

Technical Architecture Design for Externalization

THE SITUATION

As the industry has moved to externalize more functional areas of R&D, one leading pharmaceutical company decided to rethink the associated information management strategy. Processes and information flows that were once second nature were now very different depending on the collaborating external partner and the agreed roles, processes, and information movement required for a contracted work effort. With increasing volume and varieties of work – experiments, studies, trials, programs – being externalized, and the number of partners with varying technical capabilities, the increasing information flow was becoming overwhelming. Older systems and infrastructure no longer supported the way the business evolved and a new strategy was required.

THE SOLUTION

The head of information management requested ResultWorks to help them develop a new technical architecture to support the traditional internal drug discovery and development infrastructure as well as the new externalized environment. To make the challenge more manageable, ResultWorks simplified the problem by modeling a common lifecycle for externalized work. The lifecycle spanned from definition of the work and onboarding, execution of the work (e.g., experiment or study), publishing of results at the conclusion, and managing the work over the duration of the project. Based on the lifecycle, the information content at each step in the lifecycle could be broadly defined, categorized, and modeled.

Another major variable to be addressed was the type of external partner and their capabilities. Large CRO's have the technical wherewithal to accommodate large pharmaceutical company needs. On the other hand, smaller niche labs which are a necessity for leading edge work (e.g., new assays, specialty studies, etc.), may only be facile with MS Office tools to exchange

The layered technical architecture design enables information exchange with many different partner types and information integration across R&D.

information at any given step in the process. An information management strategy would have to support that range of partner capabilities across research, development, and clinical areas. Information exchange models were devised to support simple, file-based transfers and processing to more technology-driven integrated information exchanges.

The two stages of activity above laid the foundation for the technical architecture design. Traditional solutions adopted for internal use were typically designed and deployed as self-contained systems. They worked well for the purpose, but they did not integrate well and they were hard to swap when newer technologies came along. An objective for this program was to enable use of information more broadly across programs, across R&D, and across the enterprise. Working closely with the client technical team, ResultWorks designed a layered architecture to handle information definition and content, information exchange, access, common services such as security, as well as the variety of user applications and interfaces. The team also investigated a range of possibilities from bringing information in house, leaving the information at the source and federating the data, employing external third-party data aggregation services, and using cloud-based shared collaboration environments. The design then drove a multi-year strategy for implementation based on priority and level of investment available over the planning horizon.

KEY BENEFITS

Technical Architecture Design:

- Created a layered architecture encompassing controlled vocabulary, information exchange, and information integration
- Supported partners of different types and capabilities
- Defined a technical architecture to evolve with the business

Strategy: A multi-year strategy roadmap was defined and agreed that would allow the client to implement the technical architecture over time and in keeping with budgets. The strategy was adopted across research, development and clinical assuring broader, more consistent access to and use of information across the enterprise.

For more information, visit our website www.resultworksllc.com or contact us at marketing@resultworksllc.com.