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THE IMPACT OF ACCOUNTING AUTOMATIZATION ON FINANCIAL PERFORMANCE: EXAMINING THE FINANCIAL PERFORMANCE EFFECTS OF SAP RPA AND VBA AUTOMATION

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Abstract: *This paper investigates the impact of accounting automatization on financial and operational performance through two independent automation tools: SAP-based Robotic Process Automation (RPA) and Excel VBA macros. Using an action-research approach in a corporate environment, the study evaluates process optimization through SAP RPA workflow design, AI-assisted document parsing, and VBA-based financial data cleaning. A comparison of key performance indicators (KPIs) before and after implementation reveals processing time reductions of up to 95%, saving over 1,140 working hours annually, and a substantial decrease in human error. The findings highlight the potential of both automation tools to improve operational efficiency, reduce administrative costs, and support faster financial decision-making.*

• Introduction

Corporate financial departments are under continuous pressure to increase operational efficiency, enhance data accuracy, and reduce operating costs. Traditional manual accounting processes are highly labor-intensive and inherently vulnerable to human error. To meet regulatory deadlines and deliver timely intelligence, organizations are increasingly turning to ERP integrations, AI document parsing, RPA, and VBA macros.

• Material and method

Using an action-research methodology in a corporate accounting environment, the study evaluates four specific automation mechanisms targeting critical bottlenecks:

1. *VAT Verification via AI & VBA: OCR batch-processing cross-checked against SAP ledgers.*
2. *Account Reconciliation Robot: RPA bots extracting balances and audit trails.*
3. *Data Aggregation Macros: Excel VBA for inter-sheet transfers and sorting.*
4. *SAP Posting Bots: Autonomous journal entry execution.*

• Results and discussions

Task execution duration dropped from 78.0 hours/month to 4.5 hours/month, achieving an overall operational efficiency improvement of 94.2% (882.0 hours saved annually).

Workflow Component	Manual	Automated	Gain
1. Verify Invoices (ERP + VAT)	40.0 h	2.0 h	95.0%
2. Reconcile Accounting	20.0 h	1.0 h	95.0%
3. Macro in Excel (Pre-fill)	8.0 h	0.5 h	93.8%
4. SAP Robot (Post & Extract)	10.0 h	1.0 h	90.0%
TOTAL	78.0 h	4.5 h	94.2%

• Conclusions

Integrating SAP-based RPA robots, AI document extraction, and Excel VBA macros yields profound operational and financial benefits, reducing task duration by 94.2% while virtually eliminating human error.