System Implementation Midterm – Project Report

Emma Salo

Organization

The organization I will be focusing on for this project is a mid-sized law firm, Imaginary Law LLP. Imaginary Law LLP employs twenty attorneys and fifty supporting staff (paralegals, legal assistants, receptionists, and office managers). The firm has several areas of practice that fall under both criminal and civil litigation.

Legacy System Structure of Imaginary Law LLP

The firm has been using a mixed approach to data management. Their documents are stored digitally in a shared drive, where correspondence is also stored. Files are not tagged, access-controlled, or optical character recognition (OCR) capable. Folder rules are manually set. Metadata track document activity is minimal.

New Document Management System

The firm is adopting a document management system that enables matter or case-specific tagging, file type identification, OCR ability, advanced filters, access restriction, metadata/audit trails, and automatic retention.

SDLC Placement

Implementation of this document management system spans developing, testing, deploying, and maintaining. Development has largely been completed, but identification of special requirements for the firm's unique workflow, business rules, legacy system(s), and legal constraints means further development via alterations may be needed. This may

come prior to and/or after testing is initiated. After testing and development, the system will be deployed, then tested and developed further if necessary. Deployment will continue until it is complete and successful, after which maintenance will occur.

Development Strategy

The deployment strategy I have chosen for Imaginary Law LLP's new document management system is the agile method. Given the firm's size, scope, and subsequent workload, a progressive approach with the ability to make changes in response to continuous feedback is advantageous. Another methodology that would be utilized is phasing, as focusing on one area of practice at a time to account for various legal requirements would allow for the unique needs and legal requirements to be addressed. This would cut down on debugging and further development.

Planning Objectives and Strategies

The objectives of the implementation of the new document management system include reducing document retrieval time, complete OCR for PDF files, security compliance, migration of all relevant documents, and satisfaction among attorneys and legal staff.

The strategies to reach these objectives would include case-centered file classification, integration of automatic OCR tools, setting role-based access controls, ensuring integrity of and cleaning up legacy storage, phased file migration, and maintaining regular communication with office management regarding satisfaction of legal professionals.

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Installation Approach

I chose a phased installation approach to reduce risks that arise in the process, as well as the flexibility it provides to adjust settings to fit different departments. The first key transition step is to disable legacy system changes for the focus group to ensure integrity of migrating files. Next, the migrating files would need to be extracted, transformed, and loaded for the new system. The files would then be viewed by humans to verify that integrity was kept, then approved for migration. The focus group would then be moved to the new document management system while still maintaining access to the legacy system for reference purposes only. Feedback of the focus group would then be gathered after they have used it to check if adjustments are needed. During and after the gathering of feedback, preparation for the next focus group deployment would begin. Once all areas of the law firm had been successfully moved to the new system, the legacy document management system would be retired.

Data Migration Plan

The data migration plan is characterized by the process of extracting, transforming, and loading data in preparation for the move to the new system.

Extraction of data from the legacy system for Imaginary Law LLP's new system would include multiple sources. These sources would be shared drives, email imports and exports, and case information. Data extracted from these sources would include file locations, owners, dates, and accessibility permissions.

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Transformation is the next step in data migration. Correlation maps would be crafted, linking document type to files, owners to files, files to cases, retention requirements to files, owners to cases, dates to files, accessibility to files, and versions to files. This is also the step that OCR transformation would occur for PDFs.

The next step is to load the transformed data into the new system. This could be done via API connection to the new system. This is also the time that role-based access control measures and ethical guidelines/rules be set to be applied to the incoming data.

Debugging and Error Handling Strategies

Planning for handling bugs and other errors in the implementation of a new system reveals possible issues prior to their occurrence, allowing for fixes to be made and ensuring preparedness. One strategy I would use for debugging and error handling is using a structured log that would track errors and identify their originating locations. I would also put in place a verification requirement prior to implementing changes, especially for wider reaching changes that would cause ample feature and performance failures.

Automated Testing Tools

I would utilize automated testing tools in the implementation of the new document management system for the law firm. The first tool I would use is Postman, testing each phase of data that is being migrated from the legacy system to the new system. Postman identifies requests and posts in a way that makes tracking much simpler than it would be

manually. I would also use Microsoft's Playwright, which is an API for web applications that offers flexibility in how tests are set up and run. I would also run automatic tests to check that the security measures and role-based accessibility controls are working and provide sufficient coverage.

Data Quality and Data Cleansing

The legacy document management system of Imaginary Law LLP stores many years' worth of documents, so data quality is likely low. This would need to be addressed thoroughly prior to migrating the data and verifying its quality after the move in case of slippage. First, I would see to it that duplicates and unnecessary drafts are removed, keeping only the most up-to-date versions. Any necessary drafts or versions of documents can be linked to the updated documents as a marked version. Legal discovery must be kept in a secure storage location, either physically or electronically, for a set period of time. Files that exceed the legally required period of time and are not used as reference material should be removed from the queue. Any documents that have no relevance to case matters or hold any other importance will be discarded. Finally, files that are no longer relevant but are still subject to storage should be archived.

Conversion Method

After data quality issues and cleansing have been addressed, the methods of conversion I chose for the data are automated and phased. The majority of documents and data would be able to be handled automatically, especially with a phased approach focusing on one

practice area or department at a time. Any outliers would be few enough for manual handling and remedying. An automated phased conversion approach would allow for efficiency, accuracy, and flexibility.

Testing and Validation Steps

After converting and migrating data to the new document management system, the legacy system would serve as a good tool for validation. I would check that the number of documents in the new system that are tied to a given case is the same as the cleaned legacy system, as well as byte content, and relationship integrity all remain unchanged post-migration. I would also ensure that metadata is tied to each document correctly via automation.

How Steps Work Together

The steps of my testing and implementation plan work together by a following this process:

1. Agile development
2. Initial phased and small-scale deployment
3. Gathering feedback and continuously testing
4. Phased migration following ETL steps
5. Further phased deployment until complete firm coverage
6. Measure operations of new DMS post-implementation
7. Post-implementation review and ongoing maintenance

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Key Success Factors and Post-Implementation Review

Identifying what makes a successful implementation and system is paramount in beginning measures for improvement. One key success factor for the new document management system is the number of rule breaches, the goal being zero. If there are any breaches, the system is not operating as intended and needs to be fixed promptly, especially considering the high legal standards for regulatory and legal compliance. Another key factor of success is a consistently high match rate of user searches, a feature that makes this system an appealing replacement to the legacy system. Data integrity post-migration is also a key success factor. Finally, notable, quantifiable efficiency compared to the legacy system, such as less time spent searching for documents and faster upload speed, is a key factor in measuring the success of the implementation.

The measurement of these factors would include different gathering methods. Audits of performance and security would be necessary to gather quantitative feedback. Search logs and relative results would reveal the match success rate. Finally, viewing billable hours and gathering the experience of users would clarify the effect on efficiency or time-reduction that the new document management system has had.

Lessons Learned and Continuous Improvement

Searchability/findability is one area that should see continuous improvement, aiming for a higher result quality until reaching near-perfection. Another way to ensure continued

improvement is to identify common support ticket matters and address the causes, meaning a decreased need for technical support.

I learned how helpful it is to craft a detailed plan for the implementation of a new system, as it is likely rarely straightforward. Planning around the needs of the organization, identifying potential failures or need for improvement, and allowing time for further development are all parts of a thoughtful system implementation plan that will yield a positive result. The process is not over after the system has been put onto every screen; ongoing attention to the performance will allow for better compliance and user experiences.