

**AUTOMATED INVOICE PROCESSING SYSTEM BASED ON RPA TECHNOLOGIES**

*Abstract: The options for improving invoice processing using RPA (Robotic Process Automation) technology are covered in this article. The significance of the subject and the goal of the study are explained in the introduction. The study's major goal is to organize and analyze how robotic invoice processing (RPA) affects the invoice processing process. In the context of streamlining financial procedures, businesses today struggle with the issue of automated invoice processing (RPA). The study looks at this technology's application to processing invoices.*

*The study's objective was to gather and examine data regarding the advantages and possibilities of employing robotic invoice processing (RPA) to streamline invoice processing. We paid specific attention to factors like improved accuracy and error avoidance, resource optimization and cost reduction, compliance and fraud risk reduction, greater profitability, and technology interoperability.*

*The article's primary goals are to examine the fundamental concepts and capabilities of robotic process automation (RPA) in the context of processing invoices; to research the approaches for implementing RPA in this process and evaluate how it affects efficiency and accuracy of operations; to think about potential future applications for RPA in this field; and to identify potential trends in the advancement of this technology. These goals are designed to offer a complete investigation and evaluation of robotic process automation (RPA) technology with regard to its influence on how it improves invoice processing in commercial environments.*

*One of the techniques utilized in the article is to examine the advantages and power of RPA in the context of processing invoices. The investigation's findings demonstrate that RPA technology has greatly enhanced invoice processing. Routine procedures can be automated with RPA, which lowers risks and boosts productivity. This technology is providing new chances for businesses across numerous industries.*

*Overall, the study demonstrates that robotic invoice processing (RPA) is a useful tool for improving the speed and accuracy of financial transactions, optimizing the processing of invoices, and helping the creation of business plans in the current fast-paced corporate environment.*

**Problem statement.** Modern companies face an extremely large number of invoices and financial documents that have to be processed. These can be invoices for services, goods, payments to employees, tax returns, bank transactions, and others. Sending, receiving, verifying, processing and archiving these documents requires a huge amount of effort and time, especially if it is done by humans.

The traditional process of manual invoice processing is associated with high costs. These include staff salaries, time, and infrastructure organization. In addition, the human factor can lead to mistakes and inaccuracies in processing, which further can lead to losses and problems for companies.

Today's business rapidly changing environment demands speed and accuracy in all areas of business. Invoice processing is not an exception. Companies need to analyze and process invoices quickly, monitor financial flows, and make immediate decisions based on the data that is present in the document. The faster and more accurate invoice processing is, the more efficiently a business operates and the more sustainable and competitive it is in the marketplace.

The efficiency of invoice processing in turn affects the overall productivity and success of the business. Given these challenges, there is a need to improve invoice processing and implement effective technologies, such as RPA, to optimize this critical business process.

**Overview of existing solutions and recent research.** Nowadays, there are several main methods of processing invoices such as manual processing, the use of software to automate processing, and the implementation of artificial intelligence technologies, especially RPA. Due to

the fact that manual processing is time, labor, and resource-intensive and therefore unnecessarily expensive for businesses with numerous invoices.

RPA technology is a dynamically developing tool for optimizing business processes, including invoice processing. This technology lets software bots automate repetitive tasks that were previously performed by humans. This can include receiving and analyzing invoices, entering data into accounting systems, automatically generating reports, and other financial operations.

Many companies are already been successfully implementing RPA to optimize invoice processing. For instance, financial services companies use RPA to automate accounting and control financial transactions. In such a way, this technology can significantly increase the speed and accuracy of invoice processing, reduce mistakes, and optimize business processes overall.

**Implementation of RPA to invoice processing.** RPA technology has great potential to optimize and automate invoice processing in modern business environments. Here are a few steps on how RPA can be used for the automation of this business process:

1. Data receiving.

RPA can automatically monitor and retrieve invoices from many sources such as emails, payment platforms, or web portals. The software bot can identify, and collect data from invoices and filter them by type, date, and amount.

2. Data verification.

RPA bot can automatically verify the accuracy of invoice data and compare it to a company's internal databases. This may include comparing the amount on the invoice to the expected value, checking tax values, and other operations.

3. Data input into the accounting system.

RPA bot can automatically input received and verified data into the accounting system or any other application or web service which are dedicated to this reason. This process can help avoid the need for manual data entry and reduces the possibility of mistakes.

4. Reporting and analytics.

Software bots are able to generate different reports which are based on processed invoices. This will help companies quickly analyze financial flows and make management decisions.

5. Document flow management.

Using RPA for invoice processing lets businesses save time and resources, avoid human mistakes, and increase the efficiency and speed of financial information processing, which is a significant point for effective financial management and the success of a business.

**Cross-industry benefits of RPA.** RPA provides multiple cross-industry benefits. In the case of invoice processing, it specifically brings the following advantages:

1. Removal of geographical and time constraints.

The use of RPA allows businesses to operate 24/7 because software bots are not limited by location and time. This is especially important for worldwide companies that have operations in different parts of the world.

2. Compatibility with other systems and technologies.

RPA can be easily integrated with existing different systems and other informational technologies such as artificial intelligence, machine learning, and data analytics. This improves the ability for optimization and implementation of complex solutions for better management of financial and business processes. Taking into account these advantages, implementing RPA technology is a promising and effective solution for various business sectors to help increase productivity, reduce costs, and improve the quality of financial information processing.

3. Reducing Fraud Risk.

RPA can significantly reduce the risk of financial fraud and deception. Automated processes record and monitor transactions and notice any irregularities or suspicious transactions. This can help companies to respond quickly and prevent fraud by ensuring the security of financial data and transactions.

4. Compliance with Requirements.

Compliance with standards and requirements is mandatory nowadays in the business environment. With the help of RPA, companies will be able to automate various business processes, ensuring data accuracy and compliance with established standards and regulations.

#### 5. Return on investment.

RPA implementation helps improve the efficiency of operations that leads to more efficient use of resources and increased profitability. Optimizing business processes for invoice processing saves time and money that can be dedicated to more strategic goals of business development and attract new investment.

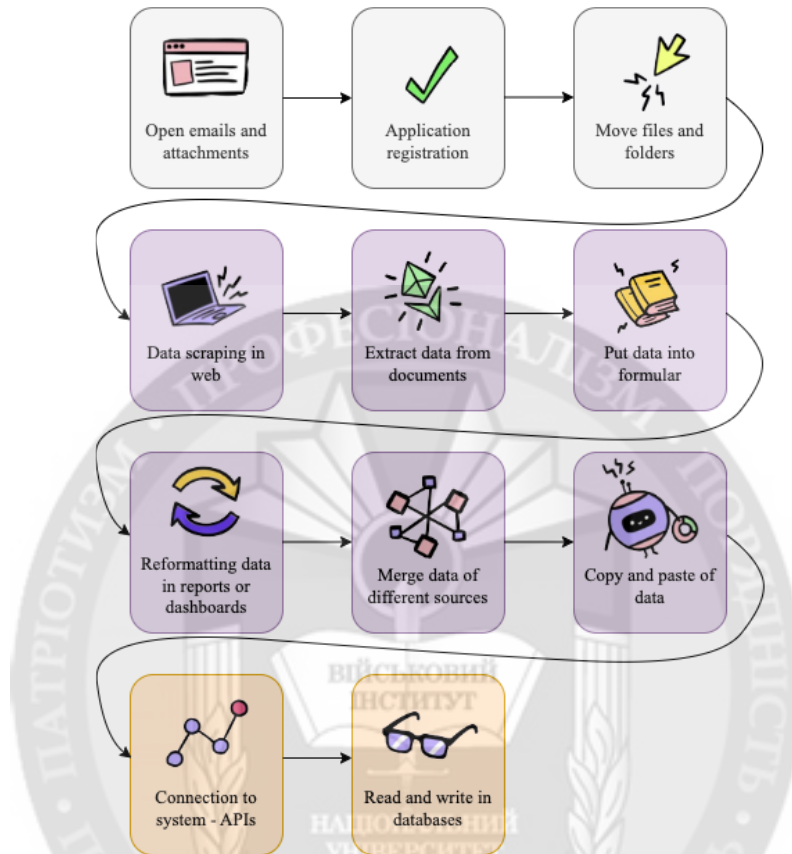


Figure - 1. Steps of document processing

**Conclusions.** The implementation of RPA technology into invoice processing opens up a wide range of perspectives for businesses in different areas. Software bots are programmed to perform actions according to specific business processes to get rid of monotonous and time-consuming tasks. This approach helps to increase work efficiency and significantly reduces the risk of human mistakes.

It is important to note that RPA does not only automate the processing of invoices, but also ensures their compliance with some set of and requirements. This is a key aspect in finance and accounting area, where data accuracy and regulatory compliance are critical points.

In addition, the use of RPA in invoice processing allows you to optimize costs and allocate corporate resources with maximum efficiency. This will help to increase profitability and bring new investments in the business.

After analysis, it is obvious that the use of RPA in invoice processing is an urgent need for companies in today's competitive business environment. This technology is getting a key tool to increase the level of efficiency and competitiveness, especially in the finance and accounting areas. The implementation of RPA in these areas will not only save businesses time and resources, but will also set high quality and reliability in the processing of financial information, which is an important factor in the successful operation and development of a business.

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### АВТОМАТИЗОВАНА СИСТЕМА ОБРОБКИ РАХУНКІВ НА ОСНОВІ RPA-ТЕХНОЛОГІЙ

*Анотація: У цій статті розглядаються варіанти оптимізації обробки рахунків за допомогою технології RPA (Robotic Process Automation). Вступ пояснює актуальність теми та мету дослідження. Основна мета дослідження полягає в систематизації та дослідженні впливу роботизованого процесу обробки рахунків (RPA) на процес обробки рахунків. Сьогодні підприємства стикаються з проблемою автоматичної обробки рахунків (RPA) у контексті оптимізації фінансових процесів. Дослідження стосується саме цієї технології та її використання в обробці рахунків.*

*Мета роботи полягала в тому, щоб зібрати та проаналізувати інформацію про переваги та можливості використання роботизованої обробки рахунків (RPA) для оптимізації обробки рахунків. Зокрема, були розглянуті такі аспекти, як ефективність та прискорення процесів; оптимізація ресурсів і зниження витрат; підвищення точності та уникнення помилок; відповідність стандартам і зниження ризику шахрайства; і підвищення прибутковості та сумісність з іншими технологіями.*

*Основними завданнями статті є розгляд основних принципів і можливостей роботизованої автоматизації процесів (RPA) у сфері обробки рахунків; дослідження методів впровадження RPA в процес обробки рахунків та оцінка того, як це впливає на продуктивність і точність операцій; розгляд майбутніх можливостей використання RPA в обробці рахунків та визначення потенційних тенденцій розвитку цієї технології. Ці цілі мають на меті провести ретельне дослідження та аналіз технології роботизованої обробки процесів (RPA) щодо її впливу на те, як вона оптимізує процеси обробки рахунків у бізнес-середовищах.*

*Аналіз переваг і можливостей RPA в контексті обробки рахунків є одним із методів, використаних у статті. Результати аналізу показують, що технологія RPA значно покращила обробку рахунків. RPA дозволяє автоматизувати рутинні процеси, що зменшує ризики та підвищує ефективність ведення бізнесу. Компанії в різних сферах отримують нові можливості завдяки цій технології.*

*Загалом дослідження свідчить про те, що роботизований процес обробки рахунків (RPA) є ефективним інструментом для оптимізації процесів обробки рахунків, підвищення ефективності та точності фінансових операцій і сприяння розвитку бізнес-планів у сучасних швидкозмінних бізнес-середовищах.*

*Ключові слова: автоматизована система, обробка рахунків, RPA, оптимізація бізнес-процесів, ефективність, фінансові операції.*