Why Enterprise Implementations Leave Spreadsheets in Their Wake
(and What You Can Do About it)

The implementation of enterprise systems always comes with the promise of eliminating off-line spreadsheets. Whether it's a PLM, ERP, SCM, RMS, ERM, or CRM system, the terms "*no more spreadsheets*" and "*one version of the truth*" are thrown around as much as politicians say that they are about changing the status quo. So why is it that 3 months, 1 year, and even 3 years after your deployment, you still have end users working in spreadsheets to handle core business functions? The reasons are varied and can depend on the company culture and the software being implemented, but our experience is that it comes down to the list below.

Reasons Spreadsheets Exist

1. <u>Functional Gaps</u> - It's interesting to predict when a project team will realize that the system they just spent a ton of money on, will not cover their entire business process. Rare are the enterprises systems which can cover all business functions, so a gap list should always be maintained from the beginning of the implementation. And despite the best efforts of the project team, some gaps are not discovered until after go-live. Either way, the project team is typically charged with closing these gaps and sometimes they can't get to them because of budget, time constraints, or they just get forgotten. The gaps will thus typically remain in spreadsheets.

2. <u>Inefficient Functionality</u> - Some business functions just cry out for a grid based user interface. In these functions, the end users need to be able to view and update many items at a time, have the ability to copy and paste data, and quickly view history. Enterprise system screens tend to be form based where you work on one item at a time. Even when they show many items at a time, most enterprise system functions do not allow end users to copy and paste data like they can in a spreadsheet. So when it comes time for these end users to start using their part of the enterprise system, they find that it will take much longer to do their job, and thus, their tendency will be to continue using their spreadsheet.

3. <u>Loss of freedom</u> - A spreadsheet is the ultimate application for IT's version of a democracy. A spreadsheet is the blank canvas for the creation of a "system" that is completely drawn up by an end user. It is the ultimate freedom of their expression within an enterprise and humans do not give up freedoms very easily, even if it may be for their own good (not to mention the company's good). This is a challenge with almost every implementation, and inevitably, some spreadsheets will be left behind that are still handling core business functions.

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4. <u>Insufficient or Non-existent Change Management</u> - All enterprise implementations require some level of change management. The business process will almost have to change to some degree in order to achieve the full benefits of a new system. Without a formal change management process, end users may assume that their job function is not changing, and therefore, they may continue using spreadsheets and performing other off line functions.

The above is not an exhaustive list, but it points to the fact that there are many ways that core spreadsheets remain, even after spending months or years implementing an enterprise system. So you may be wondering why spreadsheets can be a problem for the enterprise. Well, it depends on how they are being used. Spreadsheets were built to handle ad hoc analysis so using them in this way is perfectly fine. But going beyond this purpose may present itself with some risks. Below is a chart of the pros and cons of using spreadsheets that may help you better navigate your decision process of whether or not to use them for core functions.

Pros and Cons of Using Spreadsheets in Your Enterprise

Pros of Using Spreadsheets in Your Enterprise		
1	Versatility	When you buy an enterprise application, it has a very specific set of functionality. Spreadsheets can, in theory, be used in every part of the enterprise and for a variety of functions. The sky's the limit.
2	Widely used	Spreadsheets are used in every industry and probably in every company. This makes for a minimal training effort. And most students coming out of colleges today have used spreadsheets as part of their classwork, so it is a natural fit for them.
3	Inexpensive	Spreadsheets are the enterprise solution for small companies. It enables the company to get up and running and not have to spend a ton of money on enterprise software. Spreadsheets also can become the model for the functionality that will be needed in your enterprise system search.
4	Ad Hoc	Ad hoc analysis is usually best done in a spreadsheet and it is very beneficial for companies to give end users these tools in order for them to do their job, and more importantly, to

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		empower them to perform value added work. There is nothing like a spreadsheet to perform a quick cost-benefit or what-if analysis.
5	Advanced features	Although they are not used by most end users, spreadsheets have many advanced functions, such as pivot tables, charts and graphs, statistical formulas, and more.
6	Formatting	The formatting options of a spreadsheet are practically endless. This includes the use of various colors, callouts, shapes, fonts, numeric formats, etc.. Enterprise systems usually come with standardized formatting.
Cons of Using Spreadsheets in Your Enterprise		
1	Not easy to sync data	There is no easy way to sync data with your enterprise system in a spreadsheet. Most spreadsheets have some redundant data in them, where master data is rekeyed even though it is already sitting in an enterprise system. There are ways to query databases from spreadsheets but most companies do not allow end users this kind of access, and even if they do, it is not foolproof.
2	Spreadsheets are not databases	No matter how much end users tend to use them as databases, spreadsheets are standalone "systems" and their data is not stored in a database. Databases get backed up, they are highly secured, and allow for many users to access them. Plus they allow for unlimited report creation (see below).
3	Spreadsheets lend themselves to silo mentality	Using spreadsheets tends to cause business silos. You see many examples in different companies where even though they may have several end users who perform the same business function in a spreadsheet, they have different formats, different fields and different calculations. This is silo building and it hurts companies in more ways than they may realize. If the process is done in a strategic application instead of a spreadsheet, it will naturally be part of a repeatable, standardized process which eliminates the silos.
4	Lack of validations	Spreadsheets can be set up to have some fields be validated

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		for proper data but most end users do not bother with this. This means that data being input may be incorrect and will not match any other system. This causes confusion and errors. Enterprise systems always have validation built into their functions.
5	Not easy to integrate	The vision for enterprise systems is one point of data entry and for all core systems to be connected, so that there is no redundant data being input. This is not always achieved but it is a long term goal in most organizations. Spreadsheets are not good candidates to integrate with. Even though there are tools to pull or push data to or from spreadsheets, it is not easy to create a repeatable integration process. And the quality of data in spreadsheets is almost always suspect.
6	Not a good multi-user tool	Enterprise applications are designed to be used by multiple users at the same time. Spreadsheets have some of this capability but it is not robust by any means. And worse yet, many times spreadsheets are shared with multiple parties by emailing them around to many parties. This can create a massive version control problem. Invariably there will always be someone working on the wrong version of a spreadsheet at any given time.
7	Image management	Access to product and material images are a must in most companies and spreadsheets allow you to add them in whatever rows and columns you want. This can obviously be very cumbersome if you are doing this for many items and in multiple spreadsheets. Enterprise systems, on the other hand, typically display product and material images on many screens after they are uploaded.
8	Insufficient reporting	When you use an enterprise system, the data is stored in a database. This means that you can use common Business Intelligence tools to output an unlimited number of reports against the same data. Business Intelligence is crucial to giving managers and end users the data they need in order to run the enterprise. Spreadsheets are not able to provide this in a repeatable, consistent way.
9	Error prone	Based on many of the Cons mentioned above, it can be

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		surmised correctly that spreadsheets may contain business critical errors. Spreadsheets are notorious for containing errors and there have been many public cases of these situations. All systems are dependent on good data going in, but the fact that the data in spreadsheets is rarely validated, is usually rekeyed, and are part of silos, makes spreadsheets strong candidates for critical mistakes.

As outlined above, spreadsheets have their purpose but are not the best candidate for core business functions. What to do? Here are the alternatives that are considered by most companies.

Alternatives to Using Spreadsheets for Core Functions

1. Spreadsheet Management Tools - This option means that you are essentially giving in to the spreadsheet democracy, but you will manage them better with tools that securely backup the files and do a better job of version control and revision history. Tools such as Sharepoint, Dropbox, and Google Drive are widely used for this purpose and help IT rein in and possibly reduce the number of spreadsheets. Many of the cons mentioned previously will still exist with this approach so this should not be the ultimate goal for spreadsheets that are handling core processes.

2. Use what you have - Mandate that end users adopt the enterprise system function, if one exists, and eliminate the related spreadsheets. This does not always promote goodwill with the end users, but it does save additional expenses. Hopefully over time, the end users can increase their speed of data entry with the enterprise system function and the process will be streamlined. However, the reason the end users did not let go of the spreadsheets in the first place was probably due to the fact that they were much easier to use, so plan for business delays if you don't staff up or redistribute work properly.

3. Customize Your Enterprise System - Smart companies build in a budget for customization before their implementation as no enterprise system can handle every business function. This of course increases the possibility that the project won't get approved in the first place. And if gaps are discovered after go-live, going back to the well is that much more difficult. In either case, if the customization budget is approved,

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there will be major pressure on the project team to make sure the customization works almost perfectly for the end users.

4. <u>Purchase an Enterprise Software Extension</u> - Many enterprise tools come with extensions or apps that can bolt on to the software and perform a specific function. Apple has made an art out of this but even big applications have add-ons that are usually supplied by 3rd parties that do a better job of specific functions. These extensions are usually less expensive than customization projects and increase the end user adoption of the entire system. Obviously these 3rd parties need to be vetted with reference checks and pilot projects but they are definitely worth a look in order improve the overall implementation. Even if certain functions were adopted in the enterprise application, many companies look to extend their investment a few years down the road with the add-ons, because they realize that the core platform remains unchanged and they can provide a better user experience for their business teams.

Hopefully this white paper gives you a good perspective on the challenges and advantages of spreadsheets, and how you need to be realistic with your enterprise application implementation. A project team which expects that spreadsheets will not be given up easily, will be able to better manage the project and be more successful in providing the end users with a good experience.

About Us
Singletree Technologies is in the software extension business but we also have done lots of enterprise system implementations, so we have a good perspective on these challenges. One of our applications, Intellimas, does a great job of replacing spreadsheets if you are interested in this alternative. Check us out on www.singletreetech.com. There is lots of good information about what we do and how we may be able to help you.