

Cloud-based Time and Expense Tracking Software: Buy versus Build

The Challenge

Tracking time and expenses, whether for payroll, billing, project management, or some other purpose, is a business process all companies engage in. Most begin by using a paper-based system or simple spreadsheet application, but as they grow these systems become more cumbersome, time-consuming, and error prone. The solution is to automate.

There are two basic automation options: design and build a system in-house, or buy a commercially available application. Costs for both solutions can be considerable, and the impact each solution has on the business can be both significant and different. It makes sense, therefore, for organizations to compare the costs, benefits, and business implications of both options before making a decision. This white paper looks at the case for building time and expense tracking software in-house versus the case for buying the software from a commercial vendor.

The Case for Building

Companies opting to design and build a system in-house rather than buy, argue that its business environment is unique, that it is the only one that truly understands its business goals and needs, and that commercially available timesheet applications fail to meet the particular business needs of the company. Five years ago this was true. Few commercial applications existed, and those that did could do little more than accommodate basic time and expense tracking processes.

Organizations really did have little choice but to build. Since then, however, commercial timesheet applications have matured. And while it is still true that only the organization itself knows its business environment best, most timesheet applications are flexible and can be customized easily to meet those business processes and needs that are truly unique. Most too, can be integrated into the common backend payroll, accounting, billing, and project management systems. It is therefore prudent to investigate the various automated timesheet applications available to see if they can meet the organization's particular needs.

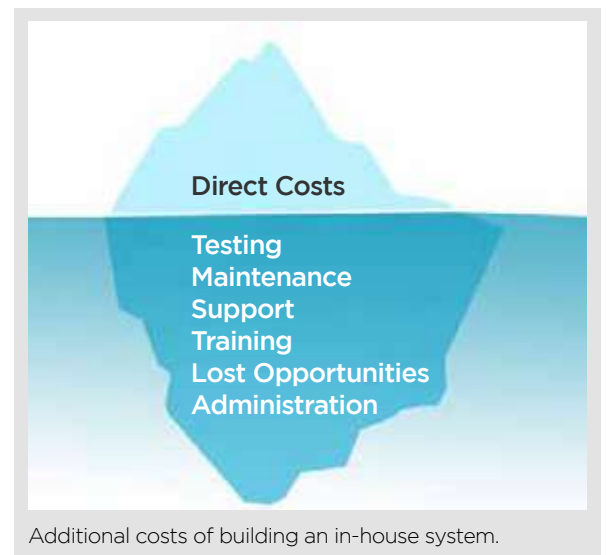
Cost Considerations – Understanding The True Costs

A second issue is cost. Purchasing a timesheet software application requires an initial up-front investment that can make the buying proposition seem expensive, and the decision to build therefore simple. But, while the initial cost of buying a product may appear high, it is surprising how expensive developing a system in-house can be. Estimating the cost of building a Web timesheet application is not easy. The first-order costs of building the product are of ten two to three times what we expect them to be when the project starts. Technology does not come cheap. To be successful, companies contemplating building should ensure they have the financial resources to see the project through to completion - remembering that software

development projects are notorious for running over time and over budget.

In order to make an informed decision, companies must consider the true costs of building an in-house system. Factors to consider include:

- ▶ Skill availability, engineering training needs and the development team's learning curve.
- ▶ Determining requirements and scope
- ▶ Architecting the product
- ▶ Direct development costs (e.g. wages, benefits, overhead)
- ▶ Hardware acquisition and software licensing costs
- ▶ Testing
- ▶ Implementation
- ▶ Architecting the product
- ▶ Product enhancements and improvements
- ▶ Keeping up with technological advances
- ▶ The probability of success
- ▶ The length of time the project will take
- ▶ Lost opportunity costs



Most companies facing a buy-versus-build decision, although they may have the internal technical expertise, have never built a time and expense sheet application. Before development can begin, this expertise must be acquired either by hiring experienced people, or by training existing development engineers.

Determining the requirements and scope, and architecting the application will take a considerable proportion of development time. The actual development may take several people several months and wages, benefits, taxes,

office space etc. will usually constitute the bulk of the development costs. But actual development is only part of the story.

Resources must be available not only for product development, they must also be available for on-going maintenance and support once the product is in production. A product built in-house has to be supported in-house. Every bug must be fixed in-house; every new feature users want must be developed in-house; every upgrade to the system necessitated by a new browser release, or change in a backend system, must be developed in-house. With the Internet and information technology evolving at breakneck speed, an in-house solution can quickly become obsolete. To support and maintain these systems properly, the person responsible must keep up to date on new technology and standards. And with the rapid turnover in the IT industry, organizations should also consider the consequences if the person(s) responsible for on-going maintenance and support leaves the company. Who will fix things then?

The cost of providing all this support can often exceed the initial cost of development by several orders of magnitude. Generally, it is far more expensive to build a system in house than it is to buy one.

Even so, if the in-house system confers a competitive advantage it may still be worth developing. This suggests that customization provides competitive advantage and that the organization's environment and requirements are so unique that no pre-packaged solution exists. If this is the case then it makes sense to build the system from scratch. These situations are rare.

High Risk

While it is possible to build a timesheet software application in-house, there is no guarantee of success. Without a lot of prior direct experience in timesheet systems, the architecture of the preliminary solution runs the risk of missing critical issues and requirements and underestimating the impact on the entire organization. Thousands of hours, and hundreds of thousands, perhaps millions, of dollars could be spent designing, developing, and testing the product with no guarantee that in the end it will work as intended.

While outsourcing third parties to develop a customized solution can transfer some of the risk, there is still no guarantee that the end product will perform as desired. Such customized solutions are far more expensive than an "off-the-shelf" product and the question of ongoing maintenance and support once the product is finished still remains.

The Case for Buying

Lower Risk

Buying rather than building considerably lowers risk. Reliable application vendors have usually spent years and millions of dollars to ensure that their products work. To maintain their competitive advantage they must continue to invest in improving them. Unless a huge investment in time and money is made, it becomes very hard for timesheet software developed in-house, or by an outsourced development firm, to match the level of functionality, reliability, and stability found in commercially available timesheet software. The risk of using an "off-the-shelf" product from a reliable vendor is very low.

Enhanced Competitive Position

Automated timesheets are often thought of as little more than glorified punch clocks used to ensure employees are paid on time, expenses reimbursed correctly, and billable time recorded accurately. But automatic time and expense tracking can also provide valuable information about the efficiency of the organization. Commercial timesheet products are not only cheaper, and can be implemented far faster than in-house systems; they are usually capable of generating far more reports with information about the efficiency of the organisation than in-house systems.

This information can be valuable in making strategic decisions. Timely delivery of time and expense data to decision-makers can enhance a corporation's competitive position. For example, Company A buys a commercially available product, has it in production within a week, and is provided with information about the efficiency of its organization allowing it to take immediate action. Company B, a competitor of Company A, decides to build in house. The product takes six months to build and implement. How much is it worth to a company to buy a commercially available timesheet and acquire knowledge about the efficiency of its internal processes several months before its competitors acquire the same sort of knowledge about themselves because they decided to build?

Responsibility for Maintenance and Support Shifted to Vendor

Application vendors are dedicated to ensuring that their products continue to work properly putting them through extensive testing. As the IT industry changes, they must also continually upgrade and improve their products in

order to stay competitive. It is therefore usually more cost-effective for an organization to allow the application vendor to maintain these costs and resources and to let them assume the technology risks and responsibilities instead of assuming them internally.

No Lost Opportunity Costs

If an engineer is moved from another project to work on developing the timesheet application, there are opportunity costs associated with the removal of that resource from the original project. Organizations must ask themselves how long they can afford to have their development engineers working on a project that does not directly contribute to their core competency.

Assigning resources to a non-core project will delay making improvements in the company's existing products or services as well as time-to-market of the new products or services. And faster time-to-market or higher quality products are the primary criteria of competitive success. 'Off-the-shelf' solutions, on the other hand, can be up and running in days with minimal lost opportunity cost.

Since applications built in-house take longer and cost more, greater financial resources are tied up for longer. Organizations must ask themselves whether they can afford to tie their cash resources in such projects or whether they are better spent elsewhere.

Organizations Can Focus on Core Competency

In a rapidly changing technological environment, companies need to focus on their core competencies to remain competitive. Time and expense tracking is a necessary business process, rarely a core competency. Developing and maintaining an in-house product defocuses research and development, and damages competitiveness.

"As a business manager, you need to take a hard look at your core competencies. Revisit the areas of your company that aren't directly involved in those competencies, and consider whether Web technologies can enable you to spin off those tasks. Let another company take over the management responsibilities for that work, and use modern communication technology to work closely with the people - now partners instead of employees are doing the work."
Bill Gates

Buying - The Only Clear Choice

Whether to build or buy ultimately comes down to deciding what is best for the business. For most corporations, tracking time and expenses, although vital to its efficiency and productivity, is not unique or strategic. Building rather than buying a custom time-and-expense timesheet confers no strategic advantage, but comes with considerable risks

that can negatively impact productivity and competitiveness. Generally, timesheet applications built in-house are more expensive, take far longer to implement, are often harder to use, lack the full functionality of commercially available applications, and come with no guarantee of success. Commercial applications, however, do require minimal investment in training, can usually be implemented in a matter of days, have a lower total cost of ownership, and minimal risk. By implementing a commercially available application that provides best-of-breed functionality and usability, an organization capitalizes on the rich resources and experience of the system vendor.

Ultimately, it is better to focus company efforts and resources on core competencies and select a packaged time and expense sheet solution that meets current needs and that provides real value-added information for improving decision making, than it is to expend time, effort, and resources on building an application in-house.

The Cost of Doing Nothing

Organizations can, of course, also decide to do delay a decision, or decide to do nothing. This course of action has a cost. The buy-versus-build decision is usually prompted by the need to automate time and expense tracking processes. And this need arises because the current system is inefficient or inadequate. Postponing a decision means that these inefficiencies and inadequacies continue. What does it cost to maintain and administer the current system? How much time and money does it cost to fix data re-entry errors? How much revenue is lost because projects cannot be 'costed' accurately? How much billable time is lost because the time spent on client projects is not recorded accurately? How is cash flow being impacted because the billing process is slow? How much is the relationship with customers being affected because of slow, vague, or inaccurate billing? Are the inefficiencies in internal processes affecting the organisation's competitive edge? These are some of the questions organizations should ask themselves. In short it is more cost-effective to buy now than to buy later.

What to Look for in a Time Tracking Solution

While buying a pre-designed product is usually better than designing it in-house, buying is still a complex issue that needs careful consideration. It therefore makes sense to investigate pre-packaged alternatives. The first step is to have a clear understanding of requirements. The following is a list of the basic ones.

1. A timesheet software application must integrate with back-end billing, payroll, and project management software. Without such integration data must be moved manually from the time and expense tracking system to the payroll, billing, or project management system, thus defeating the purpose of automating.

2. It must be available to all employees, at all times, from anywhere. As companies establish international or regional offices, or their field personnel operate in different time zones, access to time and expense data, and the ability to update it, must be available from any location 24x7.
3. It should be cloud-based. Cloud-based applications not only permit 24x7 access, but since all computers now come with pre-installed Web browsers, which most people are already familiar with, training costs are kept to a minimum. A client-server application is also possible, but loading a thin client on all employees computers or upgrading it with new version releases can be extremely expensive, and access slow and fraught with problems.
4. It must be flexible enough or customizable to accommodate current business processes. For example, timesheets generally have some approval process. The application should be either flexible enough to match the existing approval process or be easily customized. It should also support the type of data and the method of data collection envisioned. Can it, for example, assign earning codes for different users, projects, tasks, departments, etc.
5. The vendor should provide reliable and accessible support.
6. The vendor should have a track record of improving the product and keeping up with changes in browsers and backend applications.
7. It should have multi-currency support. In a company operating globally, expense receipts are often received in various currencies, but reimbursed in one, so the ability to automatically convert currencies is required.
8. It must be easy to use. Training can add considerable costs to the price of implementation. The more intuitive and easy it is to use the lower implementation costs will be, and the more likely users will actually use it.
9. The user interface must be user-friendly and intuitive. There is a natural reluctance to fill in timesheets. The easier this is made for users, and the less time it takes, the greater the chances it will get done.
10. It should be scalable. It makes little sense to implement a system that cannot grow as the company grows. The timesheet application should be seen as a long-term investment, not a short-term fix.
11. It must be easy to administer. Administrators and managers need to be able to create new tasks quickly and easily, while users must be empowered to take over many activities.
12. It must be secure. Not only must the data be protected by usernames and passwords, but the administrator should be capable of assigning access privileges so that tasks and projects can be added, removed or changed

only by authorized personnel, while users have read access only to their own timesheet history.

13. The timesheet must have a comprehensive set of reports so that managers and executives have real-time access to the information they need for making decisions.
14. It must interface with the company's email system so that email notifications can be sent automatically.
15. Additional features that give a competitive edge.

Replicon's Web TimeSheet Solution

Replicon's Web TimeSheet is a cost-competitive, fully Web-based application that allows an unlimited number of users to access their timesheets at any time from any place. With customers such as Hewlett Packard, AT&T, Lucent Technologies, Lilly, Compaq, Sony Music, Kraft, and DHL, and over 1.2 million users using it every day, Web TimeSheet is a field-proven solution.

Web TimeSheet can be implemented and in production with over 500 users in less than two days. It integrates with most backend accounting, billing and project management applications, as well as most email systems. Its extreme flexibility means most organizations can put it into production with no, or minimal, customization. A comprehensive suite of reports provides real-time information on the efficiency of the organization.

An easy-to-use, intuitive graphic user interface makes set-up, administration, and use, easy, and ensures that users actually complete their timesheets. With Web TimeSheet, customers also have unlimited phone and e-mail support from Replicon's Technical Assistance Center where our people and resources are committed 100% to keeping Web TimeSheet updated and running smoothly for you.

Compare Costs

Below is a simple calculation that allows you to quickly estimate the costs of buying Replicon's Web TimeSheet as opposed to building an application in house. The build example shown is based on conservative assumptions and does not include any of the indirect costs or maintenance costs discussed above.

Cost for Web TimeSheet Project & Billing

Number of seats required for 50 employees	50
Total \$USD Cost for 1 Year	\$7,800

Cost for Web TimeSheet Time & Attendance

Number of seats required for 50 employees	50
Total \$USD Cost for 1 Year	\$3,600

(Note: Each version is available separately or fully integrated into a single solution. Purchase price for both versions combined is discounted.)

Build Cost

Number of programmers	2
Average hourly wages	\$25
Number of 40-hour weeks to complete	9
Basic build cost in \$USD	\$18,000

About Replicon

Replicon, the Time Intelligence™ company, has over 20 years of industry leadership and is pioneering a new approach to time management. Time Intelligence elevates time as a strategic asset within an organization, to improve operational productivity, performance, and profitability.

Replicon's Time Intelligence Platform offers solutions for global time and gross pay compliance, enterprise time management for ERP, professional services automation, and an SDK for continued development - expanding the company's award-winning portfolio of cloud-based products, including complete solution sets for client billing, project costing, and time and attendance.

Replicon supports thousands of customers across 70 countries, with over 400 employees around the globe including the United States, Canada, India, Australia, and the United Kingdom.

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