Embedded Workflow: Build vs. Buy

WHY BUILD VS BUY: When faced with the need to embed workflow into an application, most software providers arrive at the crossroads of the "build versus buy" decision.

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Why **Build**

The first instinct for many business process software developers is to build the necessary reporting functionality with the help of code libraries or charting components. This works for many developers, especially for new business process software with simple requirements. And even as organizations mature, the primary reason for taking code-intensive approaches is to maintain complete control over the look and feel of the business process software.

What invariably happens over time is that users ask for more functionality, more flexibility in their analysis, and more methods to gain insight without your help. For some of these customers, the thirst for data will be satiated by exporting data to a spreadsheet or extracting data programmatically through an API. Unfortunately, these outlets satisfy only the customers who are interested in doing the extra legwork; they do not build value into the business process software for the benefit of all customers in a scalable way.

Why **Buy**

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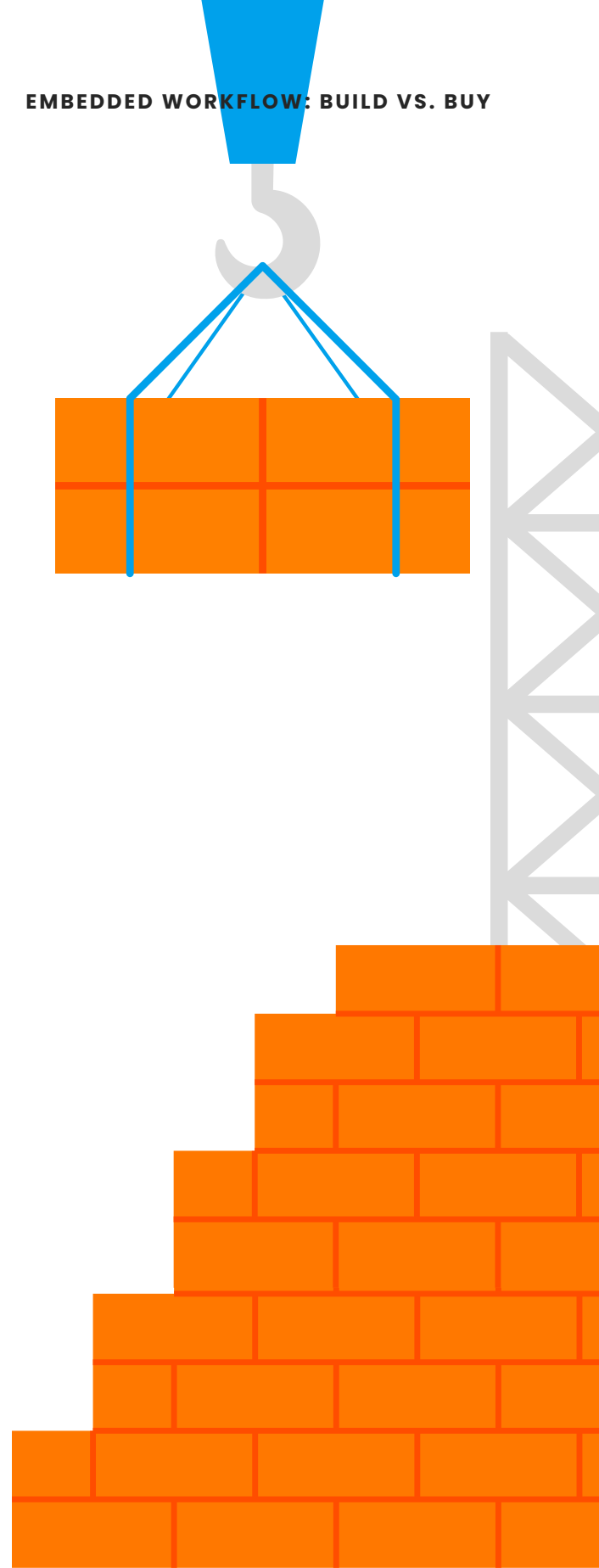
Business process software providers who stay on the "build" track are committing to staffing significant resources in developing, supporting, and keeping up with advances in data visualization and business intelligence over the long term. Many software organizations are under pressure from customers or competitors to improve workflow capabilities, and they do not have the time or resources to build on their own. In fact, in every survey we have conducted with software providers, the top reasons for embedding with a third-party product are:

Cost to build and maintain capabilities on their own – It can be expensive to initially develop, provide ongoing support, and continually enhance workflow capabilities.

Need to get to market faster – There is usually a small window of time available to satisfy customers, differentiate a product offering, and stand out in the marketplace.

Desire to have internal resources focused on core business process software functionality – Delivering functionality

with a third party makes the development team more efficient and frees up resources for your core product.

Those on the "buy" track should understand that there will always be an amount of integration required for embedding a third-party product, but the shorter time-to-market for delivering a wealth of capabilities justifies this investment.

Evaluating the build and buy options requires an understanding of the targeted functionality to be implemented, the level of integration required for third-party products, and a cost/benefit analysis.

Gauging the Feasibility of Build

The first step in tackling the "build versus buy" question is to understand your requirements. Determine your desired end-user functionality, prioritize your needs, and then evaluate the feasibility of building such capabilities.

1. Identify Core Functionality

It is vital to understand the gaps in functionality you're looking to fill so that you can build a capabilities map matching users to the needed functionality.

2. Choose an Integrated User Experience

In addition to implementing core workflow functionality, it is important to plan out how these capabilities will be embedded or integrated within the context of the overall business process workflow experience.

Workflow module – often, business process software providers create a report module or "tab" that appear in the framework of the business process software.

Inline workflow – to create a better user experience, workflow embedded within existing business process software pages help users in the way they work inside the business process software.

Intelligent routing – to create the best and most efficient user experience, workflow is increasingly integrated with the core functionality of business process software: when users interact with the business process software, they are either led to a specific part of the business process software, or initiate backend processes empowering users to act on the data within the same context of their analysis.

3. Work with human resources

Next, prioritize the desired functionality based on the business drivers.

Time – What features do you need now? What features can wait?

Revenue impact – What capabilities will enable you to package a separate offering and monetize your workflow functionality?

What functionality have your customers been asking for?

What functionality would make it easier to retain their business?

Competitive differentiation – What will make you stand out from the crowd and make it easier for you to attract new customers?

4. Determine Feasibility of Coding Yourself

Finally, determine the feasibility of delivering the functionality customers need within your time constraints. Most business process software providers can develop basic capabilities themselves, such as filtered reporting, static charts, and data exports. For higher value and highly interactive capabilities, companies typically employ third-party products to remain competitive while implementing capabilities in a timely and resource-efficient way.

Comparing the Benefits
of Build vs. Buy

In order to properly evaluate your implementation options, it is important to qualitatively, if not quantitatively, assess the benefits and costs of each option, as well as compare the ROI for each.

Defining the Time Frame

It is important to define a timeframe for such an analysis. This duration should give you enough time to understand the future benefits and costs before conditions change in a manner that may force you to consider your options again. For technology investments, a timeframe of 3-5 years is often used.

Benefits

Compared to coding on your own, utilizing a third-party product will get more capabilities in less time. The faster path to value usually drives the "buy" decision. If you are building quantitative ROI models, that difference in time will show up as achieving a breakeven point earlier in the project lifecycle.

	Build	Buy
Benefits Summary	To deliver a rich set of functionality, "Build" options will generally take more time, which translates to longer time to value – slower customer acquisition and adoption, less ability to retain customers, and lower selling prices for your product – compared to "Buy" options.	"Buy" options get you to market sooner, which translates to faster time to value –customer acquisition and adoption, increased customer satisfaction and retention, and higher average selling prices for your product – compared to "Build" options. Relying on a third-party provider with a range of functionality improves the clarity of your roadmap and your ability to meet changing customer demand.
Time to Market	For rich functionality, code-intensive development takes longer for both the initial release and subsequent releases. This means it will take longer to realize the benefits of your workflow project and delay your potential return on investment.	By getting to market sooner, you will realize the benefits of your workflow project and greatly increase your chances of seeing a positive return on your investment.

	Build	Buy
Benefits Summary	By getting to market sooner, new embedded workflow functionality will accelerate: • User adoption • Customer satisfaction • New sales and customer acquisition • Product differentiation	
Operational Efficiency	Workflow capabilities provide operational benefits: Reduce data silos and bottlenecks	
Product Functionality and Visibility into Product Roadmap	Dependence on internal development resources to implement new functionality limits the predictability of delivering over the long term, especially if adding developers is required. With a broad range of functionality delivered from a third-party product, you have greater visibility into your product roadmap as well as greater agility in the product delivery process.	

Comparing the Costs
of Build vs. Buy

Investment Costs

Compared to coding on your own, utilizing a third-party product increases your cost in software licensing but reduces your cost of development, both initially and ongoing. Your analysis should also include the opportunity cost and project risk associated with your skilled development staff spending less time focusing on your core product.

	Build	Buy
Costs	Summary: "Build" options will generally require more developer resources, and will take longer to implement similar functionality, as compared to "Buy" options. Dependence on developers also raises the opportunity costs and risks to the long-term roadmap.	Summary: While "Buy" options will generally increase the investment in software, they require fewer developer resources and get you to market sooner, as compared to "Build" options. Relying on a third-party provider with a range of functionality decreases opportunity cost and risks to the roadmap.

	Build	Buy
Software Licensing	Code-intensive approaches often utilize charting libraries or visualization frameworks. Developers should ensure proper licensing for use in your commercial products.	For acquiring richer capabilities, monetary investment in the software will be higher if you're using a third-party business process management (BPM) and workflow solution. Ensure an OEM agreement is in place for your commercial products.
Services – Training, Professional Services, Support	Relying on your internal development team means you'll have fewer external vendor costs.	Software vendors offer a range of self-service and full-service options tailored to meet your time-to-market and staffing needs.
Internal Resources (Development, Maintenance, and Enhancement)	Relying on your internal development team means you'll have fewer external vendor costs.	Software vendors offer a range of self-service and full-service options tailored to meet your time-to-market and staffing needs.

	Build	Buy
Opportunity Cost	With your developer resources focused on workflow functionality, they won't be dedicated to developing your core product or intellectual property. As a result, the roadmap of your core product will be impacted.	With a monetary investment in software, it is important to balance that investment with lower development costs and faster time-to-market.
Risks	You are completely dependent on internal developer resources for current functionality and your future roadmap. Though this is standard operating procedure for smaller organizations, it's not ideal as you grow.	Eliminating some development risk by leveraging a third party with out-of-the-box functionality is advantageous, particularly if you employ a partner with a proven track record.

Comparing the ROI of Build vs. Buy

Now we bring it all together to compare the ROI on embedded workflow.

By building a cost-benefit analysis over time, you can calculate the ROI for each buy or build option. Here is the ROI formula we outlined in Part 2.

$$\text{ROI}\,[\%] = \frac{\text{Benefits}}{\text{Costs}} - 1, \text{ over a specified timeframe}$$

Timeframe: Quantitative analysis is performed over a specified timeframe for a technology investment, typically over three to five years.

Benefits: This is a combination of the strategic benefits (e.g., revenue increase) and operational benefits (e.g., cost reduction).

Costs: This is your investment to develop and maintain the solution.

"-1": The formula assures that a positive ROI is achieved only when benefits exceed the costs.

To some, "build" may seem like the obvious choice for embedding workflow functionality in their business process software. However, even if it looks like the less costly option from an investment standpoint, it may not be the most worthwhile option. Let's look at an example.

Suppose the desired functionality requires one full-time developer to go to market in 12 months (equivalent to $150,000). And, it takes one third of their time to support and

enhance the capabilities in subsequent years ($50,000 annually). We expect positive ROI after three years, so let's assume $150,000 in benefits each after the initial year-long investment. Based on these assumptions, we get an ROI of 20 percent over three years, breaking even after 2.5 years.

Now let's say the equivalent "buy" option cuts the development effort in half ($75,000 first year and $25,000 subsequently). To get there, suppose the software costs $50,000 each year, support costs $4,000 each year, and training costs another $4,000 in the first year. On the upside, you get to market six months sooner, thus reaping $75,000 in benefits during the first year.

This reduction in development time is vital to the analysis. Even though costs are higher compared to the first scenario, benefits are also higher. We get an ROI of 29 percent over three years, and we break even in less than two years.

This is probably an oversimplified example, but the point is to assess both the benefits and costs when building a business case based on a comparison of ROI.
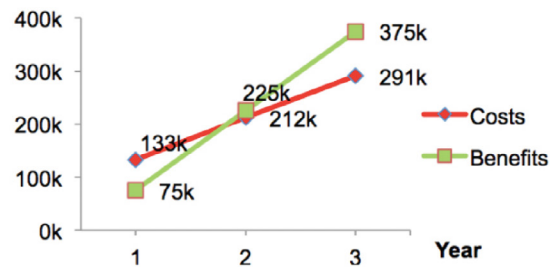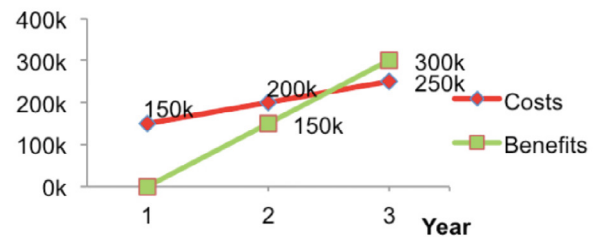
About ProcessMaker

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