The Implementation of RPA in Scholarship Processes at the University of Tirana

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Presentation Overview

- Introduction and background of the study
- Definition and concept of Robotic Process Automation
- Literature review and related work
- RPA applications in different industries
- Advantages and disadvantages of RPA
- RPA awareness and adoption in Albania
- Case study: scholarship application automation
- Results, conclusions, and recommendations

Background and Motivation

- Rapid digitalization of organizations worldwide
- Traditional administrative processes are:
  - Repetitive and time-consuming
  - Highly dependent on human effort
  - Prone to errors
- COVID-19 pandemic increased the need for:
  - Remote work
  - Automated administrative processes
- Universities faced serious operational challenges

What is Robotic Process Automation (RPA)?

- Software technology that uses **software robots (bots)**
- Bots imitate human interaction with digital systems
- Perform tasks such as:
  - Reading emails and documents
  - Extracting and processing data
  - Transferring data between systems
- Bots work faster, continuously, and without fatigue

Key Characteristics of RPA

- Rule-based and logic-driven automation
- Non-invasive (no changes to existing systems)
- Works through user interfaces
- Scalable and reusable across processes
- Can be combined with OCR and AI technologies

RPA and Related Technologies

- **Machine Learning (ML):** pattern recognition and learning
- **Artificial Intelligence (AI):** intelligent decision support
- **OCR:** reading text from scanned documents
- RPA integrates these technologies into intelligent automation

Market Growth of RPA

- Global RPA market value:
  - $1.29 billion in 2020
  - Expected $7.64 billion by 2028
- Strong growth due to:
  - Digital transformation
  - COVID-19 impact
- Increasing adoption across industries

Literature Review: RPA Overview

- Term introduced by Blue Prism
- Widely adopted after 2017
- Research highlights:
  - Automation of repetitive tasks
  - Productivity improvement
  - Reduction of human errors
- RPA supports human work rather than replacing it

RPA in Business and Organizations

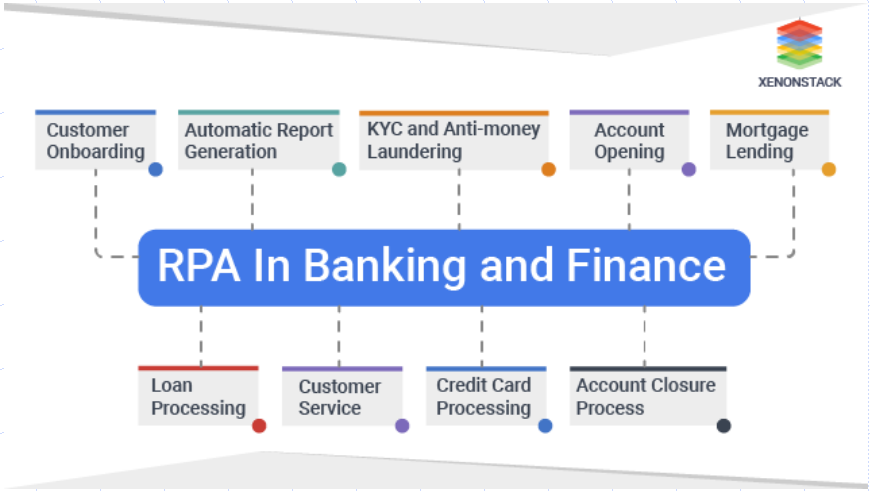
- Enables automation with minimal programming skills
- Bots can:
  - Communicate with multiple systems
  - Process transactions
  - Generate reports
- Ideal for high-volume digital processes

RPA Usage Across Industries

- Banking and finance
- Education
- E-commerce
- Insurance
- Healthcare
- IT and shared services

RPA in Banking and Finance

- One of the largest RPA adoption sectors
- Used for:
  - Account management
  - Loan and credit processing
  - Compliance and reporting
- Expected to dominate global RPA market



RPA in Education

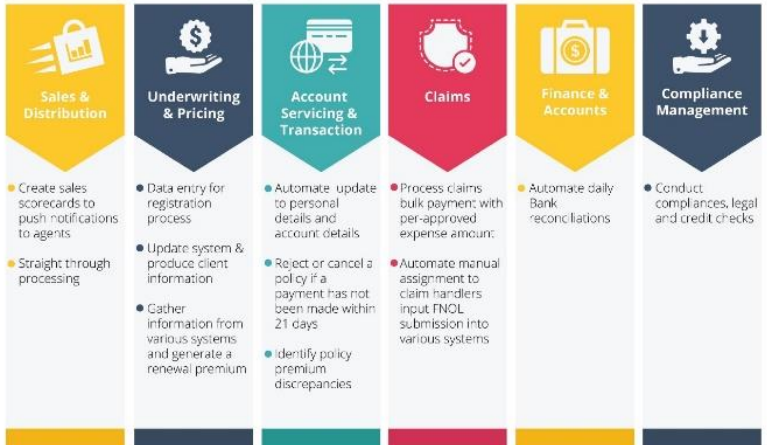
- Administrative tasks are mainly manual and paper-based
- RPA helps to:
  - Reduce administrative workload
  - Improve efficiency and accuracy
  - Increase staff motivation
- Benefits teachers, students, and administrators

RPA in E-commerce

- Automation of:
  - Order processing
  - Cancellations and refunds
  - Customer communication
- Case study: EVO Group
- Significant savings in time and operational costs

RPA in Insurance

- Insurance processes are rule-based and document-intensive
- RPA enables:
  - Faster claim processing
  - Reduced manual workload
  - Higher operational efficiency
- High automation potential by 2025



Advantages of RPA

- Increased productivity
- Reduced operational costs
- Improved data accuracy and quality
- Faster execution of repetitive processes
- Enhanced customer and user experience

Disadvantages of RPA

- High initial implementation cost
- Limited to rule-based processes
- Cannot operate outside digital environments
- Risk of job displacement without reskilling

RPA Awareness in Albania

- RPA is still not widely known
- Limited real-world implementations
- Growing interest in automation technologies
- Survey conducted in industry and education sectors

Survey Results: Industry Sector

- RPA mostly known by IT companies
- Few organizations have implemented it
- Main barriers:
  - Lack of information
  - Lack of trained professionals

Survey Results: Education Sector

- Manual processes take 1–2 hours daily
- Major challenge: large volume of documents
- RPA seen as a solution to reduce workload

Traditional Scholarship Application Process

- Fully manual and paper-based
- Physical presence required
- Manual data entry into spreadsheets
- High risk of errors
- Time-consuming process

COVID-19 Challenges

- Physical applications not possible
- Increased pressure on administrative staff
- Need for remote and automated solutions

RPA-Based Scholarship Solution

- Automated processing of scholarship applications
- Bot performs:
  - Email reading
  - Attachment downloading
  - Data extraction using OCR
  - Data organization in Excel

Scholarship Types Handled

- Economic scholarship
- Excellence scholarship
- Different validation logic for each type

Workflow of the RPA Process

- Read unread emails
- Identify scholarship type from subject
- Download attached documents
- Extract required data
- Apply decision rules
- Save results in Excel files
- Send results via email

Workflow of the application with RPA

Data Extracted by the Bot

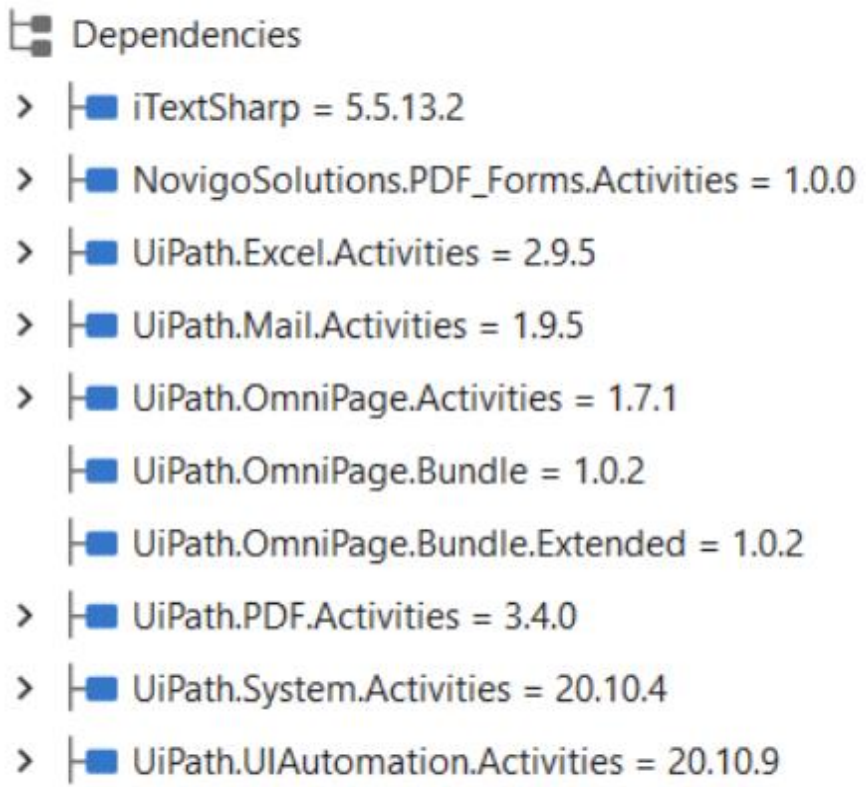
- Full name and surname
- Identification number
- Email address
- Bank account number
- Phone number
- Scholarship type
- Average grade (for excellence scholarship)

Decision Logic

- Excellence scholarship:
  - Average grade > 9 → Approved
  - Otherwise → Rejected
- Economic scholarship:
  - Validation based on eligibility documents

Tools and Platform Used

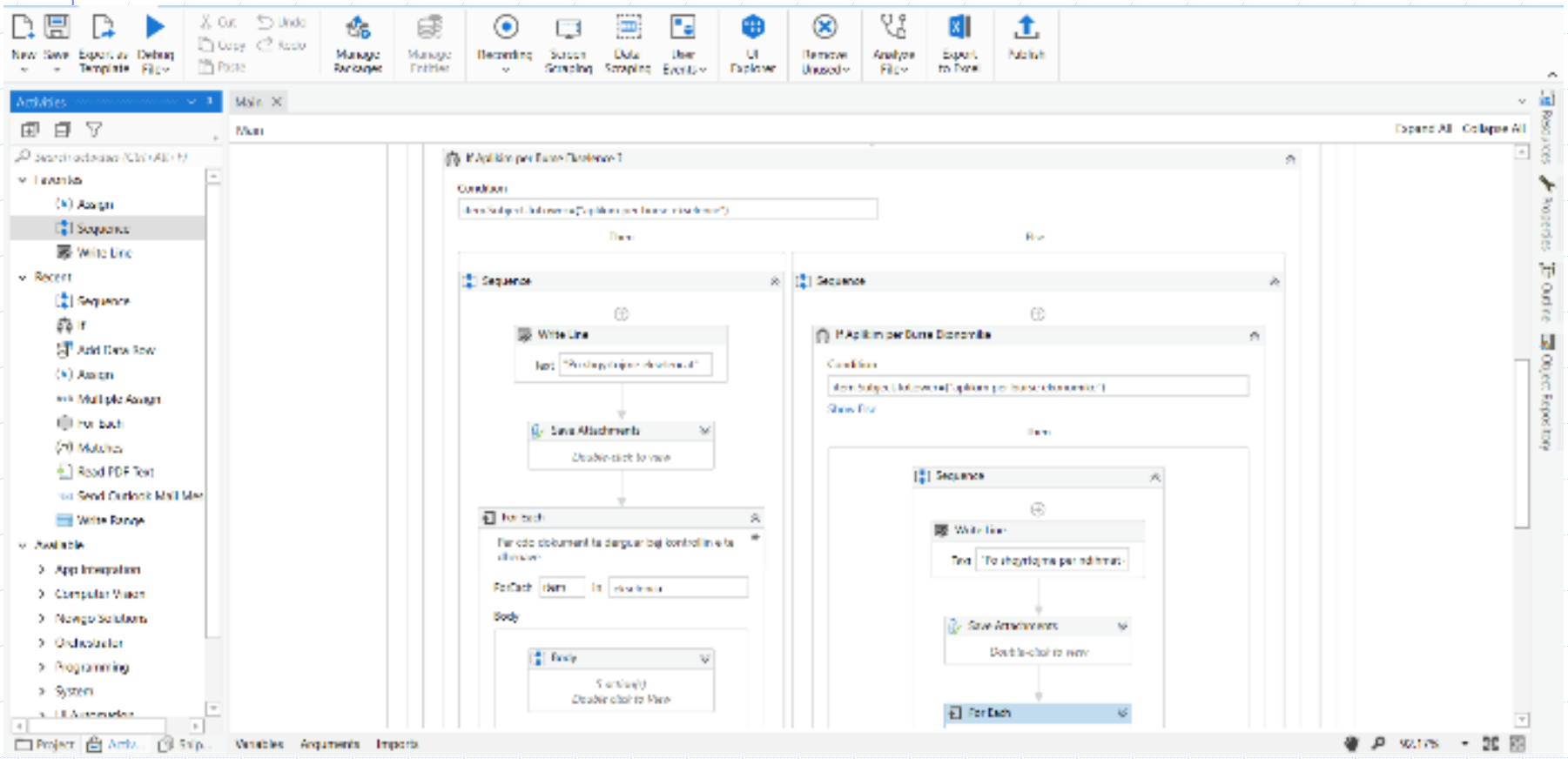
- UiPath Studio
- OCR technology
- Excel automation
- Email automation



UiPath Components

- Drag-and-drop activities
- Conditions and loops
- Pre-built packages (dependencies)
- Fast development with minimal coding

Some part of automation process



Test Case Results

- 7 scholarship applications processed
- 2 Excel files generated:
  - Economic scholarships
  - Excellence scholarships
- Automatic email delivery to administration

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Performance Comparison

- Manual processing:
  - Several hours of work
  - High risk of errors
- RPA processing:
  - Few seconds
  - High accuracy

Key Benefits Observed

- Significant time savings
- Reduction of human errors
- Improved accuracy of data
- Increased efficiency of administrative processes

Conclusions

- RPA is an effective automation technology
- Ideal for repetitive administrative tasks
- COVID-19 emphasized the need for automation
- Strong potential for adoption in Albania

Recommendations

- Increase RPA awareness and training
- Implement pilot projects in universities
- Gradual adoption in public administration
- Combine RPA with AI for future improvements

Final Remarks

- RPA supports, not replaces, human workers
- Frees staff from repetitive tasks
- Allows focus on analytical and strategic work