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Embracing Automation: Boosting Productivity and Efficiency in the Tech Sector

Awad Saad

Project Work

presented as partial requirement for obtaining the Master Degree Program in Information Management

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Instituto Superior de Estatística e Gestão de Informação
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Embracing Automation: Boosting Productivity and Efficiency in the Tech Sector

By

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Project Work presented as partial requirement for obtaining the Master's degree in Information Management

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June 2023

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I hereby declare having conducted this academic work with integrity. I confirm that I have not used plagiarism or any form of undue use of information or falsification of results along the process leading to its elaboration. I further declare that I have fully acknowledge the Rules of Conduct and Code of Honor from the NOVA Information Management School.

Lisbon, June 2023

ABSTRACT

This project explores the implementation of process automation within a tech company to streamline and optimize the Sev ABC Rota process, which involves the manual handling of critical support tickets. The current manual system poses challenges such as data entry errors, time consumption, and delays in system updates, necessitating the urgent need for automation. Power Automate, along with connectors like Excel, Outlook, Teams, and SharePoint, is utilized to automate the Sev ABC Rota process. The automation includes creating and updating data in a SharePoint list, removing engineers from the daily queue, sending email notifications, and creating a Teams group chat. The choice of Power Automate is based on its no-code functionality and compatibility with Microsoft connectors, ensuring simplicity, time savings, and increased productivity. The paper discusses the benefits and challenges of process automation and automated workflows, emphasizing their impact on productivity, cost reduction, accuracy, and customer satisfaction. Various metrics and assessment techniques, including cycle time, throughput, error rates, cost savings, and customer satisfaction, are proposed to evaluate the effectiveness of automated workflows. Additionally, emerging trends in automation, such as the combination of cognitive technologies, adoption of intelligent automation, cloud computing, and low-code/no-code platforms, are discussed. The importance of change management and employee engagement in successful automation implementation is highlighted, emphasizing the need for a culture of ongoing learning and collaboration. Overall, this paper provides insights into the implementation and evaluation of process automation in the tech industry, offering a roadmap for organizations seeking to enhance efficiency and optimize operations.

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1. INTRODUCTION

Manual work can be tedious, prone to errors, and detrimental to productivity. Thankfully, advancements in technology have revolutionized the way we operate by introducing process automation. This involves leveraging software to automate repetitive tasks, allowing employees to dedicate their time to more critical work (Harisson, 2023). By automating various tasks, businesses can save time, cut costs, and improve accuracy and efficiency.

One notable benefit of process automation is its capacity to enable business expansion without the need for hiring additional staff (GrowthForce, 2018). Automating repetitive tasks enables organizations to increase output without the burden of hiring more employees, which is especially advantageous for small businesses with limited resources.

Process automation also significantly reduces errors and enhances accuracy. By automating tasks such as data input, organizations can minimize the risks associated with human error and ensure consistent and precise data entry. This not only improves accuracy but also saves valuable time and enhances data integrity. Automation plays a crucial role in streamlining workflows, allowing organizations to make informed decisions and effectively optimize their data assets.

Moreover, process automation optimizes procedures and eliminates bottlenecks, leading to improved efficiency. Automation in areas like order processing and customer support reduces turnaround times and meets customer expectations. Swift and accurate order fulfillment boosts customer satisfaction, while automated customer support enables faster response times and efficient issue resolution, ultimately enhancing the overall customer experience. Process automation empowers businesses to strategically allocate resources and focus on core activities, driving operational excellence.

In the technology sector, manual tasks refer to activities performed without the aid of automation or technology. These tasks are time-consuming, costly, and prone to errors. Manual tasks in the tech industry suffer from drawbacks such as inconsistent data entry, high error rates, information miskeying, expensive staff training, reliance on skilled individuals, limited information exchange, and restricted client interaction. According to a Forbes study, only around one-third of tasks in IT functions are currently automated (Dimotakis, 2021)

1.1 OBJECTIVES

This work aims to reduce the manual execution of day-to-day tasks within a tech company and implement more automation to achieve automatic handling of daily tasks. By implementing process automation, the goal is to simplify workload management for support teams and enable them to focus on more critical responsibilities.

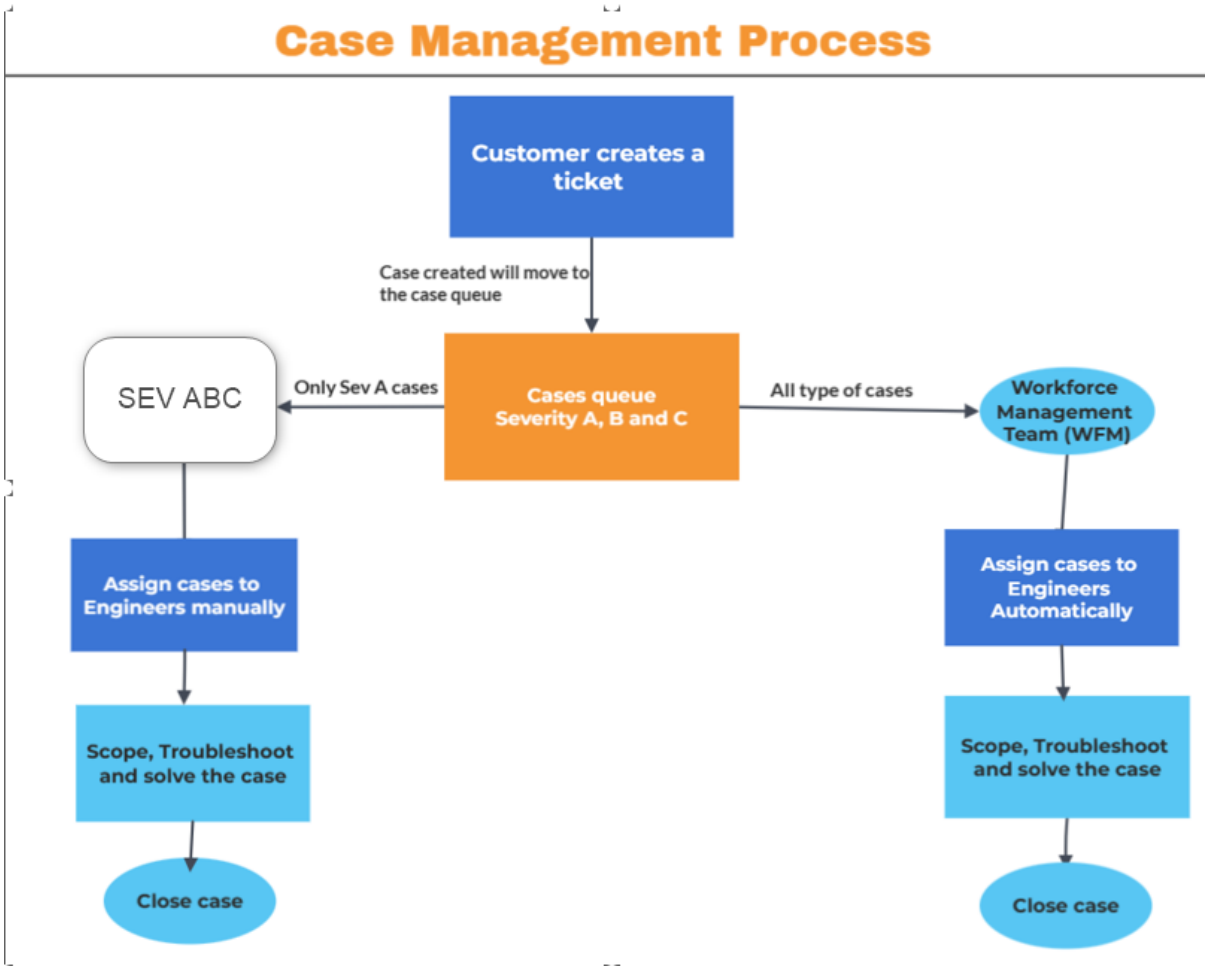

Figure 1- Cases Management process for handling daily created tickets

The figure above demonstrates how the case management system is functioning, and the Sev ABC Rota process is a new part of the current system that will handle the critical cases (Sev ABC) that cannot be assigned automatically to engineers. In figure 2, it will be explained in detail how the SEV ABC Rota is being managed and how the technical advisors (TAs) are handling it manually and updating the workforce management team (WFM), which is the responsible team for the case automatic assignment system.

Figure 2-Sev A Rota Stages of manual process

2. LITERATURE REVIEW

2.1 PROCESS AUTOMATION

Process automation refers to the use of technology and software to automate repetitive tasks and streamline operations within an organization (Tilley, 2017). By eliminating manual efforts, process automation enhances efficiency, reduces errors, and enables businesses to allocate resources more effectively. In contemporary industries, process automation has become increasingly important due to its potential to drive productivity and gain a competitive edge. The aim of this literature review is to provide an overview of process automation, exploring its benefits, challenges, implementation strategies, current trends, and future implications.

2.1.1 Benefits of Process Automation:

Process automation offers a multitude of advantages that have a direct impact on organizational performance. Extensive research has shown that automation can lead to increased productivity, cost reduction, improved accuracy, and enhanced customer satisfaction (Duff, 2022). Concrete examples across various sectors further validate the positive outcomes of automation. For instance, in manufacturing, automation has revolutionized production efficiency and product quality, resulting in significant advancements (J.Holzer, 2022) Similarly, the healthcare industry has witnessed streamlined administrative processes and faster service delivery through automation, leading to improved patient experiences (Duff, 2022). These success stories underscore the transformative potential of automation in diverse sectors.

First and foremost, one of the key benefits of process automation is the substantial increase in productivity it brings. By automating repetitive and time-consuming tasks, employees are liberated to focus on more value-added activities. This leads to a remarkable improvement in overall efficiency and output, driving organizational growth and success. Moreover, automated processes ensure streamlined workflow management, reducing the likelihood of errors and enhancing operational accuracy.

Another noteworthy advantage of process automation is its cost-saving potential. By replacing manual labor with automated systems, organizations can reduce their workforce requirements, resulting in significant savings in labor expenses. Furthermore, automation minimizes the occurrence of errors and inefficiencies, which often incur financial losses. With fewer errors and increased operational efficiency, organizations can achieve cost savings while upholding high-quality standards.

In addition to increased productivity and cost reduction, process automation plays a pivotal role in enhancing customer satisfaction. By automating customer-facing processes, organizations can provide faster and more reliable services, leading to improved customer experiences. For instance, automation has been instrumental in the manufacturing sector, where it has improved production efficiency and ensured consistent product quality. With automated assembly lines and quality control systems, manufacturers can consistently deliver products that meet or exceed customer expectations (J.Holzer, 2022)

Similarly, automation has revolutionized the healthcare industry by streamlining administrative processes. Automation has expedited tasks such as appointment scheduling, billing, and record management, resulting in faster service delivery and enhanced patient experiences. This not only boosts

patient satisfaction but also enables healthcare providers to dedicate more time to delivering high-quality care.

These examples serve as compelling evidence of the transformative potential of process automation. Across industries, automation has emerged as a driving force behind improved efficiency, cost reduction, enhanced accuracy, and elevated customer satisfaction. As organizations continue to embrace automation technologies, they position themselves for greater success and a competitive edge in an increasingly dynamic and fast-paced business landscape.

2.1.2 Challenges and Limitations of Process Automation

Process automation, despite its numerous benefits, brings forth a set of formidable challenges and limitations that organizations must grapple with. These factors demand careful consideration to ensure successful implementation and effective management of automated workflows. Let us delve into some of the common hurdles and constraints associated with process automation.

One of the foremost challenges lies in tackling complex processes. Automating intricate workflows, deciphering decision points, and handling exceptions necessitate profound analysis and specialized expertise. Poorly defined processes or the absence of clear documentation can impede automation efforts, making the task even more daunting.

The integration of automation technologies with existing systems and applications presents a formidable technical challenge. Compatibility issues, data format discrepancies, and the seamless exchange of information demand substantial effort and resources to surmount. Additionally, outdated legacy systems with antiquated architectures can exacerbate the integration complexities (Noura et al., 2019)

Introducing process automation often entails significant changes in roles, responsibilities, and workflows within the organization. However, resistance to change, a lack of employee buy-in, and insufficient training can hinder the smooth adoption of automation initiatives. Skillful change management strategies, effective communication, and comprehensive training programs are indispensable to navigate these challenges and facilitate a successful transition (Lacity & Leslie P. Willcocks, 2017)

Ensuring scalability and adaptability of automation solutions to accommodate future growth and evolving business needs poses a considerable challenge. Scaling automation across departments or addressing variations in process requirements necessitate meticulous planning and meticulous design. Organizations must anticipate scalability requirements and devise flexible automation frameworks to effectively overcome these hurdles (Harish, 2021).

Maintenance and monitoring are critical facets of automated workflows. Ongoing upkeep, regular updates, and vigilant monitoring are essential to ensure the sustained effectiveness of automated processes. Managing errors, handling exceptions, and performing routine system maintenance tasks are indispensable for uninterrupted operations. Diligent monitoring allows for the timely detection and resolution of performance issues (Chui et al., 2016)

The implementation of process automation involving sensitive data or decision-making introduces ethical and legal considerations. Compliance with privacy regulations, data security, and adherence to ethical guidelines become paramount. Organizations must institute robust data protection measures and carefully contemplate the ethical implications of automated decision-making processes (Mökander et al., 2021).

Overcoming these challenges and limitations necessitates a comprehensive approach that encompasses strategic planning, active stakeholder engagement, continuous improvement, and vigilant monitoring. Organizations must be prepared to invest in adequate resources, comprehensive training, and expert guidance to navigate these obstacles effectively and harness the full potential of process automation.

2.1.3 Current Trends in Process Automation:

Process automation is undergoing rapid transformation fueled by technological advancements and the growing demand for enhanced efficiency and productivity. This section explores the current trends in process automation, shedding light on key developments and their implications across various industries.

One significant trend in process automation is Robotic Process Automation (RPA). RPA involves the use of software robots to automate repetitive, rule-based tasks by mimicking human interactions with digital systems. RPA offers numerous benefits, including increased accuracy, improved speed, and cost savings. Organizations in sectors such as finance, healthcare, and manufacturing are adopting RPA to streamline their operations and achieve greater efficiency.

Intelligent Automation and AI integration represent another notable trend. This trend combines RPA with artificial intelligence (AI) technologies like machine learning and natural language processing. AI integration enables automation systems to learn from data, make context-aware decisions, and handle unstructured information. By leveraging intelligent automation, organizations can automate complex tasks, adapt to changing circumstances, and enhance decision-making processes (Davenport, 2018)

Hyper-Automation is a trend that integrates multiple automation technologies, including RPA, AI, and machine learning. The goal of hyper-automation is to automate end-to-end business processes, facilitating seamless data flow and eliminating manual interventions. This trend empowers organizations to achieve higher levels of efficiency, agility, and scalability. By implementing hyper-automation, businesses can optimize their operations and respond more effectively to dynamic market conditions (Panetta, 2019)

Process automation is going through a spectacular metamorphosis as a result of ground-breaking technical developments and a growing demand for increased productivity and efficiency. In this section, examining the current trends in process automation, illuminating significant advancements and their wide-ranging effects on a variety of industries.

Robotic Process Automation (RPA) is a startling development in process automation. RPA involves using software robots to mimic human interactions with digital systems to automate routine, rule-based tasks. Organizations can gain a variety of advantages from implementing RPA, including increased accuracy, increased speed, and significant cost savings. RPA is being actively adopted by industries like finance, healthcare, and manufacturing to improve efficiency and streamline operations (Parikh, 2020)

The combination of intelligent automation and artificial intelligence (AI) is another important trend. RPA and AI innovations like machine learning and natural language processing are being combined in this

trend. Automation systems may learn from data, make decisions based on context, and handle unstructured data by integrating AI. According to (Davenport, 2018). intelligent automation enables firms to automate complicated operations, adjust to shifting conditions, and strengthen their decision-making processes.

The term "hyper-automation" refers to a movement that combines RPA, AI, and machine learning with other automation technologies. Hyper-automation aims to fully automate business processes from beginning to end, enabling smooth data flow and obviating the need for human interaction. Businesses can increase their levels of efficiency, agility, and scalability by embracing hyper-automation. With the help of this trend, businesses can streamline their processes and quickly adapt to changing market conditions (Panetta, 2019).

Another emerging trend in process automation is process mining and analytics. By reconstructing and visualizing real-time process flows using data from information systems, process mining enables businesses to spot inefficiencies and bottlenecks. Process intelligence and predictive analytics are examples of advanced analytics techniques that help identify possibilities for process improvement, optimize workflows, and forecast results. Organizations may make data-driven decisions, improve operational performance, and promote continuous process improvement by utilizing the potential of process mining (Van Der Aalst, 2012)

Intelligent Document Processing (IDP), a trend that uses AI technologies like optical character recognition (OCR) and natural language processing (NLP) to automate document-centric procedures, is picking up steam. IDP reduces manual work, errors, and processing time by automating data extraction, validation, and processing from different types of documents. IDP has the potential to have a substantial positive impact on the customer onboarding, contract management, and invoice processing industries.

By providing scalable, adaptable, and affordable solutions, cloud-based process automation has completely changed the field of process automation. Platforms built in the cloud make deployment, accessibility, and system integration simple. Businesses can increase their business agility by automating procedures, facilitating cross-departmental collaboration, and utilizing the power of the cloud. The cloud-based strategy also enables companies to grow their automation activities in response to changing market demands quickly (Red Hat, 2022) .

Global industries stand to benefit significantly from the current developments in process automation, which include RPA, intelligent automation, hyper-automation, process mining, IDP, and cloud-based solutions. These developments give businesses the chance to improve efficiency, encourage creativity, and streamline processes. Businesses can obtain a competitive advantage in the rapidly changing digital landscape of today by adopting and utilizing these innovations.

2.1.4 Implications and Future Directions

The advent of process automation has brought about a transformative wave across industries worldwide, thanks to remarkable technological advancements like artificial intelligence and robotics. In this discussion, will delve into the implications and future prospects of process automation, examining its impact on workforce dynamics, productivity, and innovation (Table 1):

Table 1- Implication and future directions of process automation

Implications of Process Automation:	**Future Directions of Process Automation:**
1. Workforce Dynamics: With the widespread implementation of process automation, concerns arise regarding the potential displacement of human workers. Although certain job roles may indeed become obsolete, this shift also presents fresh opportunities for upskilling and reskilling. It empowers workers to transition towards higher-value tasks that require creativity, problem-solving, and interpersonal skills, as highlighted by (Davenport, 2018)	1. Intelligent Automation: The future of process automation lies in the integration of artificial intelligence, machine learning, and natural language processing with automation systems. This amalgamation will empower automation solutions with intelligent decision-making capabilities, adaptive learning, and cognitive prowess.
2. Productivity and Efficiency: Process automation significantly streamlines workflows by minimizing manual errors and enhancing efficiency. By harnessing automation technologies to handle repetitive and time-consuming tasks, organizations can achieve heightened levels of productivity.	2. Collaborative Automation: An upcoming trend in process automation involves collaborative robots, often referred to as cobots, working hand in hand with human workers. These cobots act as assistants in complex tasks, augmenting human productivity while ensuring safer working environments. The collaboration between humans and robots will become increasingly vital in optimizing efficiency and productivity, as discussed by (Chui et al., 2016).
3. Cost Savings and ROI: The implementation of process automation can yield substantial cost savings in the long run. By eliminating manual labor, organizations can curtail operational expenses, optimize resource allocation, and ultimately bolster their return on investment (ROI). These benefits were emphasized by (Lacity & Leslie P. Willcocks, 2017)	3. Hyper-Automation: Hyper-automation encompasses the integration of various automation technologies, including robotic process automation (RPA), artificial intelligence, and machine learning. This comprehensive approach enables end-to-end automation of intricate business processes, driving notable enhancements in productivity, accuracy, and agility (Panetta, 2019).

2.2 AUTOMATED WORKFLOWS

Organizational operations have been changed by automated workflows, which have made it possible to reduce procedures and boost production and efficiency. This review of the literature seeks to offer a thorough analysis of the current research on automated processes. This review investigates the idea of automated processes, evaluates their benefits and challenges, and emphasizes best practices by

integrating research articles, industry reports, and case studies. The results of this analysis will help us comprehend automated workflows and how they affect organizational effectiveness.

2.2.1 Benefits of Automated Workflows

Businesses of all sizes are realizing the enormous advantages of automation in today's fast-paced, technologically advanced world when it comes to streamlining their operations and boosting production. The use of automated workflows is one area in particular where automation excels. Businesses can reap a wide range of advantages by automating routine tasks and procedures, including time savings, mistake reduction, greater cooperation, and increased productivity. These advantages will be covered in depth in this essay along with pertinent references and examples.

The substantial reduction in task completion time is one important benefit of automated workflows. Employees can shift their emphasis to more strategic and value-added operations by removing manual and repetitive steps. According to a report by brookings, automation can help firms save up to 33% of their labor costs, freeing up workers to focus on more important projects (Darrell M.West, 2016). Additionally, automated workflows guarantee quick task transfers, reducing delays and improving overall operational speed.

The decrease in human error that comes with manual operations is a crucial additional benefit. Organizations can reduce the likelihood of errors and the expenses involved by automating procedures. According to Smartsheet analysis, automating procedures can help firms reduce errors by up to 66% (Beloof, 2023). Automation reduces the possibility of data entry errors, misunderstandings, and oversights, improving the accuracy and dependability of business processes.

By reducing time-consuming administrative tasks, automated workflows can enable staff to be more productive. Employees can concentrate on higher-value work, creativity, and problem-solving when mundane operations are automated. Employee engagement and satisfaction are raised as a result of the enhanced productivity. According to a study by Harvard Business, organizations that embrace automation are more likely to have highly engaged staff members (Daniel & Nick, 2021).

Another benefit of automated procedures is that they enable smooth departmental and team collaboration and communication. Employee collaboration is made possible by features like real-time notifications, task delegation, and progress tracking that are frequently included in workflow automation solutions. This more efficient collaboration increases transparency, decreases bottlenecks, and fosters cross-functional coordination.

Improved compliance with organizational policies and regulatory standards is guaranteed by automated workflows. Organizations can lower the risk of non-compliance by standardizing processes and enforcing established regulations. Additionally, automated processes keep a thorough audit trail, giving a clear record of actions, approvals, and decisions. This auditability improves accountability and aids compliance efforts.

Manual processes may become time-consuming and burdensome as firms expand and change. Scalability is achieved through automated workflows since they can handle greater workloads without compromising on effectiveness or efficiency. Additionally, they provide versatility, enabling businesses to

quickly alter workflows in response to shifting business needs. This adaptability guarantees that organizations can easily adjust to new market dynamics, client needs, and industry rules.

Organizations can gain a lot from automated workflows, such as time savings, reduced error rates, increased production, and enhanced teamwork. Businesses can streamline processes, increase productivity, and position themselves for success in a fiercely competitive market by utilizing automation technologies. The use of automated workflows is anticipated to become a key driver of corporate growth and innovation as technology advances.

2.2.2 Challenges and Limitations

Automated workflows, although offering significant advantages in terms of efficiency and cost reduction, also come with their fair share of challenges and limitations. One major challenge is the complexity involved in capturing and replicating intricate human decision-making processes within automated systems. Customizing workflows to align with specific business requirements can be difficult, particularly when organizations have unique processes that do not fit into standardized automation frameworks.

Integration poses another hurdle as automated workflows need to seamlessly integrate with existing infrastructures. Legacy systems, incompatible software, and disparate data sources can hinder the smooth implementation of automated workflows, necessitating additional effort and resources to ensure compatibility and data synchronization.

Limited flexibility and adaptability are also limitations of automated workflows. While they excel at handling routine tasks, they may struggle when faced with unexpected or complex situations that require human judgment or creativity. Rigidity in predefined rules and paths can make it challenging to handle dynamic changes, exceptions, and edge cases effectively.

The quality and variability of data are crucial factors in the success of automated workflows. Accurate and consistent data inputs are essential, but ensuring data quality can be a daunting task, especially when data is sourced from multiple channels or relies on manual entry. Inaccurate or inconsistent data can lead to errors, invalid decisions, and suboptimal outcomes within the automated workflow.

Ethical and legal implications also emerge with automated workflows, particularly when they involve decision-making processes that have significant consequences. Concerns such as algorithmic bias, lack of transparency, privacy violations, and compliance with regulations can arise when automated workflows make decisions that impact individuals or society as a whole (Jobin et al., 2019) .

In conclusion, while automated workflows offer numerous benefits, it is essential to recognize and address the challenges and limitations they bring. Complexity, integration issues, limited adaptability, data quality concerns, and ethical implications are critical considerations in the implementation of automated workflows. By understanding and proactively managing these challenges, organizations can harness the potential benefits of automation while mitigating associated risks.

2.3 THE MAIN DIFFERENCE BETWEEN PROCESS AUTOMATION AND AUTOMATED WORKFLOWS

Utilizing software and technology to automate processes within a company is known as process automation. It focuses on automating specific jobs or processes, from easy to difficult ones. Process automation eliminates manual labor and human error to increase efficiency and save costs. Contrarily, automated workflows relate to the automation of a series of processes or activities in a predetermined order to produce a specific result. Software or other tools for managing workflows are frequently used to manage and regulate these processes. Automated workflows offer an organized method of carrying out tasks, guaranteeing consistency and effectiveness.

For better distinguishing between process automation and automated workflows regarding their scope, flexibility, and control (Table 2):

Table 2- Key Differences between PA and AW

Key Differences	***Process Automation***	***Automated Workflows***
Scope	Encompasses automation of various processes or tasks within an organization	Focuses on automating sequences within a specific process or workflow.
Flexibility and Adaptability	Can handle a wider range of processes and tasks, including complex and cognitive tasks	More rigid with predefined and fixed sequences, suited for repetitive and structured processes.
Control and Orchestration	May involve coordination and control, but may not have workflow-specific features	Provides more control and orchestration capabilities, managing task execution and handling exceptions or decision points.

In summary, process automation is a broader concept that encompasses the automation of various processes, while automated workflows specifically focus on the automation of predefined task sequences within a particular process. Automated workflows offer more control and orchestration capabilities, while process automation has a wider scope and can involve more complex and adaptive automation techniques.

2.4 HOW TO MEASURE THE SUCCESS OF AUTOMATED WORKFLOWS

Measuring the effectiveness and performance of automated workflows is essential to understand their impact and identify areas for improvement. Here are some key metrics and approaches for measuring automated workflows (Table 3):

Table 3- Metrics of automated workflows

AUTOMATED WORKFLOW METRICS	DESCRIPTION	EXAMPLE STUDY
CYCLE TIME	Measures the total time taken to complete a workflow, indicating the efficiency of the automated process.	(Taifa & Vhora, 2019): Cycle time reduction for productivity improvement
THROUGHPUT	Measures the number of workflows or tasks completed within a specific time period, reflecting the productivity of the workflow.	(Antonacci et al., 2021) Process mapping in healthcare: a systematic review
ERROR RATES	Monitors the occurrence of errors, exceptions, or deviations in the workflow, assessing accuracy and reliability.	(Balfe et al., 2015): Impact of automation: Measurement of performance, workload and behavior in a complex control environment
COST SAVINGS	Evaluates the financial impact of automated workflows by comparing costs between manual and automated execution.	(Heric, 2021) : Beyond Cost Savings: Reinventing Business through Automation
CUSTOMER SATISFACTION	Assesses customer satisfaction with workflows that directly impact customers, often through surveys or feedback mechanisms.	(Cibi, 2023): CRM workflow automation: Benefits, use case and implementation

It is important to define the appropriate metrics based on the specific goals, objectives, and characteristics of the automated workflow. Regular monitoring and analysis of these metrics provide insights into the effectiveness, efficiency, and impact of the automated workflow, enabling organizations to optimize and refine their processes.

3. Methodology

3.1 KEY COMPONENTS OF AUTOMATED WORKFLOWS

Before starting an automated workflow, there are several key factors to consider:

1. Workflow Analysis: Conducting a thorough workflow analysis is essential before automating a process. This involves gaining a deep understanding of the existing manual workflow. Identify the individual steps involved, including any decision points, dependencies, and repetitive tasks. By analyzing the workflow, you can pinpoint the areas where automation can provide the most value. This analysis serves as the foundation for designing the automated workflow and determining the best approach for automation.

2. Clear Objectives: Clearly define the objectives and goals you want to achieve through automation. These objectives serve as the guiding principles for your automation efforts. For example, you may aim to improve efficiency by reducing processing time or minimize errors by eliminating manual data entry. By having clear objectives, you can align your automation strategy with the desired outcomes and measure the success of the automated workflow against these goals.

3. Resource Allocation: Determine the resources required for implementing automation. This includes considering factors such as budget, skilled personnel, infrastructure requirements, and time commitment. Automation may involve upfront investments in technology, software licenses, or training. Additionally, ongoing maintenance and support may be required. It's important to allocate the necessary resources to ensure a successful implementation and smooth operation of the automated workflow.

4. Stakeholder Engagement: Engaging stakeholders who are impacted by the automated workflow is crucial. This involves communicating the benefits that automation will bring, addressing any concerns or resistance, and involving stakeholders in the design and testing phases. By actively engaging stakeholders, you foster a sense of ownership and buy-in from those who will be using or affected by the automated workflow. Their input and feedback can provide valuable insights and help ensure the automation aligns with the needs of the organization and its employees.

5. Security and Compliance: Consider data security and compliance requirements. Ensure that the automated workflow adheres to industry regulations, data privacy laws, and internal security policies. Implement necessary controls and encryption measures to protect sensitive data.

6. Scalability and Flexibility: Designing the automated workflow to be scalable and flexible is important to accommodate future changes. Consider potential growth and evolving business needs. The automation should be capable of handling increased volumes of work as the organization grows. Additionally, the workflow should be adaptable to process modifications or changes in requirements. It's also important to consider integration with other systems or technologies that may be required in the future. By designing for scalability and flexibility, you

future-proof the automated workflow and reduce the need for significant rework or redevelopment down the line.

7. Continuous Improvement: Automation is not a one-time effort. Foster a culture of continuous improvement and regularly evaluate the effectiveness of the automated workflow. Monitor key performance indicators (KPIs), collect feedback from users, and identify opportunities for optimization and refinement.

These points highlight the critical aspects of workflow analysis, goal setting, resource allocation, stakeholder engagement, and scalability in the context of implementing an automated workflow. By addressing these factors, you can enhance the chances of a successful automation implementation that delivers the desired benefits and aligns with the needs.

3.2 Efficient Ticket Management: Enhancing Client Support through Process Automation

The process of how big tech companies support their clients and provide them with immediate assistance when needed is not easy. Managing a huge volume of support tickets from around the globe on a daily basis requires a well-structured system to effectively handle and prioritize customer inquiries. When a customer faces an issue while using the product, they open a support ticket, which is categorized based on severity level and its impact on the company. There are three severity levels:

• The highest severity level, A, indicates critical business impact and requires immediate attention.

• Severity B represents a moderate business impact.

• Severity C indicates minimum business impact, where the customer's business is functioning with minor service disruptions.

Currently, there is a queue containing all the cases that need to be assigned to engineers who will provide assistance to the customers. However, the current system automatically assigns cases to engineers without considering their severity levels. Each engineer has a daily capacity of handling 2 to 3 cases. Any remaining cases are left in the queue until the following day. However, if there is a Severity A ticket in the queue, it cannot be delayed and requires immediate attention. To address this, a process called Sev ABC Rota has been implemented. This process involves creating a team of 5 engineers who change daily, and their sole responsibility is to manually handle Severity A tickets once the other engineers have reached their daily capacity limit.

Implementing this process involves several manual tasks that need to be performed daily:

• Removing the five engineers from the queue to prevent automatic case assignment.

• Sending an email to inform the engineers and their managers about their designated Sev ABC Rota duty day, which is done one week in advance.

• Creating a Teams group chat to facilitate communication and management of the Sev ABC tickets, including the engineers on duty and their technical advisors.

The manual nature of these tasks presents several challenges, including data entry mistakes, time consumption, and delays in system updates. Errors or delays in the Sev ABC Rota process can have significant implications as it plays a critical role in managing critical situations. Consequently, there is an urgent need for process automation to address these limitations effectively.

3.3 AUTOMATING SEV ABC ROTA WITH POWER AUTOMATE

To fully automate the Sev ABC Rota process, the Power Automate tool will be utilized, along with various connectors such as Excel, Outlook, Teams, and SharePoint. The automation will be divided into three flows:

1. A flow to create and update data from an Excel sheet to a SharePoint list.

2. A flow to update the system, removing engineers from the normal daily queue, and sending email notifications to inform the engineers and their managers.

3. Lastly, a flow to create a Teams group chat daily for the 5 engineers on the Sev ABC Rota shift, including their technical advisors, to facilitate communication.

The choice of using Power Automate is based on its ability to create automated workflows between different apps and services, enabling file synchronization, notifications, data collection, and more. Its no-code functionality makes it accessible to users without coding knowledge, which is a fantastic feature. This simplicity allows anyone to utilize it and contributes to time savings and increased productivity. Additionally, by utilizing Microsoft connectors exclusively, the flow's consistency and execution speed will be improved.

Overall, these specific objectives will guide the implementation of process automation using Power Automate and various connectors to streamline and optimize the Sev ABC Rota process within the tech company.

3.4 WORKFLOW DESIGN

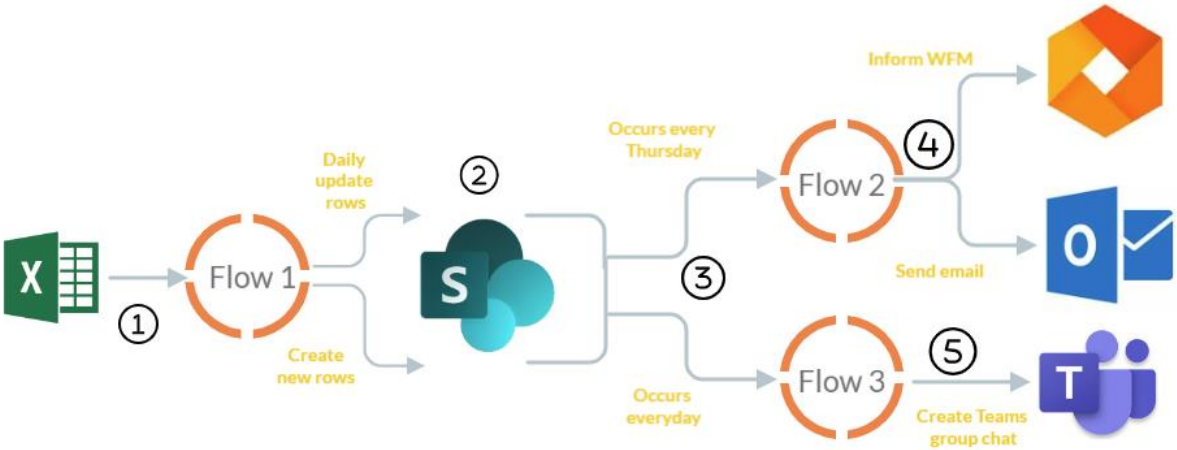

Figure 3 - Workflow design

Figure 3 will help to understand how the automated workflow is structured by demonstrating the key steps in the process:

1) Excel sheet containing the Sev ABC Rota monthly schedule of employees will be inserted into the first scheduled flow in SharePoint.
2) Flow 1: This flow will create new rows in the SharePoint list based on the data from the Excel sheet. It will also perform daily updates to the list if any changes are made to the Excel file.
3) From the SharePoint list, two flows, Flow 2 and Flow 3, will be triggered. Flow 2 will run once a week, while Flow 3 will be scheduled to run every day in the early morning.
4) Flow 2: This flow will run every Thursday and notify the Workforce Management team (WFM) by sending them the next week's Sev ABC Rota schedule. The WFM team will then remove the designated employees from the automatic case assignment. Additionally, this flow will send an email to inform the employees and their managers.
5) Flow 3: This flow will create a Teams group chat on a daily basis and add the 5 engineers and technical advisors based on the information from the SharePoint List.

3.5 STRUCTURE OF THE WORKFLOW

3.5.1 Excel Sheet

The file will consist of one sheet containing 30 rows and 8 columns and it will be open to all the engineers to modify it.

- Interval: This field represents the number of days in the month.
- Title: The title field will include the name of the day and the corresponding date.
- Date: This field indicates the specific date within the month.
- Eng 1, 2, 3, 4, and 5: These columns will contain the names of the engineers who will be responsible for the Sev ABC Rota.

A screenshot of the Excel sheet below explains the format of the table (Figure 4):

Interval	Title	Date	Eng1	Eng2	Eng3	Eng4	Eng5
1	SEV A Rota - Monday - 01.01.2023	1/1/2023					
2	SEV A Rota - Tuesday - 01.02.2023	1/2/2023					
3	SEV A Rota - Wednesday- 01.03.2023	1/3/2023					
4	SEV A Rota - Monday - 02.01.2026	1/4/2023					
5	SEV A Rota - Monday - 02.01.2027	1/5/2023					
6	SEV A Rota - Monday - 02.01.2028	1/6/2023					
7	SEV A Rota - Monday - 02.01.2029	1/7/2023					
8	SEV A Rota - Monday - 02.01.2030	1/8/2023					
9	SEV A Rota - Monday - 02.01.2031	1/9/2023					
10	SEV A Rota - Monday - 02.01.2032	1/10/2023					
11	SEV A Rota - Monday - 02.01.2033	1/11/2023					
12	SEV A Rota - Monday - 02.01.2034	1/12/2023					
13	SEV A Rota - Monday - 02.01.2035	1/13/2023					
14	SEV A Rota - Monday - 02.01.2036	1/14/2023					
15	SEV A Rota - Monday - 02.01.2037	1/15/2023					
16	SEV A Rota - Monday - 02.01.2038	1/16/2023					
17	SEV A Rota - Monday - 02.01.2039	1/17/2023					
18	SEV A Rota - Monday - 02.01.2040	1/18/2023					
19	SEV A Rota - Monday - 02.01.2041	1/19/2023					
20	SEV A Rota - Monday - 02.01.2042	1/20/2023					
21	SEV A Rota - Monday - 02.01.2043	1/21/2023					
22	SEV A Rota - Monday - 02.01.2044	1/22/2023					
23	SEV A Rota - Monday - 02.01.2045	1/23/2023					
24	SEV A Rota - Monday - 02.01.2046	1/24/2023					
25	SEV A Rota - Monday - 02.01.2047	1/25/2023					
26	SEV A Rota - Monday - 02.01.2048	1/26/2023					
27	SEV A Rota - Monday - 02.01.2049	1/27/2023					
28	SEV A Rota - Monday - 02.01.2050	1/28/2023					
29	SEV A Rota - Monday - 02.01.2051	1/29/2023					
30	SEV A Rota - Monday - 02.01.2052	1/30/2023					

Figure 4- Excel sheet design

3.5.2 SharePoint List

The SharePoint list will serve as a secondary copy of the Excel sheet, allowing only a few engineers to make adjustments to prevent any unintended changes. Additionally, the list will establish a connection with the engineers' Microsoft 365 database. By simply entering the engineer's name in the list, the system will automatically trigger their emails. These email addresses will be utilized in running Flow 2 and Flow 3, which cannot be accomplished using the Excel file alone.

The SharePoint list will contain the same fields as the Excel file, but with some modifications:

• Engineers: This field will consolidate the Engs fields from the Excel file into a single column.

• TAs (Technical advisors): This field will include the names of the technical advisors assigned to the team.

A screenshot of the SharePoint below explains the format of the List (Figure 5):

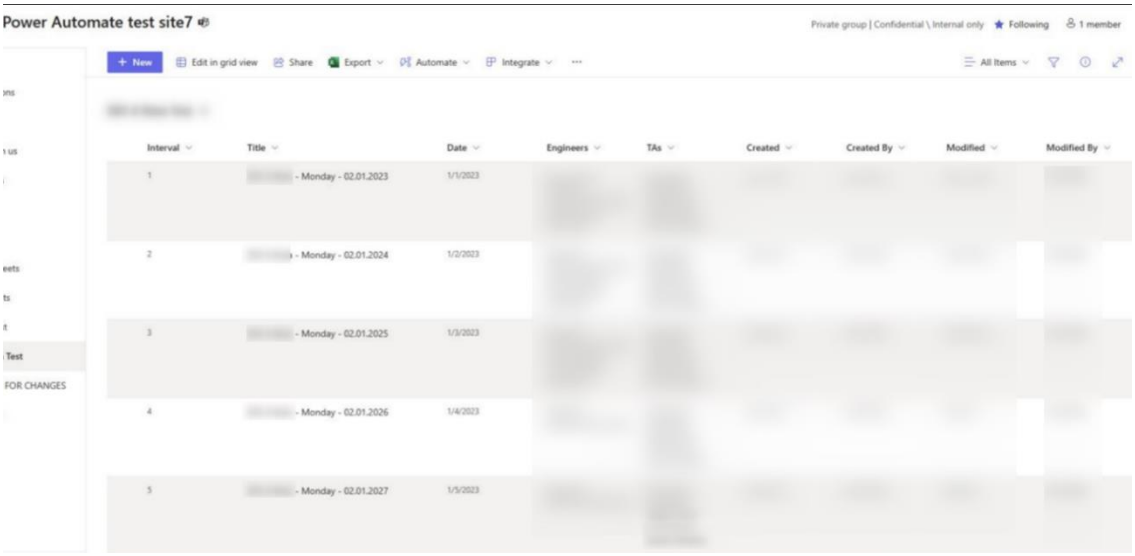

Figure 5- SharePoint list

3.5.3 Flow 1 (Update Or Create Sev A List From Excel Daily)

This is a scheduled cloud flow, meaning that it will automatically run on a daily basis. The flow operates as follows:

1. The flow will run automatically every morning at a specified time.
2. It will retrieve data from the Excel file.
3. It will also retrieve data from the SharePoint list.
4. A condition will be implemented using the expression `length(outputs('Get items')?['body/value'])` to compare the data from the Excel sheet with the SharePoint list.
5. If the condition is met (Yes), it indicates that there has been a change in one or more existing rows in the Excel sheet, and these changes need to be applied to the SharePoint list.
6. If the condition is not met (No), it means that new row(s) have been added to the Excel sheet and need to be added to the SharePoint list.

By running this flow daily, the SharePoint list will remain up to date, ensuring that accurate information is available for running Flows 2 and 3Below is a screenshot from Power Automate to demonstrate how Flow 1 is structured (Figure 6):

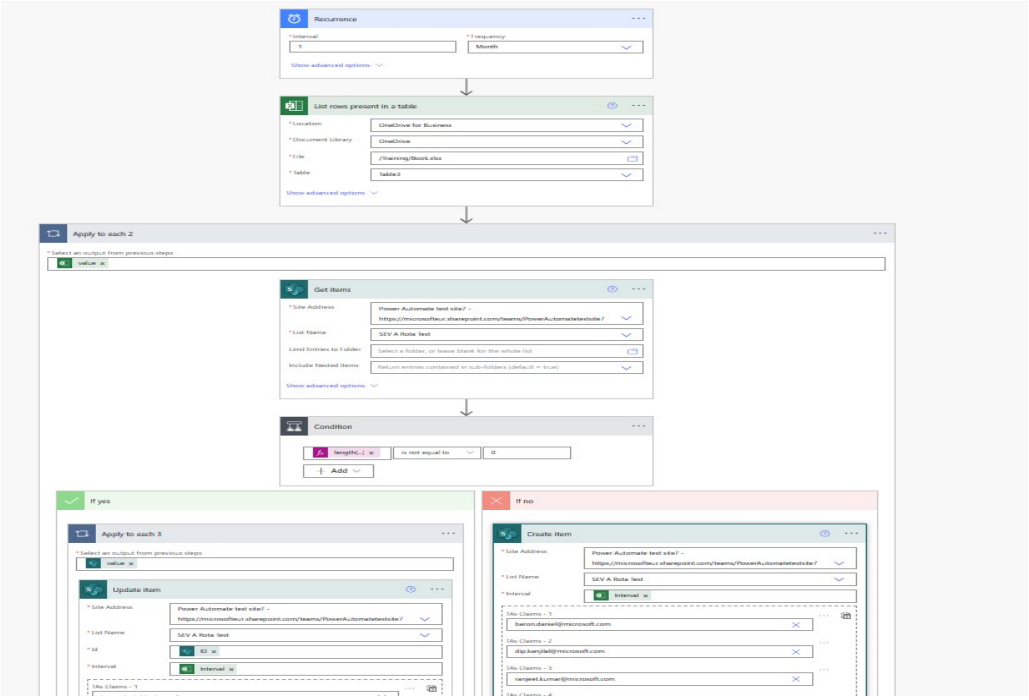

Figure 6- Design and structure of flow 1

3.5.4 Flow 2 (Sev A Rota - Weekly Notice)

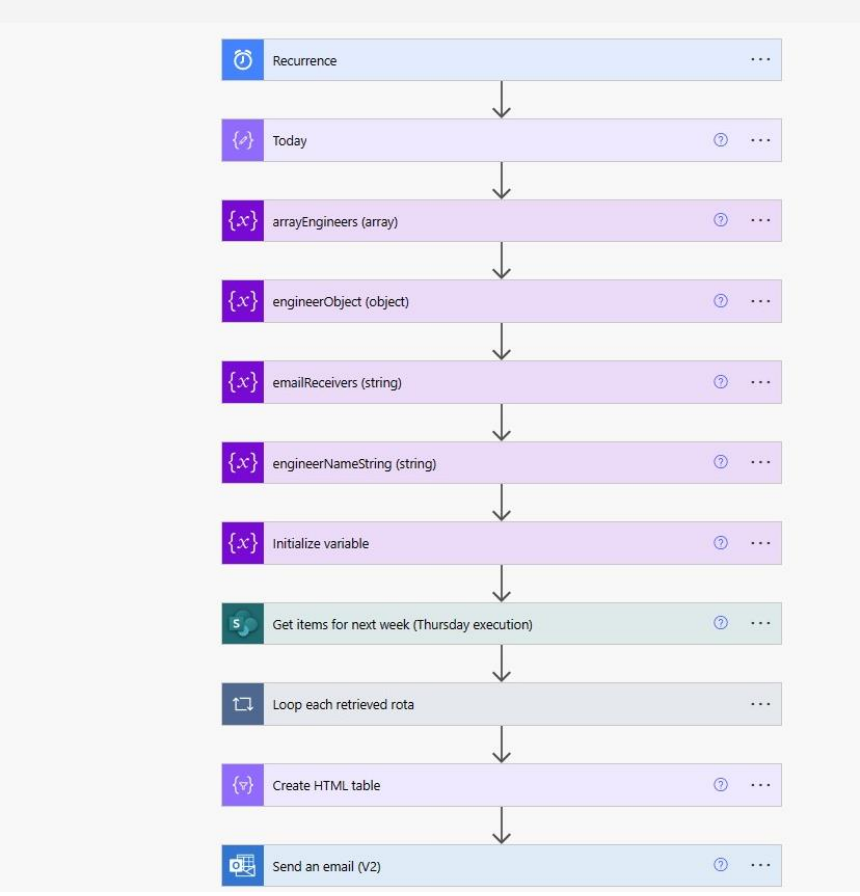

Figure 7- Design and structure of flow 2

As indicated by (Figure 7) which represents the structure of the flow and the flow's name, this scheduled cloud flow will run automatically once a week. Its purpose is to provide engineers with the opportunity to make changes to the Excel sheet if they are unavailable on that particular day of the week. The main objective of this flow is to send an email in advance on a weekly basis, updating the engineers about the Sev ABC Rota schedule and informing the Workforce Management Team (WFM) to exclude these engineers from the automatic daily case assignment.

The flow operates as follows:

1. As a scheduled cloud flow, it will automatically run every Thursday.
2. Multiple variables will be created to store data and facilitate the flow's execution.
3. The flow will retrieve data from the SharePoint list, filtering only the data related to the next week's schedule.
4. Using the obtained data, an array of engineer emails (extracted from the SharePoint list column) will be created and stored in the "emailReceivers" variable, which was initialized in step 2.
5. The "Create HTML table" action will be used to format the output from the previous step into a clean and tabular format, suitable for use in an email.
6. Finally, the "Send an email" connector from Outlook will be utilized to send an email to the WFM team, engineers, and managers.
7. The email's content will include the table generated in step 5, presenting the dates and engineers' names as shown below:

A screenshot as an example from the email that will be sent automatically through the flow 2 (Figure 8):

Dear Team,

Please mark the below engineers as a “Project” in the WFM commercial for the next week. All engineers will be engaged in SEV ABC Rota during their scheduled dates.

Date	Engineer
2023-05-05	Eng1, Eng2, Eng3, Eng4, Eng5
2023-05-06	Eng1, Eng2, Eng3, Eng4, Eng5
2023-05-07	Eng1, Eng2, Eng3, Eng4, Eng5
2023-05-08	Eng1, Eng2, Eng3, Eng4, Eng5
2023-05-09	Eng1, Eng2, Eng3, Eng4, Eng5

Thank you.

Figure 8- Outlook email (example)

3.5.5 Flow 3 (Sev A Rota - Daily Chat Creator)

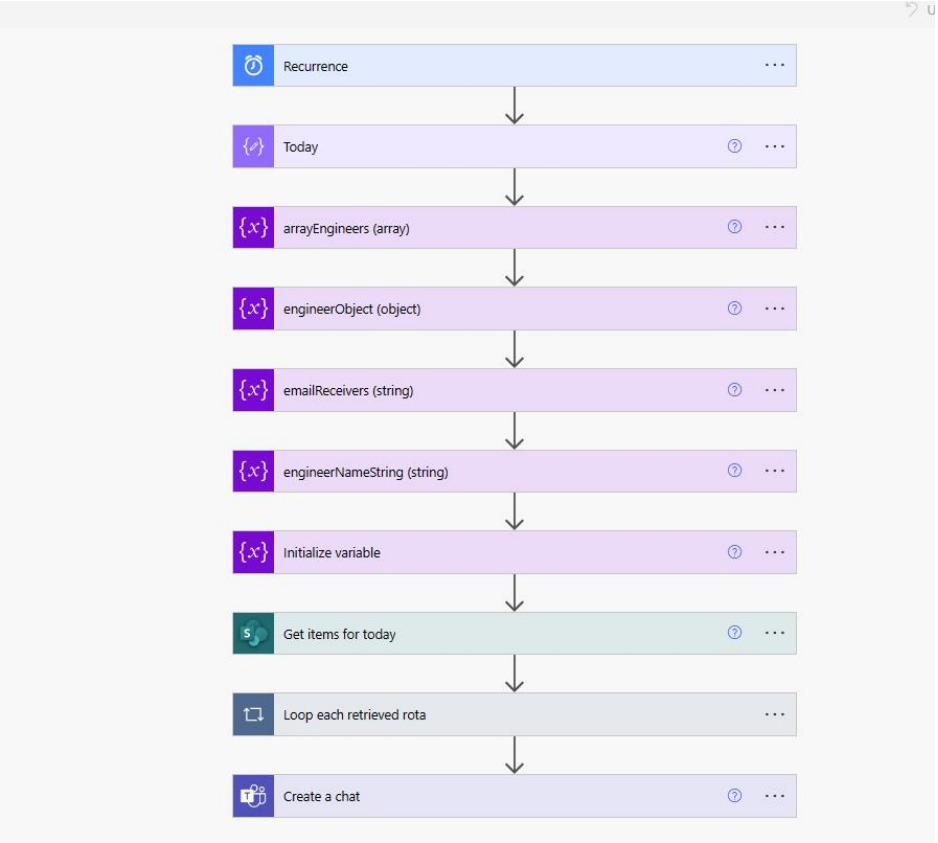

Figure 9- Design and structure of flow 3

Figure 9- explains the structure of the scheduled cloud flow that is designed to run automatically on a daily basis and It functions as follows:

1. The flow initiates execution at 5 am each day.
2. It retrieves data specifically for the current day by using the expression `utcNow()`.
3. Multiple variables are created to store data as the flow progresses.
4. Data is obtained from the SharePoint list, filtered to acquire only the information relevant to the current day.
5. Using the retrieved data, an array of engineer and TA (Technical Advisor) emails (obtained from the SharePoint list columns) is created and stored in the `emailReceivers` variable, established in step 3.
6. Finally, the flow utilizes the "Create a chat" connector from Teams and incorporates the `emailReceivers` variable to automatically generate a group chat, including the emails stored in the variable.

4. RESULTS AND DISCUSSION

The target of this work is to embrace automation and use the benefits of it in our daily lives in the tech sector. Instead of putting a lot of effort and resources into the manual to perform the task, there are still chances of delays, data entry errors, and less focus on more important tasks, which leads to unsatisfied customers and lost opportunities. Here, automation should play a critical role in improving the performance and effectiveness of the tech sector to provide better service to their customers, which will result in higher customer reach and lower error rates.

The work on automated workflow implementation yielded promising results and showcased the significant benefits of integrating automation into organizational processes. By leveraging advanced technologies and successfully developed an automated workflow system that streamlined the critical situation handling process. To compare the performance of the automated workflow with the previous manual method, data was collected over a period of one month. During this time, tracking several key performance indicators that have been mentioned earlier, including cycle time and throughput, data entry error rates, and engineer satisfaction.

One of the key findings of this work is that automation significantly improved the efficiency of the Sev ABC Rota process. The average time required by case managers to complete the task using manual work is 95% higher compared to the automatic process. This reduction in time can be attributed to the automation of repetitive tasks such as data entry, document generation, and deadline tracking. By eliminating manual interventions, the automation system streamlined the workflow, allowing case managers to focus on higher-value activities.

One more of the key findings is that allowing flow 1, which is responsible for adding and updating rows from the Excel sheet to the SharePoint list, reduced the chances of errors, ensuring accuracy and consistency that were previously encountered during the manual data entry process. This improvement was evident in the reduced error rate, which decreased by 75% after implementing the automated system.

Furthermore, case managers satisfaction is one of the metrics that was included in this work. The new system's accuracy and ability to save them a significant amount of time were highly encouraging, which was mostly what they were expecting, and this work will open the door for more opportunities utilizing the power of automation.

Additionally, the automated system introduced standardized data entry templates (SharePoint list), which ensured consistent data capture. This standardization enhanced data organization and integrity, reducing the chances of missing or incorrect information. The automated system also provided scheduled flows to run at a specific time and date, ensuring that important deadlines were not overlooked. These features collectively contributed to improved case management efficiency and reduced the risk of errors due to missing or delayed actions.

Building such a system from scratch was challenging due to a lack of knowledge on how the current system is functioning and a lack of experience with the Power Automation tool. The structure of the three flows and where to start were not clear in the beginning. However, reaching out to the right people who are willing to give their time to participate in this work is important and helps to move to

the next step. These types of projects require extra attention to details to come up with creative solutions, which can impact the performance of the flow execution. Creating complex and long flows might lead to delays in the system and perhaps failure. In this situation, a workaround is needed to make the flow as simple as possible and write clear expressions to make the flow run as expected. Additionally, another challenge was to grant access to the database of the engineers information, which allowed the automated system to recognize the engineers names and acquire further details that were used to update the SharePoint list and inform the engineers via Outlook about the new schedules.

While the findings of this study highlight the advantages of automation in case management systems, several limitations should be acknowledged:

- Firstly, the study was conducted within a specific tech firm, and the results may not be generalizable to other industries or organizations. Future work should explore the effectiveness of automation in case management systems across different sectors to establish its wider applicability.
- Additionally, the study focused on short-term outcomes and did not assess the long-term impact of automation on case management processes. Further investigation is needed to evaluate the sustainability and scalability of automated systems over an extended period.
- Furthermore, although the automation system demonstrated significant improvements in efficiency, data entry accuracy, and audience satisfaction, the initial implementation required substantial time, resources, and user training. Future research should address the challenges associated with system implementation, user adoption, and change management to ensure successful integration of automation in case management practices.
- Finally, while this study primarily examined the benefits of automation, it is crucial to consider potential ethical and privacy concerns associated with the collection, storage, and use of sensitive case data. Future research should address these ethical implications and develop guidelines to ensure data security and privacy within automated case management systems.

Process automation and automated workflows are two related ideas that are important for improving productivity and streamlining business processes within firms. These methods have many advantages, including more productivity, lower costs, greater accuracy, and higher customer satisfaction. They do, however, also provide certain difficulties that businesses must handle.

According to the literature review, process automation entails using software and technology to automate routine tasks and streamline business processes. Its scope is broad, covering a range of procedures and jobs. Process automation aims to boost productivity, cut down on errors, and optimize resource usage. Process automation can manage complicated and cognitive activities by utilizing cutting-edge technology like artificial intelligence and machine learning, giving enterprises the flexibility and adaptability needed to automate a variety of processes.

Contrarily, automated workflows are solely concerned with automating the order and progression of actions inside a given process or workflow. Process automation is more all-encompassing and can manage a variety of tasks, but automated workflows offer a more organized method. By adhering to predetermined and fixed sequences, they guarantee consistency and effectiveness. Organizations may more efficiently manage and coordinate task execution with the use of automated workflows, which provide more control and orchestration capabilities.

Process automation and automated processes differ significantly in their flexibility and adaptability. Process automation can handle more difficult and cognitive jobs thanks to its cutting-edge technologies. It is excellent for dynamic environments that are always changing since it can adapt to a greater variety of procedures and jobs inside an organization. On the other side, automated workflows have a more strict structure. They are best suited for repetitive and structured procedures that don't require a lot of adaptation or flexibility because they are designed to carry out specified sequences of tasks.

Process automation and automated workflows have various levels of control and orchestration. The management and coordination of task execution inside a particular workflow is made possible by the more granular control and orchestration features offered by automated workflows. Organizations can create the flow, assign tasks, monitor progress, and handle exceptions or decision points with the help of workflow management software. Although coordination and control may be included, workflow-specific characteristics and a high level of granularity may not be present in process automation.

Both automated workflows and process automation have similar difficulties to overcome. As automating sophisticated operations necessitates rigorous analysis and specialized knowledge, dealing with complex processes is a regular difficulty. Due to compatibility concerns and data format inconsistencies that must be resolved, integration with current systems and applications might also be difficult (Noura et al., 2019). Organizations must overcome obstacles such as employee resistance to change, a lack of employee buy-in, and inadequate training when introducing automated workflows and process automation (Lacity & Leslie P. Willcocks, 2017). Because firms must prepare for future development and shifting business needs, scalability and flexibility are crucial factors for both ideas (Harish, 2021). To ensure continuous operations and regulatory compliance, maintenance, monitoring, and data security are essential for both process automation and automated workflows (Chui et al., 2016; Mökander et al., 2021)

Organizations can use a variety of measures to assess the effectiveness of automated workflows. Metrics including cycle time, throughput, mistake rates, cost savings, and customer satisfaction are recommended by the literature review. These metrics give important information about the impact, efficacy, and efficiency of automated workflows.

Organizations can use a variety of measuring techniques in addition to metrics to fully evaluate the effectiveness of automated workflows. One method involves evaluating the effectiveness of the automated workflow in contrast to a baseline, such as a manual or legacy procedure. This strategy aids firms in comprehending the advancement brought about by automation. Organizations can measure the advantages and pinpoint opportunities for future optimization by contrasting the metrics of the automated workflow with the baseline.

Another useful method for gauging the success of automated operations is benchmarking. Organizations can assess their relative performance and determine areas where they excel or fall short by comparing their performance to industry averages or accepted standards. Benchmarking helps firms identify areas for improvement and offers useful insights into industry best practices.

The success of automated workflows must be continuously monitored in order to be evaluated over time. Organizations can spot trends, patterns, and areas for optimization by routinely monitoring the chosen metrics. Continuous monitoring gives enterprises immediate access into the workflow's performance and enables them to quickly spot possible problems or areas for improvement.

Stakeholder feedback is a valuable additional method for gauging the effectiveness of automated procedures. Surveys, interviews, and focus groups can be used to interact with staff members, clients, and other relevant stakeholders to gain information about how automated workflows are perceived to affect them. Feedback from stakeholders enables firms to comprehend automation's advantages, difficulties, and prospects from various angles.

Analytical methods and process mining techniques are crucial for evaluating the effectiveness of automated workflows. These methods help businesses to see the workflow, spot bottlenecks, and find chances for improvement. Organizations can improve the workflow by better understanding the process and identifying opportunities for improvement by examining the data produced by the automated workflow.

The effectiveness of automated workflows must be evaluated using a variety of metrics and assessment techniques. Organizations can efficiently evaluate and optimize their automated workflows by choosing the right metrics, such as cycle time, throughput, error rates, cost savings, and customer satisfaction, and utilizing measurement approaches like baseline comparison, benchmarking, continuous monitoring, stakeholder feedback, and process mining. Organizations are able to make data-driven decisions, pinpoint problem areas, and promote ongoing development of their automated processes thanks to this thorough measurement. Organizations may harness the benefits of automation and improve their general performance and competitiveness by utilizing the insights generated from these assessments.

In conclusion, process automation and automated workflows provide firms with considerable advantages in terms of productivity, accuracy, and client happiness. Organizations must stay current on the newest innovations to properly use automation as technology develops and new trends arise. Organizations can fully utilize automation and set themselves up for success in an increasingly automated environment by embracing emerging trends, encouraging a culture of innovation, and placing a high priority on employee engagement.

5. CONCLUSIONS

This work focused on utilizing the Power Automate tool to create automated workflows to enhance the performance of daily tasks by fully automating the Sev ABC Rota, which will provide more time for the responsible engineers to focus on other matters. The transition from the manual process to the automatic one went smoothly, and the reason for that is simply that the flows covered all the manual work topics, and when those flows were created, the engineers who were responsible for the manual process were involved by providing their opinion and how they expected the results to look. Their contribution to how the structure should be helped the outcome results be in the best condition with fewer mistakes.

Moreover, talking about numbers, there was a huge positive impact on how this automation optimized the efficiency and performance of the Sev ABC Rota by considering the following metrics: cycle Time, Throughput, and error rates. This is only in a one-month timeframe, and we expect better results in the future. There are also more metrics, for instance, Cost Savings and Customer satisfaction, that can give higher importance to automation, but lack of time has been the barrier to conducting more insights.

In the future, an opportunity for further improvement could involve leveraging automation to create the Excel sheet automatically for each new month. Currently, the process of preparing the monthly schedule is time-consuming and involves technical advisors following a sequence of rules before adding the names of the engineers. By automating this task, it would provide the technical advisors with the speed and accuracy necessary to efficiently accomplish the task.

Moreover, automated workflows have proven to be highly reliable and consistent. By minimizing human errors and inconsistencies, organizations can ensure a higher level of quality and accuracy in their operations. This is particularly critical in areas where precision and attention to detail are paramount, such as data entry, information management, or critical situation handling.

Overall, the adoption of automated workflows holds immense potential for organizations across various industries. It streamlines processes, increases efficiency, reduces errors, and empowers employees to work more strategically. As technology continues to advance, embracing automation and incorporating automated workflows will be crucial for organizations aiming to stay competitive, agile, and efficient in an increasingly digital world.

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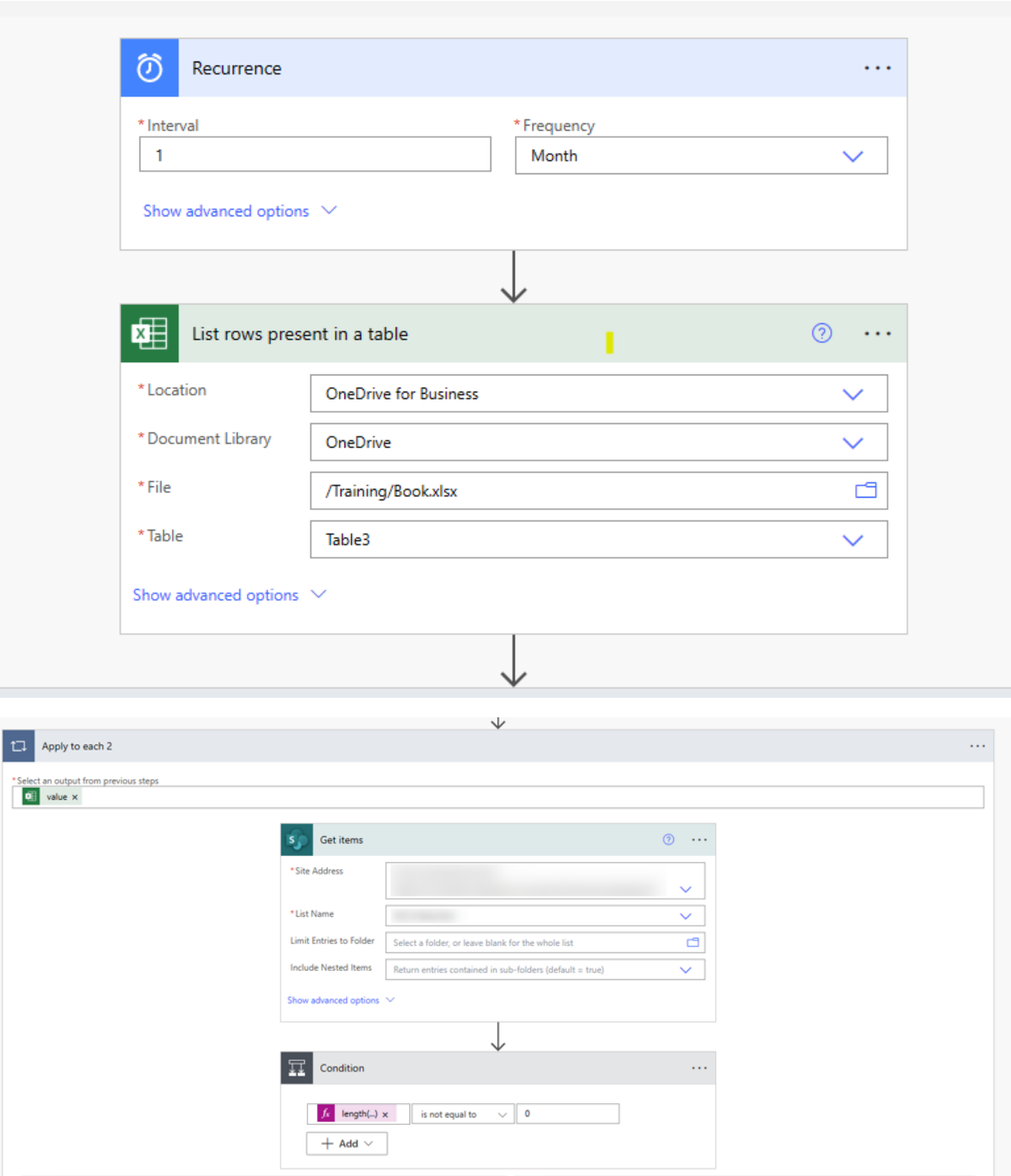
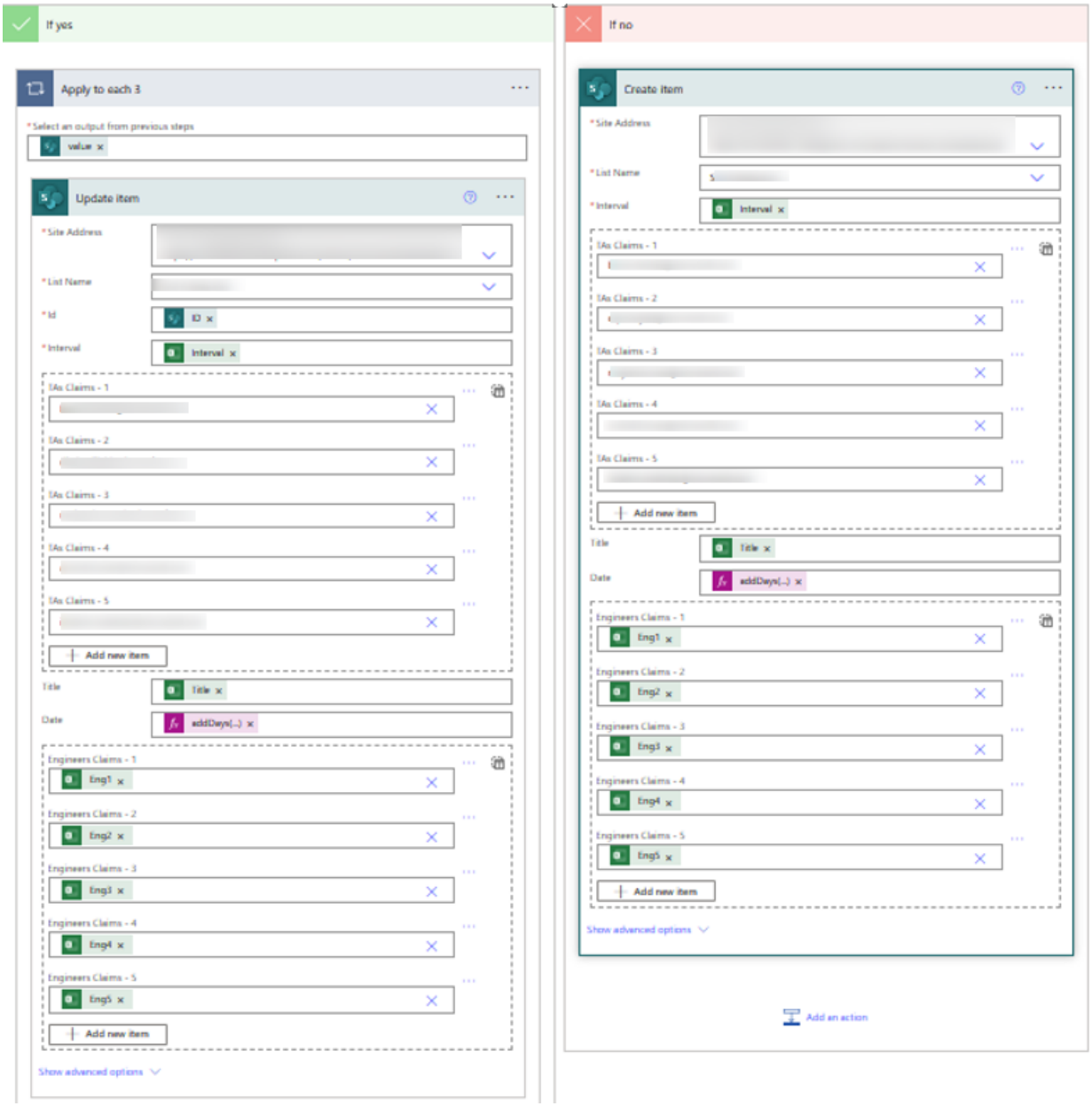
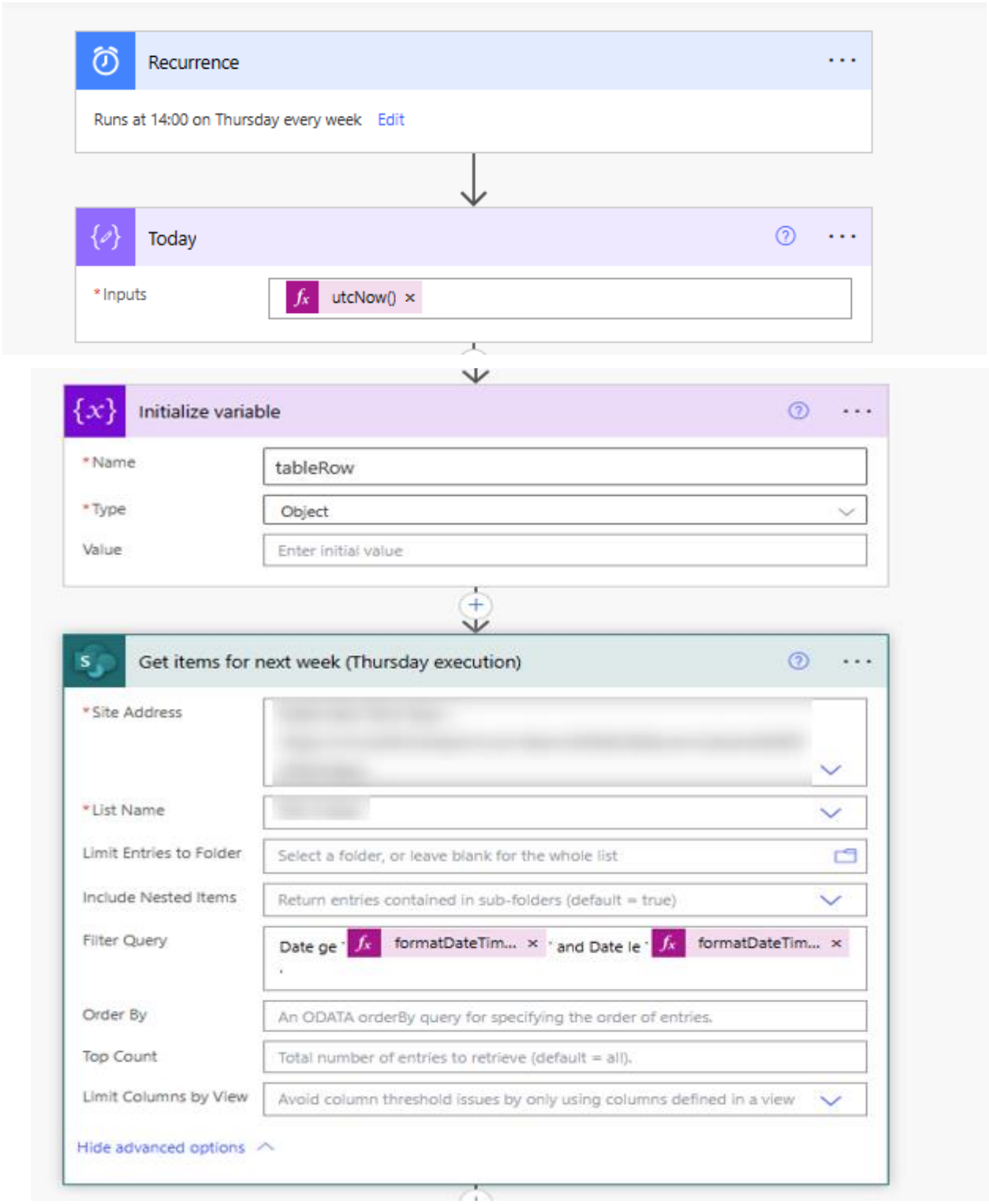
APPENDICES

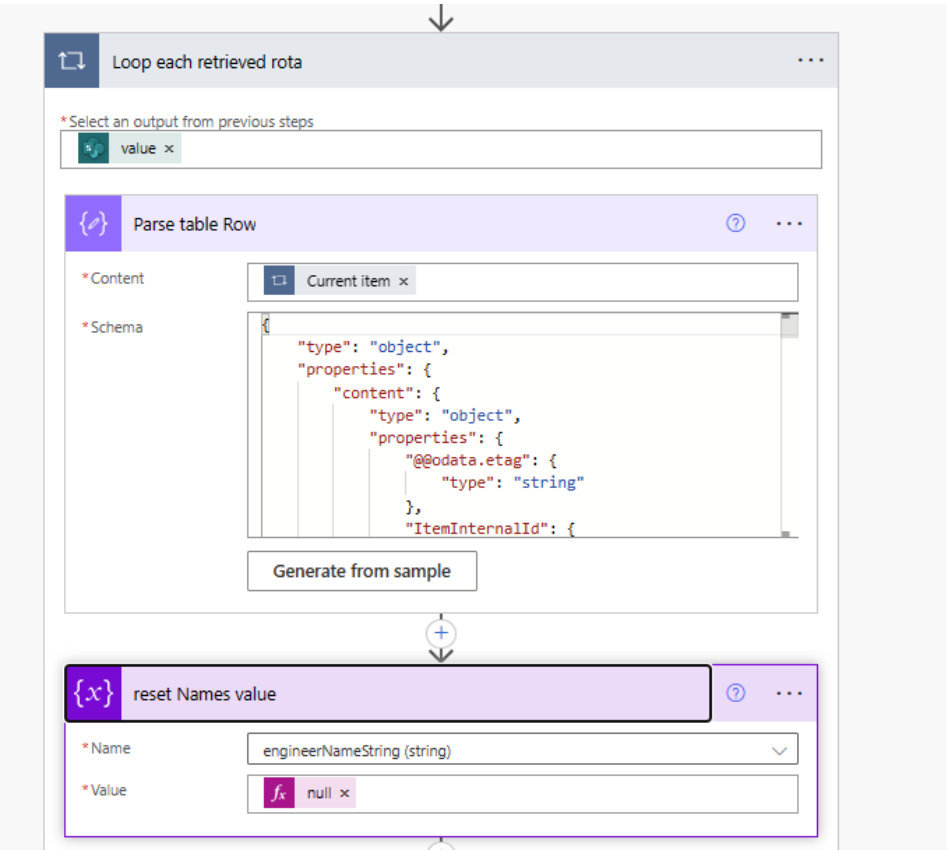
APPENDIX 1 – 3- Flow 1 in details

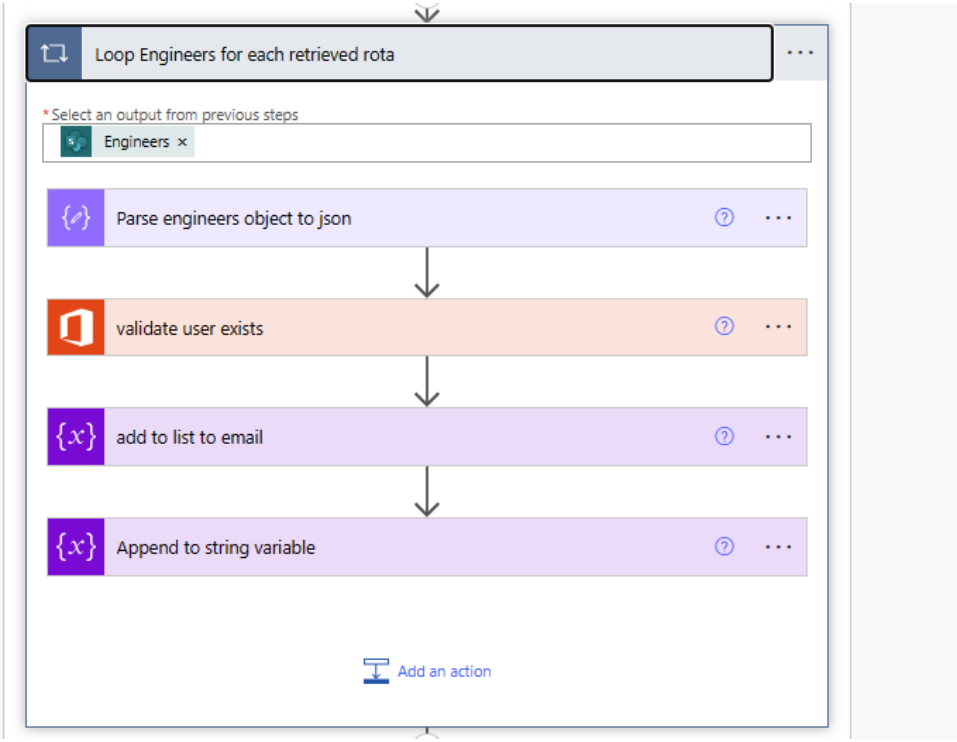


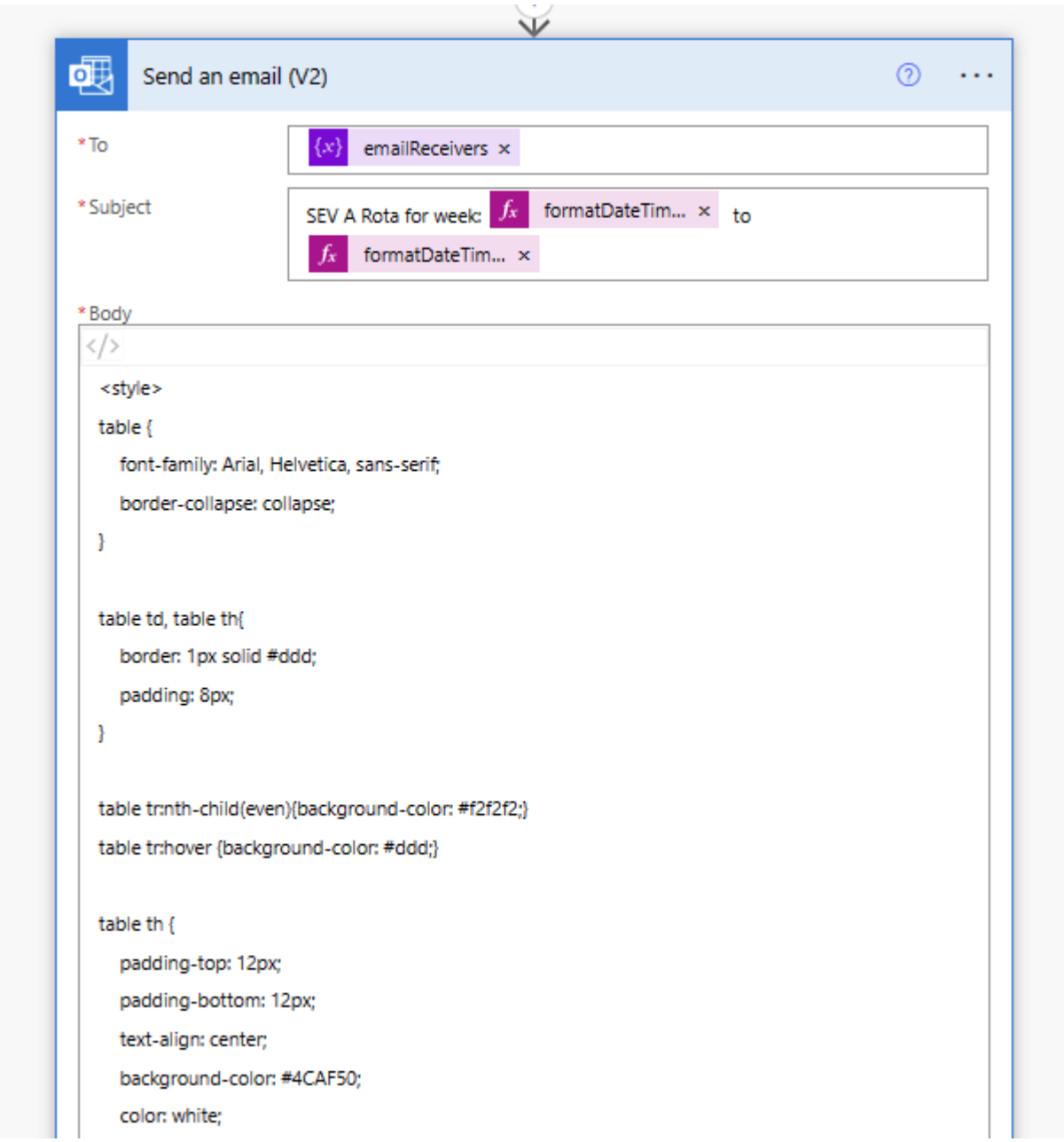

If yes
Apply to each 3
Select an output from previous steps
value
Update item
Site Address
List Name
Id
ID
Interval
IAs Claims - 1
IAs Claims - 2
IAs Claims - 3
IAs Claims - 4
IAs Claims - 5
Add new item
Title
Date
addDays(...)
Engineers Claims - 1
Eng1
Engineers Claims - 2
Eng2
Engineers Claims - 3
Eng3
Engineers Claims - 4
Eng4
Engineers Claims - 5
Eng5
Add new item
Show advanced options
If no
Create item
Site Address
List Name
Interval
IAs Claims - 1
IAs Claims - 2
IAs Claims - 3
IAs Claims - 4
IAs Claims - 5
Add new item
Title
Date
addDays(...)
Engineers Claims - 1
Eng1
Engineers Claims - 2
Eng2
Engineers Claims - 3
Eng3
Engineers Claims - 4
Eng4
Engineers Claims - 5
Eng5
Add new item
Show advanced options
Add an action

APPENDIX 3 – 8- Flow 2 in details

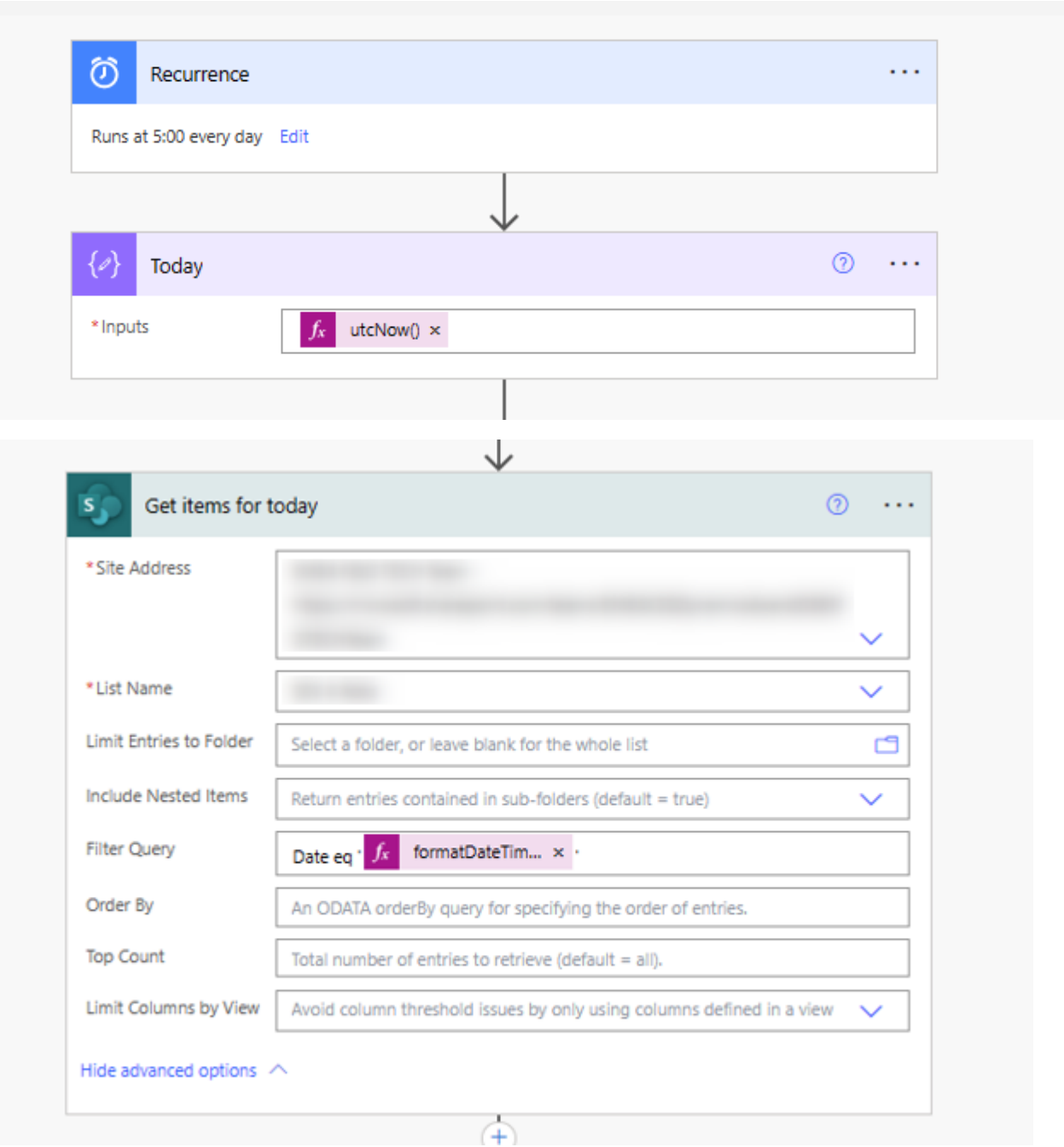


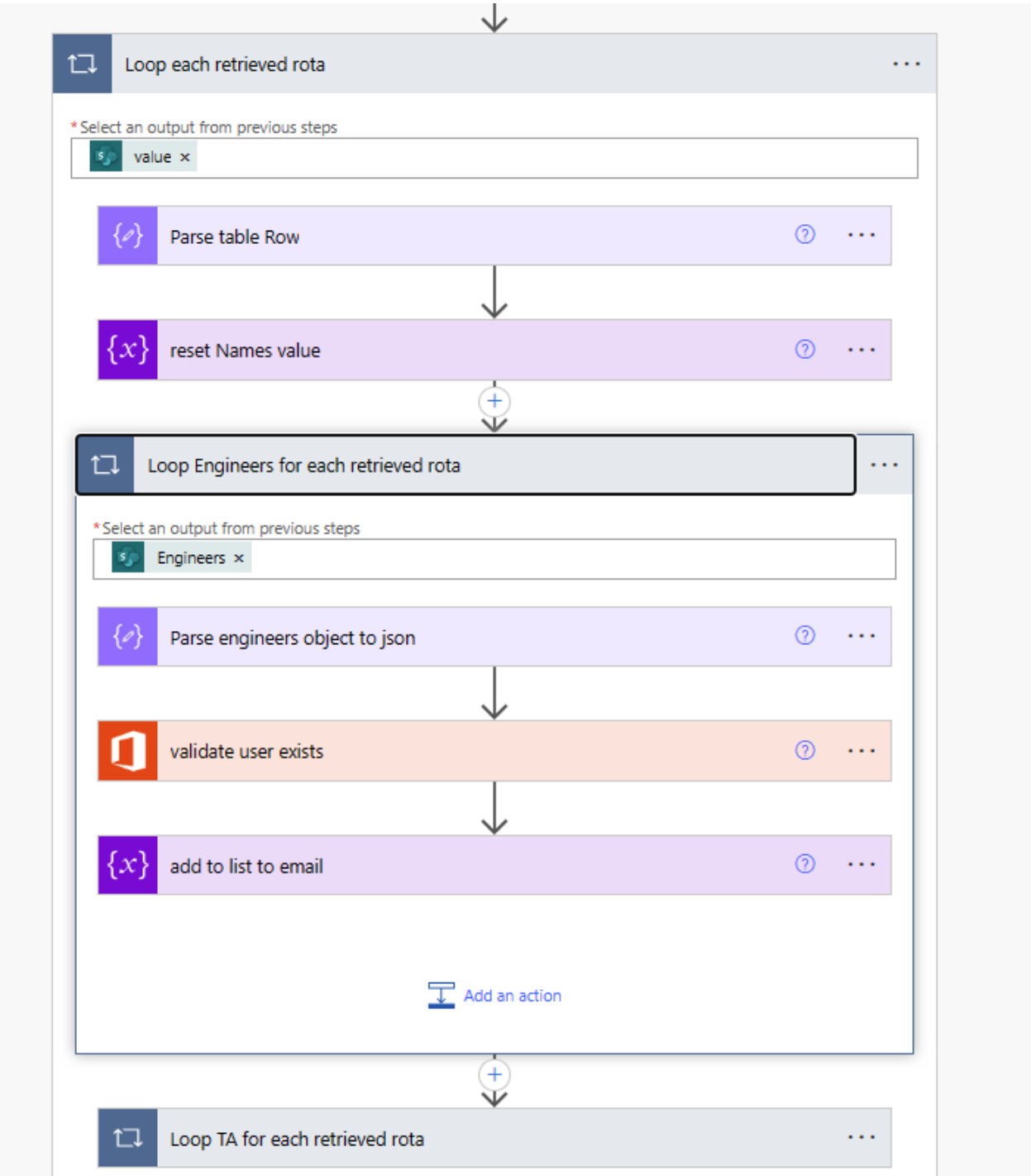

Loop each retrieved rota
*Select an output from previous steps
value ×
Parse table Row
*Content
Current item ×
*Schema
{
"type": "object",
"properties": {
"content": {
"type": "object",
"properties": {
"@@odata.etag": {
"type": "string"
},
"ItemInternalId": {
Generate from sample
reset Names value
*Name
engineerNameString (string)
*Value
null ×

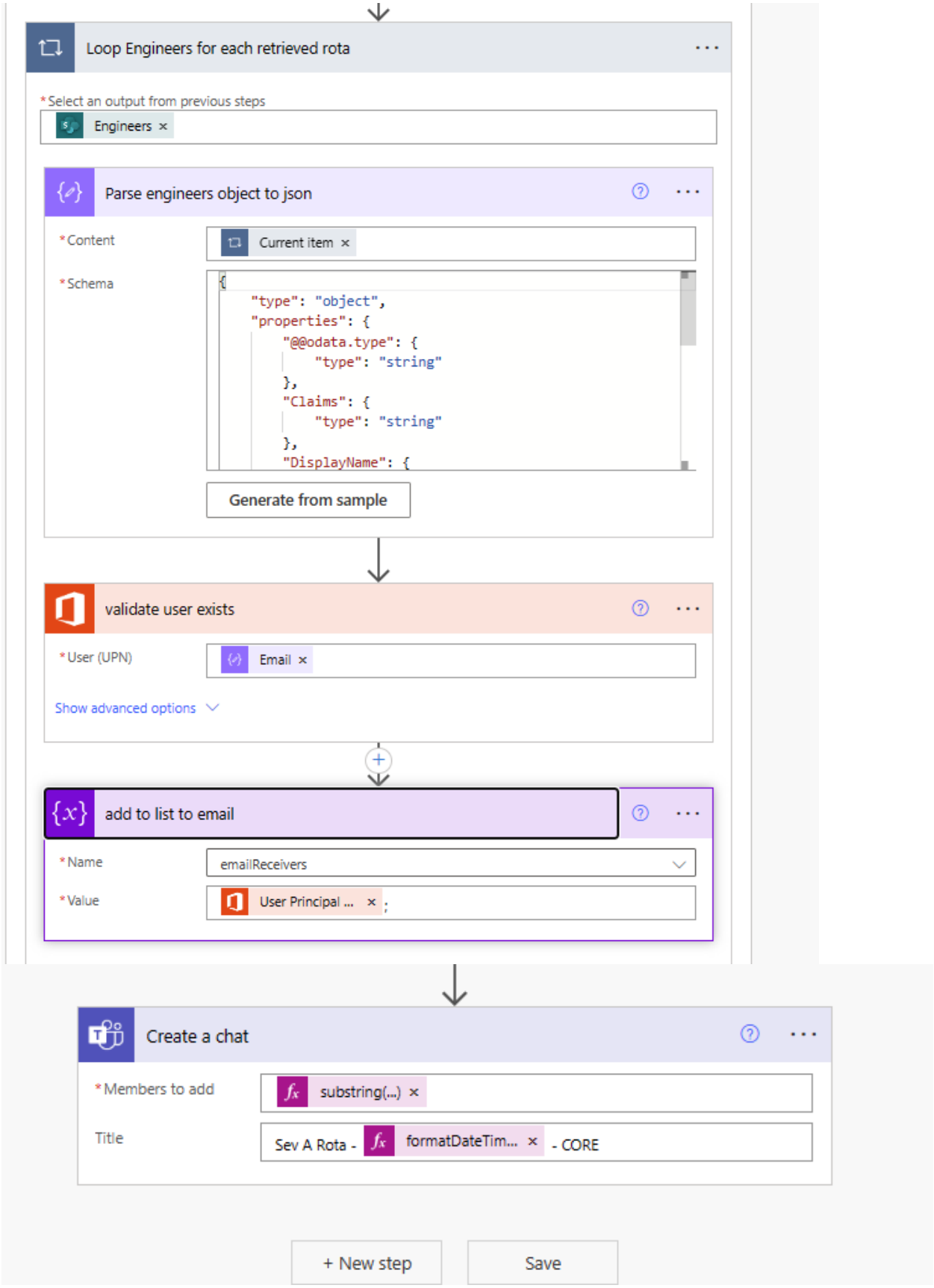

Loop Engineers for each retrieved rota
*Select an output from previous steps
Engineers ×
Parse engineers object to json
validate user exists
add to list to email
Append to string variable
Add an action


Send an email (V2)
*To
emailReceivers
*Subject
SEV A Rota for week:
formatDateTim...
to
formatDateTim...
*Body
<style>
table {
font-family: Arial, Helvetica, sans-serif;
border-collapse: collapse;
}
table td, table th{
border: 1px solid #ddd;
padding: 8px;
}
table tr:nth-child(even){background-color: #f2f2f2;}
table tr:hover {background-color: #ddd;}
table th {
padding-top: 12px;
padding-bottom: 12px;
text-align: center;
background-color: #4CAF50;
color: white;

APPENDIX 8 – 13- Flow 3 in details




Loop each retrieved rota
*Select an output from previous steps
value ×
Parse table Row
reset Names value
Loop Engineers for each retrieved rota
*Select an output from previous steps
Engineers ×
Parse engineers object to json
validate user exists
add to list to email
Add an action
Loop TA for each retrieved rota


Loop Engineers for each retrieved rota
*Select an output from previous steps
Engineers ×
Parse engineers object to json
*Content
Current item ×
*Schema
{
"type": "object",
"properties": {
"@@odata.type": {
"type": "string"
},
"Claims": {
"type": "string"
},
"DisplayName": {
Generate from sample
validate user exists
*User (UPN)
Email ×
Show advanced options
add to list to email
*Name
emailReceivers
*Value
User Principal ... ×
;
Create a chat
*Members to add
substring(...) ×
Title
Sev A Rota -
formatDateTim... ×
- CORE
+ New step
Save