover new processes, new partners and new ways of looking at the business that will have a lasting impact. They will:

- Treat SAP® maintenance as an ongoing challenge
- Find new and improved ways of getting buy-in for support of SAP® as a transformational tool, both at senior levels and at throughout the company
- Reduce heavy enhancement processes by pulling the biggest lever available: making testing a compact, repeatable process
- Stop using outdated testing approaches and focus on how the software supports critical business processes
- Not settle for skimpy test coverage, but instead focus on the goal of "lights-out testing": recurring, automated and unattended validation of all essential business processes
- Ensure documentation always remains "evergreen" and accurate
- Test throughout upgrade and enhancement processes, not just at the end
- Work with SAP® specialists that are attuned to their unique needs

Proven in enterprise installations worldwide, Worksoft provides a revolutionary change in testing methodologies. Together, Worksoft and your organization can forge a path that will allow your organization to extract significantly more value from your investment in SAP® while improving agility and reducing risk.

About Worksoft

Worksoft® is next-generation test automation that brings speed and agility to SAP® and the "eco-system" of software that surrounds it by automating end-to-end testing, not just for SAP®, but for everything SAP® interacts with–even web interfaces. Unlike legacy test automation systems, Worksoft is easy to use, allowing Worksoft customers achieve 60-70% automation in 90 days–enabling "lights out" testing even for minor transports and releases. There's a reason why over 100 of the largest SAP® customers in the world use Worksoft for test automation.

Discover Worksoft today. Get Agile in your SAP® Ecosystem. For more information, contact Worksoft at 1-866-836-1773 or visit www.worksoft.com.

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