

10 Simple Rules for Purchasing ALM Software

Follow these ten rules to get your Application Lifecycle Management (ALM) processes started on the right path. Whether you are buying for the first time or just replacing your current system, this whitepaper aims to provide concrete advice on buying and implementing an ALM system. Below we have condensed the information down and focused on what really matters, as well as what to avoid. Following these rules will allow you to confidently select and roll out a system that will meet your needs today, as well as offer you vital flexibility for tomorrow.

1. Create a Project Brief and Identify Requirements

Process – Begin by outlining and documenting all current business processes and procedures used during application development. The system you select should be able to grow and adapt with your organization. Take the time to note any existing shortcomings and add those scenarios as criteria for your new system. Finally, list all of the business requirements that you have and create a matrix of their relative importance to your organization. Teams typically classify criteria into three groups: “must have”, “nice to have” and “could have”.



Metrics – Develop a short list of five or six key metrics that you want to capture and track over time to ensure that your investment continues to pay off and future changes are not detrimental to the original objective. Analysts have said that one of the biggest mistakes organizations have made when implementing a new solution is either

not tracking any metrics or only tracking metrics for six months to a year. The companies that don't keep track of metrics pay for it in the long run as they have no insight into their system, how it is working, or what can be improved and/or streamlined. Best practices dictate that in order to truly get the most from any system implemented, Return on Investment (ROI) and system optimization metrics need to be maintained for the lifetime of a system for organizations to benefit from its true potential.

People – Last but not least, get buy-in from end-users, developers, QAs, PMs, and upper management to ensure the maximum return on your system. The trick is outlining the business benefits and impact on bottom line – not just the number on the final invoice but how much else is gained – employee productivity, traceability, enhanced build quality, etc. Invite upper management to say a few words at the beginning of launch meetings and training sessions about the importance of the new system. ALM implementations are rarely successful without upper management's support.

Common pitfalls:

- Dedicating insufficient internal resources for implementation and integration with existing systems and processes
- Allocating insufficient resources and time for end user and admin training
- Leaving the data migration plan to the last minute
- Not deciding how to leverage the existing defect, task, and test data. Whether it is by importing it into the new system or accessing the old system as a reference.

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2. Budget and Time Scales

It is important to set a budget early on in the project, as it will save a lot of time when selecting vendors. It is obviously not prudent, nor the best use of your time and resources to evaluate systems that are too expensive. This process is typically started with some basic ROI calculations that determine where you can make substantial savings with a new system.

It is also important to create time scales for the selection, evaluation and implementation of the new system. When looking at the budget, be sure to evaluate both short-term and long-term costs associated with the purchase to make educated decisions.

Another area to look at is Total Cost of Ownership (TCO), which is more than the original cost of purchasing hardware and software. TCO must include all direct and indirect costs associated with the system, over a minimum 3-5 years, to reflect the true cost over time.

Make sure to compare costs of a new system against what you are currently paying. If the current system isn't fulfilling your requirements and you are looking to replace it, why should you expect to pay the same price? Finding the solution that is right for you and can be customized to meet your unique needs is priority number one – not the price. Keeping this in mind, the system you end up with could even end up being cheaper. Often companies buy big product packages that give organizations a lot of features but if they are not used they simply become wasted money and implementation time.

Common pitfalls:

- Companies often evaluate systems as a whole instead of looking at different parts or applications within a system. You may not need all of the bells and whistles from a given system to maximize your efficiency and ROI.
- Set a realistic timeline for purchase that runs through implementation. Projects often fail before they get off the ground because internal opinions conflict about how long the entire process should take.

3. Scalability and Architecture

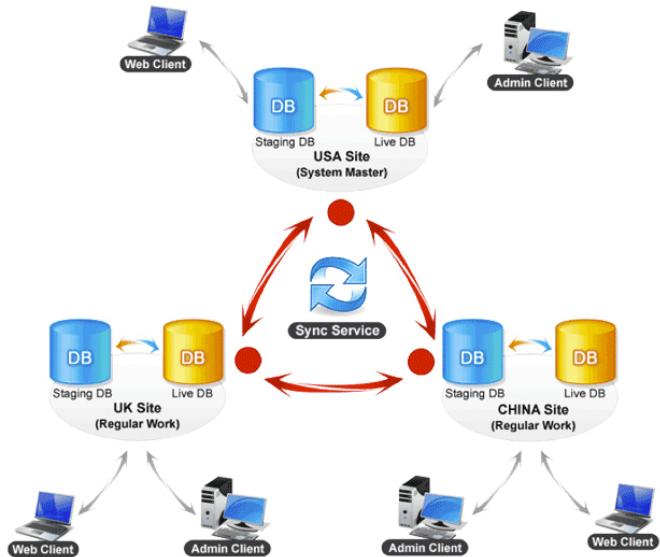
It is highly important that a system has the capability of being extended. Not only from the perspective of adding processes such as Customer Support or Source Control but also from the perspective of adding hundreds or even thousands of users; users that may be distributed globally.

Many cheaper systems may seem appealing at first but the cost on the backend when it comes time to integrate and scale can often be astronomical.

Second, it is vital that the underlying database be accessible for both additional reporting and data mining. Without "free" access to the database you might find that as soon as you need to export/import data or introduce fields and values that are not a part of the ALM system, it will be both expensive and difficult. Easily accessible and comprehensive APIs are also a worthwhile consideration as supplementation to database access.

Next, be sure the ALM system you're evaluating can scale to not only thousands of users but also to thousands of database records. Economical solutions often seem great but once the number of records builds up they can quickly become slow and unmanageable. This of course leads to bottle necks in your development and testing processes as well as frustrated team members.

Finally, check what processes are included out of the box; the minimum should be agile, traditional and defect tracking templates.



Common pitfalls:

- Many companies do not evaluate the entire cost of the system including third-party applications that can push up the price tag. Consider adding third-party application requirements to your system evaluation criteria.
- Some companies find a system that will meet their current needs, but is not flexible enough to adapt to future needs. Consider systems that offer more functionality than you may initially need and have the ability to easily scale to 10-100x the current number of users. Also, a system that supports a distributed or multi-site architecture is typically the safest choice. This will help you avoid revisiting the evaluation process 18 or 24 months down the road.

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4. Information Management and Integration

A vital part of any ALM system is how it manages information such as knowledge, best practices, coding standards, FAQs, etc. For an ALM system to be effective, knowledge management needs to be easily and readily accessible for all team members to avoid wasting time. The best option is an integrated knowledge management or wiki-based system that can easily link to development artifacts. Artifacts can be anything from requirements, to stories, to test cases.

In addition to artifacts linking to knowledge, they should be able to flow seamlessly through the entire ALM process. This means the requirements system should be tightly integrated with resource management, development processes, and testing procedures. At any given moment you should be able to trace through the lifecycle of an artifact to find its status.

Common pitfalls:

- Forcing teams to juggle among multiple systems decreases efficiency and leads to a lack of communication. This in turn results in frustrated team members that produce lower quality results. Your team will be much happier and efficient with a single solution that meets most of their needs.
- Not having a knowledge owner who can enforce consistency and make sure knowledge is presented in an optimal fashion as well as retire old knowledge.

5. Browser Support

Browser based ALM tools are pretty much the standard now. However, be sure your ALM tool supports all major browsers. Especially if your development team is working in a Linux or Unix based environment. If your ALM tool needs any plugins (flash, java, etc.), be sure your development team's browsers support them.

If you are going to host your ALM system then be sure to designate who is in charge of maintaining the server. Make sure this individual understands the systems hardware requirements, the deployment process, and how it scales to support more users.

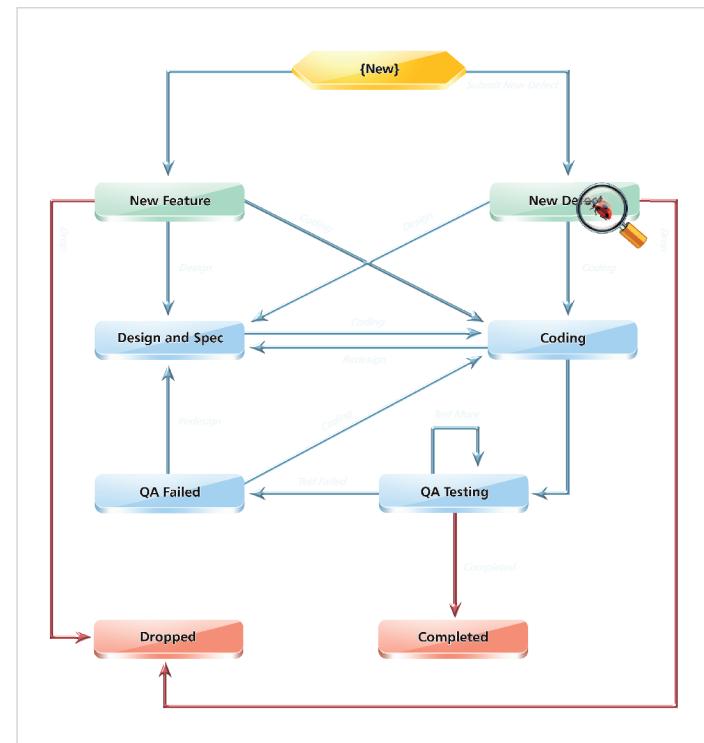
Common pitfalls:

- Checking the box – take the time to find out what setup your development team is using and be sure that it is supported. Don't just assume that a system will work for your team because it supports all major browsers.
- Ensure that the web interface is built on a robust foundation. An interface not built on a solid architecture will cause more problems and be at risk for common data overloads and slow transaction speeds.

6. Workflow and Automation

The quickest way to improve the ROI from an ALM investment is to implement an efficient workflow with appropriate automations. The system should allow you to quickly setup and communicate to your team a simple workflow. It should also support restrictions based on field values as well as state based notifications.

Automations should be available to move items through the workflow or create tasks based on template. For example you may frequently wish to create unit-testing tasks when a development item is created. An efficient workflow with proper automations will save your team countless hours and assist in preventing simple mistakes due to missed tasks or requirements.



Common pitfalls:

- All vendors are not made equal. Understand each solution and whether or not they are customizable enough to meet your needs – not to mention how customizations are implemented. You want to be able to make changes yourself without calling in third-party consultants. You should be able to quickly and easily publish changes with no downtime. This is something third party consultants and large systems often cannot deliver.
- Not thinking through automation needs at the outset of a project always leads to future issues. This is one requirement that if fully thought out will save a lot of time and headache down the road.

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7. Dashboards, Reports and Alerts

Any reasonable ALM system should have a “home page” for announcements, personalized information and the ability to display interactive and customizable information for all business processes. Users should be able to customize report widgets, create drill-down pivot charts, choose page layouts and language settings, and easily organize their user interface by dragging and dropping the various page elements.

Reporting should be able to cover all the common areas and come with a range of ‘out of the box’ reports that are easily customizable. There should also be access to reports outside the system for casual users or managers that do not require use of the full system.

System evaluators often forget to make sure a system has the ability to add 3rd party reporting. This can range from using Crystal Reports or MS Excel to extend reporting capabilities with the ability to export data for reporting, forecasting and data mining.

Alerts should be possible on all types of tasks and cover several mediums such as email, on-screen, dashboards, SMS, etc. You should have the option to color code tasks to quickly see what is urgent. This helps to escalate relevant alerts and to manage visibility.

Common pitfalls:

- Some companies do not dig into specific reports to understand if they meet specific criteria that they want to measure over time. Make specific reports a part of your vendor evaluation criteria.
- Most companies have omissions and errors in their data – this renders most reports skewed at best or worthless at worst. Companies need to ensure the cleanliness of data is examined before rolling out reports.

8. Maintenance and Administration

At a minimum, you should be able to maintain and administer the system without any vendor interaction. A core requirement is that changes to user interfaces, views, options and workflows can be done without programming, consultant help, or downtime. Another key consideration is how the upgrade process is executed. It should not impact any customizations or user specific functions. Questions to ask are: “How flexible is the system? How easy is it to customize the GUI? Add or change screen data? And change workflows and business processes?” Also ask, “How can the system be extended to integrate with processes like Customer Support or Version Control?”

Not only will you have to maintain the system as is but you will also need to consider the ever-changing world of business requirements. Be sure the system will adapt to new business needs and development methods.

Common pitfalls:

- Some companies do not inquire about additional customization and the associated downtime after the initial implementation. High fees for implementation consultants often surprise these companies every time they want to adapt their system. If you understand the total cost of ownership in terms of modifying different parts of the process over the long run this can be avoided.



9. Licensing and Deployment Options

There are some real differences in how different systems are licensed. These differences need to be taken into account during the purchase and budget process. For example, if a perpetual license is offered then there are no annual costs and you own the license; versus a normal license which has an annual “leasing” cost attached to it. Another area that can be difficult to understand is the difference between named and concurrent licenses with staggered price differences. As a rule, named licenses should be used for permanent staff that works with the system on an ongoing basis and concurrent licenses should be allocated to casual or contractual users. A best practice is to allocate at least 5-10 users per license.

Nowadays there is a much larger market for hosted systems and software as a service (SaaS), which can result in great savings on the investment over the short term. However, it is important to understand that if you use it over a period of more than 3-4 years then the total cost of ownership is much higher than a traditional system. Furthermore, it is very important to ensure that if you decide on a SaaS system that you have access to export the data in case you want to move away from the selected platform. Most

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ALM vendors do support both traditional systems and hosted platforms. Traditionally you pay for hosted systems monthly with a minimum commitment of 6-12 months.

Common pitfalls:

- Companies often fail to balance the pros and cons of SaaS versus on-site systems. SaaS offers less upfront cost and significant flexibility in terms of considering alternative vendors, but long-term the price tag can add up. On-site systems are best when you are confident that the system will meet your organization's needs over the long run with a lower overall cost.
- Customization may be harder to achieve in a SaaS solution – your solution is often co-hosted with other companies and heavy customization can cause data bleeding and potentially lower system performance.
- You have no control over outages and are at the mercy of the SaaS vendor's web provider.



10. Short Listing and Selecting a System

Short list no more than five or six vendors that fit within budget and scope for your project. Then score these vendors against a checklist of needed features and requirements.

Be clear in advance with vendors so that demos are tailored to your requirements. The key to a great demo is giving the presenter your unique requirements and challenges in advance of the demo. This way your needs are addressed with greater insight into your requirements. After all, the vendor may have additional functions or features that would help you optimize your system that you may not have thought about.

Explore all areas of the systems you evaluate and take into account things like how scalable the system is. Will the system cost you more to add additional processes or features in the future? Make sure that the system is able to capture all of your business/development processes and procedures. Also be sure you can customize without help from the vendor, as that will inevitably lead to high costs.

Finding a solution that will fit all the requirements can be difficult but taking into consideration the preceding advice will help in making the best choice for your company.

Common pitfalls:

- Evaluating a large number of vendors involves significant time and therefore cost. Limit your search to a half a dozen and quickly eliminate vendors that do not meet key criteria.
- Not fully understanding your entire requirements list. (1-9). Often you learn through the process of vendor selection and have to begin at the beginning.
- ALM system selection and implementation can be daunting tasks. The above rules take the guesswork out of the process with industry best practices, point out common mistakes that you can easily avoid, and provide a solid foundation for success. Remember you do not have to implement all the bells and whistles immediately, just be sure the selected system has the capability to extend to the areas you have selected. Most organizations start with a simple framework and then expand as needed. Select the vendor that will address your current needs and grow with you.

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