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The Actuary in an Information Technology World—Planning for Project Success

by Stewart Shay

As companies move away old desktop and mainframe-based systems, the traditional role of actuary is expanding to supply the insurance knowledge and numerical quality assurance required on these complex projects. The actuary is often a critical stakeholder in any insurance sales or operations support project.

Of the many critical success factors in project management, the capture of precise and correct business rules and requirements is considered the most crucial. Regardless of the Systems Development Lifecycle (SDLC) used, true requirements will emerge and will be far less expensive if found sooner rather than later. Successful projects involving IT will have requirements identified and documented by a Business Analyst (BA) in a formal Business Requirements Document (BRD).

Problems found early in the project life cycle are much less costly to fix. A common rule of thumb is that the project's analysis phase should take 25 percent of the total project's elapsed time to complete but only cost approximately 5 percent of the total project expense. Some studies show that a defect found or avoided early (due to good specifications) can cost 20 times less to fix than one found later in User Acceptance Testing.

For life insurance applications, the gathering of user requirements will normally be communicated to the BA from three sources: sales, operations and the actuary. By contributing to the BRD, providing thorough product specifications, and supporting the QA effort with sound test cases, the actuary can significantly and positively affect the success of any project involving the issue and administration of life insurance products.

Often, when planning a project, the actuary's time is glossed over and possibly not even included at all. However, the actuary often becomes a key consultant to the project manager. The actual time spent by the actuary in support of the project may ultimately equal the project manager's (or business analyst's) effort, which typically amounts to 5- to 10-percent of the overall project.

Depending on the corporate culture and the SDLC used, project managers should consider and include time for actuarial resources for the following activities:

Initiation Phase:

- The actuary may be asked to provide input for a cost/benefit analysis to evaluate whether or not it is worthwhile to take on the project from a financial standpoint.

Analysis Phase:

- The actuary is the owner and producer of the insurance product specifications.
- The actuary is a consultant to business analysts who develop the Business Requirements Document.
- The actuary is a provider of test case scenarios and expected results to be used in the QA process for checking illustrations (new business and reproposals), gross premium and month-i-versary calculations on non-traditional products, policy cost disclosures, policy annual reports, and 7702/7702a tax calculations.

• The actuary is a consultant and quality assurer on specifications for policy conversions.

Design and Coding Phases:

• The actuary is a consultant for specifications on change requests found after the initial Business Requirements Document is completed.
• The actuary is involved in any negotiations to alter product specifications to fit into an existing system's infrastructure. This involves a tradeoff between saving money by reusing existing technology versus adding new functionality that requires new technology.

Quality Assurance Phase (User Acceptance Testing):

• The actuary is a primary stakeholder in assuring that the new business illustration and administration systems match. This usually involves the reconciliation of the new system's calculations (e.g., policy values, tax premiums, etc.) against an existing legacy system or a trusted spreadsheet.

Implementation Phase:

• Exception handling—while we'd like to think that any new system handles everything thrown its way, oftentimes there is some functionality that does not make it to the first phase of introduction. In such cases, going live means being able to handle some functions outside of the system manually. Actuaries may be involved in planning who, what, when, where and how such processes are to be handled until sufficient automation arrives.

Post-Implementation:

• As a stakeholder of the project, the actuary will be asked to contribute to lessons learned sessions designed to improve future project implementations.
• A systems project that has multiple phases will require a repeat of some of the tasks mentioned above.

Whether a company is large or small, all of these activities should be considered in the project planning phase to ensure actuarial resources are allocated appropriately and are available when needed. For many life insurance IT projects, the actuary is just as key a stakeholder as any other member of the project team and his/her participation should not be overlooked. ■
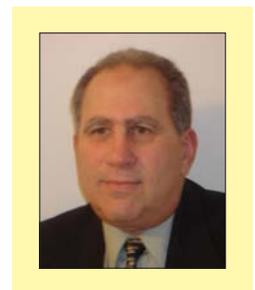
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