MS, Information Technology Management Capstone, Project Post-Implementation Report

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Abstract

The SharePoint implementation project was intended to address inefficiencies in the inventory process within the Expeditionary Distribution Company's four warehouses in this region, where the appointment of a new warehouse manager triggers annual inventories. These inventories, aimed at confirming stock levels and identifying shortages, suffer from delays due to high warehouse worker turnover and lack of collaboration among the warehouse managers. This results in significant productivity losses, impacting the key stakeholders, the warehouse managers, inventory planners, logistical partners, and workers. The inventories must be completed within 30 days, with 20 days typically dedicated to physical inventory and the remaining 10 days for administrative processing and corrections. The regional management's requirement for standardized document formatting also complicates the process due to slight inconsistencies that vary from warehouse to warehouse. The proposed solution was implementing SharePoint as a centralized information hub to facilitate accurate data sharing and standardize document submissions. The regional IT department led the implementation to minimize disruption to warehouse IT teams. The project spanned 46 business days from the kickoff meeting on September 30th to completion on December 9th. In addition to formal progress reports before each phase's closeout, user acceptance testing was conducted as much as feasibly possible to ensure the smoothest integration upon deployment on December 5th. The SharePoint deployment came at a crucial time due to the increased logistics demand near the holiday season. Instead of completely shifting to an unproven solution before a critical event, regional management decided to still partially utilize some of the features that SharePoint offered, such as centralized documentation and contact information storage. Although not fully utilized as planned, it provided immediate operational improvements and laid the foundation for more efficient inventories.

Keywords: Warehouse inventory, document repository, centralized information hub, SharePoint, post-implementation

Table of Contents

SharePoint Post-Implementation Report

Within the region's four logistics warehouses, annual inventories are conducted upon the appointment of a new warehouse manager, which can happen annually, every 1.5-2 years, or when a manager resigns. To be completed within 30 days, these inventories aim to confirm current stock levels and estimate shortages to be backfilled from other regional warehouses. High turnover among warehouse workers leads to a loss of efficiency knowledge, causing delays in the inventory process and affecting regular operations. Warehouse managers are not incentivized to collaborate, resulting in minimal information sharing and further inefficiencies. The inventory process wastes productivity across all four warehouses, impacting warehouse managers, inventory planners, logistical partners, and workers. Of the 30 days for inventory, 20 are spent on physical inventory and ten on administrative tasks and corrections. Regional management does not intervene in inventory methods but does require standardized documents, leading to delays due to format inconsistencies in submissions.

The proposed solution was to utilize SharePoint to serve as a centralized information hub accessible to all warehouse managers and planners to ensure accurate information for estimates and to standardize submissions. To facilitate implementation without disrupting operations, the regional IT department, which had oversight over the warehouse IT teams, predominantly handled the deliverables to allow the warehouse IT teams to focus on their core duties. Stakeholders for this proposal include corporate headquarters, warehouse managers, inventory planners, logistical partners, and warehouse workers.

The project aimed to improve the inventory process across the region’s four logistics warehouses by providing readily available accurate information and standardized forms for planners and managers to conduct the inventories. The project had three phases that took place

over the course of 70 days, from the kickoff meeting on September 30th to the end of the final phase on December 9th. The team responsible for building the project consisted of IT teams from each of the four warehouses, led by personnel from the regional IT headquarters. The warehouse managers and inventory planners were heavily involved throughout the planning and development processes and were invited to perform user acceptance testing at certain checkpoints within the development process.

The SharePoint site was deployed on December 5th and had a smooth integration process, thanks in part to the constant user feedback and the staff training prior to deployment. Warehouse managers and inventory planners began using the solution to expedite the inventory process. The SharePoint deployment came at a crucial time due to the increased demand for logistics as the holiday season neared. Instead of completely shifting to an unknown and unproven solution before a critical event, regional management decided to utilize some of the features that SharePoint offered, such as hanging pre-approved documents, to help facilitate warehouse operations. Another benefit that immensely helped improve operations was the use of a page to store critical phone numbers and addresses that all warehouses could immediately reference rather than relying on email or team messaging, which risked improper version control.

Although it has not been utilized as envisioned due to the holiday rush, the SharePoint solution still proved immensely useful by providing a virtual space for organizing and acting as a centralized document repository for department heads to place pre-approved documents and templates for their sub-departments and others to use.

Quality Assurance

To ensure that the project activities are nested within the project's overarching goal, evaluating project activities through both structured and informal methods such as checklists, process analysis, and issue log reviews was crucial.

Checklists are fundamental tools in the quality assurance process, and they act as a way to ensure that all the necessary steps and procedures are followed. In this instance, checklists were used to monitor access control and permissions while the technical team consolidated the data. As the data grew throughout the initial collection, maintaining strict access control was essential in preventing sensitive information from being leaked. Using checklists to ensure compliance with data protection regulations and security protocols also proved useful.

While the technical team conducted project activities, the project manager was charged with constant process analysis to identify opportunities for process improvement. The project manager analyzed workflows and processes involved in the process and addressed these potential issues on the spot or with the team lead during the bi-weekly progress reports and within the formal progress report for the project phase if the issue warranted escalation. This continuous improvement cycle optimized project activities and enhanced the overall quality of the work.

The technical team also maintained an issue log to track and resolve problems encountered during the project. The project manager worked with the technical team lead to assign the right person to the job. Prior to the project going forward, identified areas of concern were the integration testing of ERP SAP, Active Directory, and Office 365. Usually, most issues can be remediated within 24 hours. Still, the more persistent or complex issues were subjected to root cause analysis to understand the underlying framework that could be causing the issue. The utilization of expert advice by consultants proved extremely valuable during the project's

development phase. Critical problems on the issue log were solved before the deployment window on December 5th. The issue log provided a solid platform for data sharing to prevent other issues from reoccurring and ensured that the project remained on track to meet its quality objectives.

The data collected through the quality assurance activities coupled with SharePoint's native data gathering tool, SharePoint Analytics, can give insight as to which files are more frequently used, identify critical workflow components, and reveal usage patterns. All of these can be used as evidence to allocate resources to areas for improvement. Additionally, the analytics also reveal surge times where usage can peak. By understanding these patterns, IT resources can be distributed more effectively to reduce the likelihood of downtime during critical usage windows.

Formative Evaluation and QA Metrics

The SharePoint implementation project used a holistic approach and incorporated various aspects of quality assurance metrics to stay on track. The project's bi-weekly informal meetings helped steer the direction of the team. At the same time, formal progress reports acted as forcing functions to have the project activities completed within the prescribed window. The Project Management Institute describes these measures as part of the control quality process, where the project deliverables and work are verified to meet the outlined requirements (2017). The reports provided details of the project's current status and highlighted areas where adjustments were needed. The final progress report also acted as the final conditions check and ensured that the product met the pre-defined criteria before deployment.

The project manager assessed several metrics to gauge the project's progress and performance. This included the completion rate of tasks, which measured how many tasks were finished on time; system performance metrics, which evaluated the efficiency and reliability of the SharePoint site itself; and resource utilization, which evaluated whether the endpoint device could load SharePoint without any issues. Additionally, the project manager had weekly issue log reviews and worked with the team lead to remediate critical tasks that had to be addressed before the project could progress to the next stage.

The project manager conducted a schedule variance analysis to estimate the actual progress against the planned timeline. However, the project timeline was built on very tolerant time windows, giving the technical team plenty of time to complete their tasks. The decision was made not to fast-track the schedule since the project manager realized that having a flexible schedule allowed the team to work around the availability of the warehouse managers to get their input.

Testing Methodology

The SharePoint implementation project employed a comprehensive testing methodology to ensure quality assurance and successful deployment of the site. The methodology encompassed various testing phases and focused on both functionality and user satisfaction.

Prototype testing was conducted the moment the development reached the milestone that allowed for it. Warehouse managers and inventory planners were invited to navigate the site and complete certain simulated tasks. This early involvement of end-users helped identify potential issues and gather valuable feedback on the system's usability and features. The technical team

made the necessary foundational adjustments that could satisfy the potential users later on before moving to more advanced steps in development.

User Acceptance Testing (UAT) is another facet of prototype testing that focuses on certain aspects of the system from the user's perspective. The UAT tested for latency that the users could perceive, the system's ease of use and functionality, and a file or tool's 'findability.' These metrics were vital in attaining high user acceptance and satisfaction levels.

In addition to the user-centric training, the project also had interoperability testing with SAP ERP, the headquarters' proprietary logistics software that SharePoint had to integrate with to perform business functions. Ensuring that SharePoint could at least open or read the various outputs of SAP ERP was necessary for the project's long-term success. Overall, the structured testing methodology ensured that the SharePoint implementation project met quality standards and the needs of its users, leading to the delivery of a robust and user-friendly system.

Test Cases

Below are a few examples of test cases throughout the project. The full listing can be found within the Lessons Learned repository within the associated Test Case project folder.

Test Case 1: Functionality and web part integration for the calendar.

- Concept: Add the calendar web part to a SharePoint Page with full modification rights (edit/delete).
- Expected Results: Calendar functions correctly, with events being able to be added/deleted as expected.
- Outcome: Events can be added, but information cannot be edited after the initial instance for a period of three to five minutes.

- Cause & Fix-Action: The delay stemmed from an authentication issue when the calendar web part was synchronized with the database. The fix-action was to add an exception to the calendar to attain near-real-time replication and full editing rights. Note. The company's internal news bulletin web part experienced the same issue, and the fix-action was the same for both issues.

Test Case 2: Search Functionality

- Concept: Ensure the search feature returns accurate and relevant results
- Expected Results: Correct and/or relevant documents are displayed in the search results.
- Outcome: Search results are incomplete. One of the expected test documents did not show up.
- Cause & Fix-Action: One library section was still partitioned and had not yet been linked. The search function was performed as intended across all libraries, as expected after remediation. Checking for library partitions is now part of the QA/QC checklist for future iterations of testing.

Test Case 3: Mobile Access

- Concept: Verify that SharePoint is accessible and functional on mobile devices
- Expected Results: SharePoint loads correctly. Sensitive company files cannot be accessed without being on the company-authenticated network.
- Outcome: Full functionality on mobile devices. Company-sensitive files cannot be accessed. Works as intended.
- Cause & Fix-Action: N/A at this time. The IT team will look into BYOD device management solutions to give approved users heightened access.

Test Case 4: Document Workflow

- Concept: Once a document is created and submitted in the appropriate channel, identified users will receive a notification to action the document to continue routing.
- Expected Results: The identified user receives a notification to action a document once the folder detects an item and it is present.
- Outcome: The workflow process and notification were eventually performed correctly.
- Cause & Fix-Action: The initial issue stemmed from a lack of knowledge on enabling this capability to include specifying the identified user by name or attribute.

Test Case 5: User ease of access

- Concept: Trained (3 personnel) and untrained users (5 personnel) were given a set of instructions to locate an item within the document library.
- Expected Results: Trained users locate the document quickly. Untrained users will take a longer time but will eventually find the document.
- Outcome: Trained users all found the item. 3 of 5 untrained users found the item. The remaining two could not navigate the library.
- Cause & Fix-Action: If users understand how to navigate the library, having folders with standardized naming conventions that are already familiar can increase the speed at which they find their desired item or document. Fix-action is to review naming conventions to align with what users already understand, i.e., opt for logistics industry-related terms over IT terminology, when possible, for areas with expected user interactions.

Acceptance Criteria

From Figure 2, *Evaluation Metrics Considerations*, the listed criteria were used to determine acceptance for the final product. Not all listed items were relevant to the final product.

Figure 2

Evaluation Metrics Considerations

Category	Criteria
Audit	• Compliance rate with governance policies • Number of findings & severity • Resolution time per finding
Survey	• User satisfaction scores • % Positive feedback • Response Rate
Issue Log	• Number of issues logged per month • Number of recurring issues • Average resolution time

An in-depth breakdown is as follows:

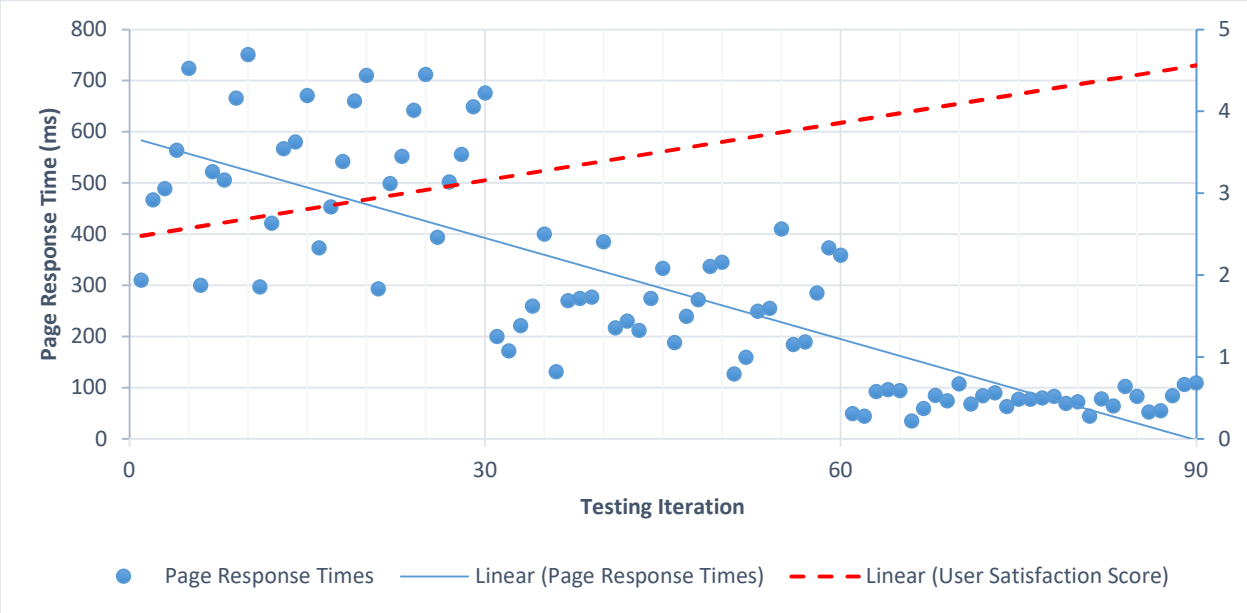
For the 'Audit' category, the compliance rate with governance policies for the imported data had to be 100% prior to deployment. The IT team captured metrics for the findings and severity during the data collection and development. The metrics will help identify the types of files that could prompt an alert. Future files that meet these conditions will prompt further scrutiny to avoid compliance concerns.

For the 'Survey' category, user satisfaction scores correlated with a higher response rate, which, in turn, also led to more positive feedback. Although continuous testing was conducted throughout the project, there was some formal testing with potential users on certain days to determine baseline metrics for user acceptance. As the project continued to progress, the page latency time was decreased, resulting in higher user satisfaction during testing.

Testing Iterations 1-30, conducted on 5 November during the Development Phase, had an average page response time of 534 milliseconds (ms) with a correlating user satisfaction score of 2.76. From then on, the proposed acceptance criteria for page latency had to be below 275 ms to obtain an acceptable user satisfaction score. Iteration 31-60 had an average of 260 ms, which met the proposed acceptance criteria. The final iteration of testing [61-90, 2 December] had an average page response time of 75.8 ms, exceeding expectations for the acceptance criteria, and boasted an average user satisfaction score of 4.4 out of 5.

Figure 2.1

Comparison of Page Response Time (in milliseconds) and User Satisfaction



Note. Testing Iterations and Date is as follows:
Testing Iterations 1-30 was conducted on 5 November.
Testing Iterations 31-60 was conducted on 17 November.
Testing Iterations 61-90 was conducted on 2 December.

For the 'Issue log' category, IT management conducted periodic reviews prior to the end of each phase with data from the progress report to determine which critical issues should be prioritized for remediation. Metrics such as average time for resolution or number of issues per

month were captured to identify potential trends. Once the project neared completion, there had to be no critical issues prior to deployment on 5 December. Only low-severity issues remained post-implementation and were addressed within the following weeks.

Project Review

The project aimed to implement SharePoint to enhance efficiency during cyclical inventories across the four warehouses in the region. The objective was to construct a secure document library that could host standardized forms, logs, schedules, historical contracts, and other important data in a centralized location to meet the needs of the warehouse management teams. The project included several deliverables organized by phase: Requirements List, Functional Specifications, Site Library Plan, Document Library, Dashboard prototypes, Security Plan, Permissions List, Bug/Issue List, How-To Guides, and Development Documentation.

The project leveraged consultants and expert advice to assist the IT technical team. It spanned 70 days with an initial low-cost estimate of $2,677, which then increased to $3,477 due to additional staff training sessions. The quality was managed through scheduled audits by the regional IT leadership team to ensure compliance with governance policies and security standards throughout the project. The technical team ensured positive user feedback before the portal's deployment.

Stakeholder engagement was robust for the warehouse managers and inventory planners but was lacking for the logistical partners and warehouse workers. The warehouse management teams provided crucial input and had representatives attend touchpoints with the IT team if they were unavailable. The project remained on schedule; however, resource utilization was low during certain periods due to an overly generous schedule built based on the longest estimated

task duration. Additionally, the waterfall project methodology prevented concurrent task progress.

The IT teams maintained constant documentation throughout the project. The team actively documented deliverables such as the document library structure. Post-implementation, the documentation responsibilities fell to the database administrators to accommodate their planned low utilization during that phase. The project faced minor issues and succeeded in achieving its goal of utilization. Due to the release date being near the holiday season, the SharePoint site was not utilized as originally intended. However, it was still utilized to help deal with the holiday rush. The focus is now shifting to maintaining or increasing user adoption with the next iteration of warehouse managers.

Assumptions

Figure 3

Assumption List from Proposal

Assumption	Remarks
The company will still retain Microsoft 365 E5 license during the duration of this project since it includes SharePoint and PowerBI as part of the suite.	No change in licensing; Nothing significant to report (NSTR).
SharePoint will continue to receive regular updates and support from Microsoft to ensure it remains current with technological advances.	There are no issues with the software from an enterprise perspective: NSTR.
SharePoint will have no issues with Windows 11 since they are both hosted by the same parent company.	Windows 11 upgrades are currently ongoing; There are no foreseeable issues at this time.
Security settings enable file conversion software to update older files from ‘doc.’ to ‘docx.’ format during data migration.	Security settings were strict and did not allow the IT team to seamlessly update older files; the team lead decided to use third-party tools

	to conduct the conversion due to the low number of files in this category.
There will be no change to regular business hours for the next two quarters. Project task durations are based on the staff's regular 9-5 (8-hour) workday.	The project proceeded as planned: NSTR.
The company will have no additional holidays in FY2025 QTR 1 besides Columbus Day, Veterans Day, and Thanksgiving. The project planning factors in days off from federal holidays.	The project proceeded as planned: NSTR.
EDC's existing IT infrastructure will support the integration and deployment of SharePoint without major upgrades.	EDC's existing infrastructure supported the SharePoint portal. A future proposal is having an on-premises solution, which will require additional infrastructure and hardware upgrades.
EDC will still maintain the reliable and high-speed connectivity required for user satisfaction when using SharePoint.	There were no post-implementation latency issues; NSTR.
Staff possess the basic IT skills necessary to use SharePoint or can quickly acquire them through staff training.	The staff training was helpful, and how-to guides were created. There were still ease-of-use issues, so the IT team adapted the interface to better accommodate all users: NSTR.
SharePoint can scale with company growth and accommodate more users and data as needed.	The cloud version of SharePoint can accommodate EDC. If the company elects to host an on-premise solution, additional infrastructure and hardware upgrades are necessary to scale with the growth data.

Project Phases

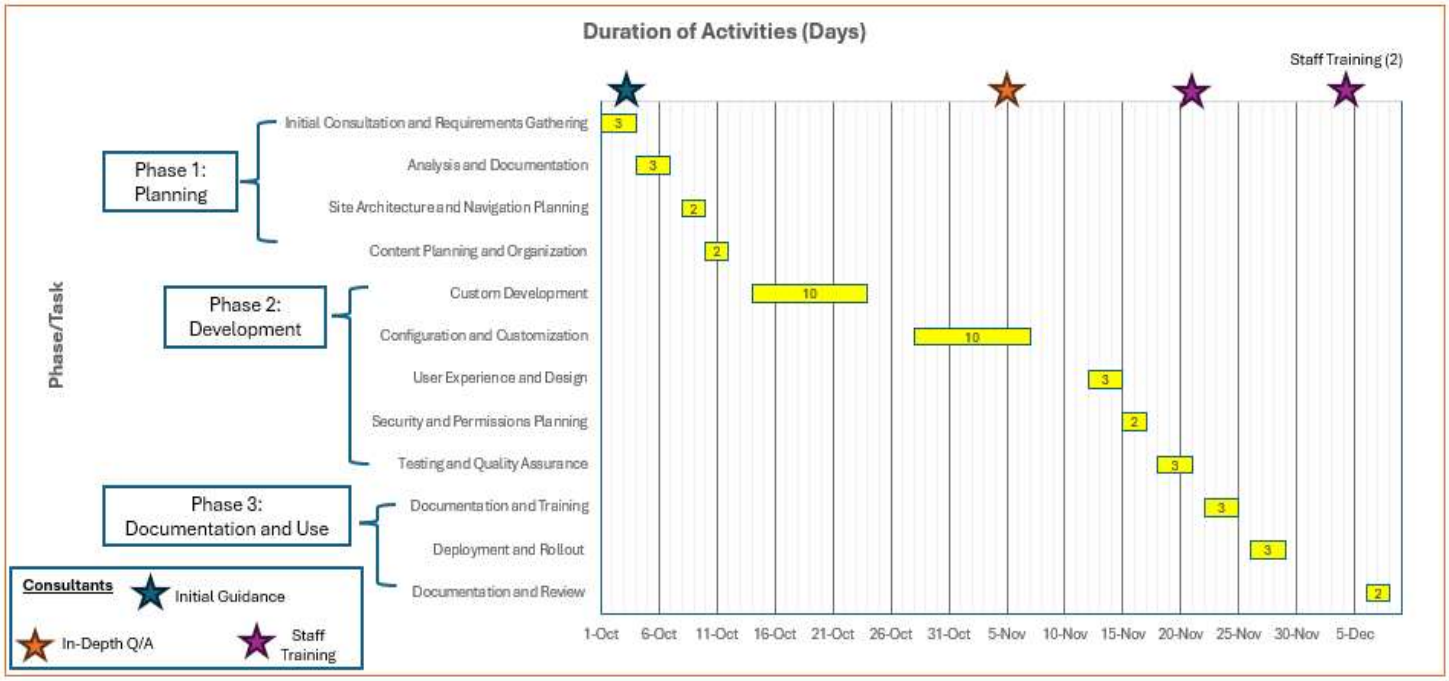
Figure 4

Project Timeline

The project had three phases, Planning, Development, and Documentation and Use (see Figure 4). The project proceeded as planned. The original schedule was built off planning estimates for the maximum duration of an activity rather than the average timeframe (Figure 4.1). Accordingly, there were periods of low utilization for the entirety of the technical team. However, they did have ample time to accomplish the phases' specified tasks.

Figure 4.1

Project Plan Gantt Chart [Post-Implementation]



After the kick-off meeting on September 30th, Phase 1 of the project began on October 1st and ended on October 14th. In phase 1, the team was to consolidate material, information, and data to begin outlining the SharePoint site library. They also consulted with Gregory Zelfond, a SharePoint expert, on the best practices and methodologies to adhere to while undertaking this task. The first progress report was due to the regional IT team on October 9th. From this report, they realized that certain project activities, such as 'Initial Consultation and Requirements

Gathering' and 'Analysis and Documentation,' were completed in one to two days with relative ease, giving insight into future periods of low resource utilization.

Phase 2, Development, began on October 15th and continued until November 25th, with the progress report due November 15th. This phase was intentionally planned to be longer to account for possible delays during development. The IT team had an in-depth Q&A session with a SharePoint specialist toward the end of this phase to get insight into the more difficult parts of progress. 'Development' and 'Configuration and Customization' activities took the full allocated duration, while 'User Experience and Design,' 'Security and Permissions Planning,' and 'Testing and Quality Assurance' finished earlier than planned.

Phase 3, Documentation and Use, began on November 26th with a stand-up on the current progress and synchronization with the regional IT leadership before the December 2nd conditions check on Monday immediately following the Thanksgiving holiday weekend. Not all staff could attend the planned November 22nd staff training session due to its proximity to Thanksgiving. In addition, the SharePoint implementation project garnered the attention of the EDC CIO, who wanted to attend a staff training session. The technical team booked another training session for December 3rd for the remaining staff and the CIO. The portal was finally launched on December 5th, and all IT teams were on standby to deal with issues pertaining to the deployment.

Timeline Deviations

There were no changes to the timeline. The project stayed on course according to the prescribed phase completion dates. Certain activities, however, were finished ahead of schedule. A comparison between the estimated time and the actual time is reflected in the table below.

Table 1

Project Activity Duration versus Reality [Days]

Activity	Estimated	Actual
	Phase 1	
Initial Consultation and Requirements Gathering	3	2
Analysis and Documentation	3	2
Site Architecture and Navigation Planning	2	1
Content Planning and Organization	2	1
Sub - Total Days underutilized	4	
	Phase 2	
User Experience and Design	3	2
Security and Permissions Planning	2	1
Sub - Total Days underutilized	4	
	Phase 3	
Documentation and Training	3	2
Deployment	3	1
Documentation and Review	2	1
Sub - Total Days underutilized	4	
Total Days underutilized	12	

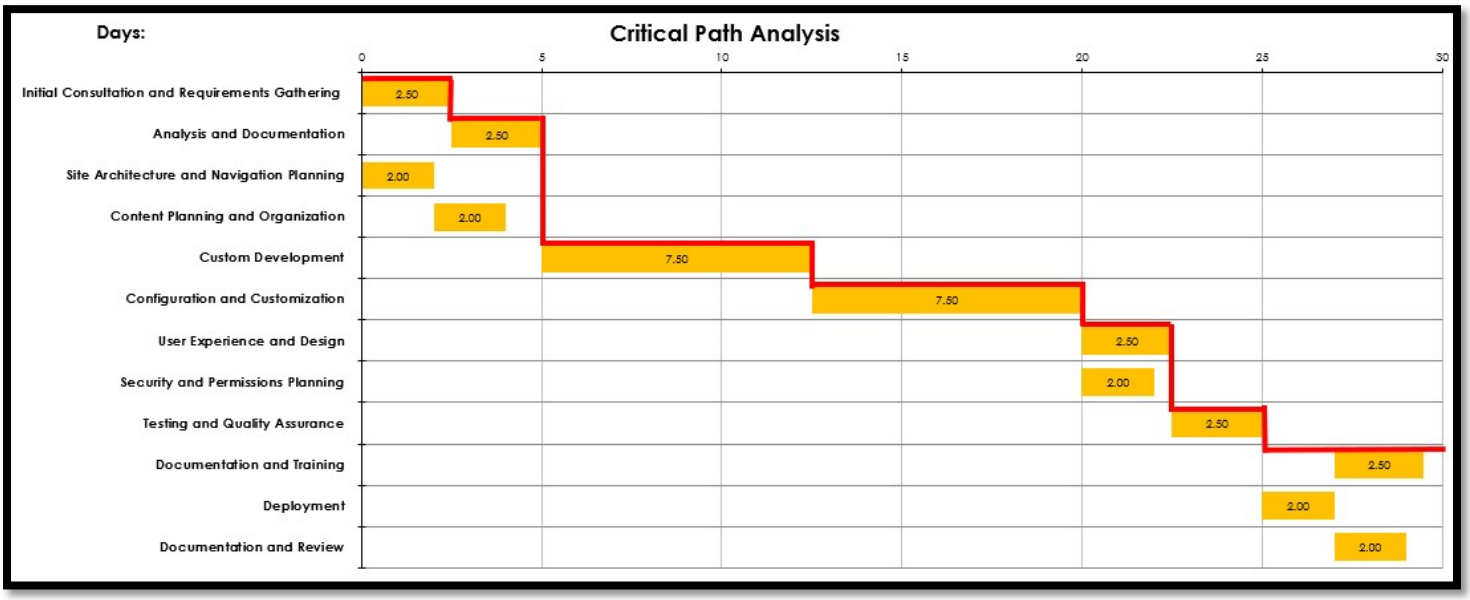
Project Dependencies

The successful implementation of SharePoint relies on several factors. Firstly, SharePoint is part of the EDC's Office Enterprise E5 license with Microsoft. The availability of this license provides the necessary access and permissions to use SharePoint as part of the Office suite. Any license modifications toward a version without SharePoint will impact the project.

The project's critical path analysis is outlined below in Figure 5.

Figure 5

Critical Path Analysis



A critical path analysis was not included in the initial project proposal. In hindsight, certain activities could have been done concurrently, enabling higher resource utilization throughout the period. The analysis in Figure 5 does not account for holidays. Still, based on the total days underutilized outlined in Table 1 and the overall picture of the critical path, the project could have been completed two weeks earlier with a different methodology.

Resource Requirements

The original resource requirements for the project requested a technical team, funding for consultants to conduct training and to give insights to the technical team, and preliminary scheduling considerations to plan around, see Figure 6. The technical team, comprised of members from IT teams in all warehouses, was responsible for SharePoint implementation and conducted the bulk of the work, ranging from data collection to development and deployment. Specialist roles within the team were designated to build extra competence for that specific team member as the project progressed since the scope of their work was focused on that type of work, see Figure 6.1. Consultants were utilized to enhance the quality and efficiency of the project in several ways. The technical team spoke with a consultant within the project's first phase to be briefed on best practices, methods for data collection, and ways to implement the project successfully. They then also spoke with the consultant again during the development phase to get advice on the more nuanced issues the teams ran into. The consultants also conducted two separate sessions of staff training on the use of SharePoint before deployment so that most personnel using the library would have a basic understanding of navigating the site in addition to using the less well-known features. The technical team also used another consultant for a third-party assessment of the SharePoint library to outline potential areas for improvement for later projects.

Figure 6

Resourcing Outline

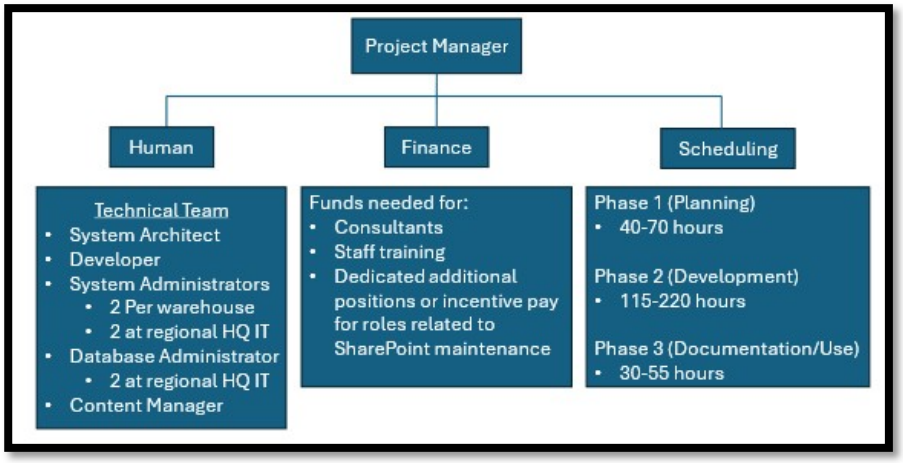


Figure 6.1

Resource Allocation

Resource	Planning	Development	Documentation and Use
Project Manager	100%	100%	100%
Sharepoint Architect	100%	100%	25%
Sharepoint Developer	100%	100%	25%
System Administrator	100%	100%	25%
System Administrator	100%	100%	25%
System Administrator	10%	100%	50%
System Administrator	10%	100%	50%
System Administrator	10%	100%	50%
System Administrator	10%	100%	25%
System Administrator	10%	100%	25%
System Administrator	10%	100%	25%
Database Administrator	100%	100%	30%
Database Administrator	100%	100%	30%
Content Manager	25%	25%	100%
Consultant 1	Session 1 Initial Guidance	Session 2 In-Depth Q/A	Session 3 Staff Training
Consultant 2	N/A	N/A	3rd Party Assessment
Legend			
Resource			
Phase			
Utilization % or Method			

Implementation Project Milestones

For this project, the important milestones were the progress reports that were due to the regional IT leadership's determination of whether to adjust the schedule to meet the project deployment date of December 5th. As mentioned earlier, there were no concerns about delays once the project went underway. Figure 7 displays an outline of the project phases with the milestones and associated deadlines the technical team had to meet.

Figure 7

Project Milestones

- Kick-off Meeting [30 Sept]: The project started with a kick-off meeting on September 30th with the project's stakeholders and provided them with a detailed overview of the project's objectives, scope, and timelines.
- Progress Reports [9 Oct / 10 Nov / 2 Dec]: Within each phase, the project manager produced a progress report, which provided a structured update on the project's progress and any issues the team faced. The report served as a platform to realign objectives with stakeholders and provided a documented history of the project as it progressed. At the end of each phase, the progress reports were used as a reference point to determine if crashing or fast-tracking the schedule was warranted. Fortunately, this did not occur for this project.

- Final Conditions Check [2 Dec]: The team came together for a final meeting to go over the phase 3 progress report to ensure that all requirements have been met to agreed-upon standards.
- Deployment [5 Dec]: The technical team began the SharePoint deployment to the company intranet for use. The warehouse IT teams assisted their personnel in connecting to the site and responded to user issues.

Project Deliverables

The technical team had to generate several products in each phase. Figure 8 below outlines which items were expected by each phase. The deliverables from the planning phase were built upon and expanded in the development phase.

Figure 8

Project Deliverables

- **Requirements List**: A detailed list of all necessary features and functions that the SharePoint site should be able to accommodate for the warehouse managers and inventory planners.

- **Functional Specifications**: A detailed list of how the SharePoint site itself will operate, including user interactions and the corresponding system behavior. It was used to guide the development process to ensure that the requirements were met.
- **Site Library Plan**: An outline of the structure and organization of the document libraries within the SharePoint site. Team leads worked with management to determine early on in the development process where to place useful information to make it more accessible.
- **Document Library**: A SharePoint feature for storing and organizing documents.
- **Dashboard Prototype**: A preliminary model of the SharePoint dashboard to help visualize key metrics and data points.
- **Report Prototype**: A draft version of reports generated from the SharePoint data. Its purpose is to understand which pieces of data were used to be compiled into a report for decision-making.
- **Security Plan**: A detailed strategy outlining how SharePoint interweaves into the broader security plan for the network, including user access, data protection, and regulatory compliance.
- **Permissions List**: A list defining the SharePoint site's user roles and access levels.
- **How-To Guide**: A series of step-by-step instructions for users on how to use SharePoint features ranging from basic search methods to adding certain web parts.
- **Development Documentation**: Comprehensive documentation on the development process, including the configurations, customization, issue logs, progress reports, technical details, system architecture, and deployment procedures. It serves as a reference point for developers to ensure continuity in future updates or troubleshooting.

Documentation Deliverables

Figure 8.1

Site Template Page

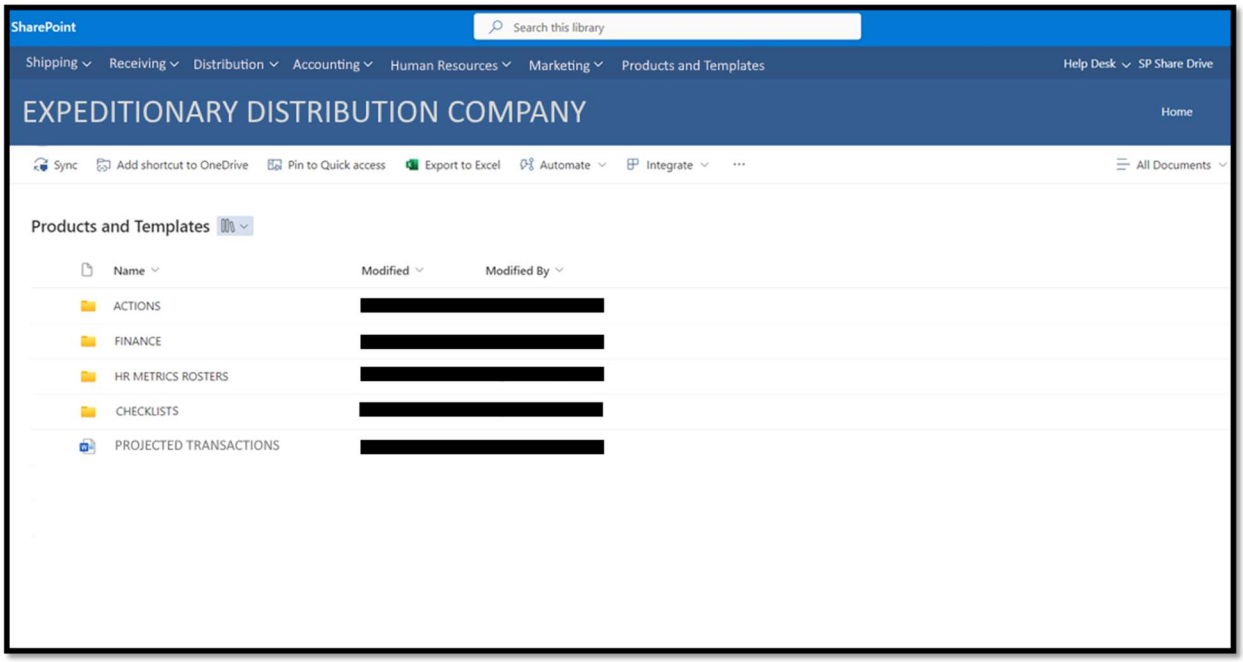


Figure 8.1 displays an example of a page where warehouse managers and inventory planners can select pre-accepted templates for use in their inventories. The 'Products and Templates' link button is placed at the top to the far right of the first header so that users can easily select and navigate the page. There are also sections for EDC departments to hang their own sub-pages.

Figure 8.2

Requirements List and Site Library Plan (compiled into the October 9th Phase 1 Progress Report

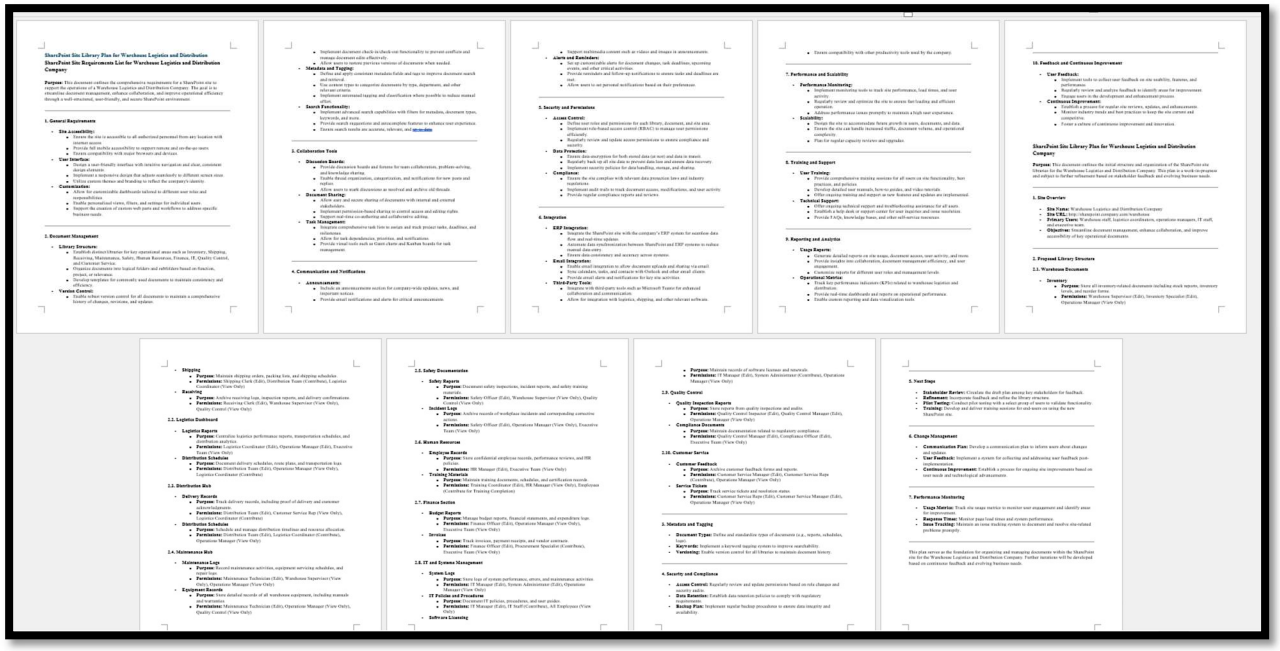


Figure 8.2 is a snapshot of a consolidated requirements list and site library plan included in the October 9th progress report before the completion of Phase 1. The project manager was responsible for compiling these reports, and the report itself also served as project documentation for future referencing.

Figure 8.3

Permissions List

User Role	User Name	Site	Library/List	Permissions	Description
Site Administrator	xxx.adm@edc.com	Entire Site	All	Full Control	Can manage everything, including site settings, libraries, and permissions.
IT Manager	xxx.itm@edc.com	Entire Site	All	Full Control	Manages site settings, user permissions, performs IT-related tasks.
Operations Manager	xxx.opsm@edc.com	Entire Site	All	Edit	Can add, edit, and delete content and manage workflows and processes.
Warehouse Manager	xxx.whhead@edc.com	Warehouse Documents	Inventory, Shipping,	Contribute	Can add and edit items but cannot delete them.
Logistics Coordinator	xxx.logcoord@edc.com	Logistics Dashboard	Logistics Reports	View Only	Can view items and download documents but cannot make changes.
Distribution Team	xxx.distro@edc.com	Distribution Hub	Distribution Schedules,	Contribute	Can add and edit items in specific libraries but not delete them.
Shipping Clerk	xxx.shipping@edc.com	Shipping Zone	Shipping Orders, Packing Lists	Edit	Can add, edit, and delete items related to shipping operations.
Inventory Specialist	xxx.invtplan@edc.com	Inventory Management	Inventory Levels, Stock Reports	Edit	Can add, edit, and delete items related to inventory management.
HR Manager	xxx.hr@edc.com	Human Resources	Employee Records	View Only	Can view HR documents and reports but cannot edit them.
Finance Officer	xxx.fin@edc.com	Finance Section	Budget Reports, Invoices	Contribute	Can add and edit financial documents but not delete them.
Quality Control	xxx.qc@edc.com	QC Documents	Inspection Logs, QC Reports	Edit	Can add, edit, and delete QC-related documents.
External Auditor	xxx.ext.auditor@edc.com	Audit Zone	Audit Reports, Compliance Docs	View Only	Can view audit and compliance documents but cannot make changes.
Maintenance Technician	xxx.mainttech@edc.com	Maintenance Hub	Maintenance Logs, Equipment	Contribute	Can add and edit maintenance records and logs but not delete them.
Safety Officer	xxx.safety@edc.com	Safety Documentation	Safety Reports, Incident Logs	Edit	Can add, edit, and delete safety reports and incident logs.
Customer Service Rep	xxx.custserv@edc.com	Customer Service Zone	Customer Orders, Feedback	Contribute	Can add and edit customer service records and feedback.
Procurement Specialist	xxx.procure@edc.com	Procurement Hub	Purchase Orders, Vendor Records	Edit	Can add, edit, and delete procurement records and purchase orders.
Training Coordinator	xxx.tngcoord@edc.com	Training Center	Training Materials,	Contribute	Can add and edit training materials and schedules but not delete them.
Marketing Manager	xxx.marketing@edc.com	Marketing Zone	Campaigns, Ad Reports	View Only	Can view marketing campaigns and reports but cannot make changes.
Legal Advisor	xxx.legal@edc.com	Legal Zone	Contracts, Legal Documents	View Only	Can view legal documents and contracts but cannot edit them.
Executive Team	xxx.exec@edc.com	Executive Suite	Strategic Plans, Executive	Full Control	Can manage high-level strategic documents and site settings.
Sales Manager	xxx.sales@edc.com	Sales Hub	Sales Reports, Client Data	Contribute	Can add and edit sales reports and client data but not delete them.

Figure 8.3 is a snapshot of the permissions list plan that shows the various user roles and access levels within the SharePoint site pertaining to their role. A prototype of this list was drafted in the planning phase, but the list itself was ultimately finalized during the development phase of the project and included in the Phase 2 progress report.

Formative Evaluation Results and Revisions

The goal of the project is to enhance the inventory experience for warehouse managers and inventory planners. Accordingly, the formative evaluations were heavily focused on the user experience. The hard-dated progress reports prior to the end of each phase were the formal and structured platforms that enabled the project manager to communicate issues to management and provide feedback on the various stages of the project. Many of the informal feedback mechanisms, such as the bi-weekly progress reports and continuous and ongoing leadership visits, acted as a forcing function for the team to remain on task. The extra time provided also gave scheduling flexibility when obtaining feedback from the warehouse managers and inventory planners.

Involving the power users as the project progressed and obtaining their inputs to identify difficulties in navigating the site proved immensely successful as the final testing of the site prior to deployment in phase three had minor improvements to be implemented.

Managers were asked for their input during the planning phase to determine which documents and data points were considered critical to their success. Additionally, when drafting initial iterations of the document library path, the IT teams consolidated the various paths and structures that the inventory planners were already using and selected a standard most common with the pre-existing paths.

Inventory planners and warehouse managers were invited to conduct pilot and usability testing of the SharePoint site during the development phase. They provided insight into their experiences as well as any issues encountered. The IT team was able to immediately rectify those concerns before the next session of pilot testing. All items were completed to standard due to the ample amount of time allocated for each phase, and the team was incentivized to fix minor issues

prior to the progress report before the end of each phase. Ultimately, the project proceeded as planned, and the decision was made not to expedite the schedule since the proposed deployment date had already been communicated to the involved parties.

Summative Evaluation Plan and Results

The progressive iterations of pilot testing combined with the progress reports within each phase led to the development of a SharePoint site that end users heavily steered the development team toward. Since the project adopted an outcome-focused result, the final conditions check before deployment yielded little site changes since users were already familiar with the product. Technical issues and developments were also remediated through in-house expertise enhanced by SharePoint specialists. Figure 2.1 from the *Acceptance Criteria* section shows that developers were able to get the page response time down to an average of 75.8 milliseconds for the final conditions check on December 2nd.

The third-party SharePoint health assessment was also conducted after the SharePoint deployment but yielded no actionable results due to the system being so new. The company was more used to identifying issues for SharePoint sites that have fallen to disrepair due to lack of continuity and thus did not have any significant to report on. Fortunately, the consultant company did not charge EDC for this instance and offered to conduct a re-assessment within 90 days, scheduled for February 2025.

Stakeholder Communication Plan and Reports

Figure 9

Stakeholder Communication Plan

Stakeholder Group	Communication Need	Method	Frequency	Notes
Warehouse Managers	Project updates, performance metrics, Issue resolution	Progress Reports (formal), Email	- [Formal] once each phase via progress report. - [Informal] Email invites for product testing	- Heavily involved in obtaining high user acceptance and user satisfaction from the end product - Very busy
Inventory Planners	Inventory system integration, process changes, performance reports	Progress Reports (formal), Email	- [Formal] once each phase via progress report. - [Informal] Email invites for product testing - Weekly updates	- Heavily involved in obtaining high user acceptance and user satisfaction from the end product - Has knowledge on which pieces of information are critical
Logistical Partners	Project progress, impact to operations	Newsletter	Monthly	Interested in the project's success
Warehouse Workers	Training, feedback collection	Newsletter Company Intranet	Bi-Weekly	Directly benefit from improved efficiency

This project's four key stakeholder groups were the warehouse managers, the inventory planners, the logistical partners, and the warehouse workers. All listed above were notified of the upcoming project to improve processes and efficiency within the company. The project sponsor was the company CIO. He was interested in the project going well since it would improve the operational aspects of the warehouse, but he was content with how things were currently going. However, he did attend one of the SharePoint training sessions with little notice to the regional IT headquarters. He prompted other staff to also attend the sessions, thus generating buy-in due to involvement from someone in the c-suite executive office. The use of newsletters and bulletins to communicate with the logistical partners and warehouse workers is admittedly low frequency in nature. They had a hard date of the SharePoint site deployment that was communicated prior to the project starting, but little else besides minor updates once or twice a month. Since the project did not experience any major delays or impacts, the need to communicate was not required according to the communication plan.

Issues arising from the plan were the warehouse managers' overall lack of availability. They often sent their inventory planners to collect notes and provide feedback on their behalf. The project schedule's flexible nature eventually allowed each warehouse manager to come to the development center on multiple occasions to conduct user acceptance testing. On the same note, some warehouse managers often did not read the progress reports sent to their emails due to their relatively higher inbox velocity and did not have clarity on the new system. IT team members had to meet with them to provide one-on-one updates on the progress and instructions on how the system would work. Other managers would ask the IT team lead similar questions during their visit to the development center for testing.

Ongoing Support and Maintenance

Now that the project is in the post-implementation phase, the evaluation, support, and maintenance intervals are posted in Figure 10 below. The purpose of this plan is to ensure continuity in the security and functionality of the SharePoint site. Usage analytics for baseline establishment will be collected at the end of this quarter. Once enough data is collected to establish a sufficient baseline, the IT management can analyze the audit findings, survey results and issue logs to identify trends, satisfaction levels, and areas for additional improvement. They will then compile these reports and present the findings to the regional IT leadership with actionable recommendations.

Figure 10

Post-Project Evaluation Intervals

Quarterly	• Internal Audits • Usage analytics • Refresher training • Maintenance cycles
Semi-Annually	• System health checks • User satisfaction surveys • Configuration review
Annually	• IT Team Advanced Training • Warehouse Managers/Planners business case alignment survey • Compliance audit (thorough) • Roadmap review
Continuous	• Security

Resources for Post-Implementation Support

The SharePoint site will require regular maintenance to perform as expected. The time commitment to conduct monthly system checks is estimated to be 10-20 hours a month. During this time, system admins will perform security checks and system checks, run software updates, verify user permissions, and verify the backup and test recovery processes as well as the backup integrity. Third-party assessments and health checks will be done annually, starting after the February 2025 assessment. At this time, the cost will be $499 per instance. The regional IT team, which has two database administrators and content managers at their level, will be responsible for the overall structure and health of the SharePoint site for EDC. System Administrators at the warehouse level will be responsible for their own segment of the system. A budget increase request will be sent to the Human Resources and Accounting department for the personnel in Table 2 below. This request is to account for the addition of the annual system health check and to request incentive pay for the system administrators and other roles to account for their additional responsibilities.

Table 2

Proposed Additional Allocation to IT Budget

Person	Current Pay	Add. Role	Incentive % Increase	Proposed Pay with incentive
Emily Gardner	$41,500	Database Admin	20%	$49,800
Michael Brooks	$53,200	Database Admin	20%	$63,840
Jessica Simmons	$47,800	Content Manager	15%	$54,970
David Turner	$42,300	System Admin	12%	$47,376
Olivia Bennett	$50,600	System Admin	12%	$56,672
Benjamin Harris	$52,400	System Admin	12%	$58,688
Sophia Foster	$40,900	System Admin	12%	$45,808
Ethan Cooper	$54,100	System Admin	12%	$60,592
Ava Reed	$45,600	System Admin	12%	$51,072
James Morgan	$49,300	System Admin	12%	$55,216
Isabella Parker	$44,700	System Admin	12%	$50,064
Difference from current pay (cumulative)				$71,698
Annual Third-Party Health Checkup				$499
Total				**$72,197**

Short and Long-Term Maintenance Plan

Service	Interval	Description	Upcoming Date	Next Date
Systems Checks	Monthly	Ensure all services are running smoothly, check server health and resource usage.	January 2025	Feburary 2025
Software Updates	Monthly	Apply patches/updates to SharePoint and relevant software, update antivirus definitions.	January 2025	Feburary 2025
User Permissions Verification	Monthly	Review user permissions, address changes, validate access control.	January 2025	Feburary 2025
Security Check	Monthly	Run security scans, check for unauthorized access attempts, resolve vulnerabilities.	January 2025	Feburary 2025
Deeper Maintenance Cycle	Quarterly	Conduct performance tuning, clean up unused sites/libraries/documents.	April 2025	July 2025
Courtesy Compliance Audits	Quarterly	Review compliance with regulatory requirements, document and resolve issues.	April 2025	July 2025
Configuration Review	Semi-Annual	Review and optimize configuration settings, ensure customizations and integrations function correctly.	July 2025	January 2026
Security Plan Review	Semi-Annual	Evaluate and update the security plan based on new threats and vulnerabilities.	July 2025	January 2026
Thorough Compliance Audit	Annual	Perform a comprehensive compliance audit, document findings, implement corrective actions.	January 2026	January 2027
Road Map Assessment	Annual	Assess SharePoint implementation against strategic objectives, update the road map considering user feedback and technological advancements.	January 2026	January 2027

Post-Implementation Project Summary

To remediate the inefficiencies and issues caused by manual inventories, the proposed solution utilized SharePoint to serve as a centralized information hub. The regional IT department led the development process, allowing the warehouse IT teams to focus on their core duties. Stakeholders for this proposal include corporate headquarters, warehouse managers, inventory planners, logistical partners, and warehouse workers. The project's goal was to improve the inventory process across the region's four logistics warehouses by creating a platform capable of hosting readily available accurate information and standardized forms for inventories.

The project had three phases that took place over the course of 67 days, from the kickoff meeting on September 30th to the end of the final phase on December 9th. The warehouse managers and inventory planners were heavily involved throughout the planning and development processes and were invited to perform user acceptance testing at certain checkpoints within the development process. The SharePoint site was deployed on December 5th and had a smooth integration process, thanks in part to the constant user feedback and the staff training prior to deployment. Warehouse managers and inventory planners began using the solution to expedite the inventory process.

The SharePoint deployment came at a crucial time due to the increased demand for logistics that neared the holiday season. Instead of completely shifting to an unknown and unproven solution prior to a critical event, regional management made the decision to utilize some of the features that SharePoint offered, such as the ability to hang pre-approved documents, to help facilitate warehouse operations. Another benefit that immensely helped improve operations was the use of a page to store critical phone numbers and addresses that all

warehouses could immediately reference rather than relying on email or team messaging, which risked improper version control. Although it has not been utilized as envisioned due to the holiday rush, the SharePoint solution still proved immensely useful by providing a virtual space for organizations and by acting as a centralized document repository for department heads to place pre-approved documents and templates for their sub-departments and others to use.

The system now exists for this region's warehouse managers to use. In February, one of the warehouses will be going through a cyclical inventory. We can already infer that due to the high utilization of the system to meet the demands of the holiday rush in December 2024, the SharePoint solution to facilitate inventories will have great potential in improving the inventory processes.

Documentation Deliverables

One of the project outcomes was to provide a solution that would increase the efficiency of inventories. The SharePoint solution came just in time for the 2024 winter holiday rush, where warehouse managers and logistics personnel used some of its capabilities to increase efficiency. As indicated by the usage analytics from its deployment plus one month, Figure 11, the site experienced 90 unique visitors with 340 total site visits. The approximate number of EDC personnel for this region is 450 personnel, with the largest cohort being the warehouse workers, who would not normally need to access the site. The SharePoint solution obtained 20% utilization from all personnel within this region within one month. Considering this assumption, usage by management can be inferred to be at a higher ratio.

An additional project outcome is the ability to capture metrics for data-driven decision-making. Figure 12 shows a density chart of hours of the day that experience higher usage, identifying a high visit window on Monday afternoon. Surprisingly, there appear to be

significant data points on Sunday evenings at around 9 PM, indicating that personnel may be on the site in preparation for the work week. Management can use the data in the examples below and other dashboards to enact policies or strategies to encourage employees to maintain a healthy work-life balance.

Figure 11

9 December 2024 to 9 January 2025 Usage Analytics

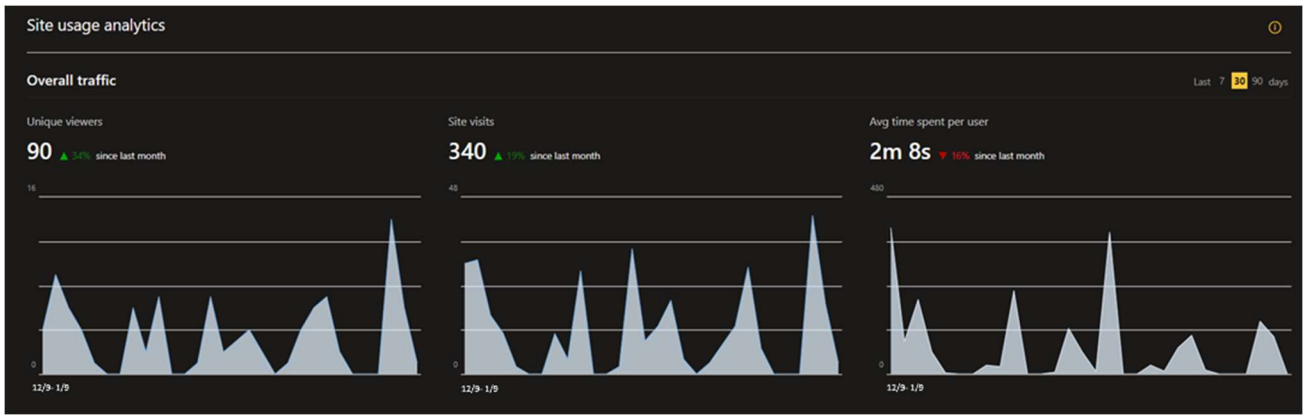
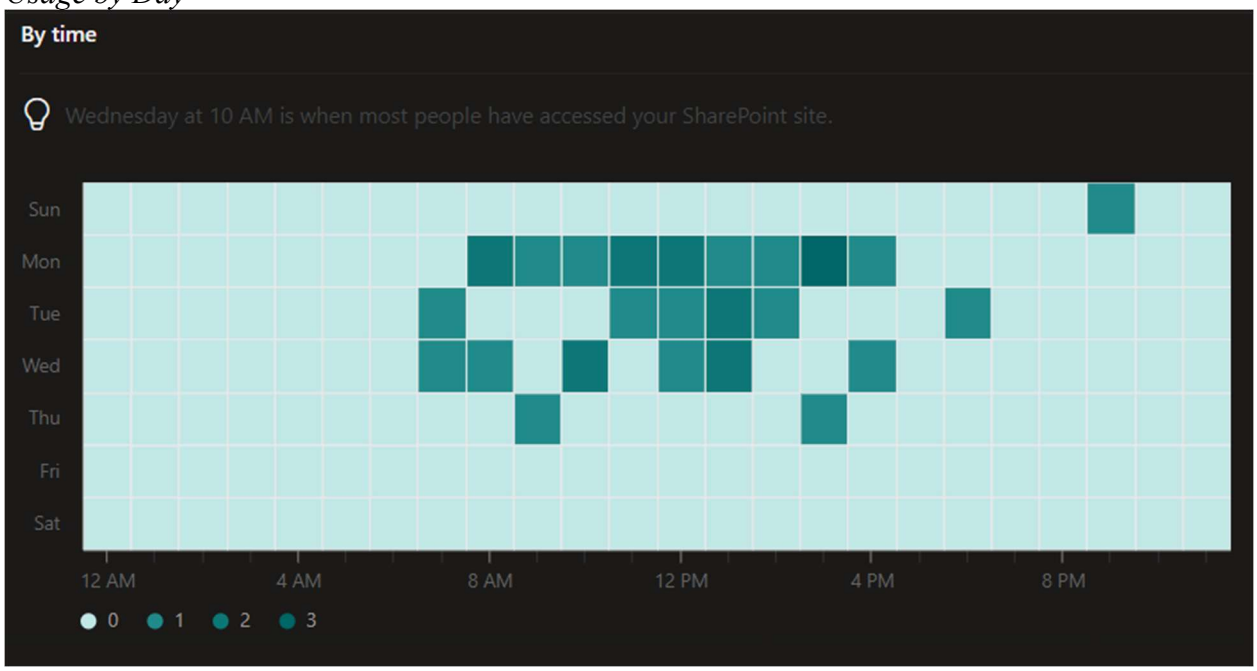


Figure 12

Usage by Day



Success Criteria for Each Project Outcome

The success of the SharePoint implementation project was primarily measured by usage and adoption rates among the intended users. The evaluation framework focused on how extensively the platform was utilized, and the site itself was built to be robust, even including sections for other departments such as Human Resources and Accounting for example.

A critical component of the project was the leadership buy-in. At some point, the CIO heard about the project and attended one of the staff training sessions. Executive-level company leadership's support and commitment provided the necessary backing for widespread adoption. Additionally, a robust procedure for remediating items on the issue log during development played a pivotal role.

Addressing the issues promptly and efficiently helped maintain project momentum and prevented minor problems from growing into major roadblocks. This allowed the technical team to deliver a functional SharePoint site that was ready for immediate use around the holiday season. High user satisfaction and user acceptance scores from Figure 2.1 meant that the system’s performance was built to be more than adequate at the time of deployment. This led to another quantifiable metric of success. According to Figure 11, the SharePoint site was utilized immediately upon deployment, recording at least 90 unique users, most of whom were likely to be warehouse management teams. This indicated the platform’s versatility and the value it provided across the different roles in EDC during a critical window of business operations.

Justification of Proposed versus Actual Project Outcomes

The proposed outcome of the SharePoint site was to enhance the warehouse's cyclical inventory process. One of the primary goals was to reduce the inventory timeline from 20 days of physical inventory to 12 days, thereby regaining eight days of productivity on top of other

latent benefits for the workers and staff. The improvement aimed to streamline operations, minimize downtime, and optimize warehouse resource utilization.

In reality, the project was implemented during the winter holiday season, with a high demand for shipping and commerce. This critical window provided an unexpected yet valuable opportunity to test the new SharePoint site's capabilities under operational pressure. The SharePoint site experienced immediate and widespread utilization as warehouse managers and their teams relied on it to manage ongoing operations efficiently.

Despite the initial focus on the inventory processes, the project demonstrated its versatility and robustness in enhancing overall warehouse operations. The IT teams swiftly adapted the solution to meet the high demand of the holiday season. This successful deployment during a peak period is a testament to the IT team's ability to provide a reliable and satisfactory solution to enhance the operations process even during unforeseen circumstances. Although the primary goal of reducing the inventory timeline was not directly measured during this period, the positive feedback and high user adoption rates demonstrated its potential to improve the warehouse inventory process.

Lessons Learned

1. Topic: Earlier stakeholder engagement
    - Discussion: The project proceeded with seemingly little input from C-suite executives. The company CIO heard about the project and attended one of the staff training sessions, which surprised regional management staff due to the lack of time required to enact proper protocol for his visit.
    - Recommendation: Involve or, at the very least, inform the relevant C-suite executive to prevent potentially unsuspected interventions.

2. Topic: Effective communication channels for all stakeholders
    - Discussion: Warehouse managers and their staff, including the warehouse inventory planner, were deeply involved in the planning. The logistical partners and warehouse workers had to rely on monthly newsletters to get information. Even when the project was implemented, the workers did not see the benefits due to the holiday rush.
    - Recommendation: Increase the frequency of communications to ensure that all stakeholders are informed, even if they do not directly affect the project.
3. Opt for median activity duration for planning
    - Discussion: The project proceeded as planned but experienced periods of lower resource utilization due to the actual duration of scheduled activities being shorter than expected.
    - Recommendation: Use the median estimated time from research and fast-track the schedule or certain actions if deemed appropriate.
4. Adaptable measurable success criteria
    - Discussion: The project's original purpose was to enhance the inventory process. The project was released during the holiday season, prompting different success criteria.
    - Recommendation: Adapt usage/adoption rate-based criteria for success
5. Request budget increase earlier for incentive pay for the project
    - Discussion: Incentive pay for additional responsibilities during the project and post-implementation is still being adjudicated by the Human Resources and Accounting departments. Having an earlier request for incentive pay would increase team morale.
    - Recommendation: Request budget adjustment for incentive pay and project maintenance intervals within the proposal.

6. Consider multiple staff training sessions
    - Discussion: Not all staff were available for the booked training session with a SharePoint consultant. Another training session had to be requested to capture the remaining personnel who could not attend the first session.
    - Recommendation: Book multiple staff training sessions to cover all personnel
7. Plan for the release version to be away from major holiday events
    - Discussion: The project's release was during the holiday season. The original criteria for success were not able to be measured, but the SharePoint site was utilized to greatly assist with the additional strain during that period.
    - Recommendation: Be wary of projects that will be implemented during busier times of the calendar year.
8. Consider different project methodology
    - Discussion: The waterfall methodology seemed logical for the project since many activities were sequential. Upon further analysis, specifically critical path analysis, several project activities could have been conducted concurrently, leading to greater resource utilization.
    - Recommendation: Perform deeper analysis for differing project methodologies to maximize the use of company resources and time.
9. Scalability considerations for on-premises solutions
    - Discussion: The SharePoint implementation currently acts as a pilot program for the company. If deemed highly successful, on-premises solutions must be considered for in-depth business continuity and disaster recovery plans. Currently, the data rests within the Azure cloud, and additional analysis will have to be conducted to

determine the costs of additional infrastructure and hardware for an on-premises solution.

- Recommendation: Perform the analysis for on-premises solutions for future projects to provide decision-makers with data already on hand and improve the credibility for the proactiveness of the IT department.

References

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