Leveraging AI for Cost-Effective Portfolio Management in Higher Education[1, 2]

Sarah Sage, MFA, PMP

Introduction

Project managers often feel they are unable to implement systems due to the prohibitive costs of specialized software. However, AI technology presents an opportunity for project managers to function as system designers, building tools that take the place of expensive software solutions. Clients can sometimes have a tendency to over-conceptualize processes, so it is the responsibility of the system designer to navigate the constraints associated with affordable enterprise-level applications. To apply AI appropriately within their work, the designer must also possess sufficient AI expertise and comprehensive understanding of both the capabilities and limitations of the technology.*

In this paper I discuss my experimentation with automating repetitive tasks, enhancing team autonomy, and improving client satisfaction using AI-developed tools. Unable to access expensive portfolio management software, I developed a framework using *Microsoft 365* applications without premium licenses. Examining three case studies I illustrate what can be accomplished with a lone project manager, a modest budget, and leadership support. The first case study details how the provost's office staff, a team of five with one executive sponsor, effectively uses MS Planner to manage tasks, schedules, projects, and events collaboratively. Case study II focuses on the University Decision Support (UDS) and Institutional Research (IR) teams, which consists of ten analysts and statisticians managing sixty projects and executing more than 125 product updates annually. This case presents the most complex application of this approach and also demonstrates how this process can be scaled. Case study III describes a project where the Office of Information Technology (OIT) and UDS teams worked together, combining their skills to improve project delivery.

[1] Editor's note: Second Editions are previously published papers that have continued relevance in today's project management world, or which were originally published in conference proceedings or in a language other than English. Original publication acknowledged; authors retain copyright. This paper was originally presented at the 17th Project Management Symposium at the University of Texas at Dallas in May 2025. It is republished here with permission of the author and conference organizers.

[2] How to cite this paper: Sage, S. (2025). Leveraging AI for Cost-Effective Portfolio Management in Higher Education; Originally presented at the 17th Project Management Symposium at the University of Texas at Dallas in May, republished in the *PM World Journal*, Vol. XIV, Issue VIII, August.

It is also important to note that solutions of this kind will typically be unique to the user and the institution. This article presents examples of work management improvements at SMU, but rather than serving as a general "how-to guide," the intention here is to sow seeds of experimentation and utilization. It is my hope others will borrow, modify, and share their results moving forward.

Defining Cost-Effective Solutions

For the purposes of this discussion the term “cost-effective solutions” uses the following criteria: software available within the University catalog and enterprise-level licensing requiring no new investment from my unit. I also sought to avoid purchasing new software that duplicated the functionality of existing applications in our catalog. I also preferenced existing applications that would effectively integrate with other products. Finally, I tried to avoid complicated customization or solutions that depended on the expertise of a single individual because “lynch-pin” dependencies are an inherent weakness for in-house tools.

Early on in this process, it became clear that I couldn’t find a single low-cost solution with all of the features I needed for portfolio management. I would need to find a suite of integrated tools to facilitate what I needed to do: an adaptable toolset that could meet the diverse needs of our constituents, and empower team members to manage recurring work, projects, and smaller ad-hoc requests within the same portfolio. With enough flexibility, I hoped I could create different kinds of systems for multiple areas in the same platform, creating the opportunity to aggregate multiple portfolios for our unit. As I worked to develop this approach, the introduction of a reporting system for value management in the Office of the Provost seemed possible for the first time.

Faced with a growing demand for work management in our unit, I needed to consider sustainable designs that minimized the number of automations needed for functionality. An additional concern was with sustaining these automations. At SMU, unit-level automations are not centrally supported by IT, making their sustainability dependent on the developer. Service accounts were needed to set up sustainable automations and prevent failures. Without a developer or system administrator on my team, I leveraged AI to help me create critical workflows by designing solutions and writing code[4]. Recent AI advances in the past year made solutions in the following case studies possible.

Work Management at SMU, post-VoIP Implementation

A positive user experience is crucial for successful portfolio management. Team members and leadership were amenable to adjusting operational processes to integrate new, cost-

effective tools; however, user preferences influenced their rate of adoption. Fortunately, work management preferences at SMU have shifted significantly over the past five years.

MS Teams phone deployments at SMU played a critical role in the adoption of new work management solutions within *MS 365* applications. SMU employees experienced a high level of change within the information technology domain, as did their preferences for work management tools.

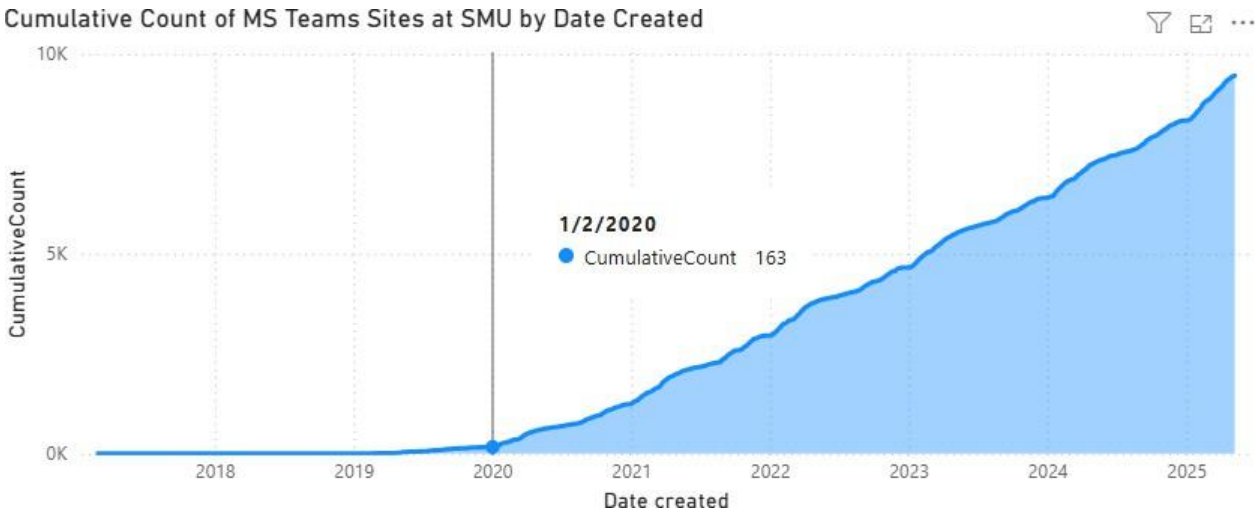

Figure 1: A cumulative count of MS Teams sites created by date. Data from Brian Hart, Office of Information Technology at SMU

As this chart shows, prior to implementation, email was the most successful channel for communications. After migration from 20 years of Private Branch Exchange (PBX) technology to Voice over Internet Protocol (VoIP) phones, SMU employees had to log into *MS Teams* every day to access voice services. The pandemic also drove users to adopt this platform for virtual meetings, while increasing accessibility to collaborative tools.

After voice services integration with *MS Teams*, SMU acquired enterprise-wide licensing to the *MS 365* suite of applications that were previously inaccessible to users. With access to *Power BI* to visualize data and *MS Teams* to publish information for specific audiences, I now had a suite of integrated tools to build a work management system at no additional cost to our unit.

Several AI-integrated applications are now listed in the University catalog for work management and reporting, including *MS Planner*, *GitHub*, *Jira*, *Asana*, *Power BI*, and

Tableau. The AI features in these products vary significantly depending on the application. The cost of additional licenses can be high for many departments, driving users to *MS 365* products due to their campus-wide availability for faculty, staff, and students.

Journey to an AI Integrated Solution

The release of Chat GPT in November 2022[5] was a significant milestone for higher education, influencing ways of working for both faculty and staff. I think one of the important responsibilities of project managers is to research evolving technologies, building them into our knowledge domain, and in an environment of limited resources, I also became interested in its full-time equivalent (FTE) capacity.

Many in our campus community demonstrated early interest in new AI tools, recognizing its potential to transform curricula, while other were initially disheartened by AI's hallucinations and output quality, and expressed concerns about their classroom and operational applications. Staying current with the rapid evolution of this technology is challenging, with new features often appearing with sudden frequency, and AI integrations varying in usefulness.

In April 2024, *MS Planner* work management became available, accompanied by a preview of *Copilot* integration. By participating in the *Copilot* research study in September 2024, I was able to assess prospective AI integrations in *MS 365* applications first-hand. I found the experience so promising, I subsequently implemented *MS Planner* for the UDS and IR teams. With an AI-integrated suite of tools for work management now available to us, it was necessary to explore ways to further leverage AI in system design and productivity.

Leveraging AI

When referring to these new tools, I introduced a new definition for AI to our teams – "Artificial Intern" – because I wanted them to consider it a resource that requires more guidance than a regular employee, and one whose work should be constantly checked for accuracy. In my work, I use AI for drafting communications, summarizing content, writing code, creating forms, and automating tasks. But the quality of this work is comparable to that of workers with beginner-level coding or communications skills who require specific and iterative instructions to produce good content.

A project manager should become knowledgeable in the potential and limitations of AI to apply it appropriately to the work. In the future, I expect we will be able to utilize AI for writing complex reports and developing new applications. However, quality control will remain a

major concern, and any output will require a thorough review process before utilization. My initial tests of *Copilot* integration with MS Planner found serious quality concerns for reporting. So as a project manager, I provide guidance to my teams on how to safely use AI within the tools I manage and conduct ongoing testing to monitor for improvements.

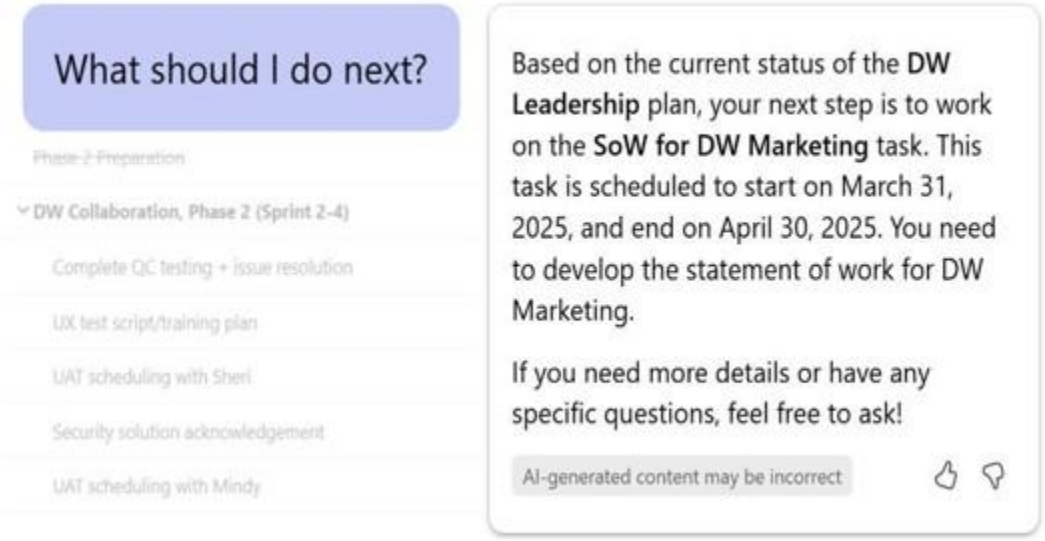

Figure 2: A preview of the integrated Copilot chatbot for MS Planner

I frequently converse with the *Copilot* chatbot to build automated emails with quarterly reports, meeting agendas, documentation, and summaries of risks and blockers.

For example, conversations often focus on questions about system design (e.g., "How should I connect this *MS Form* and *MS Planner* using *Power Automate*?") and coding tasks (e.g., "Please write an expression for *Power Automate* to filter X items in an array") and were essential in developing this solution.

Copilot provides critical support by crafting solutions tailored to various work management scenarios using *MS 365* tools. Work processes were restructured to align seamlessly with the constraints of the chosen software. AI assisted with designing solutions that created efficient workflows, avoiding unnecessary customizations or premium licenses.

Communications

Progress reports are essential for project management, but standard reports often fall short in aiding decision-making for teams and executives. Automated Key Performance Indicator

(KPI) reporting frees up project managers' time to focus on analysis and offer insights tailored for different stakeholders. Utilizing *MS 365* platforms such as *Power Automate* and *Power BI*, *MS Teams* channels can offer real-time project updates. These enhancements enable more interactive communication, require minimal user effort for accessibility, and provide targeted messaging through channels specifically designed for different stakeholder groups. By implementing these approaches, I have found that user experience has improved, and the volume of routine project communication emails has decreased.

Case Studies

The solutions described in this paper employed AI for system design and automation using *MS 365* non-premium applications with an A5 license for education. Here I review the circumstances of each case and review both the benefits and risks.

Case Study I

The Provost's office staff, consisting of five members and guided by a single executive sponsor, managing schedules, recurring tasks, projects, and events. Their primary tools include *MS Planner* basic for task coordination, agenda creation, scheduling, and collaborative document editing.

One standout feature of this system is agenda automation, which has streamlined meetings by enabling team members to prioritize discussions and highlight tasks that are blocked. This work management framework has not only supported ongoing responsibilities but also provided a robust platform for planning future initiatives.

The implementation of the system began with the creation of an initial dataset of event information in *Excel*, collaboratively reviewed and approved by the manager and team. Once finalized, the portfolio could quickly be established in *MS Planner* using a *Power Automate* template. Following this setup, the team was immediately able to collaborate effectively on task management.

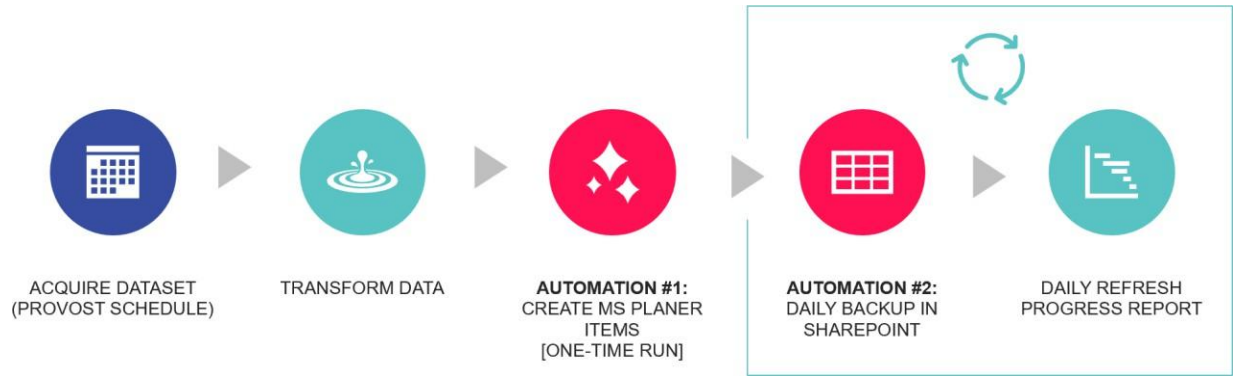

Figure 3: Provost Office Staff system automations

Despite its many advantages—such as clearer task delegation and improved meeting efficiency—the system also has certain challenges. For example, the system is designed for assignees to self-report on task progress or completion. I found that the team manager often had to make updates on behalf of others to ensure accurate reporting, underscoring the importance of thorough user training and quality control. Nevertheless, the integration of these tools has significantly enhanced the team's ability to manage recurring work and projects, offering a reliable and effective framework for ongoing collaboration.
Both the size of this team and the number of items in this plan are a natural fit for work management in *MS Planner*, but the next case study demonstrates the same application at a much larger scale of work and number of team members.

Case Study II

The University Decision Support (UDS) and Institutional Research (IR) teams consist of ten analysts and statisticians housed within the Office of the Provost. In addition to institutional reporting responsibilities, this team also takes on focused analytical and data modelling projects for Provost Office Leadership. In October 2024, I migrated these teams' portfolios to *MS Planner*. This change transformed their approach to managing requests, projects, and data analysis by introducing a unified system. The new framework brought together a diverse group of stakeholders, including executives, managers, analysts, statisticians, and external collaborators, all working together under a centralized platform.

I built this system to provide broad accessibility to stakeholders, catering to both internal staff and external contractors, and ensuring collaboration across departments. Reporting and communications were streamlined through *MS Teams* channels and posts, from which I facilitated meetings with key stakeholder groups such the Provost, the Vice Provost for Enrollment Management, the Associate Provost for Student Success, and the Dean of the

Moody Graduate School. This approach significantly enhanced organizational transparency and operational efficiency, enabling stakeholders to access a consolidated view of requests, projects, tickets, and recurring tasks, as well as supporting annual planning activities.

A key requirement of this system was to automate the work intake process. Utilizing *Power Automate* and *MS Forms*, I created a workflow so that requests were classified as either tickets or projects based on their complexity after form submission by the user. I recommended that our leadership mandate scope development for tasks designated as projects. This initiative required buy-in from leadership, executive sponsors, and team members.

I frequently facilitate scoping meetings to train analysts and statisticians, who subsequently become responsible for their own scope development, timelines, and progress reporting. Scope statements are attached in *MS Planner* for approval. This new process allows UDS and IR teams to handle complexities more effectively while right-sizing the level of planning for lower-risk tasks. Creating work definitions based on complexity streamlines our system design and allows teams to prioritize deeper planning activities or focus on *ad hoc* requests (tickets) based on the sponsor's urgency.

The system's automation capabilities extended to creating daily backups in SharePoint, ensuring robust data security. These backups served as a reliable data source for daily KPI reports generated in *Power BI*, which provided up-to-date insights crucial for informed decision-making.

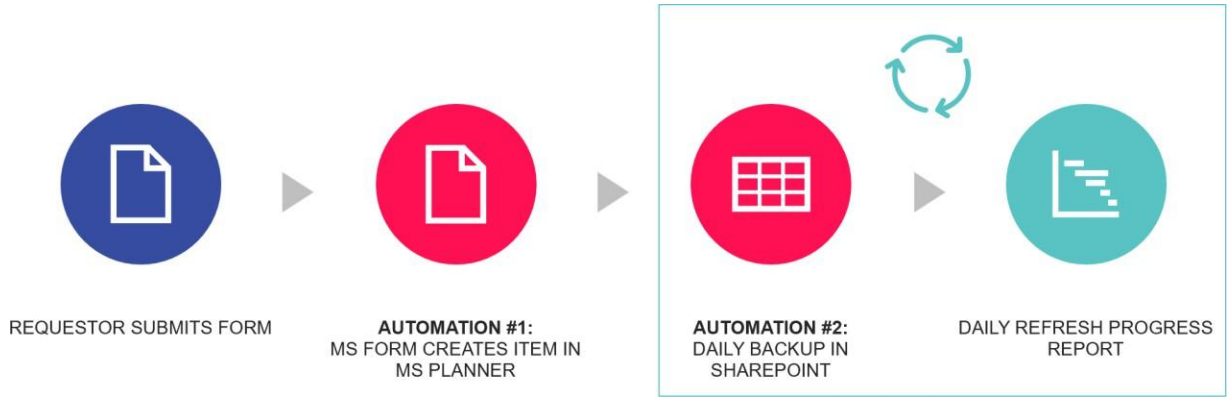

Figure 4: UDS and IR system automations

Management plays a pivotal role in encouraging system adoption, while UDS analysts and statisticians now often act as informal project managers. Over time, the teams have grown more independent, with the integration of agile and hybrid methodologies leading to the

delivery of higher-quality outcomes for clients. Self-service tools, such as enabling team members to update their work status independently rather than during meetings, have allowed me to focus on system improvements and portfolio-level report analysis. While these changes have significantly enhanced my efficiency as a project and portfolio manager, they also require additional effort from team members to keep the system current.

Despite its many advantages, the system poses challenges. Maintaining accurate work status requires consistent administrative effort from team members—a task that is still sometimes met with reluctance. To ensure the system's effectiveness, weekly team meetings are held to review productivity reports for executive leadership. While the high level of visibility occasionally caused anxiety among teams, it also underscored the system's value as an effective tool for accountability and performance tracking. Notably, the system's success relies on both technical and administrative contributions by the portfolio manager.

The scope of this plan significantly surpasses that of *Case Study I*, encompassing just over 1,500 *MS Planner* items. Implementing backups in *SharePoint* was imperative due to the potential for any team member to delete items from this plan. Automated processes were configured to conduct nightly audits, providing notifications upon detection of deletions. Additionally, automating backups of *MS Planner* data to *SharePoint* presented challenges due to the numerous actions required in *Power Automate*, stemming from the size of this plan.

This plan also has a notably slower performance than other plans consisting of fewer items (Case I). These issues have led me to consider creating separate plans for each key executive stakeholder to mitigate application performance and automation thresholds.

Smaller plans may also increase the usefulness of board, schedule, and chart views without the need for customized reports in *Power BI*.

Case Study III

The Data Warehouse Collaboration project united the expertise of the Office of Information Technology (OIT) and University Decision Support (UDS), bringing together managers, analysts, statisticians, and IT developers to tackle various aspects of project delivery. To navigate the dynamic nature of tasks and priorities, a hybrid project management approach combining Agile and KANBAN methodologies was adopted, ensuring flexibility and steady progress—even as team members were redirected to higher-priority initiatives.

As the project manager, my role focuses on fostering effective communication and alignment within the teams, addressing challenges such as limited resources, sometimes vague objectives, and difficulty estimating delivery timelines. An essential part of the project management effort was the development of Key Performance Indicators (KPIs) for project work. By engaging with team members and managers and asking, "How can I help show your progress?" we successfully defined work phases and labeling systems within the system to ensure accurate reporting.

Since OIT had already acquired *GitHub* for developer-led projects, they selected that platform for issue management and I designated Power BI for KPI reporting. These could be leveraged without incurring additional costs for our departments. However, *GitHub* lacked the robust reporting tools required for strategic decision-making by managers and executives. To overcome this limitation, *GitHub* was integrated with *Power BI* through *Power Automate*, which utilized the Graph API to generate a JSON file for data visualization.

This automation requires a premium license for *Power Automate* to perform the HTTP action, but the associated costs were deemed reasonable for this project. This automation updates the KPI dashboard four times daily, providing refreshed high-level aggregate reports for executive and managerial decision-making. Additionally, I developed a linear regression model to forecast end dates for each work phase, offering 18-, 21-, and 60-day projections. These models help managers identify areas where resources are needed to prevent bottlenecks in critical work phases.

Before committing to automation in *Power Automate* and *Power BI*, a prototype was developed in *Excel* to test labeling and report quality from *GitHub*. Although the first three-week sprint required manual reporting, this sprint allowed the team to refine KPI design collaboratively before automating the reports. The transition to automated reporting established a consistent, clear, and structured workflow, reinforcing the importance of reportability in project work.

While the system offered numerous benefits, its implementation also came with challenges. Developing suitable KPIs required extensive effort as processes were simultaneously developed and executed. It became clear that the UDS team needed substantial training to adapt to *GitHub*, as the tool was unfamiliar to many of them. However, their rapid adaptability, supported by transparent reporting for team members and executives, proved successful.

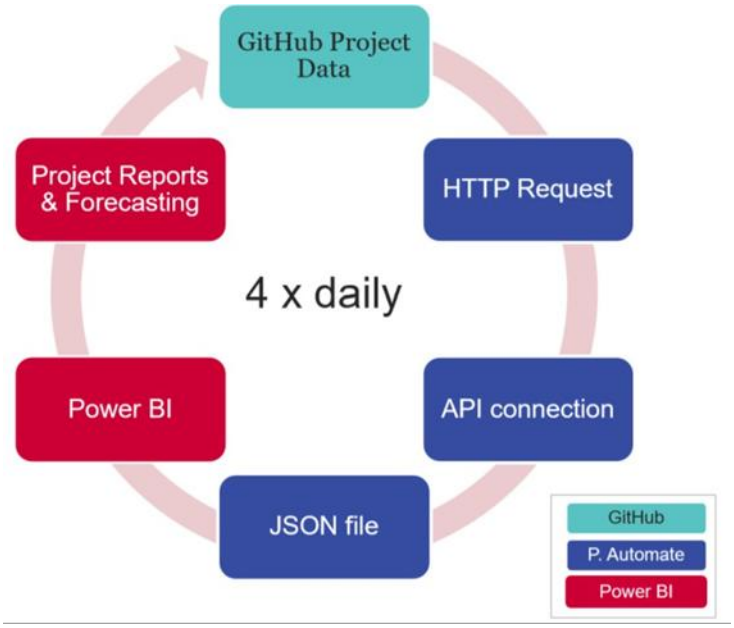

Figure 5: DW Collaboration project automations

Another issue arose with unlabeled items within *GitHub*, making them unreportable. This was addressed by emphasizing the importance of consistent labeling practices.

Additionally, the automation of KPI reporting was delayed until after the first sprint. Despite these hurdles, the system ultimately enhanced workflow consistency and provided actionable insights critical for project success.

Conclusion

These case studies highlight some of the benefits and challenges encountered then developing collaborative work management solutions. They also underline the importance of flexibility in the incorporation of project management methodologies and the critical role of automation and reporting systems in driving efficiency. From creating basic products tailored for small teams in Case Study I to streamlining work management for larger teams with multiple stakeholders in Case Study II, these experiences demonstrate how unique challenges can be met with targeted cost-effective solutions. Additionally, the integration of *GitHub* with *Power BI* in Case Study III demonstrates how creative repackaging and presentation of work status outputs can provide actionable insights and facilitate effective decision-making from managers and executives.

Throughout these projects, I conceptualized, designed, and implemented various systems,

demonstrating that a lone PM can deliver solutions beneficial to multiple teams. By remaining adaptable to team needs, emphasizing clear communication, and utilizing innovative tools, we can successfully enhanced workflow consistency and accountability. This structured yet dynamic approach to work delivery provides valuable insights for future initiatives and highlights the significant impact a dedicated individual can achieve within a non-profit institution.[6]

Notes

[1] "Software and Software-related Costs—Overview." PWC Viewpoint. PWC, April 15, 2025. https://viewpoint.pwc.com/dt/us/en/pwc/accounting_guides/software/software/chapter1/11_related_cost_overview.html#pwc-topic.dita_220bd8a7-44fd-48fd-b31b-105d4ef6dd0f

[2] "Shaping the Future of Project Management with AI." PMI. October 2023. https://www.pmi.org/learning/thought-leadership/ai-impact/shaping-the-future-of-project-management-with-ai

[3] Throughout this paper, Microsoft Copilot was used for editing and content creation. For more information, see Microsoft, "Copilot," Microsoft 365, accessed May 9, 2025 http://www.microsoft.com/en-us/microsoft-365/copilot]

Copilot, May 9, 2025, Microsoft, http://www.microsoft.com/en-us/microsoft-365/copilot

[4] Moshood, Raji. "How to Automate Repetitive Coding Tasks with AI." DEV. February 22, 2025. https://dev.to/raji_moshood_ee3a4c2638f6/how-to-automate-repetitive-coding-tasks-with-ai-jdl

[5] Dempere, J., Modugu, K., Hesham, A., and Ramasamy, L.K. "The Impact of ChatGPT on Higher Education." In *Frontiers in Education*, 2023. https://www.frontiersin.org/journals/education/articles/10.3389/feduc.2023.1206936/full

About the Author

Sarah Sage

Dallas, Texas, USA

Sarah Sage is the Director for Strategy and Operations at Southern Methodist University (SMU), supporting the Office of the Provost since 2021. With a background in design and user experience, Sarah is passionate about creating flexible portfolio management tools using enterprise-level Microsoft 365 applications. She ensures these tools are both affordable and sustainable through a collaborative design process.

Sarah empowers clients with Agile methodologies, significantly improving their operational processes. Sarah completed a BFA from SMU and an MFA from UT Austin before returning to Dallas and joining SMU in 2011. She has successfully managed major IT infrastructure projects and University-wide initiatives in Academic Affairs.

Her current responsibilities include portfolio management for the Academic Affairs Forum and overseeing project and operations management for the University Decision Support (UDS) team. Sarah uses her background in the arts with project management to design and implement intuitive, user-friendly tools that foster successful teams and collaborations.

Sarah can be contacted at ssage@mail.smu.edu