

Go With the FLOW



Using Automation to Increase Pre-Award Efficiency

By Theresa Couch



The Health Colleges Research Services (HCRS) office, established in 2016, is a shared service center at Michigan State University (MSU) providing research administration support to the Colleges of Human Medicine, Osteopathic Medicine, and Nursing. We work with hundreds of investigators across disciplines to ensure smooth proposal submission and compliant award management.

In 2020, MSU entered a 30-year partnership agreement with Henry Ford Health in Detroit, MI with a vision to improve health outcomes for people in Michigan and around the world and grow our research enterprises through collaboration. With substantial growth on our horizon, we recognized the need for a robust pre-award intake and management system, freeing research administrators from manual tasks so they can focus on supporting investigators and research teams.

■ Process Development

As with many new offices and processes, we originally manually managed pre-award information, proposals, team assignments, and reporting in Excel. This was suitable when our office only had two people, and the volume of work was lower. The original pre-award process began with a Qualtrics request form submitted by the investigator, gathering basic proposal data such as title, due date, and project start and end dates. Form responses were sent to the

HCRS shared email, at which point the Manager or delegate would review the project and personally email the investigator and HCRS team member with the assignment.

The Manager then manually entered the proposal information in an Excel file on a shared server with limited ability for more than one team member to update concurrently. Assigned team members would document their activity in the file, such as proposal identifier, date budget finalized, and date submitted.

Reporting was accomplished through column filters, pivot reports, and Excel graphs, however, data integrity was not enforced resulting in limited functionality.

Now, as a team of seven pre-award administrators providing support across three colleges and two institutions, we needed a more robust pre-award system utilizing automation to increase efficiency that would minimize disruption and not burden any constituent, including investigators, HCRS team members, leadership, and other administrative offices on campus.

■ **Technology Solution**

MSU licenses Microsoft 365, branded as Spartan 365, an enterprise solution that does not require departments or units to pay additional fees or licenses. The Spartan 365 applications are well integrated, and sharing files, data, and reports is seamless across collaboration tools such as SharePoint and Teams.

Our new proposal intake process in Spartan 365 leverages the following tools:



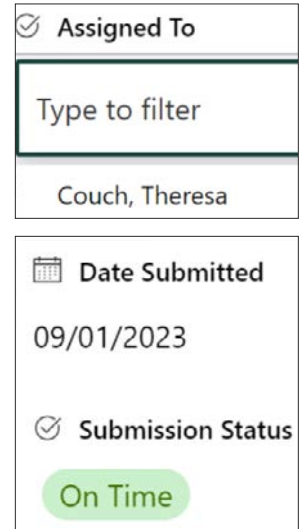
1. Microsoft Forms: The proposal intake form gathers information HCRS needs to initiate a proposal in Quali Research (KR), the MSU Research Administration System. At present, Spartan 365 and KR are not integrated systems, so administrators enter the proposal data in KR manually based on information from the intake form. The proposal intake

form is dynamic, allowing for a conditional set of questions depending on the proposal parameters. For example, if no vertebrate animals are involved, the form will not prompt the investigator to answer whether animals will be euthanized.

- 2. Power Automate:** After the form is submitted, a Power Automate flow is triggered to complete several steps:
 - a. An email with basic proposal information is sent to the HCRS inbox notifying us a new proposal needs to be reviewed and assigned.
 - b. The information from the intake form is mapped to the SharePoint List, including attachments.
 - c. A notification email is sent based on the College listed in the intake form. For example, if an investigator from the College of Nursing submits an intake form, an automated email is sent to the College of Nursing contacts with the basic proposal information, allowing the college to provide resources to support their faculty.
 - d. A separate email is sent to MSU’s Human Research Protection Program (HRPP) office if the intake form indicates human subjects. This allows that office to address concerns, such as the potential need for an external IRB, which we can then budget for accordingly.

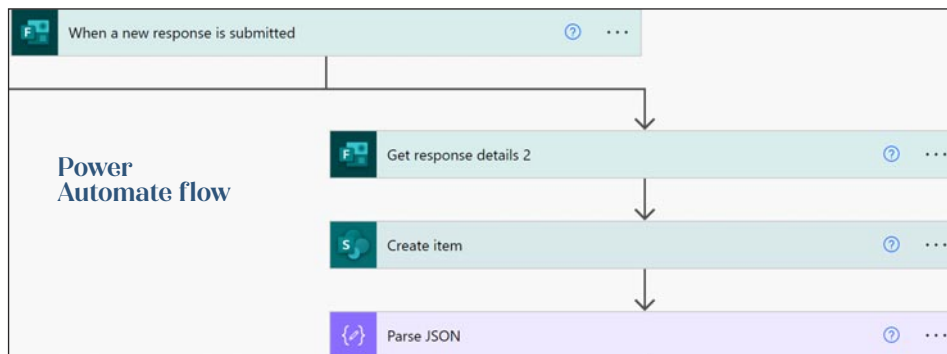
3. SharePoint List: Proposal information is stored in a SharePoint List and is accessible by everyone on the HCRS team. After form submission, the Manager or delegate will review the project parameters and assign the proposal to a team member. Assignment is based on proposal difficulty or scope, already assigned workload, training opportunities, and scheduled time off. Once assigned, another **Power Automate** flow is triggered emailing both the PI and the HCRS team member, after which the PI will communicate directly with the team member assigned to assist with the proposal.

Proposal management is then conducted in the SharePoint List, and team members track their progress on a proposal and final submission.



SharePoint List

“freeing research administrators... so they can focus on supporting investigators.”



4. OneDrive: Optional attachments can be uploaded in the proposal intake form and are saved in OneDrive. For example, investigators might upload a solicitation, their initial scope of work or budget justification, or communications with a program officer that may influence proposal development. The Power Automate flow in step 2 links the file upload with the SharePoint List item allowing team members to easily access the files associated with the proposal.

5. Power BI: Data stored in the SharePoint List are used for reporting in Power BI. The main pre-award dashboard includes total submissions based on college, department, and submission status, with a date slicer so reporting periods can be easily changed. The

Power BI dataset is refreshed eight times daily so reports are nearly real-time. We also use Power BI to track team metrics and workloads.

6. Teams: HCRS utilizes Microsoft Teams for collaboration, and the proposal intake list and reports are available as tabs in the Team Channel for easy access.

■ **Results**

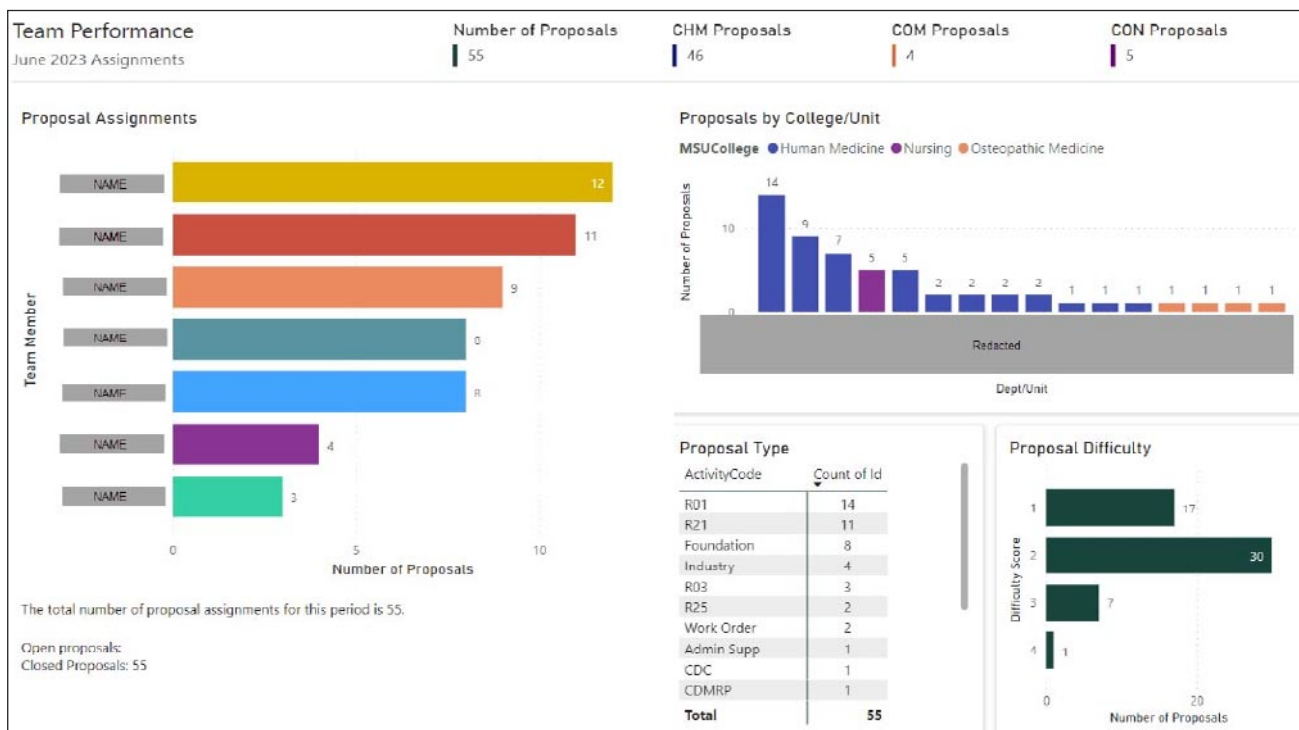
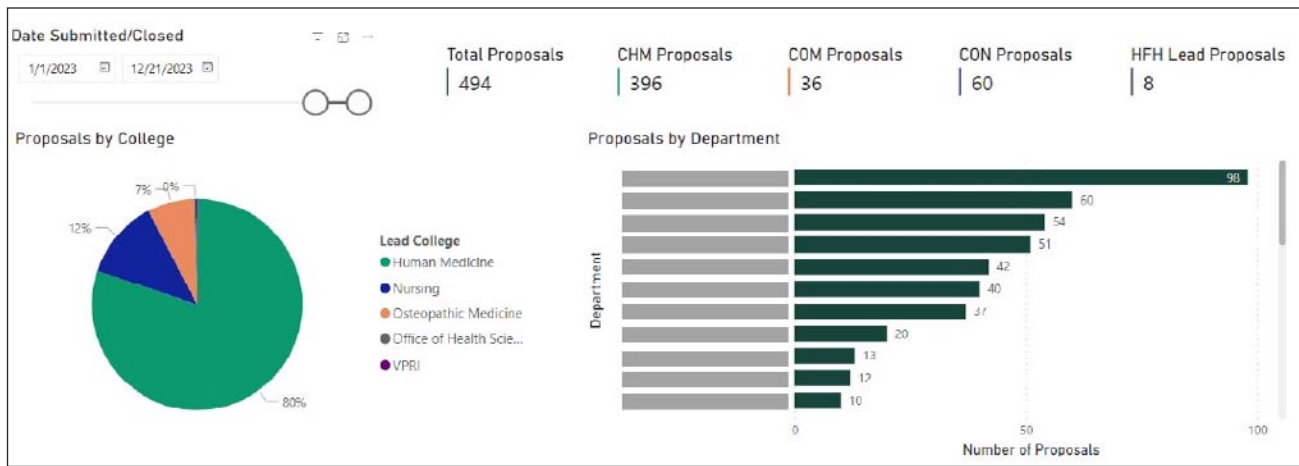
HCRS rolled out this system July 1, 2022, and we continue to make incremental improvements as needs arise. The automated proposal intake process has drastically increased efficiency.

The system relieves significant administrative burden by reducing manual processes such as logging data and sending duplicative emails. The

HCRS team is very satisfied with the process changes. “The automated proposal intake process stands out for its remarkable efficiency and information depth,” says Lu Liu, HCRS Research Administrator III. Lu adds, “this system ensures the swift and organized processing of proposals, managing them seamlessly from inception to completion... Its ability to archive detailed proposal information proves invaluable, providing easy access to historical data and significantly boosting our effectiveness in proposal management and references.” (L. Liu, Personal Communication, 2023).

Because the Microsoft Form looks similar to our previous Qualtrics form, there is little noticeable difference in user experience, making the transition relatively seamless for

We also use Power BI to track team metrics and workloads.



faculty. Dr. Bin Chen, Associate Professor, says the system is “very effective. . .and very easy to navigate.” (B. Chen, Personal Communication, 2023)

In agreement, Dr. Morteza Mahmoudi, Associate Professor, says he finds the process “to be very efficient, comprehensive, and succinct.” (M. Mahmoudi, Personal Communication, 2023)

The proposal intake form gathers initial proposal data so emails between investigators and HCRS are reduced, negating the need for several back-and-forth communications. Dr. Anna Moore, Professor and Assistant Dean, finds the automated communications “very helpful and effective because oftentimes [investigators] forget about the deadlines. Adhering to deadlines is very important not only for [HCRS] . . .but also allows the researchers to allocate enough time for writing a successful proposal.” (A. Moore, Personal Communication, 2023).

Finally, reporting is much easier and more robust. The Power BI reports are available to HCRS team members and college leadership at any time, decreasing last-minute and urgent report requests. Power BI also increases reporting transparency. Dr. Narayanan Parameswaran, Senior Associate Dean for Research, finds “the reporting system [to be]

phenomenal. It is a one-stop shop for assessing where we stand in terms of proposal submissions and promotes transparency across all levels.” (N. Parameswaran, Personal Communication, 2023).

“...automation and reporting are valuable tools to increase efficiency.”

Microsoft 365 offers a very flexible environment allowing us to easily update our processes as we grow and needs change. The automation and reporting are valuable tools to increase efficiency and can be employed in many different areas of research administration and beyond. ■

Citations

- Lu Liu, HCRS Research Administrator III (Personal Communication, 2023).
Dr. Bin Chen, Associate Professor (Personal Communication, 2023).
Dr. Morteza Mahmoudi, Associate Professor (Personal Communication, 2023)
Dr. Anna Moore, Professor and Assistant Dean (Personal Communication, 2023)
Dr. Narayanan Parameswaran, Senior Associate Dean for Research (Personal Communication, 2023)



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Hot Topic: AI and Automation to the Rescue

By Angela Wishon

Improving processes to be more efficient and effective is not a new or novel concept. Reducing administrative burden has been a goal of research administration for decades, so why all the buzz about Artificial Intelligence (AI) and Automation? A recent study by Digital Science whereby they identified IBM with the most patents in the field of generative AI – over 1500 applications in 2023 – and noted the field has grown over the past five to include over a half of million patents among tech companies, including Google and Microsoft (Jackson, 2024). It is not surprising for this to also be a hot topic among research administrators who are getting creative with use of tools from these tech giants.

For this issue, we are featuring the work of Theresa Couch and her colleagues at Michigan State. Using a shared services approach, the Health Colleges Research Services Office has leveraged Microsoft tools to streamline and automate pre-award processes. They have been able to minimize disruption and not burden their constituents with replacing current forms and manual processes with a stepped approach to automate workflow through conditional logic algorithms, email communications, and optimizing data usage to avoid re-entry. They were able to do within the comfort of using software tools they and the research community use daily.

So, we may have come full circle from where Electronic Research Administration began in the early 1990's. Many institutions invested and implemented enterprise-wide research administrative systems specialized for researchers and federal requirements since then. Today, we find that others are returning to standard software available that now has greater flexibility. AI and Automation can create workflows and forms that reduce the administrative burden on researchers, offer the research office robust tools to track grant applications and awards, and provide powerful analytics for leadership. ■

Reference

Jackson, A. (2024, February 8). *IBM Leads Gen AI Race, According to New Patent Study*. AI Magazine. <https://aimagazine.com/ai-strategy/ibm-leads-gen-ai-race-according-to-new-patent-study>.



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