

Calculating the Return on Investment of Timesheet Applications

What is Return on Investment (ROI)?

Business application software should contribute to an organization's bottom line. There is little point in purchasing a product that never repays the investment made in it, and which therefore continues to drain resources. Positive ROI occurs when an initial investment (expenditure) in a program results in a return (measurable in monetary gain) equal to or greater than the initial investment. Return on Investment provides a means to measure the profit obtained from an investment. Simply put, $ROI = \text{benefits} - \text{costs}$.

The time it takes to return the investment is also critical. The time it takes to achieve a positive return on an investment is known as the payback period. The payback period equals the costs divided by the benefits times 12. $((\text{costs} / \text{benefits}) \times 12)$. Except for the largest investments, more than a year is usually too long.

Evaluating Timesheet Software

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 companies grow these systems become more cumbersome, time-consuming, and error prone. The solution is to automate.

Purchasing timesheet software to automate these processes requires an initial investment as well as ongoing administration and maintenance costs. Costs for various applications vary, but so do the benefits. Lower cost applications may have fewer features and thus fewer benefits and may not be worth the investment. They should therefore be evaluated on the return they provide to the organization.

In order to evaluate the software it is necessary to make some assumptions about the costs of the current system as well as the proposed automated system. The resulting analysis will provide a rough estimate of the ROI. The more complete and accurate the assumptions, the more accurate the estimate will be. Although the time taken for many processes may be only a few minutes a week, when multiplied over an entire year by every employee the time and costs can be considerable.

Costs of a Manual System

Paper Costs

In a manual or spreadsheet-based system, timesheets are typically completed on paper, or on a word processor or spreadsheet and then printed out. The employee or consultant usually retains one copy and another is given to the supervisor or accounting department. By automating, the cost of paper can be eliminated. The cost of the paper is minimal, however, compared to the costs of handling it.

Paper-Handling Costs

A large expense of a paper-based system is transferring the paper timesheet from one person to another. For example, first, either the timesheet must be printed out and collected from the printer, or the pre-printed forms must be collected from another location. Once completed, they are usually walked over to the manager or supervisor for approval and then faxed or walked to the accounting department for processing. A conservative estimate of the time taken would be about five minutes a month per employee.

Completion Costs

In consulting companies or engineering companies where project costs are tracked, it is important that timesheets are completed on a daily basis. A conservative estimate is that this can take about a minute a day per employee.

Double Data Entry

With a paper-based or spreadsheet-based system the data usually has to be re-keyed into the billing, project management, or payroll systems. Sometimes it must be keyed into all three. Double data entry is a time-consuming task for one person, which can be virtually eliminated with an automated timesheet application integrated with the backend accounting, project management, or payroll systems.

Error Costs

Duplicate data entry leads to errors. A rough estimate is that 5% of entries are mistakes. Depending on the nature of the mistake it can take anywhere from a few minutes to several days to find and correct. Billing or payroll errors in the employee's or client's favor may never be detected, while those in the company's favor can damage relationships. An automated system will eliminate all errors due to double entry. Errors can occur for other reasons but for the purpose of calculating ROI these can be seen as identical for both systems.

Electronic Notification Costs

There are always those who fail to submit or approve their timesheets on time. This can delay both the billing and the payroll systems and requires action. The first step is to determine who has failed to fill in their timesheets, and then notify them to get them in. Often several reminders are required. If they or the manager is unavailable to complete or approve them, alternates must be found. All this takes time. With timesheet software that leverages the existing email system, automatic reminders can be sent. When this is combined with an alternate approval process as well as alternate authorization capabilities, the time spent chasing delinquents is eliminated.

Cost of an Automated TimeSheet Application

Purchase Price

The biggest cost associated with purchasing a timesheet application is often the initial purchase price. This will vary according to the number of seats purchased, the number of sites where it will be implemented, service fees charged, additional modules required, and the basic architecture. A client-server application will typically cost more than a web-based application as the client software must be loaded on all the users' computers whereas the web-based application will only need to be loaded on a server. Potential buyers should be aware of whether maintenance fees are included in the quoted price or are in addition to it, and whether it is simply a base price with required modules being extra.

Additional Software and Hardware Needs

Some timesheet applications may require purchase of an underlying database or other software. Others may require additional hardware, such as a new server or upgrades to existing computers. These costs must be taken into consideration. Larger installations should ensure that their current systems meet performance and user requirements.

Costs to Evaluate and Select a System

It takes time and money to evaluate and select a system and these costs should be included when working out the ROI.

Training Costs

Not only will the implementation team and administrator of the system require training on the software, so will all the consultants or employees who have to use it. The easier it is to use the less time, and consequently the less cost, it will require.

Administration and Ongoing Support Costs

Once installed and implemented there will be ongoing costs associated with adding and deleting users, or changing user profiles or other variables. Additionally, the administrator can be expected to answer users' questions and fix any problems with the software. A portion of ongoing hardware costs should also be allocated to the timesheet software.

Implementation Costs

Implementation costs can constitute a substantial proportion of the cost of purchasing an automated timesheet application. Things to consider include:

- ▶ Consulting fees (e.g. from the software vendor). Often the initial purchase price can be small compared to the costs of hiring a consultant to implement. The more complicated the software the more likely a consultant will be needed.
- ▶ Requirements analysis. Billing, payroll, and project management practices and policies will have to be analyzed before the system can be implemented.

- ▶ Customization costs.
- ▶ Configuration and testing
- ▶ Software installation and deployment. Depending on the software selected, the IT department may have to install and deploy it. Client-server applications typically take far longer to implement than web-based applications and are more likely to involve the IT department.

Benefits of Web TimeSheet

Automation Benefits

With Web TimeSheet, organizations benefit from the reduced time and costs that result from automating existing practices associated with completing, approving, and submitting timesheets, and by integration with existing backend applications. These benefits are minor, however, compared to the benefits that can accrue from improving utilization rates and compressing billing cycles.

Improved Utilization Rates

Utilization rate is the key metric of consulting productivity. It is the relationship between billable hours and working hours available. The higher the rate the more hours a consultant bills relative to his or her monthly target. Web Timesheet provides each consultant, as well as managers and executives, with a real-time visual indicator of their utilization rate. This knowledge is empowering and energizing. When consultants know their utilization rate they focus on achieving their target-on increasing the hours they have to bill. Making every consultant aware of his or her utilization rate and billable hours can dramatically improve an organization's productivity. Replicon has found that companies can increase billable hours per consultant by 10% or more just by having consultants fill in Web TimeSheet and empowering them with the knowledge of their own utilization rate. For more information see the white paper on Using Timesheets to Boost Utilization and Revenues.

Reducing the Billing Cycle

Profitability is, in large part, a function of cash velocity-the speed with which cash flows through the organization. The faster it flows, the faster it can be invested for profit-making activities such as funding future sales. Handling paper timesheets, collecting timesheets from delinquents, correcting errors, etc. can significantly add to the time it takes to collect the information and process invoices. Web TimeSheet can dramatically improve cash flow velocity by facilitating faster invoicing. Replicon's customers have found that Web TimeSheet can reduce billing cycles by up to 50-70%. For more information see the white paper on Using Timesheets to Compress Billing Cycles and Increase Cash Flow Velocity.

Payback Period

When the performance benefits achieved from improving utilization rates and reducing the billing cycle are taken into consideration, the payback period for Web TimeSheet

is about one month. In other words, after one month the cost of purchasing and implementing Web TimeSheet will have been repaid and it will begin contributing to the company's bottom line.

Quantifying the Benefits: ROI with Web TimeSheet

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Notes on Assumptions

Web TimeSheet installs on existing servers and typically incurs no additional hardware costs. The underlying database is included in the purchase price so no additional software is included. And since Web TimeSheet is web-based and all computers today come with a web browser pre-installed, no additional software or upgrades are required on users' computers. Consequently there no additional hardware or software costs associated with purchasing Web TimeSheet.

Web TimeSheet can be downloaded and evaluated for free for 14 days. Evaluation typically involves entering real information and using it in a 'live' situation. This information does not have to be re-entered after the product is purchased. Therefore, evaluation costs have been incorporated into the implementation costs.

Web TimeSheet's intuitive and easy-to-use user interface means users can start entering their timesheet information with only a few minutes familiarization. Administrators also require little or no training to understand and use the program.

Consulting and Customization are usually only needed for the largest of Web TimeSheet installations and so have not been included in the calculations. Download and installation on the company's Web server usually take less than 10 minutes. Costs are therefore not worth considering and so have also not been included in the calculations.

The Return on Investment from compressing the billing cycle is highly complex and a difficult figure to calculate as the improved cash flow can be used to invest in future sales, pay off debts, take advantage of deals, etc. The calculation used here assumes simply that the cash is invested at a particular rate of return for the additional days that it is available by using Web TimeSheet.

Web Timesheet ROI

Basic Assumptions

Total no. of employees tracking time	10
Estimated avg. hourly loaded labor cost (includes benefits)	\$50

Manual Timesheet Costs

Estimated Yearly Cost to Complete Timesheet Manually

Estimated avg. no. of minutes employee spends completing sheet per day	1
Total hours spent by all employees per year (year = 200 days)	33.3
Total yearly cost	\$1,667

Estimated Yearly Cost to Deliver Timesheet Manually

Avg. no. of minutes employees spend delivering timesheet to supervisor/accounting per month	5
Total hours spent per year	10
Total yearly cost of hand delivering timesheets	\$500

Total Cost of Paper

Estimated no. of sheets per employee per month	2
Total no. of sheets per year	240
Estimated Avg. cost per printed sheet	\$0.04
Total yearly paper costs	\$10

Cost of Errors

Estimated percentage of errors transcribing information to payroll/billing/ project management system/month	0.05
Total number of errors per month	0.5
Estimated number of minutes to find and correct errors	10
Hours spent per year to correct errors	1
Total cost to correct errors	\$50

Re-keying Costs

Minutes spent re-keying timesheet information per employee/per month	10
Total hours per year spent re-keying information	20
Total cost to re-key per year	\$1,000

Cost of Notifying Late Filers

Percent of employees who fail to submit timesheet on time	0.2
Avg. no. of minutes spent finding and then notifying each delinquent per month	5
Total no. of hours spent on notification	2
Total cost to notify delinquents per year	\$100

Total Estimated Yearly Cost of Manual System: \$3,326

Replicon Web Timesheet Automated Solution

Initial Purchase Price Including One Year's Maintenance

Total no. of seats (i.e. no of employees completing)	10
Total base cost of purchase	\$1,800

Implementation Costs

Avg. no. of minutes to add a user profile	3
Total hour to add profiles	0.5
Total cost to add profiles	\$25

Ongoing Administration Costs

Percent user changes/additions and queries per month	0.2
No. of changes per month	2
No. minutes to make changes or answer questions	3
Total yearly administration hours	1.2
Total yearly administration costs	\$60

Administration Training costs

Total hours administration training required	8
Total administration training cost	\$400

User Training Costs

No. of hours training required per user	0.5
Total yearly user training hours required	5
Total yearly user training costs	\$250

Estimated Yearly Cost to Complete Web TimeSheet

Estimated avg. no. of minutes employee spends completing sheet per day	0.25
Total hours spent per year by all employees (year = 200 days)	8.3
Total yearly cost to complete timesheet	\$417

Total cost of Replicon Web TimeSheet Solution: \$2,952

ROI over one year	\$1,095
Payback period in months	8.1

ROI with Performance Improvements

Utilization Increase

No. of consultants	10
Avg. target billable hours per consultant per month	100
Avg. utilization rate (percentage of target achieved)	0.75
Avg. total monthly hours billed per consultant	75
Average hourly billing rate	\$120
Avg. hourly consultant employment cost	\$100
Avg. Consultant margin	\$20
Monthly gross profit per consultant	\$1,500
Total yearly gross profit	\$180,000
Utilization rate percent increase with Web Time Sheet	0.10
New avg. utilization rate	0.825
Total increased billable hours per month per consultant	7.5
Increased monthly gross profit per consultant	\$150
Total yearly increase in gross profit	\$18,000

ROI due to Compressed Billing Cycle

Avg. billed revenue per month per consultant (at old utilization rate)	\$9,000
Total billed revenue per month	\$90,000
Avg. no. of days to prepare bill	20
Percent reduction in billing cycle with Web Time Sheet	0.50
No. of days per month saved	10
Total days saved per year	120
Estimated annual rate of return on investment	0.12
Monthly gross profit per consultant	\$1,500
Annual additional income from improved cash flow (i.e. \$90,000 invested at 12% for 120 days)	\$3,551

Total cost of Replicon Web TimeSheet Solution: \$2,952

Total ROI over one year	\$22,645
Payback period in months	1.2

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.

For more information, contact us:

Toll Free:

North America 1-877-662-2519

Global +800 6622 5192

info@replicon.com

www.replicon.com