

# **Mendix and Microsoft Power Automate for workflow automation**

## **Bachelorarbeit**

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Wiener Neustadt, Mai 2023

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## **Kurzzusammenfassung**

Der Bedarf an (Automatisierungs-)Software und dementsprechend an Software-Entwicklern ist im Zeitalter der Digitalisierung exorbitant gestiegen. Dabei ist eine riesige Lücke entstanden. Low-Code-Plattformen versprechen genau diese Lücke durch den Einsatz von einfachen "Klick and Drop"-Funktionalitäten zur Entwicklung von Software zu füllen.

In dieser Arbeit befasste ich mich mit der Automatisierung von Geschäftsprozessen mithilfe von Low-Code-Plattformen. Dabei werden zwei marktführende Anbieter, Microsoft Power Automate und Mendix, hinsichtlich der Einfachheit der Entwicklung, der Benutzerfreundlichkeit, der Anzahl an Proxies und letztendlich des Mehrbenutzerzugriffs verglichen. Das Ziel ist herauszufinden, welcher dieser Anbieter die bessere Lösung für "Citizen Developers" bietet. Citizen Developers sind Entwickler ohne Programmiererfahrung, also Personen, die ihre Geschäftsprozesse selbstständig automatisieren sollen – die Zielgruppe der Low-Code-Anbieter.

Die ersten beiden Kategorien wurden von den Citizen Developers bewertet. Die letztere Kategorie wurde durch eine direkte Analyse der Anbieter bewertet. Hierfür wurde ein gewichtetes Bewertungsmodell entwickelt und angewandt.

Durch die Arbeit konnte ich meine Hypothese bestätigen, dass Microsoft Power Automate tatsächlich die bessere Alternative für Citizen Developers bietet.

## **Schlagwörter**

Low-Code, No-Code, Prozessautomatisierung, Workflow, Power Automate, Mendix

## **Abstract**

The demand for (automation) software and, consequently, software developers has skyrocketed in the age of digitalization. This has led to a significant gap in the market. Low-code platforms aim to fill this gap by providing simple click-and-drop functionalities for software development.

In this study, I delve into the automation of business processes using low-code platforms. Specifically, I compare two leading providers, Microsoft Power Automate and Mendix, in terms of development simplicity, user-friendliness, number of proxies, and multi-user access. The objective is to determine which of these providers offers a better solution for "citizen developers." Citizen developers are individuals without programming experience who aim to independently automate their business processes – the target audience for low-code providers.

The evaluations of the first two categories were based on feedback from citizen developers. The evaluation of the latter category was conducted through a direct analysis of the providers. For this purpose, a weighted evaluation model was developed and applied.

Through this study, I have confirmed my hypothesis that Microsoft Power Automate indeed offers a superior alternative for citizen developers.

## **Keywords**

Low-Code, No-Code, Process Automation, Workflow Automation, Power Automate, Mendix

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# 1. Introduction

Since the start of the digital era and especially in the last decade, the need for business applications has increased dramatically. The job market exploded with advertisements for software engineering jobs. Yet the void of Software Engineers and IT Experts has to be filled. This challenge will be for the next years to come.<sup>1</sup>

Companies are investing in young students and in training-programs for newcomers to attract new IT professionals. New Methods like Agile Frameworks and DevOps are implemented to support the work in cross-functional teams, decreasing market time and improving software quality.

## 1.1 Low-Code Development Platforms

A new solution to named problems are Low-Code Development Platforms (LCDP), which emerged quite recently and are currently playing a major role in the digital transformation era.<sup>2</sup> The phrase low code has been coined by the market research company Forrester in 2014.<sup>3</sup>

These platforms provide a visual, drag-and-drop interface that enables users to design and build applications by assembling pre-built, reusable components, rather than writing code from scratch. This approach to development is designed to make the process of creating and deploying applications faster, more efficient, and more accessible to a wider range of users, including business users, citizen developers, and IT professionals.

LCDPs typically include a variety of built-in features such as workflows, forms, data connectors, and integration capabilities, that can be easily configured to meet the specific needs of an organization. Additionally, many low-code platforms

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<sup>1</sup> Breaux and Moritz 2021

<sup>2</sup> Sanchis and García-Perales and Fraile and Poler 2019

<sup>3</sup> Richardson and Rymer 2014

offer pre-built templates, modules, and other resources that can be used to quickly create common types of applications such as data entry forms, project management tools, and customer relationship management systems.

They allow us to be more agile and better equipped to respond to changing business needs, and they also help to improve collaboration between IT and business teams.<sup>4</sup>

LCDPs offer often more than just one service. You will find that many vendors enable the development of AI, robotic process automation (RPA), intelligent chatbots, and many more.

## **1.2 Problem Statement and Motivation**

During my work at Capgemini, I had the pleasure to develop applications using low-code platforms like Microsoft Power Automate and Pegasystems. While I used PEGA to develop middleware for a major insurance company, I used MS Power Automate for smaller workflow applications.

The aim was to decrease the workload of my colleagues by automating repetitive office tasks. Even though I developed most of the workflows, it was also my mission to enable my colleagues to develop these flows themselves. While there have been colleagues who were very skilled at developing, others could not use the platform appropriately.

The purpose of this study is to compare the workflow automation capabilities of the two leading low-code platforms – Mendix and MS Power Automate (part of MS Power Platform) – and determine which platform offers the best solution for citizen developers.

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<sup>4</sup> Overeem 2022

### **1.3 Research Question**

The research question constructed for this thesis is as followed:

*“Which of the two leading low code platforms offers the best workflow automation solution for citizen developers?”*

Meaning that I will focus on two leading platforms (Mendix and MS Power Automate), and evaluate their workflow automation developing capabilities for citizen developers.



## 2. Related Research and Context

### 2.1 Related Research

The topic of low code development is quite new and therefore vastly under-researched. Yet there has been an increase in comparative studies on LCDPs in recent years.

A research report presented an analysis of 10 low-code platforms, with the goal of identifying and evaluating common characteristics and specific features of each tool. The study is structured using a method that includes a conceptual framework, which serves as a uniform structure for describing and comparing the platforms, and a process model that outlines the steps followed during the study. The report aims to provide a comprehensive understanding of the state of the art and the potential of low-code platforms. The study's results show a mixed picture of the current state of low-code platforms. The research did not find evidence of significant innovation or advancements in low-code platforms that would match or surpass the current state of research. However, the increasing popularity of low-code platforms presents an opportunity for research in the field of conceptual modeling, which can raise awareness of the importance of non-code representations in software development and maintenance. The study's authors caution that the messages and terminology used in the field of low-code platforms may be oversimplified and misleading in some cases. The study also acknowledges that some limitations in its research methods may have affected its scientific rigor.<sup>5</sup>

Another study analysed which features are found to be decisive by citizen developers. Via a literature review and several interview rounds the study answered the question of which features influence the attractiveness of low-code platforms for citizen developers. Usability, information accessibility, functional

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<sup>5</sup> Frank and Maier and Bock 2021

suitability, component reuse, automation features, application component store, dashboards, forms, reports, maintainability, regulation & architecture compliance, citizen development governance, controls, changeability, version control, perceived cost affordability, license costs, and support costs were all found to be significant in this study.<sup>6</sup>

Although these findings are interesting and contribute massively to the low-code development community, there are no studies evaluating leading platforms regarding their workflow automation capabilities.

## **2.2 Workflow Automation vs Robotic Process Automation**

For the sake of understanding workflow automation, it is also important to understand what robotic process automation (RPA) is. In my work as a low-code developer, colleagues asked me to develop RPAs for tasks, which were not that complex. A simple workflow would have sufficed in most use cases. In this chapter, I will elaborate on the difference between these two principles.

RPA is described as the application of particular technologies and methodologies that are based on software and algorithms that aim to automate repetitive human processes, according to the findings of the preliminary literature review.

Its features include the automation of repetitive and rule-based tasks using a non-intrusive software robot, or "bot".

RPA's definition has recently been expanded to include its relationship to AI, cognitive computing, process mining, and data analytics. It can now be redirected from completing regular, error-prone tasks in corporate processes to more difficult, knowledge-intensive, and value-adding tasks thanks to the development of new digital technology.<sup>7</sup>

Workflow automation on the other hand deals with the automation of productive work in a business process. A workflow paradigm is characterized by a focus on

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<sup>6</sup> Geleedst 2022

<sup>7</sup> Ivančić and Vugec and Vukšić 2019

actor interaction rather than the activities themselves, the involvement of numerous individuals and organizational units, boundary-spanning both inside and outside the organization, and the integration of processes and tools.<sup>8</sup>

*“A workflow is a system whose elements are activities, related to one another by a trigger relation and triggered by external events, which represents a business process starting with a commitment and ending with the termination of that commitment.”<sup>9</sup>*

### **2.3 Low-Code Platform Selection**

LCDPs are growing in popularity and therefore their vendors are increasing in number. The Forrester Wave: Low-Code Development Platforms for Professional Developers, Q2 2021 report evaluated 12 low-code development platforms and found that Mendix and Microsoft were among the top players in the market. Mendix received high marks in the report, with a strong focus on customer success and a wide range of platform capabilities. Microsoft, meanwhile, was recognized for its strong market presence and its ability to integrate with other Microsoft products.

The report states that Mendix is a strong choice for organizations that are looking to quickly build and deploy applications, as the platform has a wide range of capabilities and a focus on customer success. Additionally, Mendix's low-code platform can be integrated with other tools, such as analytics and business intelligence platforms, to provide a more comprehensive solution.

Microsoft also received recognition for its low-code platform, Power Apps, which is a part of the Power Platform. The report notes that Power Apps is a strong choice for organizations that are already using other Microsoft products, as it can easily integrate with tools such as Dynamics 365 and Azure. Additionally, Power

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<sup>8</sup> Joosten and Brinkkemper, 1995

<sup>9</sup> Joosten and Brinkkemper, 1995

Apps has a wide range of capabilities and is suitable for both IT and citizen developers.

In conclusion, The Forrester Wave report identifies Mendix and Microsoft as two of the top low-code development platforms for professional developers. Mendix is a strong choice for organizations looking for a wide range of capabilities and a focus on customer success, while Microsoft's Power Apps is a good fit for organizations already using other Microsoft products and looking for easy integration.<sup>10</sup>

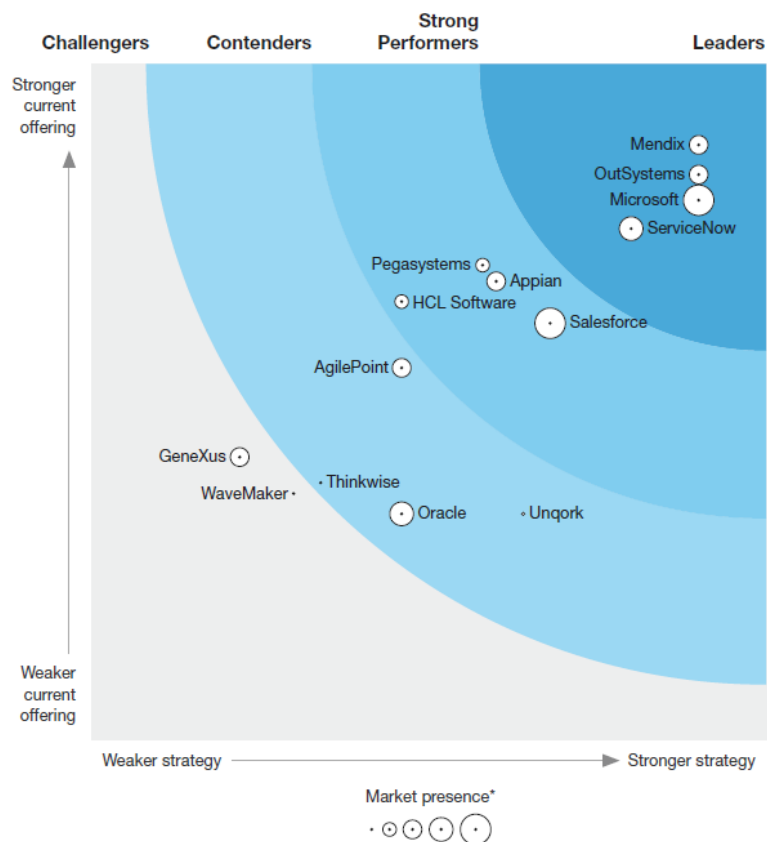


Figure 1 Forrester Wave™: Low-Code Development Platforms For Professional Developers, Q2 2021, Page 4

<sup>10</sup> Bratincevic and Koplowitz 2021

In addition to Forrester, there are other prominent market research firms such as Gartner, IDC, Ovum, and TechValidate that are known for providing valuable insights into various technology markets. These research firms can provide valuable insights into the strengths, weaknesses, and differentiating factors of various low-code platforms.

Not all research reports from the aforementioned firms are freely accessible. Typically, these reports are sold as part of a research subscription service and are not publicly available for free. However, some of the firms may offer summary reports or blog posts that summarize their findings, which may be publicly accessible.

I had the intention of choosing MS Power Automate as the primary platform from the start due to its strong market presence and my prior development experience with the platform. The only available option for finding the second platform was to rely on market research, as I wouldn't have access to the systems for direct assessment of vendors' offerings. Forrester's Report was the only one that was freely accessible and therefore the only appropriate choice.

### **3. Methodical Approach**

As discussed in the previous chapter, I chose the top low-code platforms using the Forrester's report. I confirmed that the platforms offered functionalities for workflow automation by visiting the vendors websites. For instance, Power Platform is the name of Microsoft's low-code platform. There are four components: Power Apps, Power BI, Power Pages, Power Virtual Agents and Power Automate (for workflow automation).

#### **3.1 Scoring Model**

A scoring model was developed to determine which of the two platform offers the best solution for citizen developers. I based it on four categories: Easiness of development, UX, Proxies and Multi-User Access. Each category is assigned a weighting, with Easiness of Development and UX both given a 35% weighting, Proxies given a 25% weighting, and Multi-User Access given a 5% weighting. This approach ensures that the key factors that are most important to the evaluation of low code platforms are given the most weight, while still considering other important factors such as Proxies and Multi-User Access.

Besides the scoring model five citizen developers will be tasked to create a simple workflow. Mostly it is white collar workers, who want their processes to be automated. This is why I chose five higher educated colleagues from different industries. To get the admired result it was very important point for the subjects to not have any prior knowledge of programming languages and any sort of experience in developing software.

Afterwards, they will be interviewed about their experience during development to determine the scores for the categories "easiness of development" and "UX/UI". The scoring system will range from 1 to 5, providing a measure of the citizen developers' evaluation of each category.

For the final two categories, it is sufficient to examine the vendors offerings to create a scoring model. The input of the citizen developers will therefore not be required.

### **3.1.1 Easiness of Development**

A defining characteristic of low-code platforms is their simplicity, making them easy to develop. Given that the focus of my study is on citizen developers, the category of ease of development has been given the highest weighting in my scoring model.

The citizen developers will be asked the following questions:

1. How easily can you find and use the features and functionalities you need to build your application?
2. How accessible are documentation, help and support?

Instead of evaluating the two questions separately, I will ask citizen developers to score the category by taking aforementioned questions into account.

### **3.1.2 User Experience**

Like the ease of development category, I also consider User Experience to be crucial for citizen developers. Therefore, I have assigned a significant weighting of 25% to this category in my scoring model. This reflects the importance of this aspect in determining the suitability of the platform for this user group and how good the platform is in terms of usability and user satisfaction.

To determine the score for this category, citizen developers will once more be given a question: How user-friendly and intuitive is the platform's interface?

### **3.1.3 Proxies**

Mendix and Power Automate both have several available proxies and APIs, that can be used to integrate with external systems. For this study, it is important to find out which platform offers the most proxies. The focus will therefore be on the number of accessible proxies.

### **3.1.4 Multi-User Access**

Multi-user access in low-code platforms refers to the ability for multiple users to collaborate and work on the same project or application simultaneously. This can include features such as the ability for multiple users to edit the same pages, view

and update data in real-time, and collaborate on the development of the application.

Finding out whether low code platforms can support multiple users is crucial for the goals of this study. In particular, determining how many users can access the same flow and whether roles can be given to them. This knowledge will make the reusability of workflows for citizen developers much easier.



## 4. Evaluating Low-Code Platforms

It is important to showcase the workflow our citizen developers will create to better comprehend the comparison and evaluation between Mendix and MS Power Automate. Approval workflows were among the most often created flows at my company. This is why I decided to ask the citizen developers to build such a flow. One of the most common automated workflows is an employee request for vacation.

The citizen developers are tasked to create an automated workflow in which the employee sends a vacation request to his line manager. In case of approval, the manager forwards the information to HR, who then also approves the request and sends a confirmation to the employee. It is up to the developer to decide upon the details of the workflow. For example, you may send either an email with the requested leave date, or you may fill out a form in SharePoint and once you have done it, it is sent automatically.

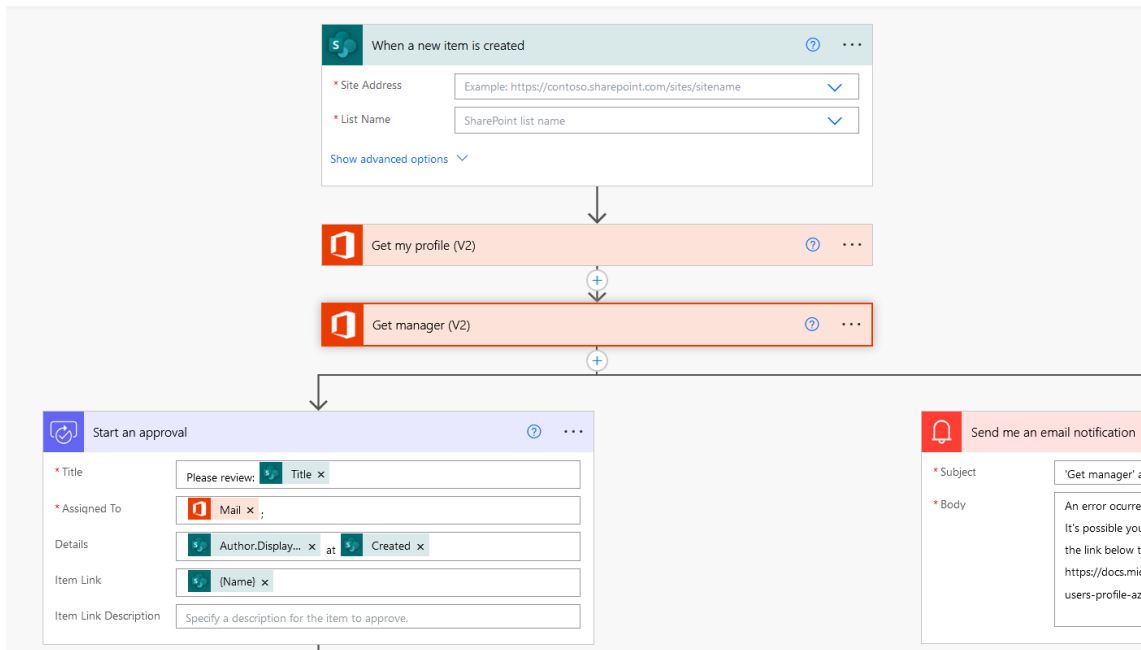


Figure 2 Power Automate: Leave request template, make.powerautomate.com

As previously mentioned it is important to get the citizen developers opinion on which platform was easiest for them. One developer may find a certain method within a platform easier than another. Hence, it seems counterproductive to define every single step and detail that has to be included. Allowing developers a high level of autonomy will result in the best outcomes.

## 4.1 MS Power Automate

### 4.1.1 Easiness of development

As mentioned before, many methods exist to start a flow, especially in MS Power Automate. In the figure shown below, we can see the different triggers to start a flow. The easiest trigger is the manual trigger. It provides a button on which you can click, whenever you want to start the flow. Another rather easy trigger is “for a selected file” which one of the five citizen developers used.

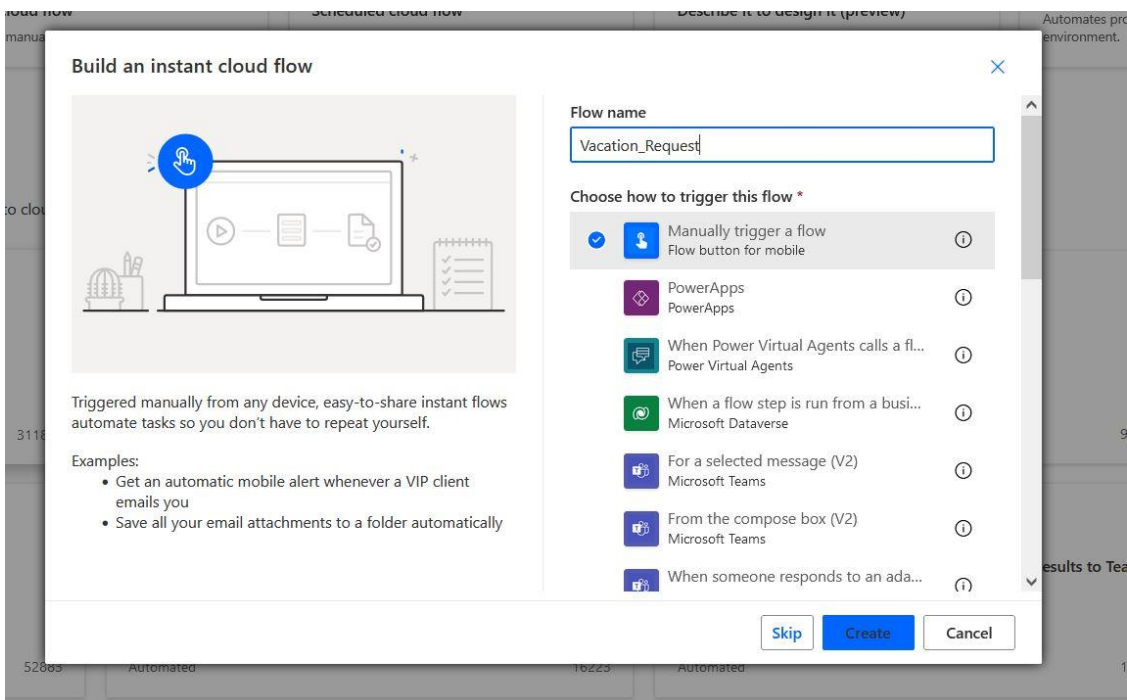


Figure 3 Power Automate: Leave request template, make.powerautomate.com

After choosing the trigger of the workflow the developers could start developing the flow. According to the citizen developers, it took some time to understand the details of each action. Actions in power automate are rectangles with different

colours (see Figure 2). You can expand them once you click on them. Afterwards, you should be able to enter the details of each step (see Figure 4).

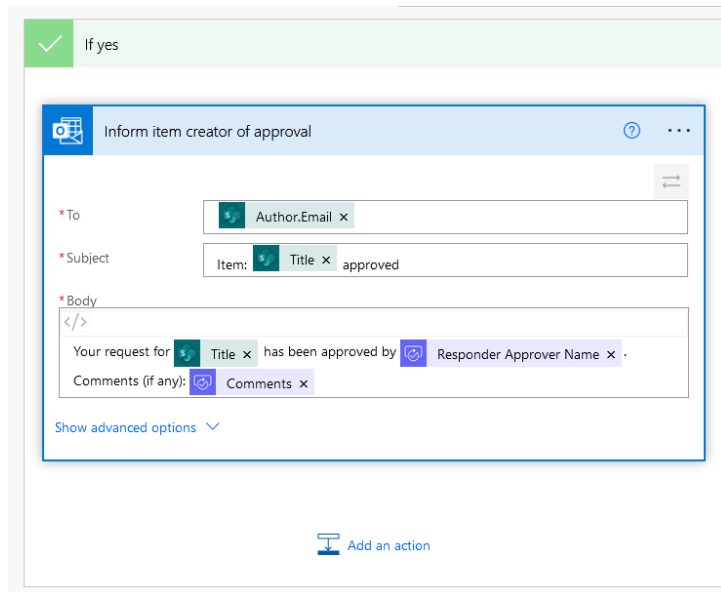


Figure 4 Power Automate: Send Email action, make.powerautomate.com

For someone who has not developed anything (on an LCP) before it may take a long time until he/she understands the expressions and functions used in power automate. This was also the biggest challenge for the citizen developers.

#### 4.1.2 User Experience

According to the citizen developers the user experience with Power Automate was satisfactory.

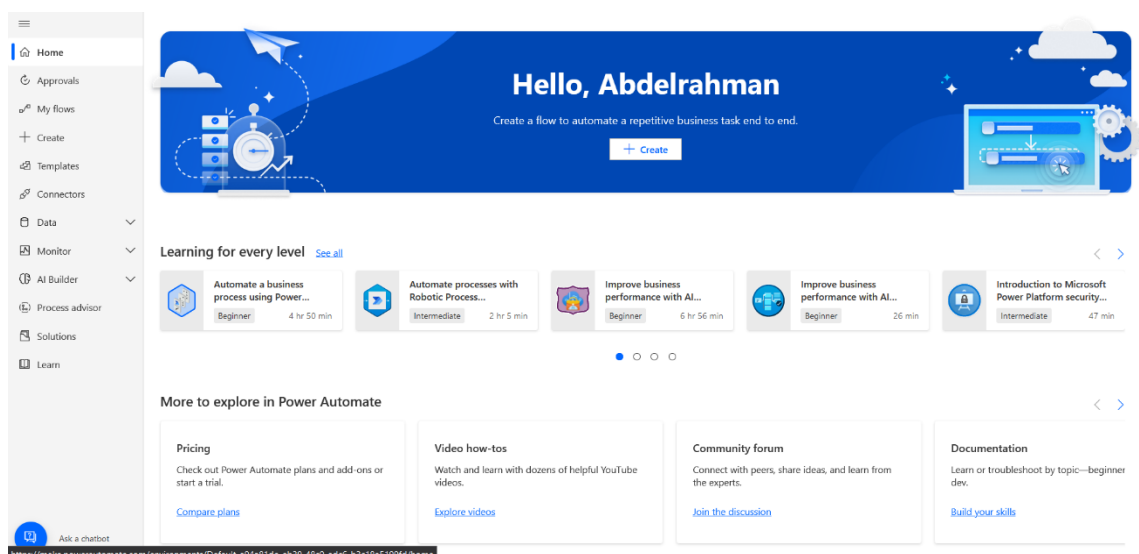


Figure 5 Power Automate: Default home screen, make.powerautomate.com

The home page is quite straightforward and for the citizen developers it was clear where to click when starting the development of the flow. After clicking on create it was also clear to them, what to do next.

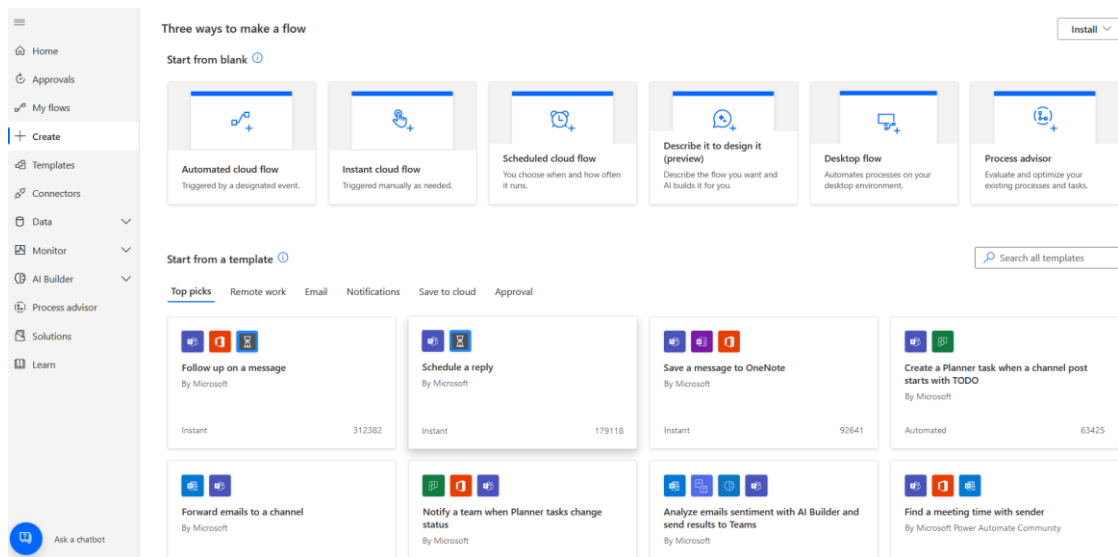


Figure 6 Power Automate: Create screen, [make.powerautomate.com](https://make.powerautomate.com)

Also, the small information icons you can find besides the titles, but also within the development environment were found to be helpful by the citizen developers. These were just a few points mentioned by the developers in regards to user experience.

### 4.1.3 Proxies

In Power Automate proxies are called connectors. A connector acts as an intermediary between an API and Microsoft Power Automate, Microsoft Power Apps, and Azure Logic Apps, allowing users to link their accounts and utilize pre-built actions and triggers to create their applications and workflows.

The broad range of connectors available within the ecosystem make it possible to connect cloud-based applications, data, and devices. Among the popular connectors are Salesforce, Office 365, Twitter, Dropbox, Google services, and others. Many connectors are not available for free and need a premium subscription.

I conducted a count of the number of connectors available in Power Automate and found that there are 1184 connectors in total. With over 1000 connectors

available, Power Automate provides a vast array of integration options for automating a wide range of business processes.

It's worth noting that the number of connectors in Power Automate can change over time, as Microsoft continues to add new connectors to the platform and retire older ones. Therefore, the exact number of connectors available in Power Automate may be different from the number at the time of this answer.

#### 4.1.4 Multi-User Access

According to Microsoft learning documentation, there are multiple ways for multi-user access.

Adding an owner to a cloud flow is the most common way of sharing a cloud flow. Once added as an owner, the user can perform actions such as managing the flow's properties, viewing the run history, editing the flow definition, and adding or removing other owners (excluding the flow creator). The owner can also delete the flow if needed. The Team flows tab in Power Automate displays all the cloud flows that the creator or owner has access to.

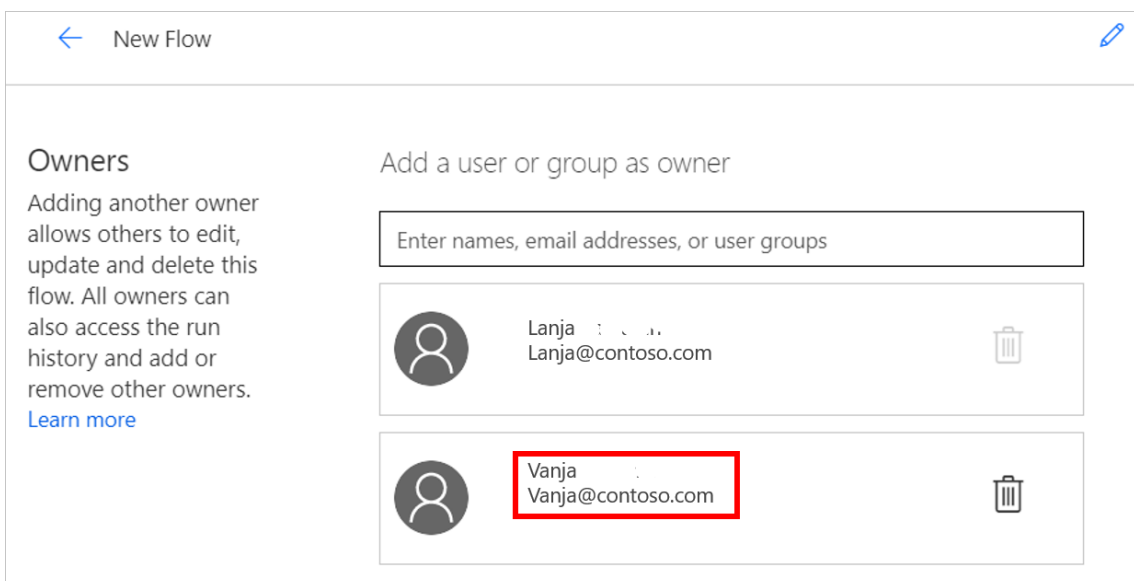


Figure 7 Power Automate: Create screen, make.powerautomate.com

When you share a cloud flow with run-only privileges, it lets other users run the flow without the ability to make any changes to it. This option is useful if you want

to share the flow with someone who requires access to the flows functionality but not the ability to edit it.

Sharing a copy of a cloud flow allows others to create a copy of the flow, which they can then modify as needed. This option is useful if you want to share the flow's functionality but not allow others to modify the original flow.

One can share a copy of a cloud flow with another user provides an efficient way to share the structure of a flow without granting access to any connections. The recipient can use the definition of the flow as a template and modify it independently, allowing them to customize it to their specific requirements. This method is useful if you want to share the general design of a flow but allow the recipient to personalize it according to their needs. This method is worth mentioning, but cannot be categorized as a multi user access method.

## 4.2 Mendix

### 4.2.1 Easiness of development

Firstly it is important to note, that using you cannot develop on a browser as we did with power automate. You may initiate the build from the browser but you have to download the “Mendix Studio Pro” for the actual application build.

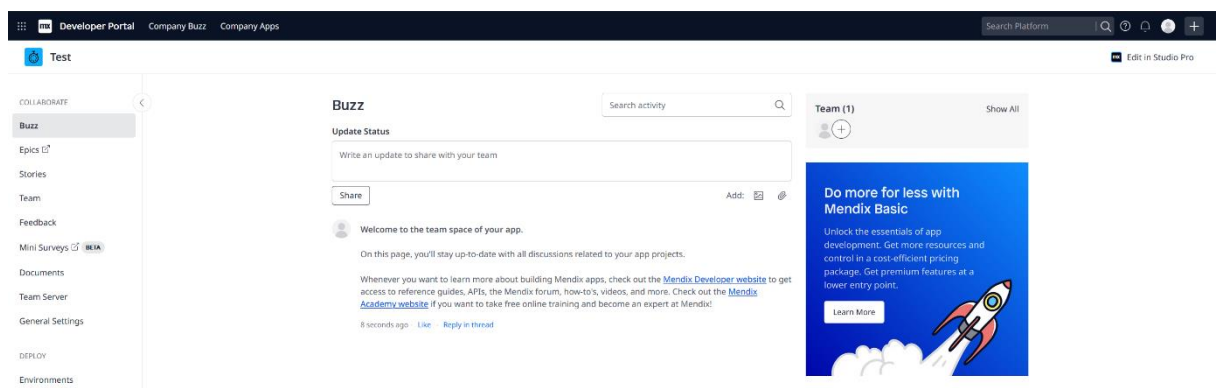


Figure 8 Mendix: Developer Portal

According to Mendix Academy,<sup>11</sup> there are two different development environments: Mendix Studio and Mendix Studio Pro. Mendix Studio is a no-code/low-code development environment that allows users to quickly build web and mobile applications without requiring extensive programming knowledge. Mendix Studio Pro is a more advanced version of Mendix Studio that offers additional tools for experienced developers, including the ability to build custom widgets, advanced debugging capabilities, and more.

Our citizen developers were not able to find the normal studio version. As shown in Figure 8, one can only edit the app in studio pro. Which made things much more difficult for our citizen developers.

Furthermore, you cannot start a workflow without building an App first. There are no “triggers” as in power automate, but only workflows within the app you just built.

#### **4.2.2 User Experience**

Contrary to Power Automate the User Interface is a bit more complex. For a new user, it is not quite hard to find the needed components in Mendix Studio Pro. Only after many hours within the development environment, do you get an understanding of it. Additionally, some of our citizen developers have reported that the platforms instructions are not always clear, which can make it challenging for new users to get up to speed quickly. While the functionality of the platform is impressive, there is certainly room for improvement in terms of user experience design.

The previous version, Mendix Studio, was designed for users with limited or no programming experience but has since been discontinued, indicating a shift towards targeting more experienced developers with Studio Pro. While this may have benefits for advanced users, it can also create barriers for those who are new to the platform.

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<sup>11</sup> “The Mendix Studio Interface” Mendix Academy, accessed March 13, 2023, <https://academy.mendix.com/link/modules/292/lectures/2271/2.2-The-Mendix-Studio-Interface->

### 4.2.3 Proxies

Just like Power Automate proxies are named connectors in Mendix, and can be found in Mendix marketplace.

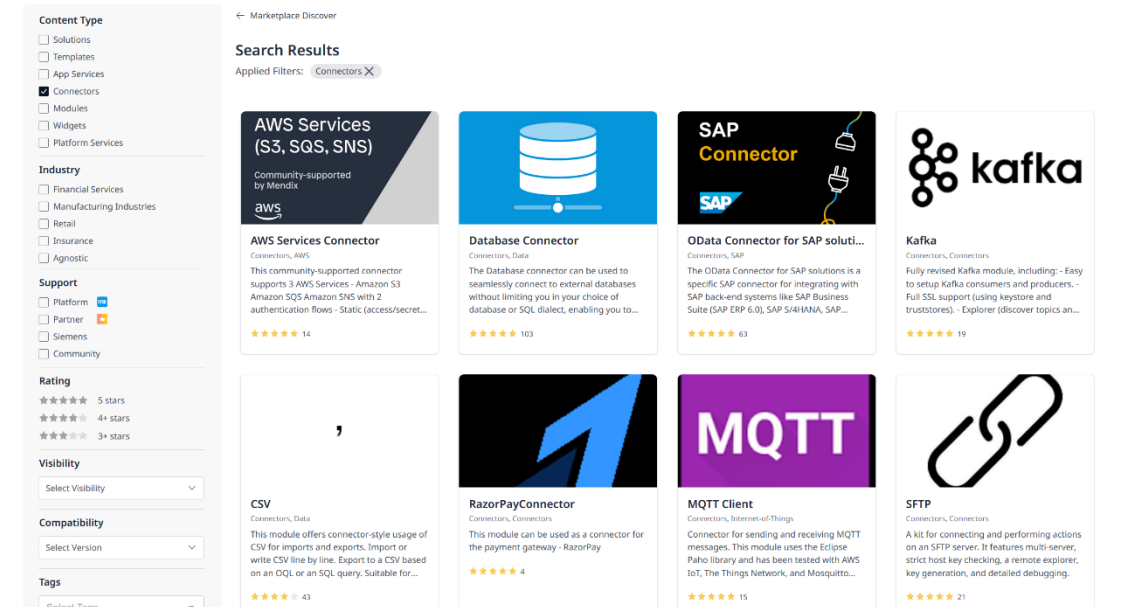


Figure 9 Mendix: Mendix Marketplace

The number of connectors I could count was 122, far less than what Power Automate has to offer. There are still multiple ways to connect to external systems, but only with Java code. This approach is not low-code and therefore not suited for any citizen developer.

### 4.2.4 Multi-User Access

In Mendix, a team can consist of all colleagues working on an application, including those in non-developer roles such as ideating or reviewing. The Mendix Developer Portal provides a platform for collaboration between team members

Role ^	Permissions	Used	
Application Operator	Can view 'Overview, Capture, Develop, Feedback & Settings' Can view 'Deploy, Publish and Monitor'	0	<a href="#">Remove</a> <a href="#">Edit</a>
Business Engineer	Can view 'Overview, Capture, Develop, Feedback & Settings' Can invite members Can edit 'Stories, Documents and Feedback' Can open app in Mendix Studio Pro Can view 'Deploy, Publish and Monitor'	0	<a href="#">Remove</a> <a href="#">Edit</a>
Guest	Can view 'Overview, Capture, Develop, Feedback & Settings' Can view 'Deploy, Publish and Monitor'	0	<a href="#">Remove</a> <a href="#">Edit</a>
Product Owner	Can view 'Overview, Capture, Develop, Feedback & Settings' Can invite members	0	<a href="#">Remove</a> <a href="#">Edit</a>

Figure 10 Mendix: Managing the team, docs.mendix.com/developerportal/collaborate/team/



from IT and business backgrounds, regardless of their experience level. This allows for a mixed team with diverse skill sets to work together on a project.

## 5. Answering the Research Question

In order to address our research questions, we first examine the findings of our investigation. Citizen developers were asked to assess the two primary factors of ease of development and user experience. Meanwhile, the evaluation of proxies and multi-user access was conducted through an analysis of the vendors.

### 5.1 Evaluation Matrix

Factor (Weight)	MS Power Automate	Mendix
Easiness of Development (35%)	3,20	1,40
User Experience (35%)	4,00	2,20
Proxies (25%)	5,00	3,00
Multi-User Access (5%)	3,00	4,00
<b>Total</b>	<b>3,92</b>	<b>2,21</b>

As mentioned in chapter 3 I asked citizen developers to evaluate MS Power Automate and Mendix in regards to its easiness of development and user experience. A rate between 1 and 5 was given. Regarding Power Automate easiness of development was rated as followed: 4, 3, 3, 2 and 4. Mendix on the other hand was rated 2, 2, 1, 1 and 1.

For “User Experience” MS Power Automate was rated: 5, 4, 4, 3 and 4. Mendix user experience on the other hand was: 3, 3, 2, 1 and 2.

Weighted Score for Power Automate:  $(3,2 * 0,35) + (4 * 0,35) + (5 * 0,25) + (3 * 0,05) = 3,92$

Weighted Score for Mendix:  $(1,4 * 0,35) + (2,2 * 0,35) + (3 * 0,25) + (4 * 0,05) = 2,21$

## 5.2 Comparing the scores

All of the citizen developers who participated in the study unanimously agreed that Power Automate is the easier platform for developing automated workflows. The Platform makes it easy for beginners to understand how and where to start building the flow. Actions and steps within the development environment are easy to understand. Connecting to external systems and understanding attributes, was harder for some of our developers. The small information icons a user may find everywhere on the platform provided substantial help for our citizen developers. Generally speaking, there were many icons which aimed at providing guidance for users.

In addition to being user-friendly, MS Power Automate offers a wide range of connectors that enable easy integration with other systems. However, Mendix recently discontinued their regular Studio, which was designed for new users and citizen developers. As a result, our study participants could only access the pro version of the Studio, which is intended for experienced developers. Although the course for the regular Studio is still available online, this caused confusion for our subjects. Furthermore, using Studio Pro had a negative impact on the "easiness of development" category. Unlike MS Power Automate, Mendix required users to create the entire app instead of just the workflow. Although MS Power Automate also offers the option to create apps with the "create from power apps" trigger, it is not a requirement. Moreover, the number of Mendix connectors (proxies) was significantly lower compared to MS Power Automate. In addition, they were difficult to locate and implement. Developers needed to install them from the Mendix Marketplace and import them as a module, which added a layer of complexity. Although the process was not overly complicated, it was still more involved than using Power Automates connectors.

One area where Mendix outperforms MS Power Automate is in its multi-user access capabilities. With Mendix, users can assign roles and permissions to team members, providing a range of options to control individual access. This feature allows for more precise management of team members activities.

Therefore, it can be concluded that, among the two leading low-code platforms, MS Power Automate is considered the better option for citizen developers.

## 6. Conclusion

Based on the findings of the study, it is clear that in my opinion, MS Power Automate proves to be the more user-friendly platform for developing automated workflows. All the citizen developers who participated unanimously agreed on this point. What sets Power Automate apart is its intuitive development environment and the abundance of information icons, making it incredibly easy for beginners like me to dive right in. I found it quite impressive how quickly I was able to get started and create automated workflows.

One of the standout features of MS Power Automate is its wide range of connectors. These connectors provide seamless integration with various systems and applications, allowing me to connect and exchange data effortlessly. It's amazing to have such a diverse collection of connectors at my disposal, which expands the possibilities and enhances the overall functionality of my workflows.

On the other hand, Mendix's recent discontinuation of its regular Studio for new users and citizen developers has definitely made it less user-friendly. They now require users to download the more complex Studio Pro, which is specifically designed for experienced developers. As a beginner, this transition poses a challenge and adds to the learning curve, making it less accessible for someone like me who is looking for a user-friendly platform. Furthermore, Mendix's smaller number of connectors and the process of installing them from the marketplace and importing them as modules can be more complicated compared to the streamlined connector system of Power Automate.

However, I did come across one area where Mendix excels, and that is its multi-user access capabilities. This feature allows for more precise management of team members activities, making it easier for me to collaborate and coordinate with my colleagues. With Mendix, we can efficiently work together, assign tasks, and track progress, which is particularly appealing for organizations with larger teams or more complex development requirements.

In conclusion, based on my experience, I firmly believe that MS Power Automate is the more user-friendly platform for developing automated workflows. Its intuitive interface, abundance of connectors, and ease of integration with other systems have made my automation journey a breeze. However, it's important to consider individual needs and preferences, such as skill level, project complexity, and team collaboration requirements, when choosing between these platforms.

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