

MITPO Project Closeout Report

Project Name: Novelution (Electronic Research Administration & Compliance)

Institutions: NDSU & UND

Business Unit/Program Area: Research

Project Sponsor: Colleen Fitzgerald & John Mihelich

Project Manager: Patricia Johnson

Modules	NDSU Go-Live	UND Go-Live
Sponsored Research – phase 3	December 2019	December 2019
Institutional Review Board	August 2020	August 2020
Institutional Animal Care & Use Comm	April 2021	April 2021
Sponsored Research – phase 4	October 2021	October 2021
Institutional Biosafety Committee	June 2022	June 2022
Conflict of Interest	December 2022	NA
Effort Reporting	February 2024	NA

Schedule Objectives					
Met/ Not Met	Original Baseline Schedule (in Months)	Final Baseline Schedule (in Months)	Actual Schedule (in Months)	Variance to Original Baseline	Variance to Final Baseline
Overall Project:					
Not Met	42 months	80 months	84 months	102% behind	7.8% behind

Budget Objectives					
Met/ Not Met	Original Baseline Budget	Final Baseline Budget	Actual Costs	Variance to Original Baseline	Variance to Final Baseline
Overall Project:					
Met	\$2,481,573	\$3,475,121	\$2,390,686	3.7% under	31.2% under
NDSU					
Met	\$1,672,592	\$2,179,713	\$1,578,912	5.6% under	27.5% under
UND					
Met	\$808,980	\$1,293,908	\$811,733	.4% over	37.3% under

Major Scope Changes
A phased launch of the Sponsored Research module, along with a rebaselining of the overall schedule for both campuses. Due to the deliverable-based contract & in particular Maintenance & Support not activating until module launch, the project initially showed large cost savings that were eventually incurred at the end of the project.
UND – added the Institutional Biosafety Committee (IBC) module.

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Objectives		
Project Objectives	Measurements	
	Met/ Not Met	Description
Deploy centralized Novelution platform to coordinate all research administration data and administrative processes, as a replacement for current paper-based and ad hoc database/excel systems.	Both: Met	Within 18 months of go-live, 75% of proposals submitted to Sponsored Programs Administration (SPA) are initiated electronically within the PI's department.
	NDSU-only: Met	Within 6 months of IRB, IACUC, and IBC modules go-live, 85% of the protocols submitted will be initiated within the PI's department.
	NDSU-only Met	Within 12 months of the Effort Reporting module go-live, 50% of effort certifications will be electronically certified.
Provide automated integration between centralized Novelution research management modules and institution's SSO, HR, & Finance systems.	Both: Met	Master data from the PS Finance & HR systems will automatically prepopulate and regularly synch with the Novelution system.
Replacing the paper-based systems reliant on human resources only available during regular business hours, the centralized research administration system must be accessible on the web 24x7.	Both: Met	Based on appropriate role-based access: one faculty member, one college or other administrative head, one departmental staff member, & one Grants & Contracts Administration staff member will be able to access the Novelution system for different functionality, from different locations, at different times.
Centralized research administration system will provide SSO with role-based access to appropriate subsets of system features and data elements to all users across multiple administrative offices, researchers, and research staff.	Both: Met	System will not present users with paths leading to "access denied" messaging. * Users' roles are specifically defined to only allow access to their assigned role.
Role-based authorization system will allow for easy and flexible configuration of evolving system roles and feature/data access rules assigned to configured roles.	Both: Met	For each module, the first two instances of change to a role-based access will be tracked for completion in no more than three days and tested for the success of the change

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Research administration system must provide flexible, ad hoc reporting tools, offering reporting functionality to users from all roles with automatic secure filters applied limiting users' access to data available to their roles.	Both: Met	NDSU: After SR go-live, central research administrative staff will test two months of proposals submitted & run awards-received reports and compare to former methods to ensure no proposals or awards are missing. NDSU: Within eighteen months of go-live of each individual module, two faculty will be selected per module to test access to proposals and/or protocols pending, active, and/or closed to ensure appropriate role-based access. UND: Central research administrative staff will run awards-received reports to confirm recent proposals submitted. UND: Ad hoc reports: individual PI will run reports that list their proposals, awards, & protocol.
For standard reporting requirements, to be defined during discovery, that are not met by ad hoc reporting tools, canned reports that can be triggered or scheduled must be provided by system.	Both: Met	NDSU: Within six months of go-live, review, change requests and approval actions taken by IRB, IACUC & IBC compliance staff and/or Committee Board members on protocols must be captured for standard monthly report for Committee meetings. Both: After go-live, total number of proposals, broken down or filtered by submitted agency, PI, department, & administrative unit will be available.
Functionality specifications throughout all research administration system modules will follow a consistent guiding principle to avoid redundant data entry whenever practically possible.	Both: Met	Central research administrative staff will test across modules as each go live & confirm that PI demographics, proposal tracking data, & compliance elements carry across modules for proposals initiated in the Novelution system.
	Both: partially Met	A PI signing in to initiate a proposal will confirm that standard data elements, such as DUNS#, address, etc., are prepopulated in the system. *Relevant information, (personnel salary, contract type, and department) does populate. DUNS# and address is not incorporated into the proposal process.
	Both: partially Met	Confirm that PIs with unique common user IDs for a particular agency (e.g. NIH) will have this demographic information stored to expedite subsequent applications.
Deploy centralized Novelution platform to coordinate all research administration data and administrative processes, as a replacement for current paper-based and ad hoc database/excel systems.	NDSU: Met	COI module functionality must automate pulling project data (e.g. PI name, PI demographics, list of current awards, list of active protocols) from each user's associated SR records, for inline project-based disclosures.

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Research administration system must automatically archive and retain award data, as well as data for past proposal and protocol submissions, and permit retrieval of past proposal or protocol submissions for resubmissions.	Both: Met	Met/Not met.
Automated system reminders and integrated task management tools will optimize efficiencies in the routing process.	Both: Met	Central administrative staff will verify with three separate colleges that electronic notifications are generated for the following types of proposals: single investigator proposals; PI/co-PI in different departments but in the same college; PI/co-PI in different colleges, or with a collaborator at another institution.
	NDSU-only: Met	IRB, IACUC & IBC administrative staff will check three colleges and verify that 75% of the protocols initiated at the department level have been administratively approved at the Department & College level within five business days.
	NDSU-only: Met	For the IRB & IACUC module where routing processes are necessary, we will select two faculty and two non-NDSU personnel to test ability to track progress on a proposal or protocol during routing process.
	NDSU-only: Met	Research Administration staff will verify that there is an automatic response to PI after three days of inactivity or routed form defaults to delegate.
	NDSU-only: Met	IRB, IACUC & IBC administrative staff will check three colleges and verify for each those three protocols initiated at the department level received email notifications that prompted administrative approval at the Department & College level.
	NDSU-only: Met	Within six months of individual module go-live, 80% of designated/expedited reviewer comments completed within five business days of assignment
Flexible tools for managing review comments will support efficient processing of system records.	Both: Met	Met/Not met
Flexible tools for task delegation & administrative assignment of reviewer steps will support efficient administration review processes.	Both: Met	Select two compliance protocols per module that have assigned non-NDSU reviewers to ensure successful access based on assigned role.
Deeply integrated smart forms should automate a great deal of the manual steps presently involved in application processing, including pre-reviews, minimizing cumbersome back and forth communications	UND: Met	By eighteen months after go-live for each module, at least 75% of all non-funded proposals/protocols initiated electronically will be either resubmitted or revised within nine months of the initial submission.
	NDSU: Not Met	Met/Not met.

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Lessons Learned

- Those of us on the core team didn't anticipate the amount of time that would be taken from our daily duties for the project implementation. Ensuring our regular duties were met to be fully present for the project was extremely difficult, and I'd recommend that organizations take a closer look at staff workload impacts for projects of this type.
- The best lesson from this project is that for something to work well, it is essential to plan for its success and work toward it. This is one of the best systems used on our campus.
- In general, I think it was learned that the group size for discovery and other technical meetings should be limited to smaller groups (larger group discussions could be handled offline among the team), with someone granted authority to make ultimate decisions for the project team.
- Having a single point of contact between campus/NDUS and campus/Vendor went well. When there were multiple staff communicating with NDUS and the vendor it created confusion during module implementation.
- The highest risk occurred during the first module implementation when there were difficulties in the initial phases of the integration components and regarding settling on scope requirements. The on-site meeting to "reset" the project was well handled and successfully addressed the issues, and from this point forward, I think that communication and managing risk was handled very well.
- Combining the two campuses for joint project meetings for the compliance modules was a particularly effective strategy in ensuring successful development and launch.

Success Stories

- The timing of implementation of the sponsored projects module was right as COVID was becoming an issue and campuses were sending people home to work remotely. Having the Novelution system meant no disruption to the ability of faculty to route proposals, get them approved, and submitted. Without Novelution, much of our work would have been negatively impacted.
- The project took longer than expected but the system has met and exceeded the expectations we had in the beginning!
- This was a major undertaking, requiring a great deal of team effort including project management, SME business analysis, IT/technical implementations, writing/reviewing specifications, testing, process and change management, etc. For many stakeholders, this was the first case of involvement in such a project, with an iterative implementation for a massive enterprise system. Given this complexity, the NDSU and NDUS teams performed very well!