



Case Study: Automating Resource Allocation and Utilization Tracking with Power BI Paginated Reports and Visuals

A mid-sized technology services and consulting company needed to improve how it managed and tracked resource allocation across its teams. Previously, the leadership team relied on complex Excel spreadsheets with macros and logic to monitor utilization. While this process worked, for an organization of its size, tracking such a critical function through manual spreadsheets was both limiting and unsustainable.

The organization recognized the need for a more modern, automated solution - one that would consolidate information from multiple data sources, provide real-time insights, and create a more meaningful foundation for leadership discussions about staffing, utilization, and project delivery.

CHALLENGE

Each week, the organization's leadership team met to review resource utilization at the company, department, and individual level – using an Excel spreadsheet. While the spreadsheet was carefully designed and served its purpose, it took a long time to pull together and massage the data in the way the leadership team required. In many ways, Excel was no longer in lockstep with the company's advanced technical capabilities - or the scale of its operations.

Running resource reports out of the company's time-entry system was inefficient for multiple reasons:

- **Manual upkeep and time** - Executives often had to spend half a day manually pulling reports and overlaying them with other datasets. Continuously updating and maintaining the spreadsheet took a lot of time.
- **Lack of granularity** - Leadership could see summary-level data but lacked the ability to drill into details like task-level entries or discrepancies across systems.
- **Lack of consistency** - Metrics such as billable hours, leave hours, and availability were tracked through multiple systems, but there was no consistency in terms of where the data was pulled from.
- **Reactive view** - Managers could only “view” this shared spreadsheet secondhand, which created friction and limited visibility as it was in a read-only capacity. This left most of the team dependent on a small group of leaders for updates.

- **Inefficient decision-making** - The result was more time spent questioning data than acting on it. Leaders had limited visibility into historical trends. Conversations often centered on tactical fixes rather than strategic decisions about workload distribution, hiring needs, or client delivery.

It was clear that the company needed an automated approach that could bring data from multiple systems into one unified view, enabling more proactive decision-making.

SOLUTION

The company's data team designed a platform that would automate data flows, consolidate multiple sources, and present insights in a single, interactive dashboard. Instead of manual updates, SQL Server scripts now transformed data into structured tables, which were then connected to Power BI through API integrations and dynamic URLs for real-time visualization.

Key aspects included:

- **Direct system integrations** with [PierVantage](#) (time entry system), [Bamboo](#) (leave management solution), [JIRA](#) (project management tool), and [Zendesk](#) (support tickets) using databases and APIs.
- **Enhanced data granularity**, capturing transaction-level entries so leaders could drill down from summary utilization percentages into detailed line items, complete with employee comments against each of those line items.
- **Cross-system validation**, aligning Bamboo leave records with PierVantage time entries to highlight discrepancies and establish Bamboo as the "golden record" for personal time off (PTO).
- **Dynamic reporting features**, such as clickable JIRA ticket links, searchable Zendesk data views, and historical PTO usage trends. For dedicated integration for Zendesk in particular saved client-facing teams' hours each week, by pulling ticket data into a structured, searchable format with greater accuracy.
- **Automated refresh**, where SQL Server Management Studio (SSMS) ran ETL scripts to update transformed datasets, allowing Power BI to instantly refresh dashboards with the latest information.

Ultimately, with a single refresh, leadership gained access to up-to-date utilization reports, cross-system validation, and dynamic drilldowns, all within an environment that was scalable to future visualization tools.

RESULTS

The transition from spreadsheets to an integrated, automated system changed the nature of resource management at the organization. The biggest benefit was that meetings became

more strategic, with conversations shifting to workload distribution, early signs of burnout, and future hiring needs.

Additional benefits included:

- **Significant time savings** – Pulling utilization reports and manually reconciling them dropped from half a day each week to about an hour, a 90% reduction.
- **Improved visibility** – Leaders gain real-time insight into utilization, billable vs. non-billable hours, leave balances, and support workloads – ultimately tied back to company profitability.
- **Empowered managers** – The effectiveness of the weekly meeting has now moved to the hands of the managers – essentially from centralized oversight to distributed ownership.
- **Proactive planning** – The platform surfaces/flags early indicators of underutilization, burnout, or overlapping PTO, allowing adjustments to be made before issues escalate.
- **More meaningful conversations** – Resource meetings now focus on meaningful conversations about team capacity, hiring needs, and project prioritization rather than manual data entry/review.
- **Advanced analytics** - Executive leadership and managers moved from basic reporting to true investigation and analysis, using KPIs to measure work continuously and uncover insights that previously went unnoticed.
- **Scalable architecture** – By building on SQL and Power BI, the company created a flexible foundation that could later be extended to other visualization platforms (if needed).

Ultimately, the new approach provided a single source of truth for resource allocation, empowered leadership with actionable insights, and created a foundation for smarter decision-making across the organization.

ABOUT DECISIVEDGE

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