

Loan Lifecycle Project Audit

MassHousing

Management Innovation: Internal Operations

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Summary

Recognizing the challenges and complexities associated with project implementations, MassHousing's Internal Audit performs an independent audit of the project management activities for significant business transformations occurring within the Agency. In 2020, when project audit services were initially conceptualized, they were met with hesitation, fearing potential impairments to Internal Audit's independence and objectivity. However, since 2020, three project audits were successfully completed. Project Audits are now perceived by Management as beneficial to ensure project outcomes are achieved.

In the past year, MassHousing's Internal Audit completed the Loan Lifecycle project audit, which provided assurance on one of MassHousing's largest business transformations to date. Notable project audit outcomes that strengthened the Agency's operations and helped achieve strategic objectives over the past year included: offering insights into inefficiencies and process bottlenecks, leading to performance optimization; providing an objective record of decisions, communications, and outcomes, which held project management and associated teams accountable; and ensuring the project aligned with internal policies and industry standards.

Project Audits

Statistics around project failures have been studied consistently and reported over the last three decades by numerous analysts and consultants, including: Gartner Inc., Forrester Research Inc., The Standish Group, the Boston Consulting Group (BCG), Deloitte, and KPMG. According to the Standish Group's most recent CHAOS report published in 2020¹, 66% of projects are challenged or fail, when success is defined as a project completed on time, within scope and budget. These statistics were supported by BCG in 2021 who estimated that 70% of digital transformation efforts fall short of meeting targets. Lastly, the 2022 Consortium for Information and Software Quality (CISQ) report estimated that the cost of poor software quality in the US grew to \$2.41 trillion from \$1.56 trillion in 2020, due to operational software failures, poor quality legacy systems, and unsuccessful projects. The staggering statistics around project implementations, in conjunction with rising cybersecurity threats and drive for efficiency, has led to increased emphasis on effective project implementations and ensuring their respective success within the Agency.

Since 2020, MassHousing's Internal Audit function has offered project audit services for significant business transformations occurring within the Agency. A project audit is a formal review of a project's processes, performance, and outcomes. Its purpose is to determine whether the project is on track, complies with established standards and requirements, and is delivering its intended results. Internal Audit opines on the effectiveness of project management activities and determines whether the project is on track to meet its success criteria. Internal Audit's opinion is based on the collection of real-time evidence, including: a review of project deliverables, non-voting participation in stakeholder and governance meetings, as well as inquiry with project managers, team members, and other stakeholders impacted by the project. Internal Audit highlights early warning signs in the form of key and emerging risks or opportunities. The Project Management Book of Knowledge (PMBOK), the standardized set of guidelines, best practices, and terminology developed by the Project Management Institute (PMI) for managing

¹ Project success rates are from the 2020 CHAOS Report published by the Standish Group. Since 1994, the Standish Group published annual reports analyzing the success and failure rates of software development projects. The 2020 Report, titled CHAOS 2020: Beyond Infinity, is the final report in the CHAOS series, with over 50,000 projects analyzed globally.

projects effectively, is referenced when offering best practices or guidance to improve project outcomes. Given Internal Audit's involvement, initial concerns were raised regarding Internal Audit's independence and objectivity.

The Institute of Internal Auditor's (IIA's) Global Internal Audit Standards require that Internal Auditors maintain objectivity and independence when performing services. Specifically, internal auditors must maintain independence and professional objectivity when performing all aspects of internal audit services. Independence is defined as freedom from conditions that impair the internal audit function's ability to carry out its responsibilities in an unbiased manner. Professional objectivity requires internal auditors to apply an impartial and unbiased mindset and make judgments based on balanced assessments of all relevant circumstances. Internal Audit's innovation is striking a balance of offering valuable insights for project management's consideration, while maintaining its independence and objectivity. This innovation is exemplified by the Loan Lifecycle Project Audit.

The Project Audit Journey: the Loan Lifecycle Audit

Since 2020, three critical business transformations projects have occurred within MassHousing. As each year progressed, the complexity of each project increased and the value of Internal Audit's project auditing further advanced. In Fiscal Year 2025, the Agency's Multifamily business line successfully completed its implementation of its Loan Lifecycle System, thereby decommissioning three legacy systems. The implementation was a triumph, as 100+ users within the Agency work with the new system daily, decommissioning of legacy systems decreased our risk of security threats, and the implementation of a single solution increased MassHousing's visibility into key data supporting revenue streams.

Key activities Internal Audit performed with project management over the past year to ensure the project's success included: an independent review of data migration efforts to ensure the completeness and accuracy of the new system, a review of training materials, and a regular meeting with project management to report unvarnished stakeholder perspectives. Providing project management with concerns raised by impacted stakeholders was especially important since the project impacted different departments, communication varied at different levels of the organization, and project management was receiving push back from potential users. Internal Audit's support and advice was valued by project management throughout the effort.

Benefits

Several benefits are achieved through project auditing. First, the project audit provides an assessment of how well the project met its scope, budget, schedule, and quality requirements. The assessment provides Senior Management and the Board insight into whether the project was successful, challenged, or failed. Second, project audits evaluate decision-making, roles, and responsibilities. These actions clarify accountability and improve the overall governance structure. Third, project audits highlight unmitigated risks and offer suggestions for enhancing project management practices. The highlights usually drive immediate corrective measures (where needed), escalation of resource constraints, strengthens risk management practices, and encourages continuous improvement for future projects. Lastly, project audits ensure compliance with internal standards and industry standards.

Replication

MassHousing developed several templates that guide our project audit work. First, to determine whether a project audit is required, a project risk assessment is performed. It is important to note that project audits are risk-based. Internal Audit documents additional risk assessments throughout the life of the project to determine if project audit attention is still warranted. The risk-based criteria ensures that internal audit effectively weighs the cost of engagement with the associated benefit. If the project is no longer high or moderate risk, the project audit engagement is concluded.

The internal audit scope of each interim period is defined to ensure a fair assessment is provided and internal audit deploys appropriate resources. When auditing projects, internal auditors typically assess:

- Governance over the project (steering committee engagement and roles/responsibility definition)
- Project risk management practices (timely risk identification and mitigation)
- Budgeting and cost control (clear definition of business case, success criteria, and contingency)
- Timeline and milestone tracking
- Scope and change management processes
- Communication with impacted stakeholders (regular status reporting)
- Quality assurance and deliverable acceptance (testing, training, and migration plans)
- Compliance with internal policies (such as Procurement Policies) and adherence to best practice (defined by the PMBOK)

Work papers that guide the assessment are established and reviewed. Monthly meetings are held with the MassHousing project manager to offer insights and preliminary results. This meeting cadence and format allowed for trust to build with project management and provide early intervention of potential issues. The summary of our audit workpapers is discussed in our report that are issued at six-month intervals or prior to a significant project milestone. Reports include an opinion matrix, which guides the consistency of internal audit's opinion of the project. Key and emerging risks or opportunities are also highlighted to inform Senior Management of potential project constraints.

Example Risk Assessment Table
Internal Audit
Program/Project (P/P) Risk Assessment Template

The purpose of this template is to help Internal Audit document our rationale for providing our level of audit attention to a program or project (P/P), since the risks associated with a P/P are constantly evolving. The template serves as a point in time assessment and considers the most common project risks. Internal Audit works collaboratively with Project Management to define and assess the P/P. Project Managers can also use this template to discuss initial mitigation strategies with Internal Audit for the P/P risks that are consider “high”.

Program/Project (P/P) Name and Date of Risk Assessment:

Rental Lifecycle Project Audit – 1/17/2024

Describe the Program/Project:

Description of the project scope, timing, costs. This section is completed in collaboration with Management to confirm Audit’s understanding.

The goal of the Rental Lifecycle Software Project is to implement third-party software that supports the core elements of the multi-family business line including:

- Customer Relationship Management
- Lead Management
- Origination
- Underwriting
- Construction Monitoring
- Lease-Up Monitoring
- Asset Management Review
- Financial Operating Statement Review
- Replacement Review Analysis
- Compliance Activities
- Risk Management
- Document Management
- Refinance or Disposition

One of the primary goals of the project is the replacement or substantial change of legacy technologies, including:

- Soffront
- FOA
- PAWS

The new solution will have all data consolidated in one system. The project mainly impacts the Rental Management, Underwriting, Business Development, and Housing Stability business areas with additional impacts on the Legal and Diverse Business Engagement business areas. In November 2022, Backshop was identified to provide the technology solution.

The cost of the project includes a fee of \$150,000 for the configuration, and \$175,000 for the first year of services. Ongoing service fees increase by \$25,000 for each year until year 5.

Risk Assessment Table:

Internal Audit highlights, in yellow, the risk description that is most applicable. This section is completed by Internal Audit and discussed with Management. Please note that each factor does not weigh equally and Internal Audit exercises professional judgement in determining appropriate coverage.

Impact Criteria	Area/Risk	Low	Medium	High
Strategic		The P/P is not critical to executing MassHousing's mission or strategy	The P/P is important to MassHousing's mission or strategy	The P/P is directly related to executing MassHousing's mission or strategy
Scope		The P/P possesses <5 components or dependencies and is considered less complex	The P/P possesses 5-10 components or dependencies and is considered complex	The P/P possesses >10 components or dependencies and is considered more complex
Schedule		The P/P effort is expected to be completed in < 1 year	The P/P effort is expected to be completed in 1-3 years	The P/P effort is expected to be completed in >3 years
Cost (also considering MassHousing labor)		The P/P is expected to cost the Agency < 100K in total cost	The P/P is expected to cost the Agency 100K – 2M in total cost	The P/P is expected to cost the Agency 2M and is considered a financially material investment
Technology		The P/P will involve an incremental improvement to an existing technology that MassHousing has experience with	The P/P will involve a new technology that MassHousing has experience with; the project involves a replacement of an existing technology	The P/P involves technology that is fairly new in the market and MassHousing has no experience with it
Project Management		The P/P will be managed externally or by a team with a historic record for employing a project management discipline	The P/P will be managed externally or by a team fairly new to the project management discipline	The P/P will be managed internally or by a team new to the project management discipline
Human Resources (also consider the knowledge, skills, and capabilities of		The P/P involves <5 Agency employees (or contract workers) or is an effort involving <5 departments	The P/P involves various Agency Employees and Departments and involves Senior	The P/P involves various Agency employees, as well as Senior Management and Executive

the Project Team members involved)		Management commitment	Management commitment.
Stakeholders	The users and stakeholders impacted by the P/P is limited to <5 divisions	The P/P will impact all members of the Agency	The P/P will impact all external stakeholders, such as our Customers, or Board of Directors
Cyber-Security/ Information Security	The P/P will involve the movement of or handling of non-PI and non-sensitive information	The P/P will involve the movement of or handling of sensitive information	The P/P will involve the movement of or handling of PI information
Process and Controls (including controls that will prevent or detect fraud)	Process and controls are expected to remain consistent	Process and controls will experience some modifications	Process and controls will experience a re-design
Other Considerations	Current project status is effective as of January 2024.		

Conclusions & Communication

Project is still considered Moderate. Internal Audit recommends project audit coverage to this project. As part of the project audit, we plan to test the effectiveness of the project management overseeing the project.

Internal Audit shared and discussed the risk assessment with Max Ward, Manager of Rental Systems and Technology and Colby Kidder, Senior Business Analyst on January 23rd.

Example Internal Audit Opinion Matrix

Key P/P Risks	Effective	Generally Effective	Not Effective
Governance	The P/P is effectively defined and operating appropriately such that decisions are made timely by appropriate governing bodies.	The P/P is effectively defined; however, bottlenecks occur in the decision-making processes or appropriate governing bodies are not engaged.	The P/P is not effectively defined, such that decision-making is unclear, or decisions are made by inappropriate parties.
Scope	The P/P's scope is clearly defined. Stakeholders and resources are clear on P/P expectations and are driving towards results.	The P/P's scope is clearly defined; however, stakeholders and resources are unclear on key aspects of the P/P that may impact results.	The P/P's scope is unclear. Stakeholders and resources are driving towards differing expectations.
Schedule	The P/P's schedule is effectively defined. Milestones and dependencies are well understood.	The P/P's schedule is defined; however, there is significant risk to achieving P/P milestones because of P/P interdependencies.	The P/P's schedule is not effectively defined; milestones require additional coordination with impacted parties.
Cost	The P/P budget is effectively managed, and resources are appropriately utilized; budget may go slightly over or under target performance	The P/P is being monitored; however, the budget is likely to go significantly over or under target performance.	The P/P is budget is not reasonably defined or monitored.
Risk Management/Likelihood for Success	Risks are proactively identified, assessed, and mitigated or accepted. The project is likely to succeed (assuming unforeseen circumstances that may impact the project's schedule, scope, and cost).	Risks are identified, assessed, and mitigated or accepted; however, the P/P's likelihood for success is significantly impacted by risks that have materialized.	Risks are ineffectively monitored. The P/P is experiencing significant issues that will likely hinder its success.

Example Key Emerging Risks/Opportunities

Emerging risks/opportunities are concerns that may impact the project both positively or negatively, where the risk/opportunity has not been realized to date. Internal Audit takes note of Management’s actions to mitigate the risk, Management may have self-identified the risk/opportunity, and Internal Audit may offer additional suggestions to ensure the opportunity is realized or the risk is mitigated appropriately. Risk/opportunities are not considered issues and are highlighted due to their significance to the project.

Key Risk/Opportunity	Confirmed Management Action(s)	Internal Audit Suggestion(s)
<p>Internal Stakeholder Engagement: The go-live for Rental Management, Underwriting, Business Development, and Legal is expected in October 2024. Currently, stakeholders lack an understanding of project deliverables and the overall project timeline. Lack of understanding increases the risk of staff cost related to implementation, workarounds to the current solution, and potentially unsuccessful user adoption of the Backshop product.</p>	<p>Rental S&T in coordination with the vendor, Backshop, created a charter and outline of deliverables, which included business requirements, priorities, and general timing of events. The Rental S&T maintains a running task list. In addition, the Rental S&T regularly updates all stakeholders monthly on completed business requirements and upcoming expected requirements. The Rental S&T provided training for the enhancements that have been delivered to date.</p>	<p>We are aware that Management intends to provide internal stakeholders a communication regarding the completed scope of services, how the project is navigating towards the upcoming go-live, and how the project will start to iterate on improvements. This initial communication will be important to ensure stakeholders understand the project’s current scope and schedule. Additionally, we recommend that the Rental S&T team:</p> <ul style="list-style-type: none"> • Work with Backshop to establish an Integrated Master Schedule (IMS), which details the project’s critical path. The critical path should include the sequencing of requirements in line with their priorities and delivery dates, with adequate buffer time. • Communicate a summarized and visual IMS to the internal stakeholders. • If further delays or changes to the critical path occur, the IMS should be updated and accepted by internal stakeholders.