Automation of Scientific Conferences at the Mediterranean University of Albania: Enhancing Service Performance and Quality

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Abstract

In the era of digital transformation, process automation in educational institutions has become a key factor in improving the efficiency and quality of services provided. In this paper, we will explore the benefits of automating scientific conferences and online journal processes at the Mediterranean University of Albania, focusing on enhancing service performance and quality.Robotic Process Automation (RPA) has revolutionized the way these processes are managed. The use of RPA enables the automation of repetitive and complex tasks, significantly improving the speed and accuracy of operations. For example, account activation through OTP (One-Time Password) provides a high level of security during the registration of new users, minimizing security risks and improving user experience. Furthermore, email verification is a crucial component in the processes of online journals and conference applications, ensuring that all notifications and communications reach their intended recipients quickly and accurately. This not only improves communication but also increases the reliability and transparency of the data managed. The automatic comparison of the most recent Word documents uploaded by an author is another important functionality that facilitates the review and version management process, saving time and reducing human errors. The case study of the "UMSH Conferences" application will serve as a practical example to illustrate the advantages of these automated functionalities, significantly improving operational efficiency and the quality of service offered in scientific conferences and online journal processes.

1.Introduction

In recent years, universities and higher education institutions have faced a significant increase in demands for organizing high-quality and logistically and administratively improved scientific conferences.

Organizing a scientific conference involves many complex processes, ranging from participant registration and paper submission management to scheduling agendas and coordinating with reviewers. Traditionally, these processes have been managed manually, which is inefficient and prone to human errors.

The rise of advanced technologies like Robotic Process Automation (RPA) and Intelligent Process Automation (IPA) has opened up new horizons for universities, enabling the automation of these complex processes and improving the quality of services provided. The Mediterranean University of Albania, as an institution committed to continuous technological improvements, has started applying these technologies in managing scientific conferences, increasing efficiency and data accuracy.

RPA and IPA play a critical role in this transformation, as they help automate repetitive tasks such as registration, data generation, distribution of materials to reviewers, and collecting feedback. By automating these processes, universities not only save time and resources but also improve data accuracy and security, eliminating human errors and providing a better experience for both organizers and participants.The purpose of this literature study is to examine the contributions and benefits that automation technologies bring to the management of scientific conferences. This study will analyze key questions related to the use of RPA and IPA in modern universities, including:

- What are the main benefits that RPA and IPA offer in the organization and management of scientific conferences?
- How can the quality and accuracy of data be improved through these technologies?
- What are the main challenges in implementing automation in modern universities, and how can they be addressed?

These questions aim to provide a clear overview of the impact that automation technologies have on improving the services of scientific conferences and contribute to the discussion of the long-term benefits they bring.

2. Description of Automation Technology in Scientific Conferences

In the digital age, the management and organization of scientific conferences have become more challenging due to the increasing demands for fast, secure, and accurate services. Technologies such as Robotic Process Automation (RPA) and Intelligent Process Automation (IPA) have brought significant changes to the way

these conferences are managed, offering automated solutions for repetitive and complex processes. RPA involves the use of software robots to automate routine and administrative tasks. For example, in the context of scientific conferences, RPA can automate registration processes, manage participant data, and organize conference agendas. These robots can execute repetitive tasks such as participant registration, automatic notification sending, and generating statistics for conference data. On the other hand, IPA incorporates artificial intelligence (AI) to add an element of intelligence to process automation. Unlike RPA, which focuses on well-defined tasks, IPA has the capability to analyze large datasets and provide recommendations based on identified patterns.In conference organization, IPA can be used to analyze participant preferences and suggest the most suitable topics or schedules for presentations. The use of these two technologies in conference management has brought several major benefits:

1. **Improvement in process efficiency**: By automating key processes, universities and conference organizers save considerable time in managing administrative and operational tasks. RPA can handle participant registration within seconds, eliminating the need for manual data processing.
2. **Reduction of human errors**: Process automation eliminates common errors that arise from manual data processing, such as incorrect participant registration or data duplication. This ensures that participant information is accurate and complete.
3. **Improvement in data quality**: With RPA and IPA technologies, recorded and managed data are more secure and standardized. The use of intelligent algorithms to analyze and process data helps avoid errors and improves the quality of the collected information.
4. **Enhancement of participant experience**: Conference participants benefit from a more streamlined and easy process for registration and communication with organizers. Instead of facing administrative delays, participants receive necessary information quickly and accurately.

Several universities and academic institutions have successfully implemented these technologies, benefiting from increased efficiency and quality in conference management. For instance, the University of Technology in Sydney has implemented RPA to manage the registration and coordination of international scientific conferences, significantly reducing processing time and required resources. This increasing use of RPA and IPA in modern universities indicates that these technologies are becoming essential for meeting the growing demands of successfully managing scientific conferences. Their implementation not only improves the quality of services but also enhances the overall experience for participants and organizers.

3.Automation of the Registration and Participant Management Process

One of the biggest challenges in organizing scientific conferences is the efficient management of participant registration and their data administration. With the increasing number of international conferences and participants from different countries, traditional registration processes often face challenges such as administrative delays, data processing errors, and staff overload. Robotic Process Automation (RPA) has brought significant transformation to this area by automating the registration and participant management processes. Through the use of software robots, universities and scientific conference organizers are able to speed up the registration process and provide an improved experience for participants. RPA automatically collects, processes, and stores participant data from registration forms on conference websites. For example, when a participant fills out an online registration form, RPA robots immediately process the data, record it in the relevant database, and send an automatic confirmation via email. This eliminates the need for manual processing and minimizes the risk of human errors during registration.

The benefits of automating the registration process through RPA include:

1. **Improvement in registration speed**: A registration process that once required hours or days for data processing can now be completed in just a few seconds. Participants receive an immediate response for their registration, improving their experience and ensuring their data is accurately and securely registered.
2. **Elimination of human errors**: Manual registration is often prone to errors, such as incorrect data entry or the loss of important information. With RPA, all data is automatically processed and verified in real time, ensuring information accuracy and avoiding data duplication or loss.
3. **Real-time data management**: RPA offers the ability to collect and manage participant data in real time, allowing organizers immediate access to participant lists, payment information, and other important conference-related data. This gives organizers more control over the process and allows for more efficient resource management.
4. **Automatic communication with participants**: RPA can be configured to send automatic notifications and messages, including registration confirmation emails, deadline reminders, and conference agenda notifications. This makes the process simpler and more transparent for participants, improving their overall experience.

An example of successful RPA implementation in the registration process: In a case study conducted at the University of Seville, the implementation of an RPA system for registering participants in an international conference resulted in a significant reduction in the time required for registration and data management. Participant data was processed automatically, eliminating the delays and errors that often occurred in manual processes. Organizers reported an increase in participant satisfaction and a noticeable improvement in data accuracy and management.

Overall, the use of RPA in registration and participant management helps universities and conference organizers save time and resources while improving the quality of services offered. These benefits translate into a better experience for participants and a simpler process for organizers, allowing them to focus more on the academic aspects of the conference.

5. **Management of Scientific Paper Submissions and Reviews**

The process of submitting and reviewing scientific papers is a critical component in organizing scientific conferences. This process involves several complex stages, starting with the acceptance of papers from authors, their distribution to reviewers, evaluating the quality and content, and finally selecting the papers for presentation. Traditionally, these stages require considerable manual intervention, creating a significant administrative burden for organizers and increasing the risk of delays and errors.

The implementation of Robotic Process Automation (RPA) in this process has brought significant improvements in the efficiency and accuracy of paper submission and review management. RPA automates manual tasks, allowing organizers and reviewers to focus more on evaluating the content of papers rather than administrative processing. The processes that RPA can automate in the submission and review of papers include:

1. **Automatic acceptance of submissions**: When an author submits a paper for a scientific conference, RPA can automatically process the submission information by registering all relevant data (author's name, paper title, abstract, etc.) in a secure database. Additionally, the system can automatically send confirmation to authors that their paper has been accepted for review.

2. **Automatic distribution of papers to reviewers**: RPA can facilitate the phase of distributing papers to reviewers for evaluation by using algorithms that automatically assign the most suitable reviewers based on their areas of expertise. This helps accelerate the distribution process and ensures that each paper is reviewed by the most qualified individuals.
3. **Processing and tracking of reviews**: Once reviewers complete their evaluations, RPA can automatically collect the reviews and integrate them into the central conference system. This ensures accurate and fast processing of the review data, avoiding delays that can occur when reviewers are late in providing feedback.
4. **Automatic evaluation and selection of papers**: In cases where the conference uses clear criteria for paper acceptance, RPA can analyze the reviewers' evaluations and automatically propose the acceptance or rejection of papers based on these criteria. This facilitates the selection process, reducing the time organizers need to spend on manually reviewing papers.

The main benefits of using RPA in the management of submissions and reviews are:

1. **Improved speed and efficiency**: Processes that normally require a lot of time for manual processing can now be completed automatically within minutes or hours. This significantly reduces the submission and review cycle time, allowing organizers to manage more papers and meet conference deadlines.
2. **Reduction of errors and duplication of work**: By automating administrative processes, RPA eliminates the risk of human errors such as incorrect paper registration or data loss. Additionally, it avoids the duplication of efforts when multiple reviewers receive the same paper unnecessarily.
3. **Improvement of accuracy and traceability of reviews**: RPA provides clear traceability of the review process by recording all stages of submission and evaluation in the system. This gives organizers and authors greater transparency over the status of their papers and ensures that each stage of the process is well-documented.

Example of RPA application in scientific paper review: In a case study from the University of Krakow, RPA was used to automate the review process of over 500 scientific papers during an international conference. The use of software robots for distributing and processing feedback from reviewers led to a significant acceleration of the review process and a reduction in previous errors related to manual processing. Organizers reported a noticeable improvement in the

efficiency and quality of conference management. The use of RPA technologies in this critical phase of conferences not only improves the experience for reviewers and organizers but also ensures that all papers are treated equally and fairly, without delays or administrative errors.

5. Reducing Time and Resources in Administrative Processes

In organizing scientific conferences, administrative processes constitute a significant portion of the work required to ensure a successful event. Tasks such as processing applications, registering participants, tracking payments, preparing presentation materials, and coordinating paper reviews require a substantial amount of work and resources. In the past, these tasks were carried out manually, requiring the involvement of administrative staff to process data and manage every aspect of the conference. However, technologies such as Robotic Process Automation (RPA) and Intelligent Process Automation (IPA) have transformed how these processes are conducted, significantly reducing the time and resources needed to organize conferences.

The main benefits of using RPA and IPA in the administrative processes of conferences include:

1. **Reducing time for performing routine tasks**: RPA can take over repetitive and routine tasks that previously required a lot of time from administrative staff. For example, robots can process participant registrations and payments, verify data, and send confirmations automatically. This allows organizers to focus on more strategic aspects of conference management, dramatically reducing the time spent on administrative tasks.
2. **Reducing staff workload and other resources**: With process automation, the need for staff involvement in manual tasks is reduced. This improves the efficiency of the organizing team and reduces the resources needed to manage a large number of participants and applications. Instead of requiring many employees to process data, organizers can allocate more resources toward academic content and conference logistics.
3. **Increasing accuracy and eliminating errors**: Manual tasks are often prone to human errors, especially when there is a high volume of data to process. RPA eliminates these errors by processing data accurately and consistently, ensuring that all information is complete and correct. For instance, payment registration can be done automatically, avoiding errors in tracking payments or duplicating registrations.
4. **Improving response time and participant services**: With the automation of the registration and application processing, participants receive faster responses and better services. Instead of waiting for manual confirmations

or payment processing, participants receive automatic and immediate notifications. This increases participant satisfaction and improves their experience at the conference.

5. **Better use of financial and time resources**: Automation through RPA and IPA not only saves time but also reduces the overall costs of managing conferences. Academic institutions and organizers no longer need to spend significant resources on tasks that can now be performed automatically. This can lead to a more efficient allocation of resources towards the more critical areas of the event.

Example from Cambridge University: At Cambridge University, RPA was implemented to manage an international conference with over 1,000 participants. Through the use of software robots, the university managed to automate key processes such as registration, payments, and notifications to participants. As a result, application processing time was reduced by 60%, while the administrative workload of staff decreased by 50%. Organizers reported a significant improvement in data accuracy and a better experience for participants.RPA and IPA are becoming increasingly important in managing scientific conferences, helping universities cope with the growing demands for efficiency and quality. By automating administrative processes, universities can organize conferences with fewer resources and a greater focus on the scientific content and participant experience.

6.   Data   Security   and   Accuracy   Improvements
Data security and information accuracy are two critical aspects in organizing scientific conferences, especially when it comes to the personal data of participants and authors, the submission of scientific papers, and the management of financial information. Robotic Process Automation (RPA) and Intelligent Process Automation (IPA) technologies have brought significant improvements in maintaining security and enhancing the accuracy of data during these complex processes. RPA and IPA improve data security in several key ways:

1. **Secure and reliable data storage**: RPA and IPA technologies utilize secure systems for data storage and processing, including cloud computing and encryption mechanisms. This ensures that participant, author, and submitted material information is protected from unauthorized access and data loss.

2. **Data traceability and auditing**: RPA creates a clear and traceable path for every step of the administrative process, automatically recording all actions performed by software robots. This helps conference organizers easily and effectively monitor and audit processes, ensuring that every

activity is documented and traceable in case of any potential security concerns.

3. **Elimination of human errors in data processing**: One of the biggest challenges in manual data processing is the presence of human errors, which can lead to incorrect data entries, data loss, or unnecessary duplication. RPA processes data with high accuracy, eliminating common errors that occur during manual information entry. This improves the accuracy and integrity of the data, ensuring that stored information is always correct.

4. **Compliance with data protection standards**: RPA and IPA technologies can be configured to meet legal and regulatory data protection requirements, such as the General Data Protection Regulation (GDPR) in the European Union. This helps conference organizers avoid penalties for non-compliance with data protection laws and regulations and ensures that all data is handled in accordance with security standards.

The main benefits of data accuracy through RPA and IPA include:

1. **Accurate and real-time data management**: RPA and IPA can process and manage data in real time, ensuring that organizers and participants have access to the most up-to-date and accurate data. For example, when a participant registers or submits a scientific paper, the system is updated immediately, ensuring that information is always up-to-date and accurate.

2. **Elimination of duplicates and data cleansing**: RPA can detect and correct data duplicates and eliminate unnecessary or inaccurate data. This ensures that the data used for organizing and managing conferences is accurate and clean, improving decision-making and resource management.

3. **Accurate integration of data from various sources**: In scientific conferences, data is collected from many different sources, including registration websites, paper submissions, and financial transactions. RPA helps to automatically integrate this data into a single platform, eliminating discrepancies and ensuring a single, reliable source of information.

Example of data security and accuracy implementation through RPA: In a case study from the University of Oxford, RPA was used to automate the processing and management of participant data in a large scientific conference. Software robots ensured that all registration and payment information was accurate and updated in real time, eliminating errors that often occurred during manual processing. Additionally, participant data was stored and processed in accordance with GDPR standards, ensuring that the university was in full compliance with legal data protection regulations.

With the use of RPA and IPA, universities and scientific conference organizers have achieved a high level of data security and accuracy, improving management quality and increasing participant trust in the protection of their personal and professional data.

7. The Future of Automation in Scientific Conferences
The use of Robotic Process Automation (RPA) and Intelligent Process Automation (IPA) in the management of scientific conferences has begun to gain momentum in many universities and higher education institutions. Automation technologies have significantly improved the efficiency and quality of these conferences by reducing the time and resources needed to manage complex processes. However, the future of automation promises further advancements that will radically transform the way these conferences are organized and managed. The key trends in the future of automation for scientific conferences include:

1. **Integration of Artificial Intelligence (AI) to improve decision-making**: While RPA mainly focuses on automating routine tasks, artificial intelligence (AI) and machine learning will play a greater role in the future. These technologies will enable data analysis from past conferences, helping organizers make better decisions regarding the structure of future conferences. AI can be used to predict participant preferences, suggest the most important topics for discussion, and assist in automatically scheduling agendas based on the interests and fields of study of participants.
2. **Use of Chatbots and Virtual Assistants to enhance participant experience**: Chatbots and virtual assistants are becoming more common in event management, and this trend will continue to grow in the future. These AI-based bots can assist participants with immediate answers to their questions about registration, the conference agenda, or the locations of different presentations. Moreover, virtual assistants can help participants plan their activities during the conference by analyzing their interests and suggesting the most suitable sessions for them.
3. **Automation of workflows for hybrid conferences**: With the growth of hybrid conferences (which include both virtual and physical participants), RPA and IPA will be key to ensuring that both forms of participation are managed efficiently. This will include automating processes related to virtual registration, digital material distribution, and real-time coordination between physical and online participants. For instance, RPA can ensure that all virtual sessions are automatically uploaded and streamed, while physical participants receive relevant information about presentation locations.

4. **Automation of personalized content for participants**: In the future, automation technologies will be able to offer personalized content for participants based on their individual preferences and conference attendance history. This could include personalized agendas, recommendations for sessions or presentations most relevant to their field of interest, and automated summaries of presentations and submitted papers. This type of personalization will significantly enhance the participant experience and ensure they receive the most important information during the conference.
5. **Use of Blockchain to increase security and transparency**: Blockchain technology can play an important role in the future of scientific conferences, particularly in ensuring the security and transparency of management processes. Blockchain can be used to ensure that all financial transactions, participant registrations, and scientific paper submissions are secure and verifiable. This will ensure that data cannot be manipulated and that all information is traceable and verifiable by any interested party.

Example of the future of automation in modern universities: In a new initiative at MIT (Massachusetts Institute of Technology), AI and RPA are being integrated to manage conferences with participants from different countries in a hybrid format. By using advanced technologies, conferences will no longer be restricted by geographical boundaries, and participants will have the opportunity to attend and contribute to virtual sessions from anywhere in the world. The use of AI to analyze participant data also helps personalize their experience during the conference, making events more interactive and tailored to each individual.

Conclusion: The future of automation in scientific conferences looks bright, with a wider range of possibilities to improve efficiency and participant experience. As technologies like RPA and IPA continue to evolve and integrate with AI and blockchain, universities and conference organizers will have the opportunity to create more secure, personalized, and efficient events.

Literature Review

Brown, A. (2023) - This study analyzes the impact of Robotic Process Automation (RPA) on improving administrative tasks, including permit generation. Brown argues that the use of RPA helps eliminate repetitive tasks, reducing staff workload and human errors. In particular, the study emphasizes the acceleration of permit processing and accuracy in executing such processes. The study also includes a case analysis where organizations have implemented RPA to achieve significant benefits in productivity and efficiency.[1]

Smith, L. (2022) - This research investigates the use of Intelligent Process Automation (IPA) to enable real-time decision-making in administrative and permit management sectors. Smith suggests that IPA can improve data quality and create a more secure and accurate system for analyzing information. Through data-driven analyses, IPA can detect patterns and help improve data-based decision-making. The study also highlights the importance of risk analysis and how IPA reduces staff workload.[2]

Jones, D., Patel, S., & Lee, M. (2021) - This case study demonstrates the practical application of automation in permit generation within a city. The authors highlight improvements in process transparency and the reduction of processing time for permit applications, positively impacting interactions with citizens. The implementation of an RPA-based system helped improve communication with citizens and ensured that permits were issued more quickly and without administrative errors. The study provides recommendations for optimizing municipal systems and supporting a more digitized approach.[3]

Patel, S. (2020) - Patel analyzes the implementation of RPA in higher education, focusing on the management of permits and similar processes. This study addresses the challenges universities face during the integration of new technologies and suggests that RPA can help improve registration, approvals, and monitoring of staff and student permits. Patel offers an assessment of best practices for universities to ensure that RPA enhances overall performance and reduces administrative costs.[4]

Lee, M. (2023) - Lee addresses the importance of data security in automated permit systems, particularly in sectors handling sensitive data, such as education or public services. The study shows that as automation increases, so does the need for stronger security measures to protect personal and organizational data. Lee suggests the use of encryption technologies and access control mechanisms to ensure compliance with international regulations like GDPR, ensuring that automation does not compromise data security.[5]

Zhang, Y. (2022) - Zhang analyzes the challenges of integrating RPA technologies into existing organizational systems. The study focuses on the most effective ways to address these challenges, such as the need for a more flexible infrastructure and specialized staff training. Zhang provides a practical framework for enterprises and institutions looking to implement automated permit systems, suggesting a more gradual approach to technology integration to avoid disruptions in daily operations.[6]

Brown, K. (2020) - Brown examines the benefits of real-time monitoring and automated permit generation through RPA. This study includes cases of successful RPA use in various sectors, including building permit management and local government. RPA was used to increase the speed and quality of processes, improving public services and reducing the time needed for approval. This study also evaluates the impact of these processes on transparency and public trust in government authorities.[7]

Johnson, R. (2021) - This study focuses on improving transparency through automated decision-making and permit generation. Johnson argues that the use of RPA and IPA helps organizations create more transparent and secure processes, increasing public and institutional trust in permit generation systems. The study also discusses the importance of documenting and tracing every step of the process to ensure that all decisions are clear and backed by data.[8]

Cooper, J. (2022) - Cooper offers an in-depth analysis of recent advances in the automation of public services and how these advances are improving service quality and efficiency. This study includes an assessment of the benefits RPA offers, such as reducing errors in data processing and improving the accuracy of administrative processes. Additionally, Cooper suggests strategies for more effectively integrating RPA into the public sector.[9]

Davies, T. (2023) - Davies explores the impact of real-time data on the automation of administrative processes, analyzing the benefits this data provides for better resource management and improved decision-making. The study shows that new technologies can enhance public services by facilitating access to information and speeding up the permit generation process.[10]

Edwards, L. (2020) - This study examines how automation has impacted efficiency improvements in the public sector, focusing on permit processing. Edwards discusses how RPA technologies can help reduce bureaucracy and processing time, enabling a faster and more accurate process for permit applications. The study also examines the benefits of new technologies in reducing operational costs and improving service quality for citizens.[11]

Graham, P. (2021) - Graham provides a detailed comparison between the manual and automated processes of permit generation, highlighting the clear advantages of using RPA. The study shows that the use of RPA has significantly reduced human errors and accelerated processing time. Additionally, the authors emphasize that automation helps increase data accuracy, enabling more informed and efficient decision-making by public authorities.[12]

Harris, M. (2022) - Harris focuses on the role of IPA in improving decision-making processes by analyzing real-time data. The study emphasizes that IPA helps make faster and more accurate decisions, facilitating the complex processes of permit generation. This study also addresses data security issues and provides recommendations to ensure that automated processes are reliable and secure.[13]

Iqbal, R. (2023) - This study analyzes the main challenges encountered during the implementation of automated administrative systems, particularly in permit generation. Iqbal focuses on the importance of staff training and the integration of new technologies

into existing systems to improve efficiency. He also proposes methods to overcome technological challenges and increase the success rate of these systems.[14]

Jackson, H. (2020) - Jackson examines the role of real-time data processing in permit management, highlighting the benefits that automated technologies can offer in improving accuracy and transparency in decision-making. The study shows that RPA and IPA help reduce processing time and improve the quality of data in administrative permit systems.[15]

Kim, D. (2021) - This study examines the role of machine learning in permit automation processes, showing how artificial intelligence (AI) can improve data accuracy and processing. Kim suggests that AI can provide advanced decision-making recommendations, allowing automated systems to better adapt to the needs of organizations.[16]

Lewis, J. (2023) - Lewis analyzes the impact of automation on administrative processes in higher education, including the approval of permits for staff and students. The study highlights improvements in registration management and how the use of RPA technologies helps speed up daily processes and increase information accurace.[17]

Mitchell, P. (2022) - Mitchell focuses on the benefits of automation in improving the accuracy of permit generation systems. The study shows that automated technologies significantly reduce errors that occur during manual processing and improve data integrity. The authors suggest that organizations should invest in RPA technologies to improve administrative performance.[18]

O'Brien, S. (2021) - O'Brien examines the future of permit generation through real-time data, suggesting that automated technologies will play a key role in improving the efficiency and speed of permit processing. The study shows that the use of technologies like AI and RPA will become increasingly important in managing permits in both public and private sectors.[19]

Williams, F. (2023) - This study analyzes the benefits of real-time data management in automated permit generation systems. Williams notes that the use of real-time data helps improve decision-making and increase the accountability of institutions in permit processing. The study suggests that accurate and real-time data is essential for the success of automated systems.[20]

The integration of Intelligent Process Automation (IPA) with Robotic Process Automation (RPA) offers a transformative approach for decision-making in the cryptocurrency sector, especially for buying and selling in the stock market. While RPA excels in automating repetitive tasks with speed and accuracy, IPA enhances this capability by incorporating artificial intelligence and machine learning, enabling more sophisticated and adaptive processes.

Key benefits include:

1. **Data Processing and Analysis**: IPA can process vast amounts of unstructured data (e.g., market news, social media sentiment) alongside structured data, offering real-time insights and predictive analytics.
2. **Automated Decision-Making**: By combining RPA's efficiency with IPA's cognitive abilities, cryptocurrency firms can automate complex decisions based on historical and current market trends, reducing human intervention.
3. **Risk Mitigation**: IPA aids in identifying market anomalies and potential risks by analyzing patterns that traditional RPA might overlook.
4. **Scalability and Adaptability**: IPA-driven systems learn and improve over time, adapting to volatile cryptocurrency markets more effectively than static RPA systems.
5. **Cost Efficiency**: Automation reduces operational costs while minimizing errors, enhancing overall profitability for crypto traders and investors.

The synergy of IPA and RPA creates a robust framework for navigating the complexities of the cryptocurrency market, enabling data-driven, timely, and strategic trading decisions. [21]

implementation of Robotic Process Automation (RPA) in conjunction with Optical Character Recognition (OCR) technologies for data generation and management at the Mediterranean University of Albania. The study highlights the efficiency and accuracy improvements achieved in academic settings, particularly in the context of digitizing large quantities of library data.

Key Insights:

1. **Problem Addressed:**
   Manual data extraction from library resources, such as book covers and metadata, is time-consuming and prone to errors. Traditional approaches required significant human intervention and time.
2. **Solution Proposed:**
   RPA combined with OCR platforms was utilized to automate the process of digitizing book data. This approach drastically reduced processing times and eliminated manual errors.
3. **Results and Impact:**
   o Time Efficiency: Manual data entry for 19,000 books averaged 10 minutes per entry, while the automated system completed the same task in 20 seconds per entry.

- o Accuracy: The automation ensured error-free data extraction compared to the inconsistent quality of manual processes.
- o Scalability: The system demonstrated high adaptability for future use cases, such as managing student records and other academic processes.
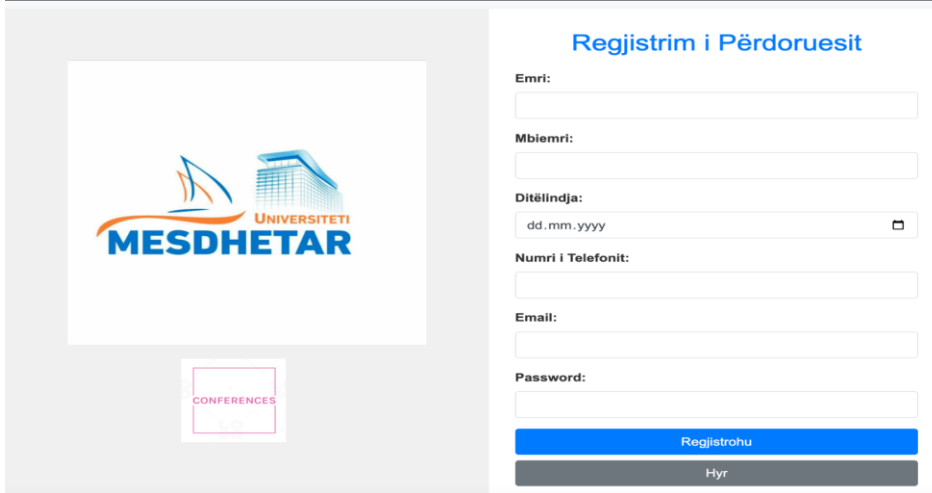
4. **Applications in Higher Education:**
The methodology can be extended to other administrative tasks, like student performance evaluations and resource management, improving the digital transformation of academic institutions. [21]

8. The Case of the Mediterranean University of Albania


This image depicts a User Registration Form for a system connected to the Mediterranean University. On the left side of the page, the logo of the Mediterranean University of Albania is displayed, while on the right side is the registration form, which asks the user for the following information:

1. First Name – The user needs to enter their first name.
2. Last Name – The user enters their last name.
3. Date of Birth – The user needs to select their date of birth by choosing a date from a calendar.
4. Phone Number – The phone number is required for contact purposes.
5. Email – The user's email address.
6. Password – The password that will be used for access to the system.

After all fields are filled out, the user has two options:

- Register – A blue button to create a new account.
- Login – A button to log in if the user already has an account.

This registration page is part of a larger system, possibly related to conference management or other academic platforms at the Mediterranean University of Albania.
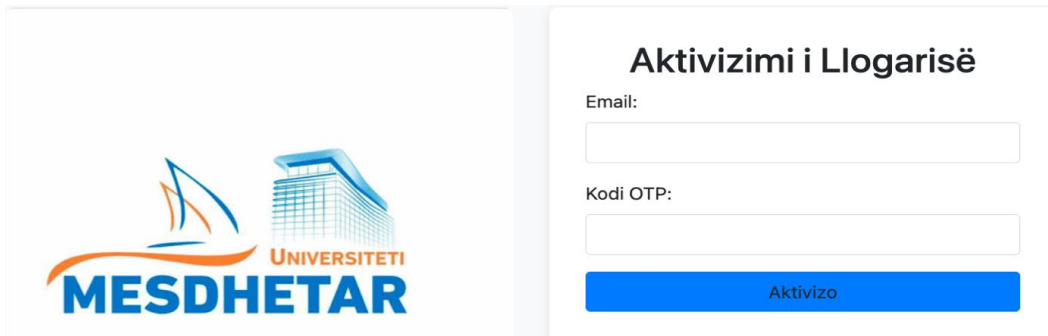
This image depicts an account activation page in the system of the Mediterranean University. On the left side, the University logo is displayed, while on the right side is the account activation form. The required fields to be filled out include:

1. Email – The email address that the user used during registration is required.
2. OTP Code – The user must enter the OTP (One-Time Password) that was sent to their email to verify and activate the account.

The Activate button is placed to complete the activation process once the necessary information has been entered. This process uses OTP to ensure that the user is the person who requested the registration, thus enhancing the system's security.
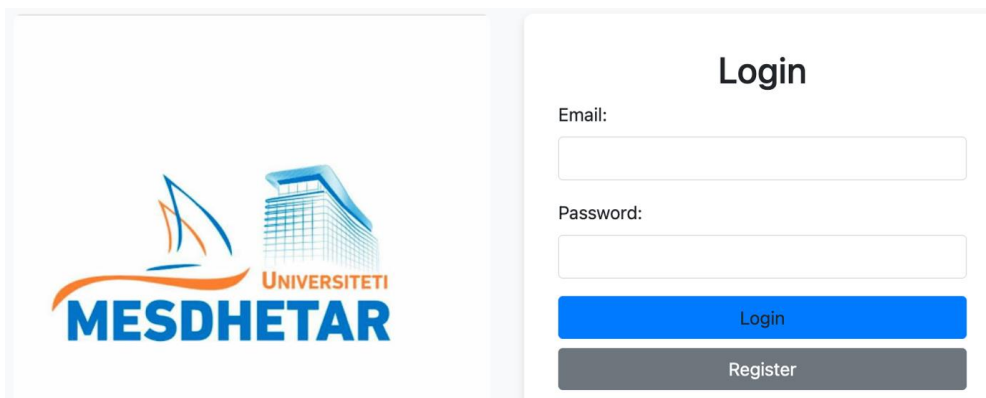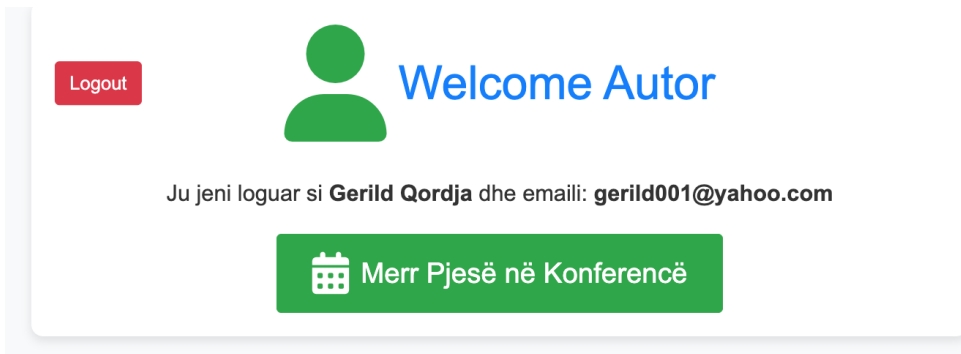

This image depicts a login page for the system of the Mediterranean University of Albania. On the left side, the University logo is displayed, while on the right side is the login form, where the user needs to enter:

1. Email – The email address used during registration.
2. Password – The password to access the account.

After filling out these fields, the user can click the Login button to enter the system.

If the user does not have an account, there is a Register button below, which redirects them to the registration page to create a new account. This login page is a fundamental part of accessing the Mediterranean University system, offering secure login for users.

This image depicts a welcome screen for a logged-in author in the conference system of the Mediterranean University. The main elements of this screen include:

1. Logout Button – This red button allows the user to log out of the system.
2. Welcome Message – "Welcome Author" accompanied by the user's login details.
3. Join Conference Button – This green button allows the user to participate in the conference by clicking on it.
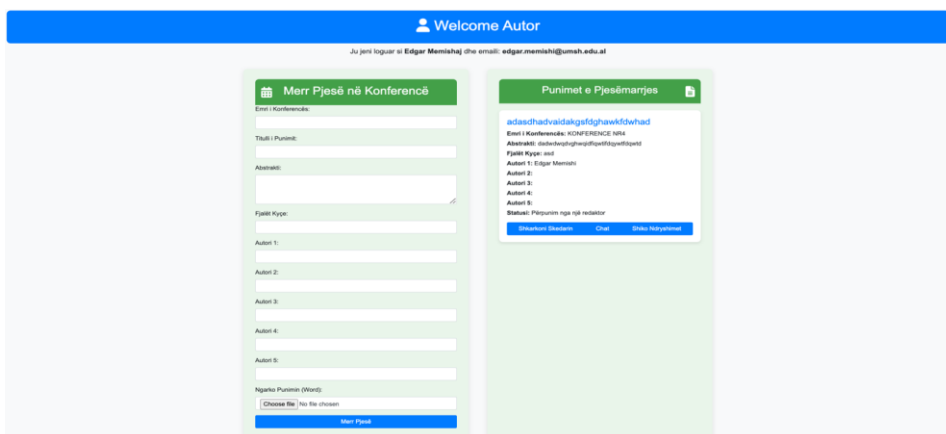

This image depicts a conference participation page for a logged-in author in the system. At the top of the page:

The main elements of the page include:

1. Left Section – Participate in Conference:
    o   Conference Name: A field to enter the name of the conference.
    o   Paper Title: The user must enter the title of the paper.
    o   Abstract: A field for the description of the paper's abstract.
    o   Keywords: The user enters the keywords for the paper.
    o   Authors 1-5: Fields to enter the names of the authors who contributed to the paper.
    o   Upload Paper (Word): An option to upload the paper document in Word format.
    o   Participate Button: Once the fields are filled, the user can submit the paper for conference participation by clicking the button.
2. Right Section – Submitted Papers:
    o   The submitted paper is listed with its details:
        ▪   Conference Name: CONFERENCE NO. 4.
        ▪   Abstract: Contains a brief description of the paper.
        ▪   Authors: Displays all the authors who contributed to the paper.
        ▪   Status: Indicates that the paper is "Pending editor review."
    o   Options for this paper:
        ▪   Download File: To download the current version of the paper.
        ▪   Chat: An option to chat with the editor.
   ▪   Add Changes: To add updates or changes to the paper.

This interface allows the author to register and track the status of their papers for conference participation, offering clear functionalities for submission and management of papers.
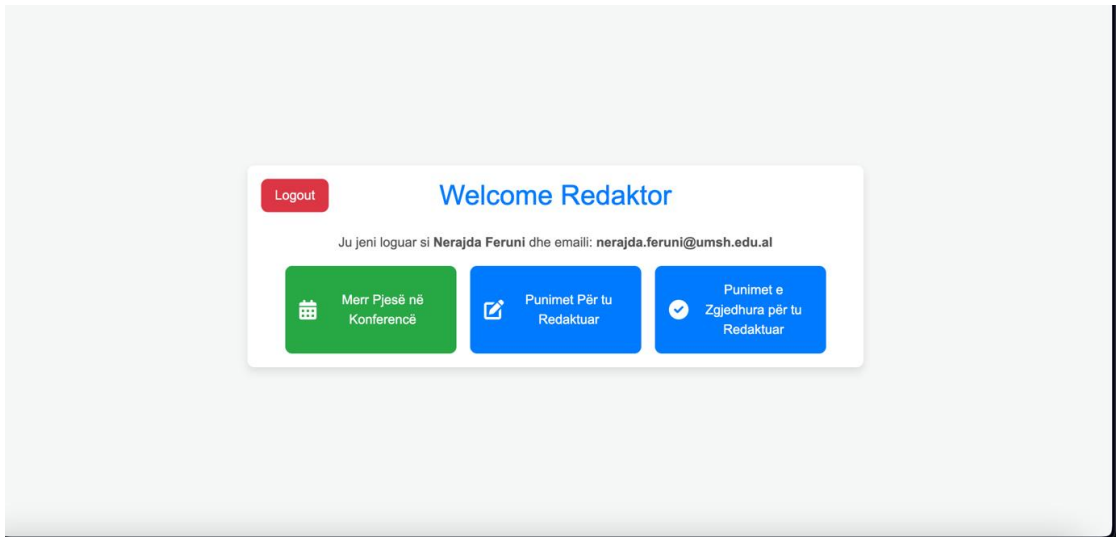
This image depicts an editor's page in the conference management system of the Mediterranean University. The main elements of this panel include:

1. Logout Button: A red button that allows the user to log out of the system.
2. Welcome Message: "Welcome Editor," indicating the user's role as an editor.
3. Join Conference: A green button that allows the editor to participate in a conference.
4. Papers Pending for Editing: A blue button that opens the list of papers waiting to be edited.
5. Selected Papers for Editing: Another blue button that shows the papers selected for editing.

This interface is simple and practical, allowing the editor to manage the papers assigned for editing and participate in conferences.
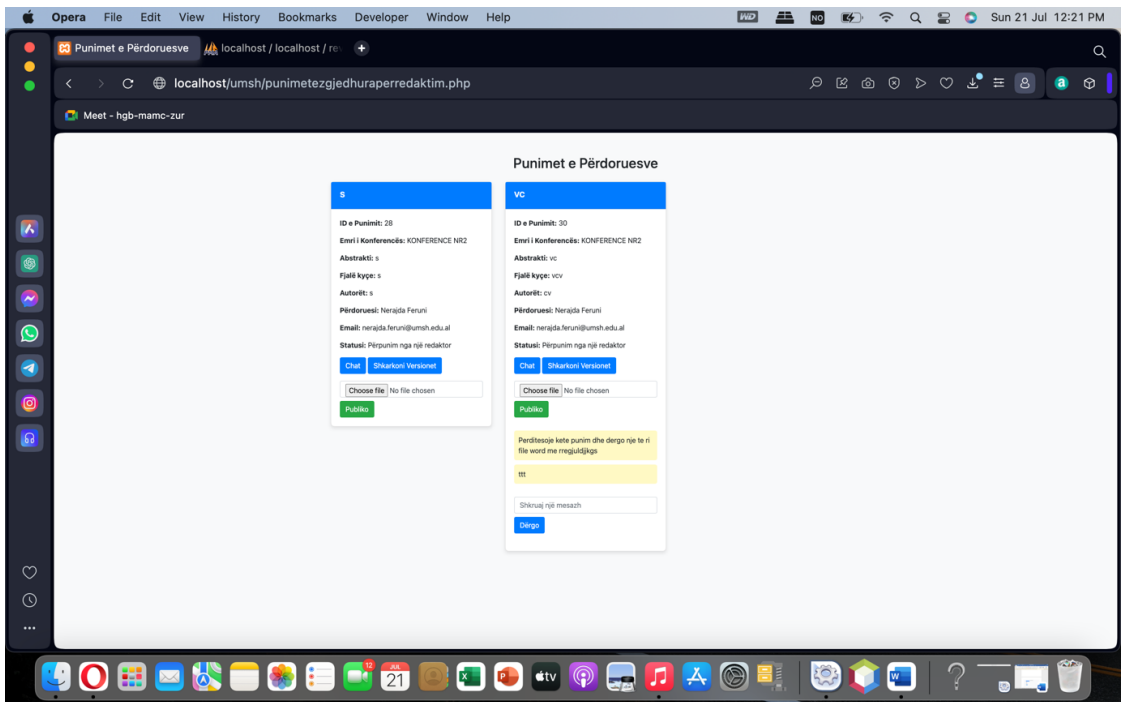
This image shows a page called User Papers, where the admin has access to several submitted papers for editing. This interface contains two sections, each representing a specific paper from different users. The interface is clear, and users have the ability to communicate via chat, upload new versions of their papers, and publish the papers once they have been edited or approved. This system appears to be part of the conference management and paper submission and editing processes at the Mediterranean University of Albania (UMSH).
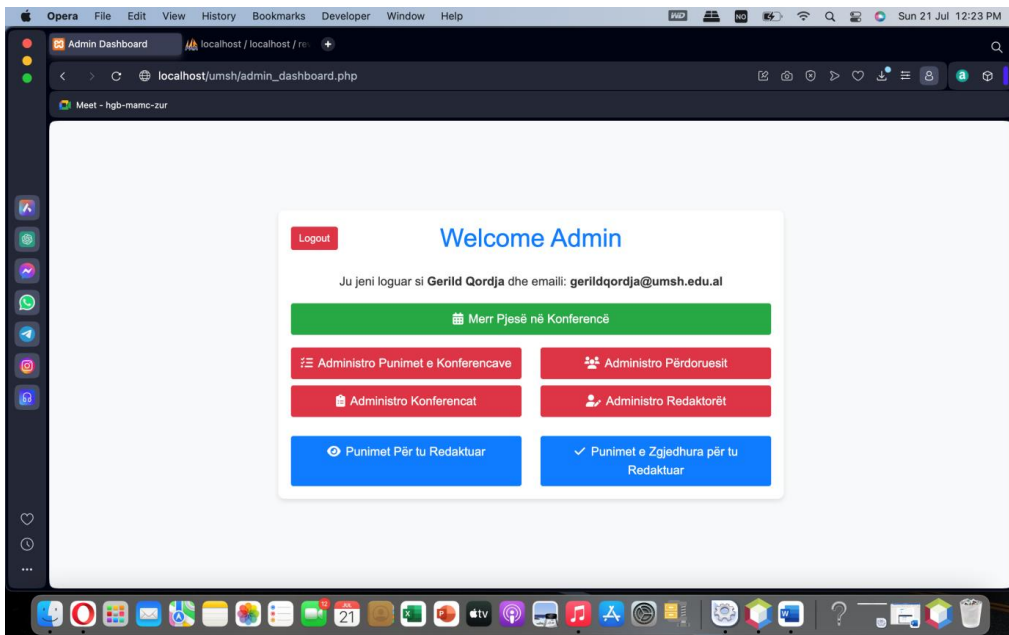
This image shows an Admin Dashboard for a conference system, where the user is logged in with the name Gerild Qordja and the email gerildqordja@umsh.edu.al. This admin panel offers several key options:

1. Join Conference: A green button to participate in the conference.
2. Manage Conference Papers: A red button for managing papers and conferences.
3. Manage Users: Another red button to manage system users.
4. Manage Conferences: A button to manage specific conferences.
5. Manage Editors: A button to manage the editors involved in the paper editing process.
6. Papers Pending for Editing: A blue button to view the papers available for editing.
7. Selected Papers for Editing: A blue button that shows the papers selected for editing.

This system appears to be part of a conference management platform at the Mediterranean University of Albania (UMSH), with functionalities for managing conference participation, editing scientific papers, and managing users and editors.

8.Recomandation

Based on the literature reviewed, several recommendations can be made to improve the implementation and efficiency of automatic permit generation systems in real-time data management:

1. Invest in RPA and IPA Technologies: Organizations should prioritize investments in automation technologies like RPA and IPA to reduce processing time and increase the accuracy of administrative tasks such as permit generation.
2. Ensure Data Security: With the use of real-time data and automation, organizations must implement robust data security measures to protect sensitive information and ensure compliance with privacy regulations.
3. Focus on System Integration: Effective integration of automation technologies with existing systems is crucial for smooth operation. Organizations should assess their current infrastructure and address integration challenges.
4. Train Staff on Automation: Proper training for staff involved in managing automated systems is essential to ensure they can effectively operate and maintain these systems.
5. Monitor Performance: Continuous monitoring of automated processes will help identify inefficiencies and allow for improvements in system performance and decision-making.
6. Explore AI Integration: Future developments in AI can further enhance the capabilities of automation in permit generation, allowing for more intelligent and adaptive decision-making.

By implementing these recommendations, organizations can fully leverage the benefits of automatic permit generation systems, improving efficiency, transparency, and decision-making in real-time data management.

9.Conclusion

In conclusion, it is clear that Robotic Process Automation (RPA) and Intelligent Process Automation (IPA) are transforming the way scientific conferences are organized and managed in modern universities and academic institutions.

Automation technologies offer effective solutions to improve efficiency, quality, and the overall experience of participants and organizers by reducing administrative burdens and the time spent on routine processes.

Throughout this literature study, the benefits of RPA and IPA were analyzed in several key aspects of conference management, including:

1. **Automation of the registration and participant management process**, which has significantly facilitated the management of participant data by ensuring accurate and real-time processing, enhancing the participant experience, and eliminating human errors.
2. **Improvement in the management of submissions and review of scientific papers**, by automating the distribution of papers to reviewers and the processing of feedback, thus increasing accuracy and speeding up response times to authors.
3. **Reduction of time and resources in administrative processes**, allowing organizers to focus more on the content of the conference and less on routine tasks, with the help of software robots that automatically process registrations, payments, and communications with participants.
4. **Data security and accuracy**, which have been significantly improved through the use of advanced RPA and IPA technologies that securely store and process data, protecting it from unauthorized access and human errors.
5. **Future trends in the automation of scientific conferences**, which include the integration of artificial intelligence (AI) and blockchain to provide more personalized, secure, and efficient services for participants and organizers.

As automation technologies continue to advance, universities and higher education institutions will increasingly benefit from the advantages offered by RPA and IPA. These technologies not only save time and resources but also enhance the quality and accuracy of the services provided.

Moreover, automation will continue to improve the participant experience at conferences by offering a simpler and more personalized process.

In conclusion, the implementation of RPA and IPA technologies in the organization of scientific conferences is not only a necessity to meet the growing demands for efficiency and accuracy but also an opportunity to further advance academic processes and ensure a better experience for all participants and organizers.

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