



The University of Texas Medical Branch
Audit Services

Audit Report

Supply Chain Control Environment Audit

Engagement Number 2019-010

June 2019

The University of Texas Medical Branch
Audit Services
301 University Boulevard, Suite 4.100
Galveston, Texas 77555-0150

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Background

UTMB Health's Supply Chain Department is an integrated support function that provides management and services for the distribution of goods and services throughout UTMB Health. The integrated support function includes the activities of UTMB Health's Procurement, Receiving, Hospital Materials Management, Logistics and Accounts Payable teams. The effectiveness of Supply Chain operations in delivering adequate distribution of goods and services is critical to supporting the successful accomplishment of UTMB Health's mission and objectives.

Similarly, the effectiveness of the information resources utilized to support Supply Chain operations is critical to successful outcomes. Since the 1980's, UTMB Health developed and maintained a legacy inventory system, Digimax Materials Management (DigiMax). This provided customized functionality and integration with other legacy systems such as @PAR and Omnicell to provide automated ordering, supply distribution, shipping support, and logistical functions. In January 2018, Supply Chain initiated a project to implement the PeopleSoft Inventory solution with the intention to replace the legacy applications. The November 2018 go-live of the PeopleSoft Inventory module resulted in significant impacts to Supply Chain activity and the full replacement of the legacy systems has yet to be achieved. During the audit period, in response to these events the organization engaged an external consultant to perform a gap analysis and in April 2019 initiated a multiple stage Supply Chain Optimization (SCO) project with the consultant's assistance.

Audit Objectives

The objective of this engagement was to assess overall Supply Chain governance, the PeopleSoft Inventory implementation and change management, and test a sample of Procure-to-Pay process controls. This engagement was performed as an integrated operational and IT audit.

Scope of Work and Methodology

Our engagement approach included an assessment of: governance controls for the Supply Chain organization, a post-implementation review of governance and project controls for the PeopleSoft Inventory implementation, and detailed control testing of Procure-to-Pay processes and system controls.

The scope of the detailed control testing included data from fiscal year 2018 to January 2019 and current operational processes related to medical/surgical supplies and materials, non-medical/non-surgical supplies and materials, and non-capitalized medical and lab equipment. The scope of testing excluded Supply Chain activities related to construction, real estate, services, non-medical gases, and capitalized equipment.

The audit was conducted in accordance with the International Standards for the Professional Practice of Internal Auditing as promulgated by the Institute of Internal Auditors.

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Audit Results

Executive Summary

Based on the audit procedures performed, UTMB Health has significant control challenges related to Supply Chain core activities. The key opportunities identified to improve controls and mitigate risk are:

- Strengthening data governance to improve Supply Chain data.
- Developing a sustainable Supply Chain organizational and policy framework.
- Managing key project risks appropriately.

The recommendations presented should be addressed with priority given the high potential impact to institutional objectives.

Detailed Results

In reporting on Audit Service results and recommendations, we have indicated when our recommended control improvements are contemplated within the SCO project scope area and not made recommendations of a similar scope, rather focused on the sustained adoption of internal control requirements.

Supply Chain Governance

Data Governance

A foundational and priority control concern identified in Audit Services review and testing work was the poor quality of Supply Chain systems data, resulting from a lack of underlying data governance. Examples of data integrity concerns noted during our work included:

- Audit Services testing of PeopleSoft Item Master identified 729 active duplicates (2% of Item Master) of which price variances were identified for 12 of 20 (60%) items tested. Additionally, price variances for 3 of 10 (30%) items in PeopleSoft as compared to DigiMax data.
- DigiMax Legacy Item Master data migrated to the PeopleSoft system contained inconsistent or incorrect unit of measure. As DigiMax uses a separate Item Master, the risk of errors continues for those units still to be converted to the PeopleSoft system.
- Audit Services review of the Value Analysis activity indicated that the poor quality within the PeopleSoft Item Master caused misinformation in the reporting within the Premier contract management tool.
- Observed system and data issues due to Omnicell instability, order duplicates and transposed data.

The current lack of consistent Supply Chain data results in a foundational process risk with the potential for delivery issues or stock shortages, which may impact clinical service delivery. Cleansing data is a key objective identified in the SCO project (stabilization phase), focused initially on Item Master data.

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Recommendation 2019-010-01-SP:

In coordination with the institutional Data Governance initiative, the Associate Vice President Supply Chain should formally assign data ownership to ensure appropriate on-going management of data. Assigned responsibilities related to Supply Chain systems and processes should include establishing appropriate monitoring and periodic review of data to ensure its integrity. Addressing the maintenance and monitoring of Item Master data should be a priority.

Management's Response: UTMB Supply Chain and Huron Consultants are currently formulating the item master strategy, item master business rules and item data cleanse initiatives to result in a robust item master. Recommended data governance, ownership and ongoing maintenance/monitoring will be incorporated in a Strategy document and Implementation and Sustainability Plan to be approved by the Supply Chain/Huron Assessment Steering Committee and UTMB Senior Leadership.

Implementation Date: Implementation dates will be identified in the approved Strategy document and Implementation and Sustainability Plan

Supply Chain Organization

Audit Services observed a lack of clearly defined roles and responsibilities for key Supply Chain functions, in some cases it appeared due to the recent restructuring of those teams. The lack of clarity hinders Supply Chain operations and leads to inconsistent direction and delivery. Additionally, we noted the ongoing organizational changes are increasing resource fatigue and retention risk. The SCO project includes an assessment of staffing resources and implementation of a new organizational model.

Recommendation 2019-010-02-RH:

The Associate Vice President Supply Chain should establish and maintain an appropriate organizational structure to ensure the achievement of institutional objectives. The departmental roles, responsibilities and functions should be clearly defined, documented, and communicated. To support and sustain organizational changes, there should be appropriate resourcing with required skillsets, ongoing training and monitoring of performance.

Management's Response: Huron Consulting began an assessment of Supply Chain departmental roles in June 2019. Recommended organizational structure, defined roles, training needs and monitoring of performance will be incorporated in a Strategy document and Implementation and Sustainability Plan to be approved by the Supply Chain/Huron Assessment Steering Committee and UTMB Executive Leadership.

Implementation Date: Implementation dates will be identified in the approved Strategy document and Implementation and Sustainability Plan

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Supply Chain Policies and Procedures

Audit Services review of the available Supply Chain guidance indicated multiple policies and procedures as out dated or not reflecting current practice. More significantly, Audit Services identified a lack of existing policies or procedures for key Supply Chain processes, including the modification of Item Master data, the match exception monitoring and accruals, the coding of vendor discounts, and departmental direct orders.

Without effective policies and procedures, there is an increased risk of inconsistent Supply Chain delivery as well as a lack of compliance. The current SCO project targets the development of multiple Supply Chain strategy and process documents to address identified gaps.

Recommendation 2019-010-03-RH:

The Associate Vice President Supply Chain should establish and maintain appropriate documented policies and procedures to support the achievement of organizational objectives and provide guidance to staff and users. Additionally, there should be periodic review and revision controls and integration with Institutional policy management and compliance processes, as appropriate. To support and sustain procedural changes there should be clear process-level documentation, appropriate training and monitoring of processes. In particular, processes such as Item Master maintenance, match exception resolution, discount coding and departmental order processing should be addressed.

Management's Response: UTMB has engaged Huron Consulting to review and document existing Supply Chain all major policies and procedures. Policy and Procedure updates will be incorporated in a Strategy document and Implementation and Sustainability Plan to be approved by the Supply Chain/Huron Assessment Steering Committee and UTMB Executive Leadership.

Implementation Date: Implementation dates will be identified in the approved Strategy document and Implementation and Sustainability Plan

Supply Chain Metrics and Dashboard

Audit Services identified a lack of clear Supply Chain objectives supported by appropriate metrics; while a Supply Chain dashboard has been proposed it is not yet developed. Consistent and sustained delivery of Supply Chain activities requires appropriate measurement and ongoing monitoring. The engagement with Huron consulting will produce or update relevant metrics and dashboards.

Recommendation 2019-010-04-RH:

The Associate Vice President Supply Chain should ensure organizational objectives are supported by appropriate Supply Chain governance and metrics. A Supply Chain dashboard with consistent metrics should be developed, communicated, implemented and monitored.

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Management's Response: Huron has started an assessment of Supply Chain metrics and key performance indicators. Recommended metrics and key performance indicators to support Supply Chain governance will be incorporated in a Strategy document and Implementation and Sustainability Plan to be approved by the Supply Chain/Huron Assessment Steering Committee and UTMB Executive Leadership.

Implementation Date: Implementation dates will be identified in the approved Strategy document and Implementation and Sustainability Plan

Supply Chain Compliance Monitoring

Audit Services tested compliance with University of Texas System Policy 156 (UTS 156) guidelines related to Purchaser training and certification. We confirmed that the required annual training plan was submitted and approved and that required personnel in Purchasing were appropriately certified. However, additional certified individuals outside of Purchasing were excluded in reporting with 12 of 32 actual certifications not included in the submitted certification listing. As the listing is incomplete, there is risk that all required certifications are not tracked and obtained. Further, UTS156 states that the primary procurement Officers must validate the certification of purchasing staff. Currently the submission relies on the honor system and without validation, there is a risk that the purchasing staff do not reinstate their certification. An additional compliance concern expressed during our interviews with Supply Chain personnel related to Historically Underutilized Businesses (HUB) Subcontracting and delays in fully implementing the State Auditor's Office 2017 recommendations and incomplete HUB Subcontracting Plan internal reviews.

Audit Services noted the monthly review of departmental orders (DEP audit) for purchasing violations, required by the Purchasing Contract Management Handbook, had not been completed since September 2018. Additionally, Audit Services was unable to verify correction or notification of the previously identified violations as required by the policies.

A lack of current policies and procedures combined with resource constraints has led to a risk of non-compliance with applicable regulations and policies. The SCO project is developing multiple Supply Chain "best practice" documents; these should contemplate compliance requirements and appropriate monitoring.

Recommendation 2019-010-05-RM:

The Associate Vice President Supply Chain should establish and maintain department procedures to ensure appropriate monitoring of compliance with applicable laws, regulations and policies. To support and sustain compliance there should be appropriate resourcing, clear guidance to staff, training and monitoring. In particular, for UTS 156 Certification reporting, HUB Subcontracting Plan internal reviews and Contract Management Handbook audits.

Management's Response: UTMB Supply Chain is reviewing all applicable policies and procedures to include, but not be limited to, UTS 156 Certification reporting, HUB

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Subcontracting Plan internal reviews, Contract Management Handbook audits and Departmental order (DEP) audits to support and sustain compliance with appropriate resources, clear guidance to staff, training and monitoring. AVP of Supply Chain will review proposed policy and procedural changes, along with a sustainability plan, with VP of Finance and CFO and implement after approved.

Implementation Date: August 1, 2019

PeopleSoft Inventory Project

Audit Services completed a post-implementation review of the PeopleSoft project including a project documentation review as well as interviews with staff and contractors involved in the project. Audit Services' review noted that the project encountered challenges prior to and following go-live leading to significant impacts in Supply Chain activities. Additionally, we noted that the replacement of the DigiMax legacy system has yet to be fully achieved due to identified hardware, interface and data concerns. Based on Audit Services' assessment, highlighted below are the key risk mitigation actions required in the context of the current SCO project.

Lessons Learned

A project lessons learned process was initiated, however the process was not completed and the input of key stakeholders left out. Audit Services provided feedback during the SCO project kick-off to promote the incorporation of the draft lessons learned to the current risk assessment and mitigation efforts. The likelihood the SCO project may encounter similar challenges exists and identified risks should be formally tracked.

Recommendation 2019-010-06-RH:

The Vice President Institutional Support should ensure that lessons learned from the PeopleSoft Inventory implementation are formally addressed during the Supply Chain Optimization project. Formal risk mitigation should be documented and tracked including improving testing procedures, involvement of additional SMEs, downtime procedures, backfill planning, and project communications.

Management's Response: As of March 28, 2019, the PeopleSoft Inventory Management Module implementation "lessons learned" were documented and incorporated in the current SCO engagement plan. We have established a governance structure, Supply Chain/Huron Assessment Steering Committee bi-weekly meeting cadence, CFO bi-weekly email status updates, monthly updates to Presidents Operations Steering Committee, weekly status reporting with RAID (Risks/Actions/Issues/Decisions) log to include remediation, plan owner, and resolution dates.

Implementation Date: April 30, 2019

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Resource Planning

The project followed a formal system requirements gathering and design phase. However a formal analysis of the change to wider institutional processes was not performed. Additionally, a formal approach was not utilized in determining the required resources for the project tasks and the operational impact of allocating personnel to the project. As a result, project and backfill resourcing appears to have been insufficient to support successful project outcomes and there was insufficient engagement with impacted institutional operational areas. Resourcing risk continues with potential for project delay, fatigue, and loss of resources. The capacity of internal resources to leverage SCO project deliverables should be reviewed and managed.

Recommendation 2019-010-07-RH:

The Vice President Institutional Support should ensure that resources requirements to support the Supply Chain Optimization project activity are formally calculated and appropriate project resources assigned with backfill resources provided to support operational workload as appropriate. Additionally, resource, user and customer impacts across the organization should be formally communicated and managed.

Management's Response: Any resource constraints and/or subject matter expert required participation will be reviewed and approved by the Supply Chain/Huron Assessment Steering Committee at the scheduled bi-weekly meetings as the need arises.

Implementation Date: April 30, 2019

Testing and Sign-off

Audit Services determined that an underlying lack of data governance for the legacy DigiMax system led to incorrect, inconsistent data migrating into the new PeopleSoft Inventory module. Audit Services' review of the issue log, steering committee activities, and development logs indicated the data migrated from the legacy system to the new system contained inconsistent or incorrect unit of measure on a number of items in the master data source. The errors caused inefficiency in the new system as well as challenges to overall supply chain systems and institutional operations. During system testing the master data issues were identified, logged, and communicated to UTMB Health team members. However, the remediation taken and sign-off provided did not fully address or correct the problem prior to go-live. Ineffective governance and testing resulted in significant challenges to the institutional operations at go-live.

Recommendation 2019-010-08-RH:

The Vice President Institutional Support should ensure appropriate governance for the Supply Chain Optimization project, including the appropriate engagement of SMEs, and establishment of a process for escalation and communication of issues. Appropriate testing and operational review should validate sign-off.

Management's Response: We have established a governance structure, Supply Chain/Huron Assessment Steering Committee bi-weekly meeting cadence, CFO bi-weekly email status updates, monthly updates to Presidents Operations Steering

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Committee, weekly status reporting with RAID (Risks/Actions/Issues/Decisions) log to include remediation, plan owner, and resolution dates. Recommended testing plans and operational review sign-off will be incorporated in a Strategy document and Implementation and Sustainability Plan to be approved by the Supply Chain/Huron Assessment Steering Committee and UTMB Executive Leadership.

Implementation Date: Implementation dates will be identified in the approved Strategy document and Implementation and Sustainability Plan.

Project Communications & Documentation

A formal documented project management process was utilized to manage the project including a project charter, defined project phases, training plans, testing plans, issue resolution process, and go live planning documentation. Project roles and responsibilities to support the identified project objectives were clearly defined and communicated at the initiation of the project. However, a formal communication plan was not developed and implemented for the project. Notifications regarding changes to the system or project roles and responsibilities were ad-hoc resulting in confusion. Additionally, as a result of the lack of a formal communication plan, training efforts were insufficient to support a successful change to critical institutional processes.

Recommendation 2019-010-09-RH:

The Associate Vice President Supply Chain should ensure the Supply Chain Optimization project is supported by a formal communications plan. Project roles and responsibilities should be updated as required.

Management's Response: We have established a Formal Communication Plan through the Supply Chain/Huron Assessment Steering Committee bi-weekly meeting cadence, CFO bi-weekly email status updates, monthly updates to Presidents Operations Steering Committee, weekly status reporting with RAID (Risks/Actions/Issues/Decisions) log to include remediation, plan owner, and resolution dates. New communication methodology and/or changes to project roles and responsibility will be approved by the Supply Chain/Huron Assessment Steering Committee as needed on an ongoing basis.

Implementation Date: April 30, 2019

Procure-to-Pay Process

Audit Services performed walkthroughs and control testing covering Supply Chain's Procurement to Payment cycle, including Purchasing, Logistics, Procurement Support, and Accounts Payable processes and systems. Where possible results of audit procedures have been consolidated based on potential root cause issues, such as the significant data integrity and policy issues identified in the governance section of this report. Additional control issues are identified for issue tracking and system access as set out below.

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Purchasing

Audit Services reviewed a listing of purchasing delegations and confirmed as proper and correct a sample of employees who had designated purchase authority over \$50,000. Audit Services tested a sample of purchase orders (POs) and confirmed the invoice price to supplier agreements. A sample of departmental POs were tested to ensure the requisition and purchase orders were reviewed and approved by authorized department personnel, noting that the approval is often maintained outside of PeopleSoft. Additionally, Audit Services observed a lack of consistent or standardized process for orders processed from the departments where requests come in multiple forms including Webform software, email requests, or via paper notes. Recommendation 2019-010-03 above includes the development of a consistent or standardized process for departmental orders and that approvals be maintained within PeopleSoft.

Logistics

Central Receiving receives thousands of deliveries daily, including supplies inventory for warehouse and storeroom supplies at all campuses. Materials Management Hospital Operations provides medical supplies and services all Omnicell and Optiflex units supplying the clinical areas. Audit Services observed the receipting and logistics process for inventory in the warehouse and supplies storeroom at the main campus. System and data issues were identified with Omnicell instability, order duplicates and transposed data. Additionally, inaccurate data in PeopleSoft (ship to, item metadata) affected deliveries. Recommendation 2019-010-01 includes addressing the goods receipt data integrity issues.

Procurement Support/Helpdesk

The Procurement Support team provide helpdesk support for the Supply Chain workflow, including maintenance for procurement processes and transactions such as updating the item and vendor master data. Audit Services tested a sample of 30 purchase orders and confirmed that sampled vendors were active on the master vendor listing. We identified a lack of formal process for modification of the Item Master as addressed in Recommendation 2019-010-03. Audit Services testing of PeopleSoft Item Master records showed price variances in 12 of 20 (60%) items tested, and price variances for 3 of 10 (30%) items when comparing PeopleSoft to DigiMax data. Item Master data integrity is addressed in Recommendation 2019-010-01.

Audit Services observed manual tracking of Procurement Support issues, with no ticketing system used to document, escalate, monitor, and track requests. This results in inefficiency and difficulty to perform root cause and trend analysis. While a ticketing system was planned, it was not implemented due to resource and time constraints. Additionally, we observed an issue tracking system would benefit the Materials Management team. Introducing such a system for Supply Chain is not identified in scope of the SCO project.

Recommendation 2019-010-10-RH:

The Associate Vice President Supply Chain should ensure relevant Supply Chain teams adopt a ticketing and issue tracking system for Helpdesk and Materials Management requests to identify root cause issues, trends and capture lessons learned.

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Management's Response: Current SCO Assessment is looking at Supply Chain from end to end to give feedback on next steps to build best practices which includes a ticketing and issue tracking system for Procurement Helpdesk, Materials Management and Accounts Payable to identify root cause issues, trends and capture lessons learned. Recommendations in this regard will be incorporated in a Strategy document and Implementation and Sustainability Plan to be approved by the Supply Chain/Huron Assessment Steering Committee and UTMB Executive Leadership.

Implementation Date: Implementation dates will be identified in the approved Strategy document and Implementation and Sustainability Plan

Accounts Payable

Accounts Payable will normally pay a vendor invoice when there is a "match" of details including vendor name, order number, line item description, quantity and price between an invoice, purchase order and goods receipt in PeopleSoft. Accounts Payable has created several analytics and reports to assist requesters/buyers in resolving match exceptions. Audit Services reviewed the analysis as of 02/28/19, noting the amount older than 30 days was \$3,249,802 with a total of \$253,321 greater than 1 year. Due to the quantity of match exceptions, forced payments outside of the match control had been approved. An additional impact of having a high volume match exceptions could be higher costs due to missed discounts and interest added for timely pay penalties. In accordance with Texas Government Code 2251, Prompt Payment Law during Fiscal Year 2018 UTMB paid \$214,621.60 in interest for payments made after 30 days. Audit Services noted that there is no standard process for the clearance of match exceptions and/or an escalation process in order to ensure timely payments of invoices. As identified in the recommendation 2019-010-03, Supply Chain Management should develop a standardized process with clear accountabilities and an escalation procedure to work match exceptions.

Audit Services tested a sample of invoices for discounts, identifying \$11,868 in discounts missed for 35 of 65 (54%) invoices tested, noting for 12 of 65 (18%) Accounts Payable did not code the discount opportunity on the voucher, and for 23 of 65 (35%) the invoice payment was made after the discount period. As identified in recommendation 2019-010-03 Supply Chain should develop a monitoring process to ensure coding of discounts on all invoices.

System Access

Audit Service testing identified that Supply Chain systems access for the Premier contract system (external website) requires review. The active user account population includes 140 of 189 (74%) unique accounts (many with access to multiple modules) that are no longer with UTMB Health or otherwise did not match institutional records. Unmanaged system access may allow unauthorized system access. Review of Supply Chain system access is not identified in scope of the SCO project.

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Recommendation 2019-010-11-RH:

The Associate Vice President Supply Chain working with Information Services should ensure periodic reviews of Supply Chain systems user access are completed, including for the Premier contract system access.

Management's Response: The Associate Vice President Supply Chain working with Information Services will ensure periodic reviews of Supply Chain systems user access are completed, including the Premier contract system access. The active user account population in the Premier contract system (noted above) is in process of being corrected and Supply Chain Procurement Support Helpdesk Leadership will be incorporating this group into the current monthly review.

Implementation Date: July 1, 2019

Audit Services testing of Purchasing activity identified that central purchasing team members maintained access to both requester and approver roles in PeopleSoft. Work processes may require this level of access however, where required, such access configurations should be documented with controls identified to mitigate potential segregation of duties conflicts. We also noted that the PeopleSoft Inventory segregation of duties documentation created in the development phase of the implementation project has not been updated following implementation to reflect revised system roles and access. A complete and updated understanding of potential access conflicts and role configurations is required to understand potential risk to supply chain processes. Review of segregation of duties is not identified in scope of the SCO project.

Recommendation 2019-010-12-PH:

The Associate Vice President Supply Chain should ensure appropriate segregation of duties for Supply Chain user access is maintained in the PeopleSoft system. Appropriate documentation and monitoring based on changes to system access should be performed.

Management's Response: UTMB Supply Chain and Huron are reviewing access controls as a part of the end to end supply chain review and will identify any segregation of duty issues and implement procedural changes to eliminate any issues. Recommendations in this regard will be incorporated in a Strategy document and Implementation and Sustainability Plan to be approved by the Supply Chain/Huron Assessment Steering Committee and UTMB Executive Leadership.

Implementation Date: Implementation dates will be identified in the approved Strategy document and Implementation and Sustainability Plan

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Conclusion

Audit Services identified significant on-going control issues related to Supply Chain core activities. Our testing results present themes consistent with the Inventory implementation go-live, the resulting external consultant gap analysis, and the current SCO project scope. Audit Services identified priority action is required in Supply Chain governance, particularly related to data integrity and that significant risk exists for achieving a sustainable organizational and policy framework. Additionally, risks identified from the PeopleSoft Inventory implementation project should be formally addressed during the current SCO project, including those related to resource and backfill planning, project communications, improved testing procedures and involvement of additional Subject Matter Experts.

We greatly appreciate the assistance provided by Supply Chain staff and hope that the information presented in our report is beneficial.



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