

Time Tracking: Still Relevant in an Agile Environment

White Paper

Executive Summary

The widespread adoption of Agile development methodologies over the past decade indicates a new direction in project management. Agile's lightweight framework – designed for rapid delivery and evolving functionality – has curtailed preference for the traditional waterfall approach and opened up new possibilities for project-oriented businesses.

The widespread adoption of Agile development methodologies over the past decade indicates a new direction in project management. Agile's lightweight framework – designed for rapid delivery and evolving functionality – has curtailed preference for the traditional waterfall approach and opened up new possibilities for project-oriented businesses. Though these methods are not inherently new to project management, Agile repackages and reprioritizes practical processes to create a highly effective and streamlined approach to project management.

Rather than derailing projects, the extreme level of change and adaptability within the Agile development process actually keeps development on a highly-monitored path.

The Agile Manifesto embraces four overarching tenets:

- Individual and interaction over processes and tools.
- Working software over comprehensive documentation.
- Customer collaboration over contract negotiation.
- Responding to change over following a plan.

These principles eschew the notion of a firm scope and a set final deliverable, encouraging instead continuous collaboration between the customer and design team to construct a highly tailored and beneficial final product. Requiring continuous planning, testing, and integration, Agile methods provide a lightweight and adaptable framework for creating, refining, and delivering new software.

Despite the highly adaptive nature of Agile processes, the system is not meant to be chaotic. Rather than derailing projects, the extreme level of change and adaptability within the Agile short iteration, for instance, developers must wrap up complete, workable features leading toward an evolving end goal. Customer feedback then guides the team toward their next feature objectives and allows the development team to devise new schedules for remaining project work. Strict processes control these developments and keep the Agile project on track.

Agile teams are responsible for constantly assessing how much of a project they have already completed, where the project is headed, and how their to-date investment substantiates future work.

Time tracking guides this complex project analysis and enables teams and organizations to effectively complete projects with intelligent foresight. Though the methodologies may be newly packaged, time reporting remains as crucial to Agile development as it does every other form of project-based work.

Benefits of Agile Development

Evidence demonstrates that Agile development teams deliver software of higher quality and in less time than traditional development processes. Developers maintain a more sustainable pace throughout the duration of the project; incorporate continuous testing at each stage of the process; and take greater pride of ownership in their

deliverables. At Yahoo, these processes yielded productivity gains between 35% and 400% over traditional methods.¹

Agile management provides a focused and rapid delivery framework toward evolving customer requirements. The iterative development process enables customers to examine the product during each stage of completion, providing a forum for constructive criticism to guide project direction within a broad scope. As business needs evolve and stakeholders discover new requirements for the product, this process allows the project to alter in scope and accommodate the latest needs. Rather than delivering an unusable product months or years after a scope is established, Agile processes keep projects relevant and ensure a valuable end product for the consumer.

Agile's reliance on continuous test-first programming and delivering a working product at the end of each short iteration makes the development process extremely stable.

Agile's reliance on continuous test-first programming and delivering a working product at the end of each short iteration makes the development process extremely stable. Developers cannot progress without working code or a proven product, decreasing the overall risk of Agile projects and diminishing the chance of delivering unusable software at the final stage.

In addition to enabling consumers and reducing software risks, Agile methodology empowers developers by relying on them for the direction of the project, the status and time remaining after each iteration, and control over their own time investments. This tears down potential roadblocks between the development team and the finished product, yielding stronger customer relationships and a smoother overall development process.

By relying on a light project framework, Agile processes encourage developers to produce relevant products without the bureaucracy involved in traditional project management. This results in quicker project completion, more valuable results, and greater participation on behalf of the development team.

Time Tracking and Agile

Progress tracking help teams identify where they excel; isolate common problem areas in projects and iterations; and estimate future iteration length and expected delivery dates. For organizations that handle many simultaneous projects, standardized time tracking helps forecast resource availability and optimize portfolio management. The Agile environment, though it may not seem conducive to time tracking, actually benefits significantly from accurate time recording.

Estimating Project Length

Estimation for Agile projects cannot – and should not – be performed as if it were for a traditional project. Defined by fluid scopes, continuously evolving deliverables, and short and adaptable iterations, the Agile environment makes concrete deadlines implausible. Though each upcoming iteration may be estimable within a range of +/- 5%, examining several months ahead may only achieve a +/- 30% range for eventual completion dates and costs.

Developers, possessing an intimate understanding of ongoing project status and work required for completion, should play a leading role in the estimation process. Rather than solely relying on a project manager or PMO to weigh statistics and produce roughly calculated estimates, the developers themselves should be able to lay out evolving iteration schedules and predictions for time required to complete each stage of the process.

Estimation for Agile projects cannot – and should not – be performed as if it were for a traditional project.

¹Agile Manifesto, <http://agilemanifesto.org/>.

These projections can be made more accurate by utilizing past project completion rates, but they also require continuous refinement as the project matures. Estimation therefore needs to bridge the traditional analysis of past project performance with unforeseen project variables and likely scope changes.

By requiring team members to either 1) allocate time in their schedules for daily or weekly events or 2) record events after they transpire, developers cultivate a more factually-grounded perspective of time investments for each deliverable feature. Promoting a culture of time-tracking can help streamline this estimation process at every stage.

Managing Resources

For companies performing dozens of simultaneous projects, management needs live time and resource reporting to keep project performance in check. Though firsthand reports from individual project managers and developers may work for small organizations, these practices do not scale well and need a more sustainable solution.

Centralized time reporting practices help large organizations stay on top of developer availability, future assignments, and ongoing project performance. With continuously updated estimates provided by Agile teams, management has all the visibility necessary to minimize developer bench time and optimize resource utilization.

Determining Project ROI

Rarely do companies have a solid grasp of individual project costs, and this gap can cause organizations to tackle unprofitable ventures and squander money in ineffectual areas. Project performance knowledge allows management to determine the precise amount of money and resources invested into each project. With the right information, management can measure ongoing project value, cut failing projects before they become a drain, and schedule only those projects with the greatest chance of success.

To create an ongoing database of project knowledge, time needs to be recorded in per-task detail by those performing project work. Time divided between projects, spent on unrelated tasks, or performed as overtime need to be recorded as separate entities and used to determine precise resource allocation.

By aggregating this information, executives can more accurately determine the ROI and IRR of particular undertakings and tailor project selection to organizational goals. While the Agile environment may make project definitions less concrete than the traditional project approach, general features can be isolated as profitable ventures or money pits and be used to select the chances with the highest possibility for profit realization.

Compliance Issues

Though not the most glamorous explanation for tracking time in an Agile development, the fact remains that increasing compliance requirements mandate accurate time recording. The Sarbanes-Oxley act requires finance departments to track hours, and government audit agencies such as the DCAA require time breakdowns by task. To satisfy auditors and comply with new regulations, it's imperative for all organizations to foster a culture of time tracking.

Accurate Billing

Hourly billing has become an increasingly common practice in the Agile workforce. With fluid scopes and changing features, organizations can avoid the pitfalls of flat bidding by charging

While the Agile environment may make project definitions less concrete than the traditional project approach, general features can be isolated as profitable ventures or money pits and be used to select the chances with the highest possibility for profit realization.



the customer for the precise amount of time invested in each project. This allows customers to modify their demands as the project progresses and saves the developers from engaging in unprofitable ventures. If your organization does not practice hourly billing, it is still important to assign resource hours by department and separate overtime from regular pay.

The Time Tracking Divide

Time reporting provides significant value to organizations practicing Agile development, yet it often encounters heavy resistance from those on the front line. If developers are led to believe that time tracking information is not being used by management or is only collected to measure the individual's performance, then the resulting information will be worthless. Without proper incentive or rationale to produce real results, time tracking will produce few benefits and only garner resentment amongst the team. There are therefore two main trains of thought for tracking time in an Agile environment: the hours-based approach and the outcome-based approach. One requires diligence in recording events after they occur while the other is more of a fluid guideline for future completion.

With the outcome-based methodology, time is tracked based upon intended performance. The developer plans his time for the coming days or weeks based upon expected outcomes, and as these self-set deadlines are achieved or missed the developer can reassign time allocations based upon updated expectations for the future. This allows each Agile team member to manage his or her own time allocations, provide relatively accurate estimated completion dates for management, and record task breakdowns on a daily basis. Though the resulting information will not be flawless, this practice is often more readily embraced and yields a level of accuracy adequate for effective Agile forecasting.

The hours-based approach is the more traditional approach toward time tracking. In this scenario, each developer records the hours or minutes invested in each task after the work is completed. At the end of each period, the developer then submits the complex breakdown of his or her time on the level of individual tasks. This approach may be challenging to enforce and the results often end up being the result of delayed guesswork and faulty memory.

The Ongoing Relevancy of Time

Agile methodology is not an excuse for chaos; it is merely project execution packaged in a new box. Though this approach has adaptability built into its core and maintains a high level of inherent uncertainty, it does not suggest that the Agile team should be left unaccountable for their actions. It is precisely because of the fluidity and ever-involving nature of the team that time tracking is so vital.

As with all projects, the development team is responsible for producing a finished good and billing for the time invested in its development. Time still stands as the fundamental unit of measurement for that performance and should not be ignored as an inconvenience. Providing valuable information for project completion estimates, future resource availability, compliance issues, and billing, tracking time remains an integral part of Agile project management.

About Journyx, Inc.

Journyx is not your average software company. We strive to be relentlessly creative and to build tools that help you spend your time on things that matter. After all, time is all we have. Founded in 1996, Journyx offers customers two solutions to reach the highest levels of profitability: Journyx – project, time and expense tracking software – and Journyx PX – resource management software that provides work and financial forecasting for a complete picture of project and budget status, employee time and availability. Journyx has thousands of customers worldwide, including Crate&Barrel, Schlumberger, BP, Big Brothers Big Sisters, Callaway Golf, Honeywell and many others. For more information, visit www.Journyx.com.