

Design of a Streamlined Grant Proposal Development System for University Research

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Abstract: The Grant Proposal Development System (GPDS) is critical to the success of research at a University and the University's financial status. The process, starts with request for assistance, by the principal investigator (PI) from the office of sponsored programs (OSP), and ends with proposal submission. Analysis of the George Mason University (GMU) GDPS identified 13 manual sub-processes and 9 decision points. This primarily manual process includes bottlenecks and idle periods (μ 1.333 days, $\sigma = 1.7$). To address the specific issues, the following process improvements are proposed: (1) Proposal status dashboard (eliminate idle time), (2) central budget data repository (changes are propagated to sections of the proposal and manual iterations of the budget are avoided), (3) document management and collaboration (allow PI and OSP to effectively communicate and eliminate idle time), and (4) database of templates according to agency requirements (eliminate time needed to correct mandatory formatting). A stochastic simulation using distributions from the historic process data was used to assess the benefits of individual and the combinations of process improvements. A utility analysis ranked the individual improvements: (1) Dashboard (0.67), (2) repository (0.56), (3) management and collaboration, and (4) database. A cloud-based system with the combination of all four system alternatives, which has a utility of 0.696, should be implemented in order to increase the efficiency in the process. The breakeven is 2.3 years and the return-on-investment is 13%.

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