



REPUBLIC OF TÜRKİYE
OSTİM TECHNICAL UNIVERSITY
FACULTY of ECONOMICS and ADMINISTRATIVE SCIENCES

“SYSTEMATIZING ACCOUNTING PROCEDURE IN CANIAS

ERP WITH HELP OF AI ROBOTIC INTELLIGENCE:
INTECRO ROBOTICS CASE“

GRADUATION PROJECT

ECONOMICS

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ANKARA 2026

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ABSTRACT

Systematizing Accounting Procedure In Canias Erp With Help of Ai Robotic Intelligence

This research focuses on the systematization of accounting procedures within Enterprise Resource Planning (ERP) systems, especially Canias ERP, through the integration of artificial intelligence and robotic process automation. The study is based on observations made during an internship experience in an accounting office environment in Turkey. It adopts a descriptive and qualitative approach, utilizing direct observation and experiential insights rather than interviews.

The findings show that although companies aim to enhance efficiency, decrease operational costs, and make minimum human mistakes by embracing advanced technologies, many accounting processes still heavily depend on manual data entry. Tasks such as entering bank records, invoices, and expense receipts into ERP systems stand time-consuming and upside down to human error. Despite the integrated plan offered by ERP systems, their full potential especially in accounting functions are often underrated.

Observations during the internship display that accounting staff mostly experience excessive workloads due to repetitive and manual tasks, leading to decreased productivity and job satisfaction. Moreover, delays caused by managers in submitting financial documents further increase the burden on accounting personnel, creating inefficiencies within the workflow.

In these circumstances, the study proposes the development of an AI-supported, systematized model integrated with Canias ERP. The proposed model aims to automate core accounting processes such as bank reconciliation, invoice data extraction from images, and expense entry through technologies like robotic process automation and artificial intelligence. This approach pursues to reduce manual intervention, enhance certainty, and improve total system efficiency.

The study concludes that implementing AI-straight accounting systems can provide practical solutions to real-world business challenges observed during internship experiences if implemented, workload can be reduced significantly and time is gained much more. By minimizing manual workload and optimizing operational processes, the proposed model is expected to contribute both academically and practically, offering a sustainable and efficient inspiration for modern accounting practices.

Keywords: Artificial Intelligence, Robotic Process Automation, Canias ERP, Accounting Automation, Enterprise Resource Planning, Financial Data Processing

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Finally, I am delighted who all near by me to help me to finish this project. I am grateful to everyone who contributed by helping me with this project.

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1. INTRODUCTION

Accounting processes in many organizations are still largely dependent on manual operations., transactions and regular basic staffs are merely changed business processes by limited in companies. In 2026 fall semester I worked as an accounting intern in Intecro firm and Dursun Yüksel is my mentor and he is Manager of accounters. We do accounting like opening journal entry with him. Companies aim to improve efficiency, to reduce general costs, and make devalue a human mistakes within assembling an advanced technologies to compare with old slow systems.

“Davenport & Ronanki, 2018 “

Despite these changes, accounting processes in a lot of organizations are still hugely depends on manual data entry like entering costs who bosses expenses in my company I manually add to Canias data one by one all information.

“Zhang et al., 2020“

Enterprise Resource Planning features like Canias ERP gets an integrated environment by dealing financial and operational timelapse. However, these systems are not usually usable at their full limit, specifically in accounting side. Manual implementing of data like; bank records, invoices, and expense receipts are cause of a lot of hardwork, losing time, and a consumption of big mistakes by human misinformation.

During my internship in our good looking pretty office, I observed when our experienced accounters face a not sensible lot of workload due to time-consuming tasks they looks depreciated and tired to handle all. In many times, company rulers dont have enough time to make enter their receipt expenses into the system, which is creates additional responsibility to us. This situation makes our position less look good and make it much hard for me and my co-workers.

Main idea of this project is to developing an AI-supported systemized model by the Canias ERP system to advance all staff which we do like request from financial departments help without it require (in normal work responsibility their job is responsible by them but accounters do usually their works). The project focuses on not manel in reverse do by itself bank reconciliation, invoice photos adding and getting infos byself, and expense entering all through technologies such as robotic process systems itself due to the thanks of artificial intelligence in near future.

This study is very significant because my mentor said it is really helpful if you do this project by ai help in accounting system because we are so busy and we need free time.

So solution to a real-world problems are observed to internship experience and normal daily life work progress effected of course. By reducing manual work responsibility and increasing system efficiency, this aim is can be solution and expected to contribute both academic role and business model if it works.

Research Problem and Questions

The main research problem of this study can be defined as follows: “How can artificial intelligence improve accounting processes within ERP systems such as Canias ERP?”

In order to address this problem, the following research questions are developed:

- Which accounting processes are most dependent on manual work?
- How can artificial intelligence reduce human error in accounting systems?

- What are the benefits of integrating AI into ERP systems?

Scope of the Study

This study is limited to observations made during an internship in an accounting office in Türkiye. The research focuses on accounting processes such as invoice entry, bank reconciliation, and expense tracking within the Canias ERP system.

2. LITERATURE REVIEW:

2.1. Artificial Intelligence in Accounting Systems

Systemization and artificial intelligence play big role on accounting and financial budget calculating. Previous works are shown that almost integration of AI gets inside ERP systems enhances efficiency, power of ai knowledge pool, and decided before asking my mentor to do risky movements.

“O’Leary, 2013; Davenport & Ronanki, 2018“

emphasizes that artificial intelligent gets embed in ERP system can be make ensures clarity and transparency during the execution of the operation.

Robotic Process Automation when I search this term I assure that all programs can be controlled by ai with trust of human and widely used to automacally respond and rulebased missions like data entry, invoice informations entering, and bank reconciliation. According to our last using technic, RPA reduces human error and improves process efficiency, employees to focus their main duties to deal with them without lot of stress

Artificial intelligence has become a critical component of modern accounting systems.

“Aguirre & Rodriguez, 2017; Willcocks et al., 2015 “

AI technologies allow companies to automate repetitive and rule-based tasks, reducing human error and increasing operational efficiency. In addition, Artificial intelligence enables real-time data processing, which supports faster and more accurate decision-making in financial management.

2.2. Robotic Process Automation (RPA) in Accounting

Aguirre and Rodriguez (2017) states that RPA application in business processes leads to more efficiency, more less costs, and more improved accuracy in same exact recurring tasks.

“Aguirre & Rodriguez, 2017; Willcocks et al., 2015 “

According to Dilmegani (2025), bank reconciliation, and financial reporting in accounting processes Rpa is extremely used and this program is decrease operation time and reduce general any extra cost to spend in it.

“Willcocks et al., 2015; Dilmegani, 2025“

Robotic Process Automation (RPA) is widely used in accounting to handle structured and repetitive tasks. These include invoice processing, bank reconciliation, and data entry. RPA systems can operate continuously without exhaustion, which increases productivity and reduces costs.

Graph 2.2.1 – RPA Workflow

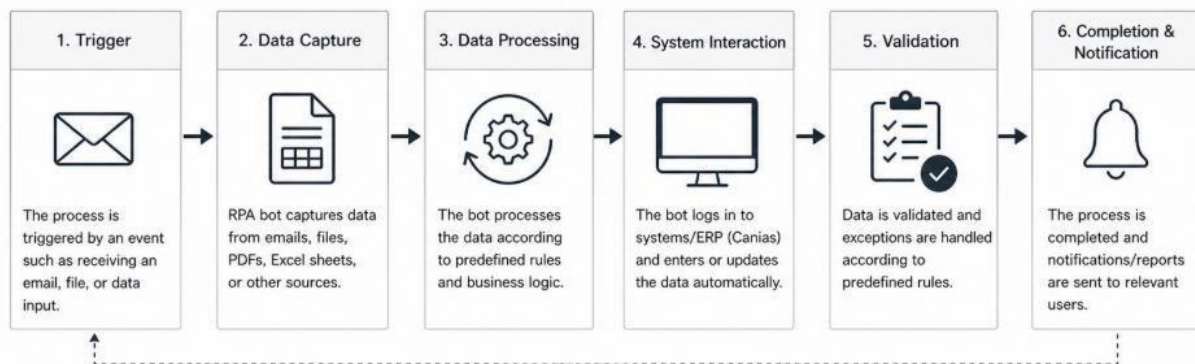


Figure 2.2.1 illustrates the general workflow of Robotic Process Automation (RPA) in accounting processes. RPA bots automate repetitive, rule-based tasks by capturing data, processing it, interacting with systems, validating results, and notifying relevant users.

2.3. Optical Character Recognition (OCR) in Financial Processes

In addition, Optical Character Recognition can be useful to extract datas where images such as invoices and receipts that all taken photos and upload and scanned easily.

Automatically transferring this data into ERP system is able to decrease finance departments workload.

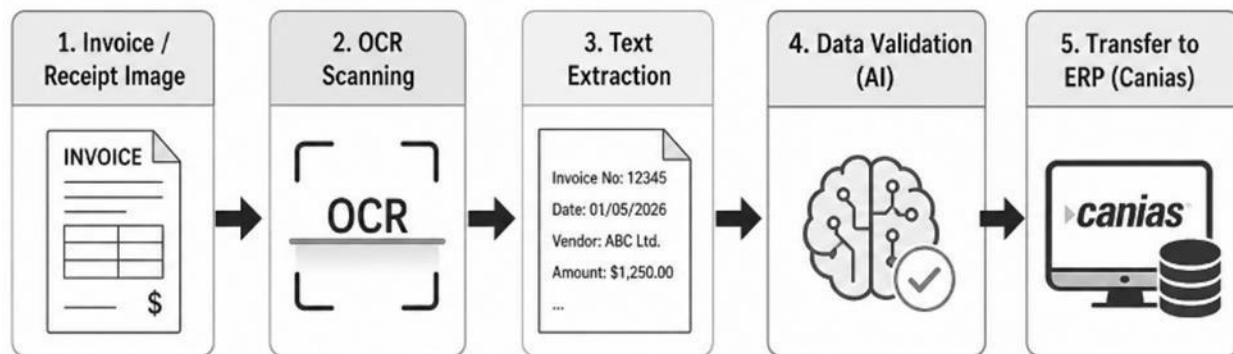
OCR technology get limits entry of manual data errors and increases the accuracy of financial document processing.

“Sutton et al., 2016 “

AI-supported accounting systems can literally do things automatically process like; invoice data and detect errors, which increases accuracy and reduces effortness of manual adding cutted thanks to AI help.

Optical Character Recognition (OCR) technology plays a significant role in digital accounting systems by converting physical documents into digital data. This technology reduces the need for manual data entry and improves the accuracy of financial records.

Graph 2.3.1 – OCR Process



2.4. AI Applications in Accounting Practices (Global and Türkiye)

At least realist applications can show of the actual format of epic target. Bigger firms have completely recession an operational work responsibility by integrating ai to the main tools into their pages which is can be considered to do giving permission on pop up notifications. This situation can be upgrade efficiency and transparency to show all required informations when needed by leader of company is good idea.

My project is correlected my own observations in my accounting office. This periof I was like work there almost 2 months so there is a lot of experience gained by mentor and atmosphere.

Old searchs demonstrates that Artificial Intelligence gets integrates into accounting and ERP systems growth efficiency and get lower down human errors.

For example, a study directed in Türkiye when their researchs prove that Robotic Process Automation is especially helpful in situation of repetition of tasks accounting side and take cares firms efficiency like advantage in processes.

“Boydaş Hazar & Toplu, 2023“

Also other studies demonstrates RPA and AI can automatically proceed like; invoice processing, reconciliation, and reporting, which all can decreases work period and increases accuracy when comparing human power.

Also, Optical Character Recognition scan the informations itself and saves time for sure than decreases manuel entries by us.

There is already this systems using in the World. Especially in Türkiye basically a lot of numbers of companies using this RPA systems in finance and most importantly accounting staffs. For example, datas illustriates that at least 100 firms started to use adopted RPA in Türkiye. Significantly finances and banks.

So, based on this researches application is pretty decent possible in Türkiye includes accounting sector can be achieve more efficient work procedure thanks to ai helpness.

A study published in Beykent University Journal (2021) demonstrates that RPA applications in accounting and finance sectors in Türkiye importantly accelerates process and reduce human-based errors.

McKinsey & Company (2021) reports are like this: automation technologies looks for them possibility is quite high to automate a significant part of accounting activities, leading to substantial productivity gains in especially organizations.

In recent years, many companies worldwide have started integrating AI technologies into their accounting systems. These applications have improved efficiency, reduced costs, and enhanced financial transparency. In Türkiye, the adoption of AI in accounting is also increasing, especially among large firms for example Aselsan who present Türkiye.

“McKinsey & Company, 2021“

2.5. Summary of Literature

Overall, to sum up depending previous studies clearly shows that integrating AI, RPA, and OCR technologies in ERP system can reach ultra efficiency, accuracy, and less cost in accounting processes.

3. METHODOLOGY:

3.1. Research Design

This study is dependent on my real work experiences in our accounting department of internship. Not a full implementation.

Table 3.1: Accounting Process Analysis

Process	Current Method	Problem
Invoice Entry	Manual	Time-consuming
Bank Reconciliation	Manual	Error-prone
Expense Entry	Manual	Missing data

Table 3.1 presents the current accounting processes and the problems observed during the internship.

Figure 3.1: Proposed AI-Based Accounting Model

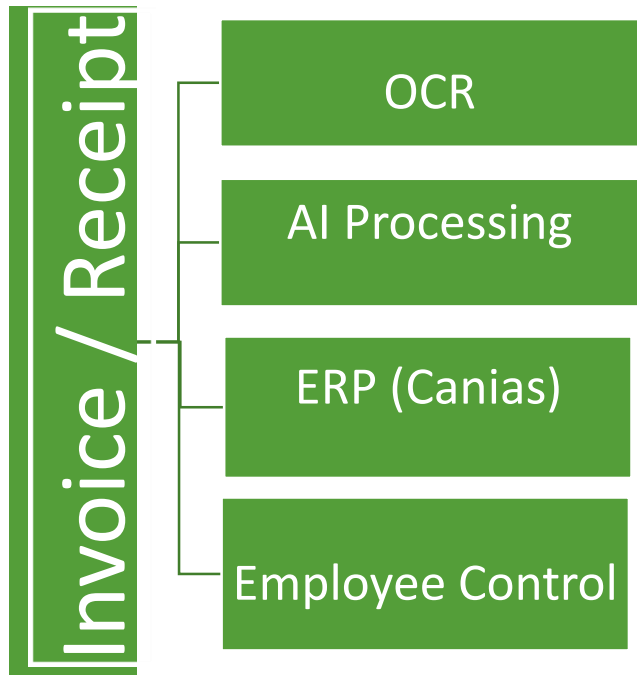


Figure 3.1 illustrates the proposed AI-based accounting model integrating OCR, AI, and ERP systems.

3.2 Data Collection Method

This study is based on direct observation during the internship period. The data was collected through observing daily accounting operations such as invoice entry, bank reconciliation, and expense recording.

3.3. Identification of Problems

First, cost accounting processes are analyzed. Tasks such as invoice entering, bill processing, and printing an invoices are reviewed to done by manually with Canias system.

Second, repetitive and time-consuming tasks are identified. They generally caused of manual entry of data so which is causes human mistakes and a huge amount of time loss

3.4. Proposed AI-Based Model

Third, basic AI-supported system model is presented. In this model:

RPA (Robotic Process Automation) is used to automate repetitive tasks OCR (Optical Character Recognition) is used to scan and read data from invoices and receipts

AI is used to help with processes like bank reconciliation and error checking then propose a human who responsible to check and approve

3.5. System Integration with ERP (Canias)

Fourth, this system is planned to integrate with the Canias ERP system. Transferring data is much more practical and decrease manual work is aimed

3.6. Role Transformation of Employee

Finally, instead of entering data manually role of employees is focused on checking then approving the results if true if not they can refuse by their choice

Overall, this method is based on observation, identifying problems, and offering a practical AIbased solution to enhance accounting processes. It is not so technical thing to explain but efficient way to handle accounting staff

4. FINDINGS:

4.1. Errors in Manual Data Entry

Findings are dependent on my experienced of my intern work analyzes and my mentors 7 year experience in this firm.

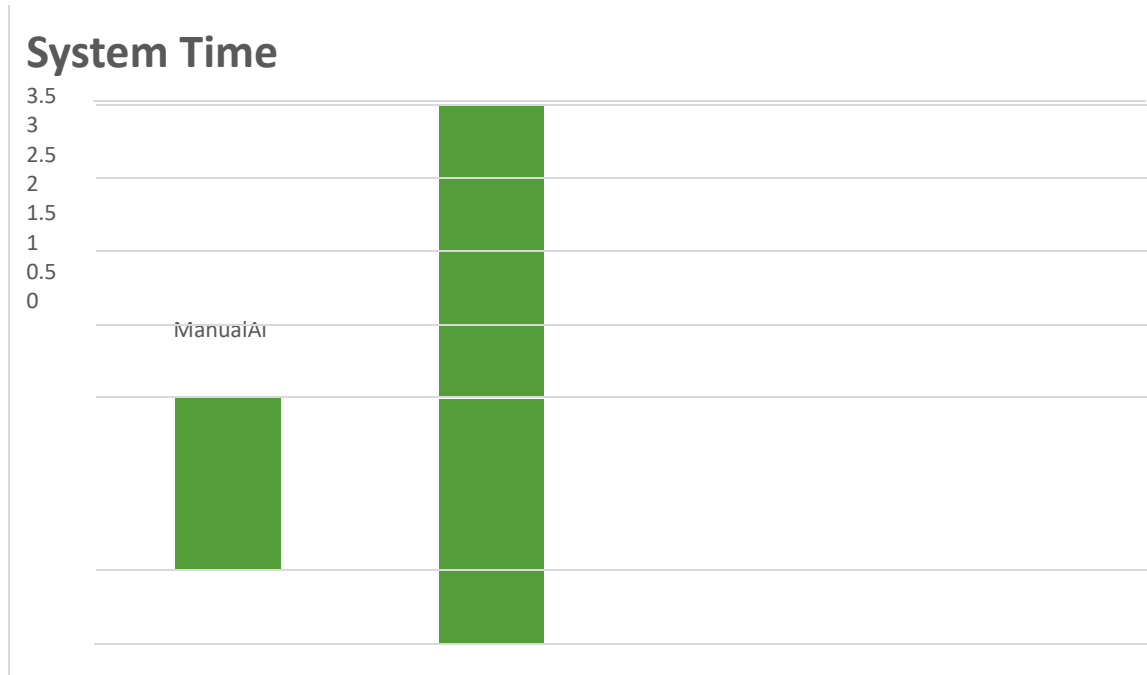
For example, during the internship, invoice entry was identified as one of the most timeconsuming tasks.

Employees were required to manually enter each invoice into the ERP system, which increased the probability of errors and reduced efficiency.

Table 4.1: Observed Problems in Accounting Processes

Process	Problem Identified	Impact
Invoice Entry	Manual data input errors	Incorrect financial data
Bank Reconciliation	Time-consuming manual matching	Delays in reporting
Expense Entry	Missing or late documents	Increased workload
Data Duplication	Duplicate entries	Risk of double payment

Graph 4.1.1 Manual vs AI Processing Time (Estimated)



4.2. Problems in Task Responsibility and Workflow

The comparison between manual and AI-based systems clearly shows that automation significantly reduces workload and improves accuracy. AI systems can process large amounts of data in a shorter time compared to human employees.

Table 4.2: Manual vs AI-Based Accounting Process Comparison

Criteria		Manual System	AI-Based System
Processing Time		High	Low
Error Rate		High	Low
Workload		Heavy	Reduced
Efficiency		Moderate	High

Graph 4.2.1 – Error Rate

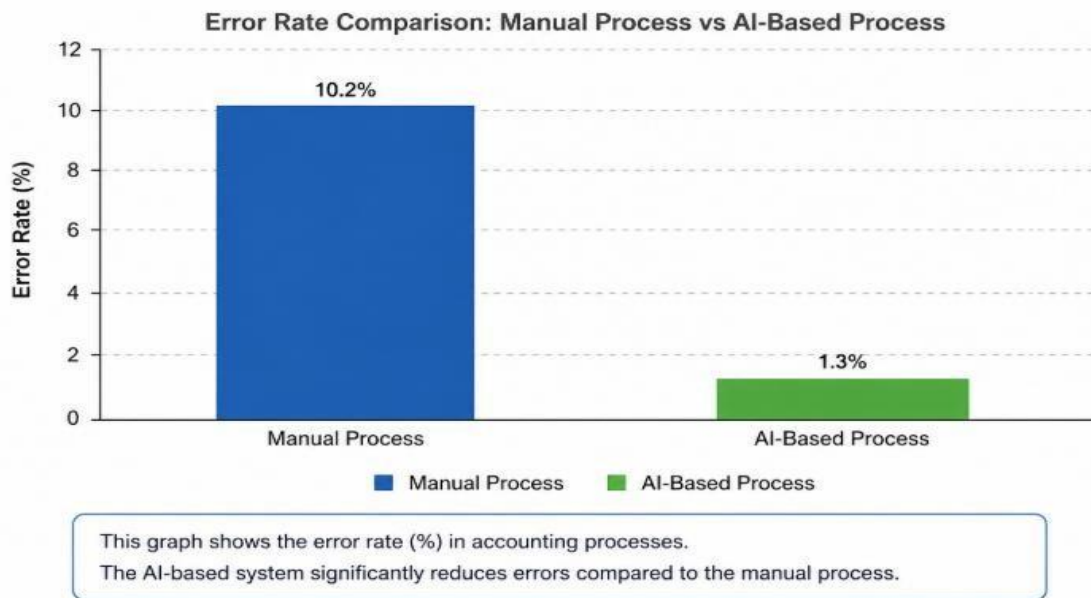


Figure 4.2.1 shows the comparison of error rates between manual and AI-based accounting processes. The results indicate that AI systems significantly reduce human error.

My mentor and I have been observed that:

Adding datas to canias manually for example explaining order space have to be fullfilled by who solded product but if it is empty accounters job can be harder.

4.3. Risks of Repetitive Tasks

To be repeated missions can be annoying like when actual accountant is already done something price sended finance department, the me the intern student do it again and sending finance can be paying twice same money to customer can be mess things up.

Repetitive tasks not only reduce productivity but also increase the risk of critical financial errors. Automating these processes can help prevent issues such as duplicate payments and incorrect data entries.

5. DISCUSSION:

5.1. Comparison with Industry Practices

According to the observations of my mentor and coworkers they claim that Aselsan and big companies already using ai helps and making their job easier than ever.

“McKinsey & Company, 2021) (Davenport & Ronanki, 2018; Willcocks et al., 2015 “

5.2. Evaluation of Current Problems

Problems are mostly reasoned by doing things manually on Canias as mentioned before and also job description is not properly defined to account for them. Starting our job is making things not clear and pushing their limits to get tired early.

5.3. Evaluation of Proposed System

Suggested system will be successfully work on paper but if it is implemented one day we can see that all the staff become handling more easily thanks to the AI helps when we compare with old manual system.

The findings of this study are consistent with previous research, which highlights the importance of digital transformation in accounting. AI-supported systems are considered a key solution for reducing manual workload and improving efficiency.

Moreover, the integration of AI into ERP systems provides a competitive advantage for companies by enabling faster decision-making and reducing operational risks.

6. CONCLUSION:

6.1. Conclusion

In conclusion, in the end this idea Canias ERP system automation is claimed that it enhances importantly to accounting period. Using AI help on Canias system can be done all the things we accountants do like receipt expense entering, banking records automation and invoice entry lead to decrease workload.

“Zhang et al., 2020; Davenport & Ronanki, 2018 “

The results are employees are needed to control end of the AI contributions and critical decisions to give. These all enhance productivity and financial planning processes.

This observation is implementable by another firm's accounting planning easily applicable despite of short process of internship.

6.2. Recommendations

This study recommends that companies should more and more integrate artificial intelligence and robotic process automation on the system of Canias ERP, especially within ERP platforms such as Canias ERP. First, repetitive and time-consuming tasks such as invoice entry, expense recording, and bank reconciliation should be prioritized for automation. Also every accountant should be needed this kind of priority to avoid waste of their time and effort.

In addition, companies should invest in OCR (Optical Character Recognition) technologies to enable automatic data extraction from financial documents like invoices and receipts. This would significantly reduce manual data entry errors and enhance overall efficiency.

“Zhang et al., 2020“

Another significant recommendation is the clear definition of job responsibilities within the organization. During the internship observations, it was seen that unclear task distribution increases the workload of accounting staff. Also the other

most important recommendation is task distribution is required to be done from start when he/she starts their job. Because if it is not done before things can get messed up like entering prices can be confusing to reason mistake. Therefore, responsibilities should be properly assigned and supported by automated systems.

Furthermore, training programs should be provided for employees to adapt to AI-based systems. This will assist reduce resistance to new technologies and ensure a smoother transition.

6.3. Future Perspective

In the future, the role of artificial intelligence in accounting is expected to expand significantly. AI-supported ERP systems won't only automate data entry processes but also provide estimate analysis, real-time financial reporting, and intelligent decision support systems.

As technology continues to develop, accounting professionals will shift from manual data entry roles to more analytical and supervisory positions. Their main responsibility will be to monitor, interpret, and validate the outputs generated by AI systems.

In Türkiye, the adoption of AI and RPA technologies in accounting is still developing. However, it is expected that more companies will begin to adopt these technologies in order to remain competitive and enhance efficiency.

Moreover, integration between different financial systems and AI tools will become more advanced, allowing fully automated accounting cycles in the long term.

6.4. Final Evaluation

In conclusion, this study demonstrates that the current accounting processes in many companies are still heavily dependent on manual works, which leads to inefficiencies, awaiting huge tasks, and a higher risk of human mistakes.

Based on the observations during the internship, it is clear that integrating AI, RPA, and OCR technologies into ERP systems such as Canias ERP can significantly enhance accounting processes. The proposed model provides a practical and applicable solution to real-world problems observed in real life accounting practices.

Although the study is limited to observational data and does not include a full technical implementation, it still offers valuable insights for both academic research and business implementations.

Overall, the transition to AI-supported accounting systems is not only beneficial but also critical importance carrying for companies aiming to achieve higher efficiency, accuracy, and sustainability in their financial operations.

In addition, future developments in artificial intelligence are expected to advance transform accounting systems. Companies that adopt these technologies early will have a significant advantage in terms of efficiency and accuracy.

Therefore, investing in AI-based accounting systems should be considered a strategic priority for modern businesses.

REFERENCES

- Aguirre, S., & Rodriguez, A. (2017). Automation of a business process using robotic process automation: A case study. *Workshop on Engineering Applications*, 65–71.
- Beykent University Journal. (2021). The impact of robotic process automation on finance and accounting sectors in Türkiye. *Beykent University Journal of Social Sciences*, 14(2), 120–135.
- Boydış Hazar, H., & Toplu, C. (2023). The use of robotic process automation in accounting processes. *Journal of Accounting and Finance*, 98, 45–60.
- Davenport, T. H., & Ronanki, R. (2018). Artificial intelligence for the real world. *Harvard Business Review*, 96(1), 108–116.
- Dilmegani, C. (2025). RPA in accounting: Use cases and implementation strategies. *AI Multiple Research Reports*.
- McKinsey & Company. (2021). The future of work in automation and accounting. Retrieved from
- O’Leary, D. E. (2013). Artificial intelligence and big data in accounting. *Intelligent Systems in Accounting, Finance and Management*, 20(4), 149–162.
- Sutton, S. G., Holt, M., & Arnold, V. (2016). The reports of my death are greatly exaggerated—
Artificial intelligence research in accounting. *International Journal of Accounting Information Systems*, 22, 60–73.
- Willcocks, L., Lacity, M., & Craig, A. (2015). The IT function and robotic process automation. *The Outsourcing Unit Working Research Paper Series*, London School of Economics.
- Zhang, C., Xiong, Y., & Xie, H. (2020). Artificial intelligence in accounting: A review and future research directions. *Accounting Horizons*, 34(3), 1–24.
- Romero, D., & Vernadat, F. (2016). Enterprise Information Systems State of the Art. IFAC.
- Zhang, Y. (2019). OCR Technology in Financial Document Processing. IEEE Access.
- Lacity, M., & Willcocks, L. (2016). Robotic Process Automation and Risk Mitigation. *MIS Quarterly Executive*.