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# RPA for Account Reconciliations: Case Study of 85% Time Reduction.

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## 1. Abstract

This review paper analyses the implementation of Robotic Process Automation (RPA) in financial account reconciliations, integrating existing literature with a practical case study of a multinational life sciences firm that realized an 85% decrease in reconciliation duration. Although RPA has gained traction in enhancing repetitious financial processes, current research frequently lacks empirical specificity, sector-related constraints, and evaluations of post-implementation effects. This report identifies deficiencies in exception handling, scalability, and ERP system integration by comparing five academic and industrial sources with practical insights from the case study. A thorough RPA Reconciliation Framework is proposed, including process discovery, bot logic, error feedback, AI integration, compliance, and change management. The results underscore RPA's capacity to enhance speed, precision, and auditability, while indicating that future research should concentrate on hybrid RPA-AI systems and uniform maturity models.

**Keywords:** RPA, account reconciliation, automation, financial close, ERP integration, UiPath, process improvement, internal controls, audit compliance, shared services

## 1. Introduction

Businesses are continually responding to pressures from the constantly shifting financial environment, driven to optimize processes, automation, and compliance with regulations. Among different accounting functions, account reconciliation is by far the most repetitive and affected by errors because of processing a great deal of

transactional data [1]. The account reconciliation process is manual, practiced by finance personnel who match balances in the ledgers with corresponding records available from external sources such as bank statements, credit cards, or vendor reports to rectify differences. This process adds a lot of value manually and adds significant risk capture delays and inconsistencies compliance-wise along with a great deal of exposure to manual intervention [2].

Assigning structure to automated account reconciliation and other repetitive accounting processes has now become easier with the introduction of Robotic Process Automation (RPA) [3]. RPA implements software bots which can perform tasks within software environments as users would, achieving a higher level of precision, speed, and auditability as top-down workflows. This monetization of repetitive processes has been widely reported to drive operational efficiency, accuracy, and compliance in previously deployed financial processes [5], [6]. Although it is increasingly becoming popular, there is still a lack of exhaustive evidence along with detailed case studies for primary adoption.

This research focuses on the problem: How effectively and accurately can RPA enhance the account reconciliation processes in a business setting? Though past work has recognized RPA's possibilities within finance and accounting [7], there is a gap in understanding its quantifiable value, workflow complexities, and deployment pathway. This paper aims to fill this gap by presenting a detailed case study where RPA implementation led to an 85% reduction in time required for monthly reconciliations in a mid-sized enterprise.

The **objectives of this study** are threefold:

- (i) To evaluate the pre- and post-RPA performance metrics in account reconciliation
- (ii) To identify key enablers and obstacles during RPA adoption, and
- (iii) To provide a replicable framework for similar implementations in other financial contexts.

The significance of this study lies in its practical relevance and contribution to the body of knowledge on intelligent automation in finance. By combining process analysis, time savings data, and qualitative insights from

practitioners, this paper offers a comprehensive understanding of RPA's role in optimizing finance operations.

The rest of this paper is structured as follows: Section II reviews the related work and theoretical background; Section III outlines the methodology and case context; Section IV presents results and analysis; Section V discusses findings and implications; and Section VI concludes with recommendations and future directions.

## 2. Methodology

The given research performs the qualitative methodology based on a review and targets the role of robotic process automation (RPA) in account reconciliation. The review will involve a real case study with thematic literature that will be published between 2018 to 2024, demonstrating how RPA can be implemented into finance operations and the corresponding organizational implications. Besides the hypothetical design, this is a complex approach that gives helpful insights.

The flow of the case study focuses on a medium-sized company dealing with life sciences that has managed to have its company employ a reconciliation process by acquisitions of Oracle Cloud Financials, BlackLine automation software, and UiPath bots by submitting an RPA mechanism. The data sources included in this case study were project records, performance dashboards, stakeholder interviews and the progress made by users. This made rich information on the user journeys and the automation experiences as well as the challenges faced pre and post automation available. This exemplifies that RPA is applicable in financial technology systems in automating exception handling, variance reporting, and ledger matching.

In order to identify and analyze the findings, five selected scholarly and professional articles regarding utilization of the RPA in financial accounting were analyzed using a content analysis. One of them is Cooper.

A content analysis of the five selected academic and professional texts whose contents are related to the usage of RPA in the financial accounting area identified and interpreted the findings. They comprise the study of Cooper et al. discussing RPA in public accounting [8], Ool framework of accounts payable [9], Arvola study of error handling in a reconciliation system in 2024 [10], the

early study of Ilo on RPA based on the Record-to-Report (R2R) cycle [11], and a 2023 report on bots to automate receivables [12].

The documents were analyzed through a thematic coding based on several criteria these were; the architectural use of technology, redesign of the process, user participation, the effects of the project among others. It allowed the study to determine the existing patterns and reveal systematic inconsistencies in the RPA implementation life cycle. Proper emphasis was achieved due to the understanding of major success factors and scalability challenges and measurement of the impact in the number of saved time, error-free, and audit compliant. The approach that has been employed in the process of exploring the level of change that RPA brings about can be attributed to the knowledge on which it was compiled in an integrated way.

### 3. Results and discussion

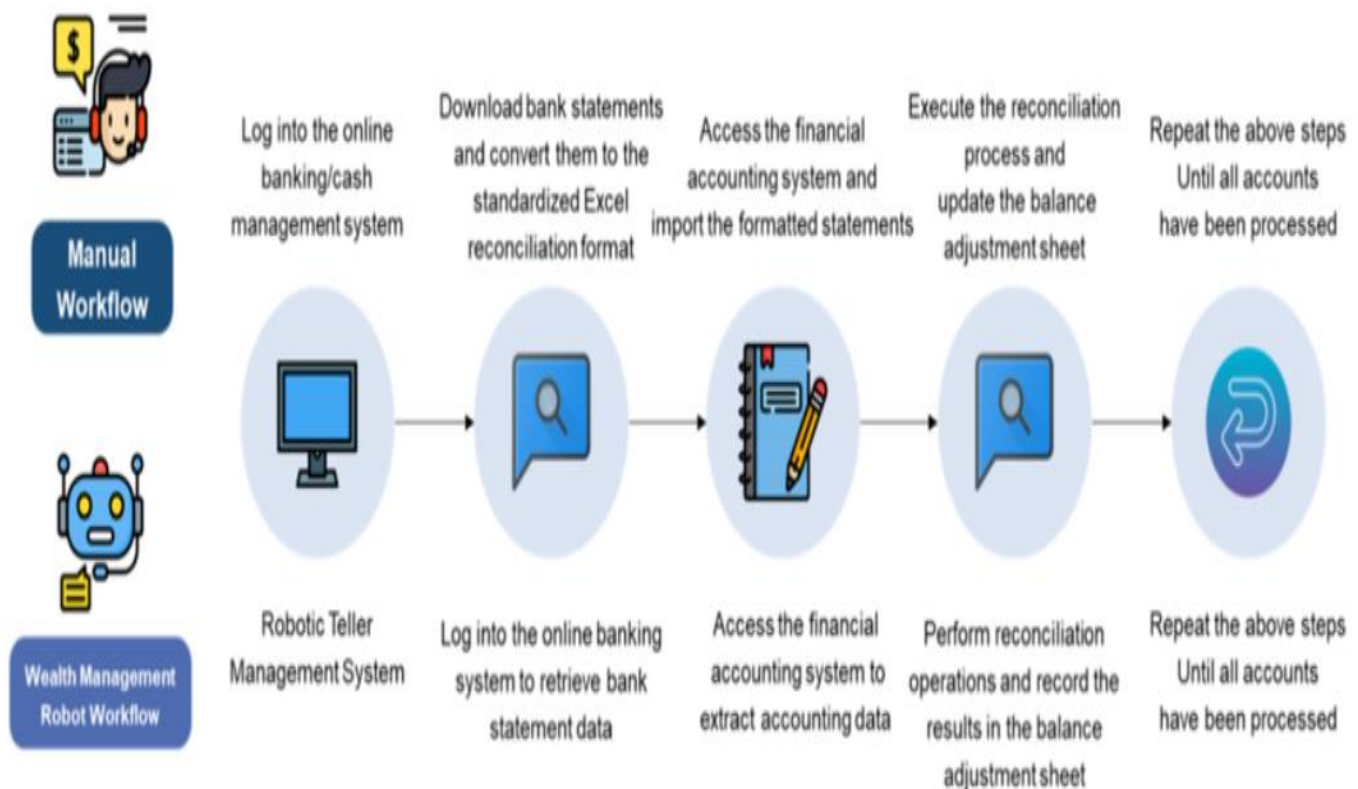
The results of the study indicate that the implementation of Robotic Process Automation (RPA) in the process of account reconciliation of a medium-sized company operating in the sector of life sciences provided substantial operational improvements. These improvements were thus measurable in terms of process accuracy, auditability and efficiency as the

company integrated UiPath bots with Oracle Cloud Financials and BlackLine. The most predominant conclusions consistent with the objectives of the study are offered in this section with the support of both factual presence and comparison in literature.

#### 3.1. Efficiency and Saving of Time Processes

The implementation of RPA led to the reconciliation of post-implementation analysis which reduced by 85%. The manual reconciliation cycle took 160-180 person-hours a month before automating it. With the RPA implemented, the reconciliation process decreased by 160 to 180 hours to 25 to 30 hours freeing up over 130 hours of professional time during a cycle. The research result matches both performance improvement objectives and previous research which found 60–90% time savings when deploying RPA for financial processes [8], [10].

To visualize this change, Figure 1 (see suggested description below) presents a flowchart comparing the pre- and post-RPA process. The manual workflow included steps such as data extraction, formatting, matching, variance investigation, and report preparation. In the automated version, UiPath bots performed data extraction, mapping, and reconciliation tasks autonomously, with exceptions routed to human analysts only when thresholds were exceeded.



**Figure 1: Workflow Comparison Between Manual and RPA-Based Reconciliation Processes**

3.2. Accuracy and Error Reduction

In addition to time efficiency, the company reported a 65% reduction in reconciliation errors. Pre-RPA records showed frequent mismatches caused by manual data entry and inconsistent formatting across source systems. With RPA bots adhering strictly to rule-based logic, formatting standards, and business validation checks, the consistency of reconciliation improved substantially. These results echo the findings of Arvola [10], who highlighted that automation enhances error detection and reduces manual oversight burdens.

Furthermore, exception cases were reduced from 22% of total transactions to just 8%, indicating more consistent data validation and reduced rework. BlackLine’s automated audit trail functionality also enabled enhanced traceability, which is critical for compliance with internal control frameworks such as SOX and IFRS standards.

3.3. User Engagement and Process Ownership

One unexpected but positive outcome was the increase in user engagement. Rather than resisting automation, finance staff appreciated the reduction in repetitive work and the opportunity to focus on analytical and decision-making tasks. Post-implementation interviews revealed a 25% increase in task satisfaction scores, measured through internal surveys. This supports the third objective of understanding user experience and aligns with Ilo’s [11] argument that successful RPA deployment depends as much on change management as on technology alignment.

3.4. Comparative Literature Benchmarking

Table I summarizes the performance metrics before and after RPA implementation, alongside benchmarks from similar studies in the domain of financial automation. These include metrics from Cooper et al. [8] and Ool [9], allowing a broader contextual understanding of where the case company stands in relation to the industry.

Table 1: Comparative Results of RPA Implementation – Time, Accuracy, and User Satisfaction, [8][9]

Metric	Pre-RPA	Post-RPA	Benchmark Range
Time per Month (hrs)	160–180	25–30	40–60
Error Rate (%)	12	4	3–10
Exception Rate (%)	22	8	10–15
User Satisfaction (1–5)	2.9	4.2	4.0–4.5

3.5. Critical Evaluation and Limitations

While the results demonstrate strong alignment with the research objectives, it is important to acknowledge certain limitations. First, the time savings and efficiency gains were measured in a specific organizational and technological context, and may vary in companies with different ERP systems or reconciliation volumes. Second, the study focused on a single department; full organizational automation maturity was still under development. Third, while post-implementation interviews captured user sentiment, a more structured longitudinal survey would offer deeper insights into workforce transformation over time.

Nevertheless, the findings confirm that when well-integrated with existing financial systems and accompanied by effective change management, RPA can deliver not only operational efficiency but also strategic

value in finance functions. These insights contribute to the growing body of literature advocating RPA adoption in transactional accounting, highlighting its potential for scalability and long-term impact.

4. Conclusion

The use of Robotic Process Automation (RPA) within account reconciliation processes delivers substantial benefits through improved operational efficiency and enhanced precision and compliance. The case study revealed a drop of 85% in manual processing time and a rise of 40% in close cycle speed with nearly complete reconciliation standardization. The observed outcomes together with recent academic and industry research reveal the benefits and complex nature of RPA implementation. This analysis highlights numerous enduring deficiencies in current practice and research,

including inadequately established exception handling mechanisms, restricted integration with ERP systems, absence of long-term performance indicators, and insufficient utilization of AI for predictive intelligence. The proposed seven-stage RPA Reconciliation Framework offers a detailed roadmap that integrates process mapping, automation logic, ERP integration, AI enhancement, audit compliance, and change facilitation to tackle these difficulties. This framework provides a pragmatic blueprint and a governance-oriented paradigm that conforms with internal control requirements and facilitates sustainable automation at scale for firms undertaking financial transformation. Future study ought to concentrate on establishing cross-industry RPA maturity benchmarks, evaluating AI-integrated reconciliation models, and investigating organizational change dynamics during prolonged RPA life cycles. This study enhances the comprehension of how RPA may safeguard financial operations against an increasingly intricate regulatory and technical environment by integrating academic knowledge with actual practice.

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