

Should I Build my Software or Should I Buy my Software?



Executive Summary

As a business owner or the person overseeing technical purchases for a business, you have the job of finding software to streamline processes, improve customer service, and generally improve the bottom line. When your business needs are unique, the challenge is determining whether off-the-shelf (OTS) software or working with a custom software developer will provide the best return on your investment.

For general-purpose solutions such as office automation, options abound in all price-ranges (including free). But as you go further into niche industries and functionality, the price tends to rise in inverse proportion to the number of active users. This applies to "boxed" software as well as Software as a Service (SaaS) offerings.

The actual cost your software purchases is, of course, influenced by factors as varied as base pricing, customization, training, maintenance, data security, and your current I/T infrastructure. Total cost of ownership has to be balanced against current losses in personnel-hours, materials, opportunities, etc. to justify the purchase. Likewise, having control of mission-critical software is paramount: Your operations should drive the software, not the other way around.

The Three Questions

As daunting as it can be to spend hundreds or thousands of dollars on a handful of DVDs or to turn a band of geeky strangers loose on your servers, the entire process will be less stressful when you take charge of the decision from the get-go. This starts with three questions.

1.) What **unique problem am I trying to solve?**

This is the critical question. If the answer is that your problem is fairly common, you're (probably) in luck. Companies like Intuit and Microsoft have made billions of dollars making it relatively inexpensive to solve the problems many - if not most - businesses face day-to-day. But if, for instance, your problem is that you need to monitor production quality for your flat-glass factory, options won't be quite so thick on the ground. Expect to give your fingers a workout by Googling and/or rifling through your "Software Developer" contact-list.

2.) Who understands the business processes that will be affected?

Maybe that's several people as well as you. That's okay. The important thing is that a solution, either off-the-shelf or custom, can't be implemented until the problem is fully defined. All knowledgeable stakeholders should have input on the final decision and be involved in the rollout.

For unique and complex business problems, you may have only two options: Custom-written software or customization of an OTS solution. With the latter, it may take considerable negotiation and compromise to integrate pre-built software into your existing systems and processes. It is possible that some manual workarounds will be needed to offset limitations of off-the-shelf software in a cost-effective manner. Custom software developers will likewise require close collaboration with the principal stakeholders, which involves a cost in personnel time. The bottom line is that both types of solutions require a thorough understanding of current operations and workflows well before the purchase order is ever printed.

3.) How will we handle upgrades?

As your business (and the world around it) changes, software must keep pace. External factors such as security vulnerabilities or evolving industry standards force upgrades. With OTS software, you can be at the mercy of the vendor's release cycles, which may be convenient for no one but their own I/T infrastructure. With installed software, you have the option of scheduling updates; with Software as a Service (SaaS), not so much.

Upgrades to custom software, by contrast, are done entirely at your discretion and convenience. However, it's important to choose a software developer with a solid track record. After all, when you need upgrades, you want the original vendor available to meet your needs. Finding another developer to maintain your code can be as time-consuming - and expensive - as recruiting your original developer.

The Four Costs

By now, painful experience has taught you that the cost of software goes well beyond the numbers on the sticker. Thus, any realistic comparison of off-the-shelf vs. custom software must account for specific budget line-items as well as downstream, long-term costs.

1.) Pricing

Unsurprisingly, off-the-shelf software is typically less expensive up-front than custom software. Additionally, some vendors (particularly those with a large user-base) may offer a trial period for you to evaluate their offerings against your business's needs. Other vendors may amortize their pricing by charging a monthly/yearly licensing fee or a per-seat charge in addition to an initial/setup fee.

Custom software development almost always carries a higher up-front charge. The cost to develop, test, and implement a custom software solution depends upon the complexity of the problem it is solving. Also, if you discover additional requirements that involve additional development, expect to pay to have those changes implemented.

2.) Training

When the logic of OTS software does not mimic your business's logic - meaning its rules, processes, and special cases - re-training your personnel will be necessary before the new software system can be effectively rolled out. Implementing large software packages, especially Enterprise Resource Planning (ERP), is daunting, regardless of vendor. With custom software, however, the cost of re-gearing your processes (and people) is typically less onerous, because the system follows a structure and rationale that your staff already understands.

3.) Growth

All business-oriented software is intended to grow along with the businesses that use it. In the case of off-the-shelf software, growth potential takes the form of advanced options tucked away in menus or sub-menus. Think of Microsoft Word or Excel, for instance, both of which include features that 80 to 90 percent of its users will never touch. Alternatively, some OTS software pricing models distinguish between "Basic" and "Enterprise" levels, where additional capabilities are available in more expensive tiers.

However, if the OTS software does not offer a feature that you need, you are often out of luck, at least for the moment. The larger the user-base, the less likely it is that your feature request will be included in the next version of the product. With custom software, changes to the software can be limitless. Of course, these will carry their own development costs, but you are completely in charge of what features will be added.

4.) Support

With both off-the-shelf and custom software, this is a variable that depends upon the software, your personnel, and the supplier/developer. If you purchase OTS software, you may have support forums that allow you to tap into the experience of other users. Some larger vendors may offer live-chat and/or telephone support. However, for more industry-specific OTS software, your options depend entirely on the size of the firms and the size of the market they serve. With custom software, support may be a quick phone call away. Be aware, however, that if your questions arise after the installation and testing phases, the vendor may charge you for their expertise, depending on your contract's terms.

Conclusion

The first step in purchasing software is a clear definition of, and consensus about, your goals. You may find that once that step is complete, the answer is clear. Alternatively, other factors not covered here, though critical to your business, may likewise make the choice obvious. However, when there is no self-evident solution, a thorough understanding of the trade-offs and costs, as described above, should guide your decision toward the most cost-effective long-term solution.