

Transforming Business Processes with Microsoft 365

White paper



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Executive Summary

In digital transformation, updating legacy applications and services to cloud-ready and always-on systems, is essential. Data, people, teams, applications and services are often siloed without seamless integration. IT can often struggle to deliver the business tools and applications needed.

Moving an organization to Microsoft 365 and its underlying Azure services removes this barrier. For most needs, multiple applications and complex integrations are no longer necessary. These services and tools have been combined into a single, coherent platform that allows every business to improve **Creativity**, **Teamwork**, **Simplicity**, and **Security**. Within the Microsoft 365 platform is a core set of tools that enable organizations to create powerful and scalable business applications that utilize the power of the cloud, support advanced business logic, and leverage all of Microsoft's latest productivity capabilities. With these capabilities, IT teams, business units and project teams, or individual users can create targeted solutions that meet their specific requirements.

Microsoft 365

A complete, intelligent solution that empowers everyone

Office 365 · Windows 10 · Enterprise Mobility + Security



Unlocks
creativity



Built for
teamwork



Integrated
for simplicity



Intelligent
security

Business apps can be used to connect disparate data, processes, users, and teams, as well as potential external partners and clients together in a much more streamlined and coherent way. By using the core business app creation tools, which include Microsoft Forms, PowerApps, Microsoft Flow, Power BI, and SharePoint Lists, organizations can more quickly design and build personalized, targeted solutions instead of broad, generalized solutions.

You may be a technology leader. Or you may be someone looking to solve problems on your own without professional development resources. This white paper will provide guidance about business apps, the Microsoft 365 technologies used to build them, and scenario templates that can be easily adapted to solve your operating challenges.

What are Business Apps?

Organizations need to better align technology with their unique business processes. A business app is a solution created to enhance existing processes and services or adapt to emerging operational patterns.

These applications can be created with no or low amounts of code by end users. These applications can be created quickly and easily and integrated with other systems. The goal of the business app is to empower process owners to combine data and processes to rapidly deliver a more tailored solution.

In the modern workplace, information workers have so many productivity tools and systems at their fingertips, often with overlapping capabilities, that navigating through them can decrease productivity. Our focus has evolved toward technologies that help organizations and individuals better manage the data they create, and the automated and intelligent experiences needed to navigate and share this data.

Business apps help users achieve Microsoft's vision of the modern workplace, enabling organizations and their end users to:

Make data-driven decisions

See all your data through a single pane of glass. Live Power BI dashboards and reports include visualizations and KPIs from your data in the cloud and on-premises, offering a consolidated view across your business, regardless of where your data lives.

Build intelligence into your apps

Make all your apps smarter when you collect and infuse all the data captured across your organization. Combine the capabilities of PowerApps, Flow combined with Power BI and deliver actionable insights.

Deliver enterprise-grade security and controls

Organizations today, require being always-on, always-available and always-online. Applications can utilize powerful secure services hosted by Microsoft, that are protected by enterprise-grade Security. Access to the created business apps, its data and connected services are controlled by authentication services, along with *security* controls that can block and allow access. Security controls such as multi-factor authentication, geo-fencing access, to an application using conditional access controls for protection can be implemented easily. Business apps today may require this level of security and with Microsoft's expanding list of security features, you can be assured the protection is there.

Business apps can be used to standardize a business process by using existing data and tools available without the need for complicated customizations or 3rd party tools. Whether you utilize an out-of-the-box business app, or whether you create your own systems of intelligence and action, business apps can help your organization more effectively connect and engage with existing data and people.

Using Microsoft tools such as PowerApps, Microsoft Flow, Microsoft Forms, Power BI, and custom lists in SharePoint, along with legacy solutions such as InfoPath, SharePoint Designer, and Access Services, any type of business app can be imagined and created, empowering organizations to build apps that can provide a competitive edge as well as increase overall productivity. Business apps are created by the business, for the business. As such, the tooling is designed in a way that means your Power Users, Citizen Developers, Decision Makers, as well as Professional Software Architects and Developers can build sophisticated solutions easily. And with seamless Dynamics 365, Office 365, and Azure integration, along with connectors to more than 200 data sources, your business apps can change the way you and others work.

What you can do with Business Apps

Business apps allow an organization to join data, process, and people together in a more coherent way, helping people to spend less time navigating their technology and more time being productive and innovative.

“In a world that is increasingly becoming digital, the one need every business has is for more business process automation. In fact, it's not just about accumulating more business applications; you want to be able to connect these business processes end-to-end, create these systems of intelligence, systems of action.”

Satya Nadella, Microsoft CEO

Business apps facilitate automation by enabling organizations and end users to:

Create and Capture Data

Business apps can provide a streamlined and standardized data entry solution, allowing end users to enter data whether using a rich client, mobile or web. Building a business app that can render the same in cross-platform scenarios has instant cost and business benefits to the organization. Using core components of the Microsoft 365 Cloud when building business apps, can accommodate structured, semi-structured and unstructured data easily.

Intelligent Data Retrieval and Usage

When building an application, having the ability to dynamically retrieve additional data (from SharePoint lists, legacy systems, etc.) and use it to make business-critical decisions is imperative. Utilizing intelligent services within the Microsoft 365 cloud, business decisions can be completed automatically using machine learning and intelligent services such as Microsoft Graph. These tools allow decision points to be made without human intervention, based on metrics and analysis stored within the business app itself. Combining this technology with business user and team decision steps can significantly enhance the overall experience.

Faster Business Process Cycles

A common complaint within most organizations is the time it takes for a business process to be completed. Often the issue comes down to latency of notifications (the time it takes for a user to see that a task has been assigned) or just the time-consuming process to complete a simple task. Building business apps can allow this process to be concise, quick and easy, speeding up the entire business process lifecycle.

Aggregation of Multiple Data Sources

The single-pane-view of all data is a goal for many organizations. Being able to view related data can increase productivity for many business decision makers. Using the core components of Microsoft 365, business apps can now combine multiple data sources to create the 360-degree view that is needed to make informed, intelligent, and critical decisions for the business.

Integration with other Services

In today's business world, organizations utilize many applications, stored in many different locations. Information is stored in and off the network, and in multiple applications. A business process often contains many sub-processes that need to be completed within their respective applications. With the Microsoft 365 services, business apps using connectors can now combine these together through integration. An event can fire in any application which in-turn can start various other processes through the connectors, creating a single process cross application.

Better Process Automation

The ability to automate processes is a common practice for many organizations. In the past automation was often created for single applications, allowing workflow type scenarios to be created and used. Business apps can be built that automate all aspects of a process, including integration with other systems. Automating data entry, to consumption of the data from various sources, alerting people and teams, as well as firing events for the whole workflow process.

Why Business Apps matter

Creating business apps can have a great impact on any business. Often IT departments struggle to keep up with business user requests, as well as having lower budgets to acquire needed solutions.

Utilizing the Microsoft 365 set of services, such as Microsoft Forms, PowerApps, Power BI, Microsoft Flow, SharePoint and core underlying Microsoft Azure components, multiple benefits can be realized.

IT can empower business users to achieve their goals directly without getting in their way. By providing tooling that lets the business create what is needed, IT can promote self-service management of business tasks and activities. This means that each business unit can create what they need instead of trying to make an existing application fit what is needed.

IT also gets the added benefit of providing a centralized set of services hosted in the cloud, which business users can leverage to solve their unique requirements and needs on their own. This increases the time and speed-to-market, where the business users would be able to create and begin using their app in the time required for IT to understand the issue, design a solution, and then to build it. Business apps provide a much-needed self-service model for users, allowing IT teams focus on higher-value solutions, and more complex technical problems.

Business value

When designing any solution or application, understanding the business value is important. Often solutions and applications are created by IT with the goal of providing broad capabilities for all employees, but that end up not being used at all. The problem is that these broad solutions fail to meet the *specific* needs of the business. By empowering employees with the ability to create business apps, organizations can create targeted applications for each team, department, unit, or process, resulting in higher business value and stronger utilization.

How Business Apps is positioned



Gather

Capture and manage files and data in SharePoint

Pro dev

Common Data Service for apps

Power user

Lists, Microsoft Forms



Automate

Streamline repetitive tasks and processes

Pro dev

Logic Apps

Power user

Microsoft Flow



Create

Build custom apps, data insights, and interactions

Pro dev

Xamarin and custom BI

Power user

PowerApps, Power BI

Once you've identified a process that needs to be automated or modernized, you have three questions to consider:

- Where am I gathering and keeping the data?
- How am I processing information?
- What experiences and interfaces do people need to make these operations a success.

There are three core areas that show the value of using business apps within any organization. These three areas are represented by the following themes: **Gather**, **Automate**, and **Create**.

Gather

Business apps provide a better approach to capturing and managing business data. By simply creating an application that can be accessed on any device and from anywhere, the business will see benefits. Adding specific features to the business app, such as data aggregation, validation, and form components, can ensure the integrity of the captured data before it is stored. Using mobile devices as the gathering device can also provide a way for real-time data and images to be stored, easily allowing business users to make better-informed decisions. SharePoint lists are the most common data store; however, business apps can integrate with multiple data sources, such as inbuilt sources provided by Office 365, premium or custom connections to business data. The Common Data Service (CDS) lets you securely store and manage all the data used within the business app. For ad-hoc, quick and easy data entry, Forms can also be used with integration to Office 365 services.

Automate

As business processes become more complicated, and organizations look for a cost-saving for core tasks, business apps can become a valuable tool, allowing common and repetitive tasks to be completed easily. Using an event-based model, combined with the integration of other applications, the business app becomes the central control for tasks and processes. By streamlining these processes using business apps, organizations can reduce the time and effort it takes to complete important tasks, which in-turn reduces the

overall cost to the organization. To facilitate automation of process, Flows can be used to provide integration to other systems, as well as user and approval mechanisms within the business app. To enhance this process further, allowing for greater capabilities and integration to service within Azure and 3rd Party applications, logic apps can be used.

Create

As data is gathered and stored, most organizations then report and analyze the data to help them stay informed on trends and make better decisions. Utilizing PowerApps for mobile and web experiences, and integrating with Office 365, allows for powerful applications with all required logic built directly into the application. Forms can also be used as a lightweight entry point for data capture, with automation provided by Flow. Business apps, such as Power BI, can utilize the captured data, and report and analyze the data as needed. This provides a powerful platform that will allow organizations to make quicker and better-informed decisions based on true metrics. The reporting capabilities available within business apps, enable people and teams to find better ways of completing their tasks and work.

Some examples and case studies that demonstrate the value of business apps in real-world scenarios:

American Red Cross: Power platform customer success story

"I created a shopping cart app from a blank canvas and connected it to SharePoint lists that I built for the back-end. The app allows instructors to add supplies to a shopping cart, provide the address where they would like the supplies shipped and then checkout the items when ready, an intuitive online 'shopping' experience we are all already familiar with. Approval workflow triggers on item creation and provides a checks/balance that was never previously part of the order process. This workflow was also used to send email notifications to the instructors to provide feedback on the status of their orders. Approval workflow triggers on item creation and provides a checks/balance that was never previously part of the order process. This workflow was also used to send email notifications to the instructors to provide feedback on the status of their orders. The app was shared with 3 territories and approximately 200 instructors, where it was piloted for 6 months. During that pilot, I found that Power BI was able to easily connect to the SharePoint data and provided daily updates on the progress. The solution is now being rolled out to all 650 paid and volunteer instructors and the SharePoint approval workflows are being replaced with Microsoft Flow."

<https://powerapps.microsoft.com/en-us/blog/americanredcross/>

Reliable Electric: Power platform customer story

"In a prior role, Lars Peterson was a small business consultant who researched multiple tools to help his customers but found himself almost always recommending Excel. He tried Access but felt it was complex and not something he could leave with the customer to maintain on their own. After joining Reliable Electric, he spent six months researching several estimation software solutions. He did not find any off-the-shelf tools that met his exact needs and decided to build a solution on his own using PowerApps and Microsoft Flow, with SQL as the backend. He found out about PowerApps through his Office 365 subscription. He chose it over other competitive offerings due to the rich visual appeal and depth of customization that was possible. He calls the solution "Estimating the Database" or ED for short. The application has been live in production since December 2017 and used daily by Estimators, Project Managers and Sales Representatives in the organization. It actively manages over 70 projects at any given point in time."

<https://powerapps.microsoft.com/en-us/blog/reliable-electric-power-platform-customer-story/>

Pharmaceutical Sales and Marketing Manager in Iraq leverages PowerApps to digitize daily sales visits

"As global adoption of Microsoft PowerApps continues to grow, we want to highlight the work of some of the app creators in the community. Mohammad Alkhawaja, a Pharmaceutical Sales Manager at Hawkary Pharmaceuticals in Iraq, digitized the reporting of daily sales visits using PowerApps, Microsoft Flow, Common Data Service and Power BI. Mohammad calls this a Doctor Relationship Management (DRM) solution. Mohammad is a pharmacist by training and considers himself a self-taught tech enthusiast. He

ramped up on these technologies using online training content and the community forums and was successful at replacing their old Excel-based process into a mobile solution with medical sales reps submitting data through a tablet app and managers viewing rich aggregated reports in Power BI.”

<https://powerapps.microsoft.com/en-us/blog/hawkary-pharmaceuticals-digitizes-daily-sales-visit-reporting-using-powerapps/>

Nascar Wins the Productivity Race with Office 365 and PowerApps

"In the last five years, we have seen NASCAR retool technology in every aspect of our business, from electronic fuel injection to how we work in the office," says Franza. "We have moved beyond sitting behind desks using a computer linked to a local network to embrace technology that's expected by a younger, high-energy, mobile workforce. We operate in an around-the-clock digital world, dealing with in-the-moment broadcast and race logistics. So we use Microsoft SharePoint Online as a cloud-based digital cockpit that accelerates how we work together to get things done. Our folks can get their files anytime, on any device, to keep us moving forward. It's become essential for our business to be successful."

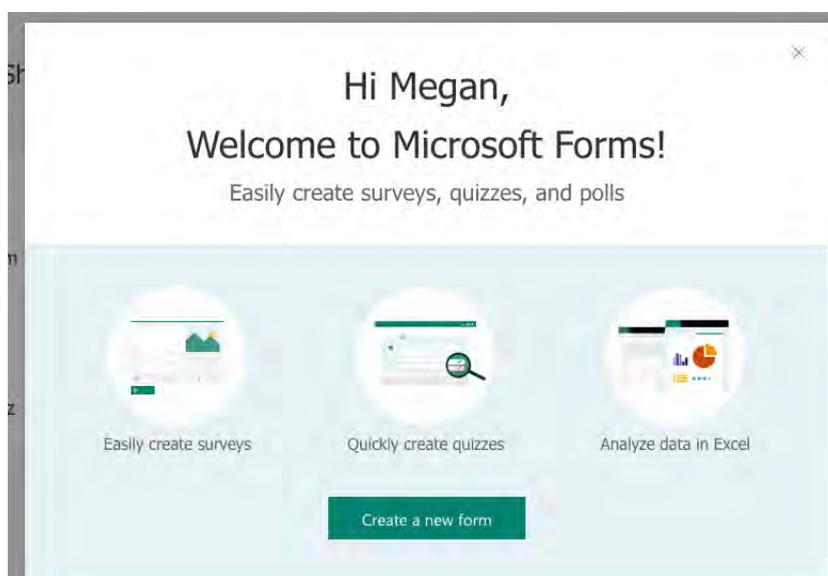
<https://powerapps.microsoft.com/en-us/blog/nascar-wins-the-productivity-race-with-office-365-and-powerapps/>

What are the tools used to create Business Apps?

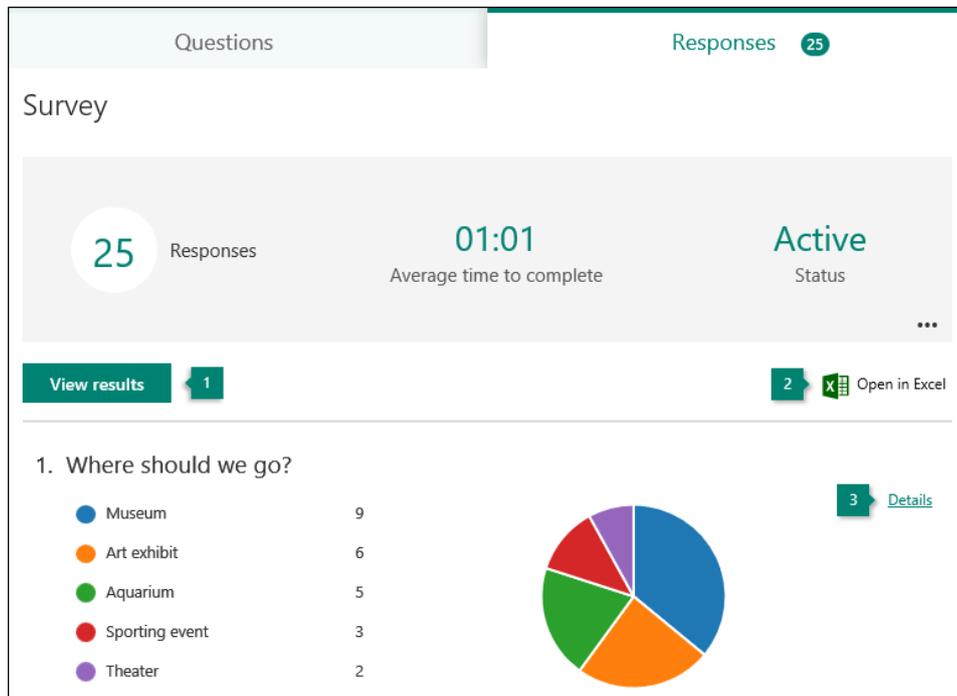
Office 365 contains multiple applications that can be used by business users to quickly create applications and automate business processes. In this whitepaper, we will focus on five primary tools that are at the core of most Microsoft business apps:

Microsoft Forms

Microsoft Forms enables users to gather information from both internal and external users by creating surveys, quizzes and polls. It allows users to add business logic within their forms by using multiple types of questions and answers. Additionally, it gives them the ability to add branching to their surveys, and it even allows business users to create anonymous forms.

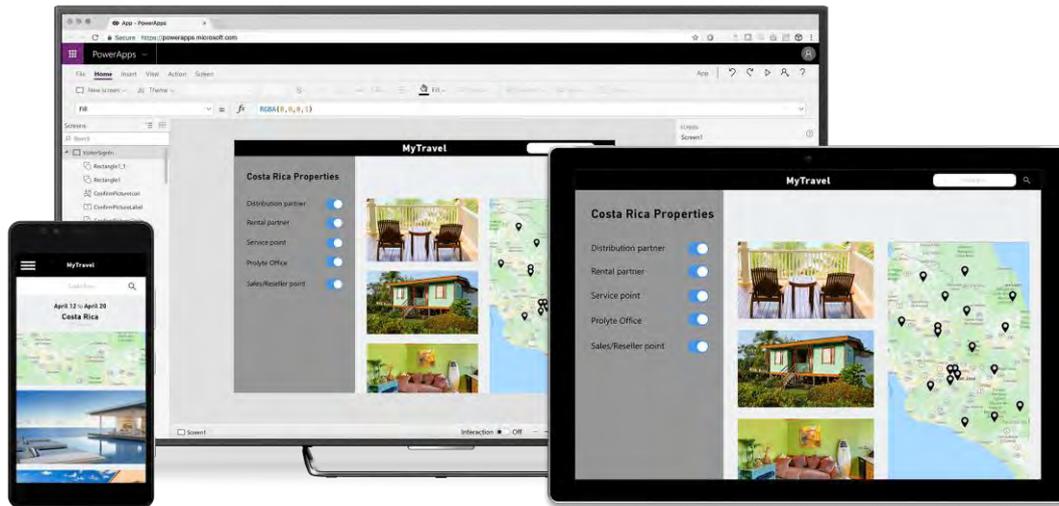


Form creators can view responses as they come in, use the built-in analytics to evaluate responses, or export the information to Excel. Exporting the information into Excel allows users to create custom charts or import them into a business intelligence tool, such as Power BI, for further analysis. The data can also be exported or linked directly into SharePoint lists and SQL databases, utilize the common data service, and be utilized in most other systems. Combining the data capture with Flow allows for this data to be used in business processes and integrations with external systems.

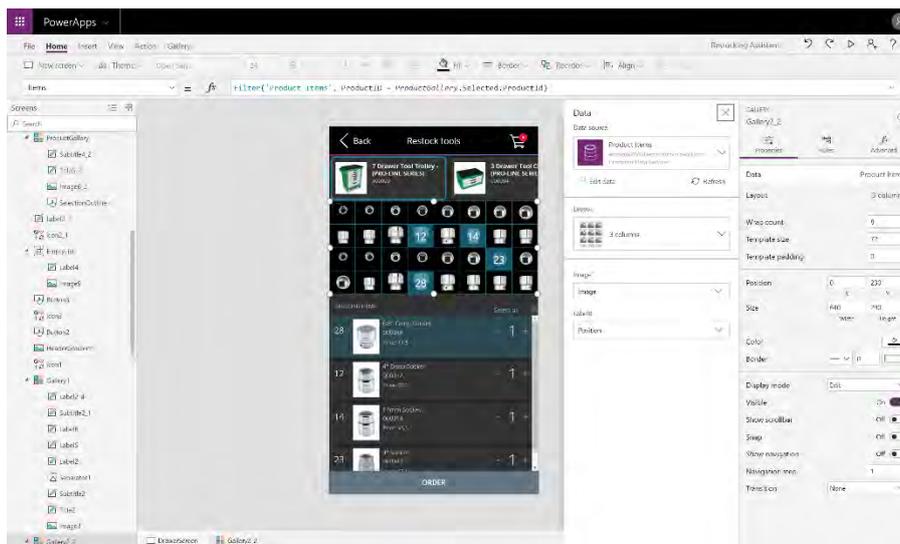


PowerApps

Citizen developers are business users who create applications and enhancements that modify or create a new or existing business process. PowerApps allow citizen developers to build apps that work on mobile devices, on the desktop, and on the web using a simple-yet-powerful point-and-click approach to app design. App creators can start from a blank canvas, or from one of the many samples and templates provided by Microsoft and the community. PowerApps can connect to over 200 different data sources, including Microsoft applications, as well as popular services by other providers, such as Salesforce, Zendesk, Mailchimp, and more. Furthermore, PowerApps can connect to custom APIs and databases such as SQL Server, Oracle, and multiple Azure data storage solutions, allowing you to gather or present data from wherever it lives across the organization.

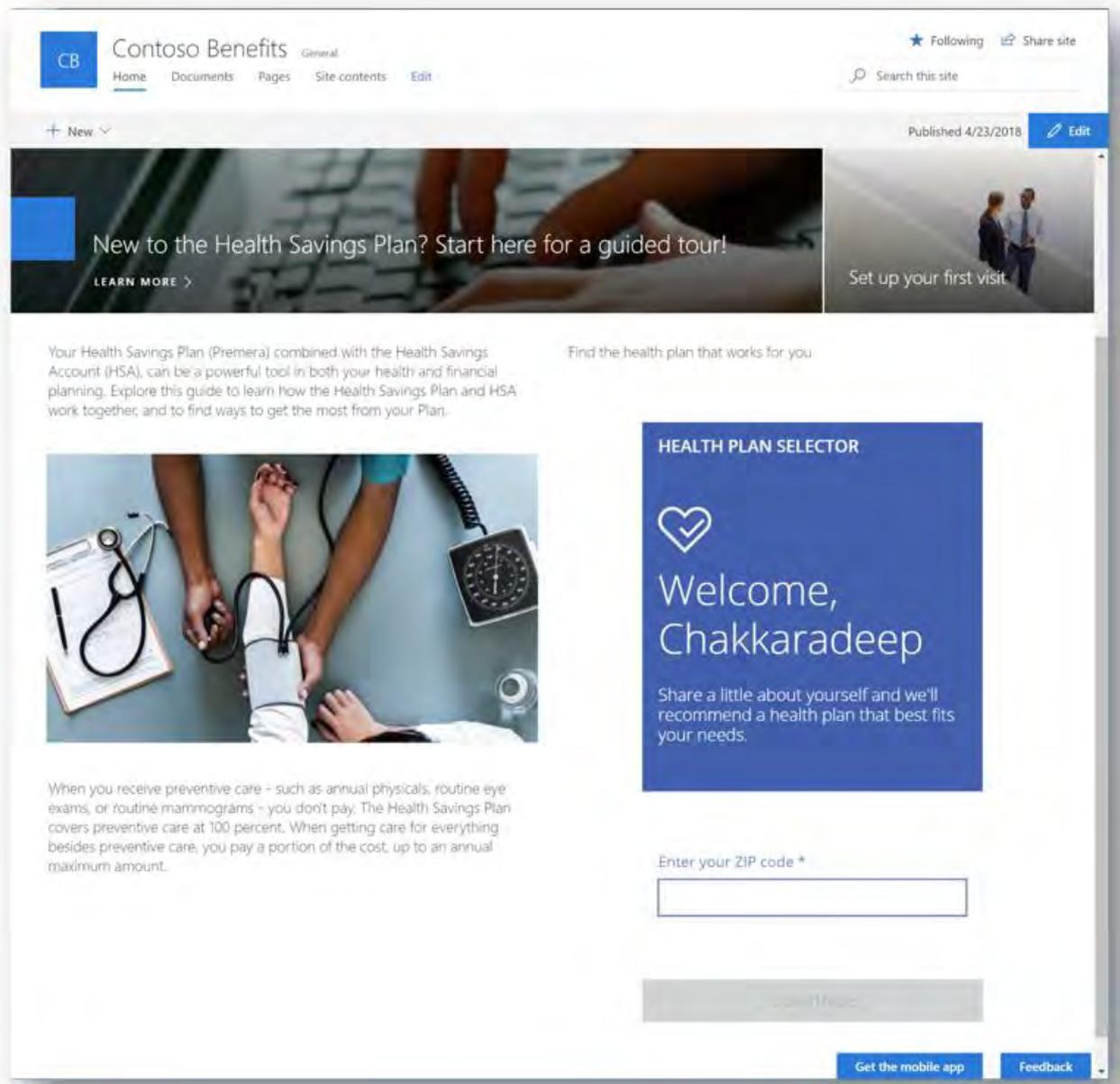


Most PowerApps are created directly inside your browser by using the PowerApps Studio, where app creators can drag-and-drop controls onto the different screens of their app, manage their many data sources, and configure business logic.



PowerApps also integrates with SharePoint lists, allowing organizations to customize their SharePoint forms. PowerApps is the successor of InfoPath. While InfoPath is still a supported tool, it was deprecated in 2014 and extended support will end in 2026. With this change, Microsoft recommends that all new custom forms be created with PowerApps to benefit from all the new features that PowerApps has to offer – and for the best user experience going forward.

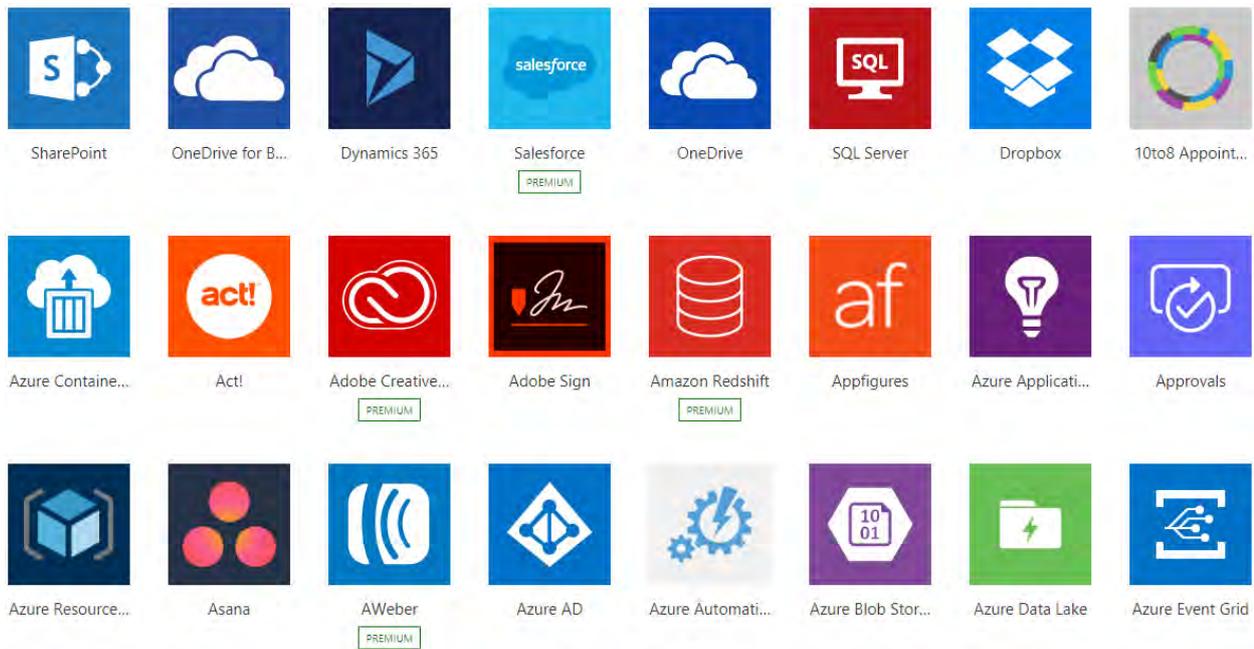
PowerApps can also be consumed from a user’s mobile device or can be embedded into a SharePoint page. In the Figure below, we can see the a sample “Health Plan Selector” app by Microsoft, embedded on a SharePoint page, side-by-side with the instructions on how to use the app.



The screenshot shows a SharePoint site for 'Contoso Benefits'. The top navigation bar includes 'Home', 'Documents', 'Pages', 'Site contents', and 'Edit'. A search bar is present on the right. Below the navigation, there's a 'New' button and a 'Published 4/23/2018' indicator. The main content area features a large banner with the text 'New to the Health Savings Plan? Start here for a guided tour!' and a 'LEARN MORE >' link. To the right of the banner is a smaller image with the text 'Set up your first visit'. Below the banner, there are two columns of text. The left column discusses the Health Savings Plan (Premera) and HSA, with an image of a doctor's hands. The right column is titled 'HEALTH PLAN SELECTOR' and includes a 'Welcome, Chakkaradeep' message. Below the welcome message is a form with a 'ZIP code' input field and a 'Get the mobile app' button. At the bottom right, there are 'Get the mobile app' and 'Feedback' buttons.

Microsoft Flow

Automation is an important goal in every enterprise, and most automation tools can be very expensive. Microsoft Flow is a business process automation tool that is included with most Office 365 licenses. Flow can connect to both Office 365 data sources, as well as external services such as Salesforce, Dropbox, Mailchimp, and many more. It can also be used extensively to achieve approvals, such as SharePoint content and other request-type data. Flow can also facilitate the transfer or copying of data directly into other connected systems. A key feature of Flow is its ability to provide real-time notifications while a business process is executing.

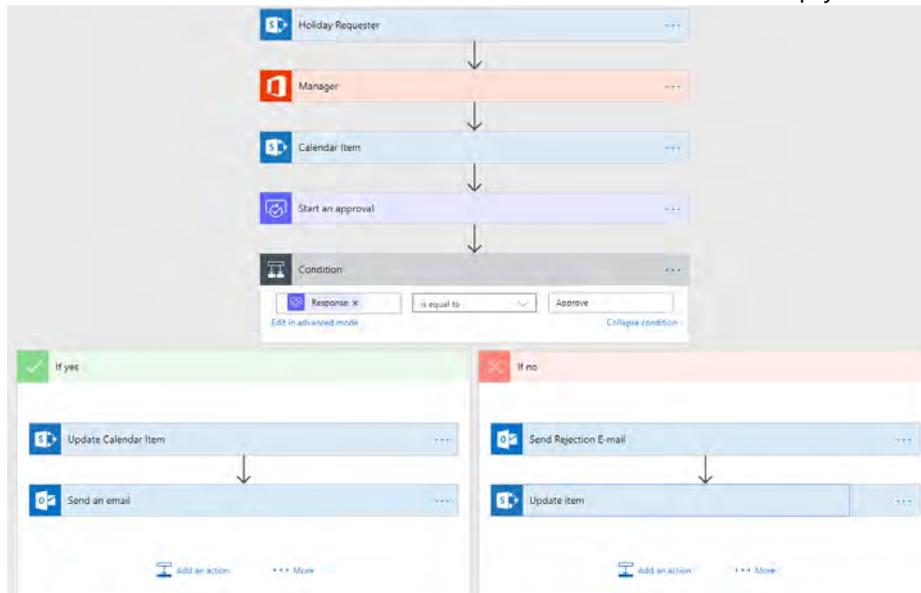


Microsoft Flow uses a simple drag-and-drop approach to create workflows (called *Flows*).

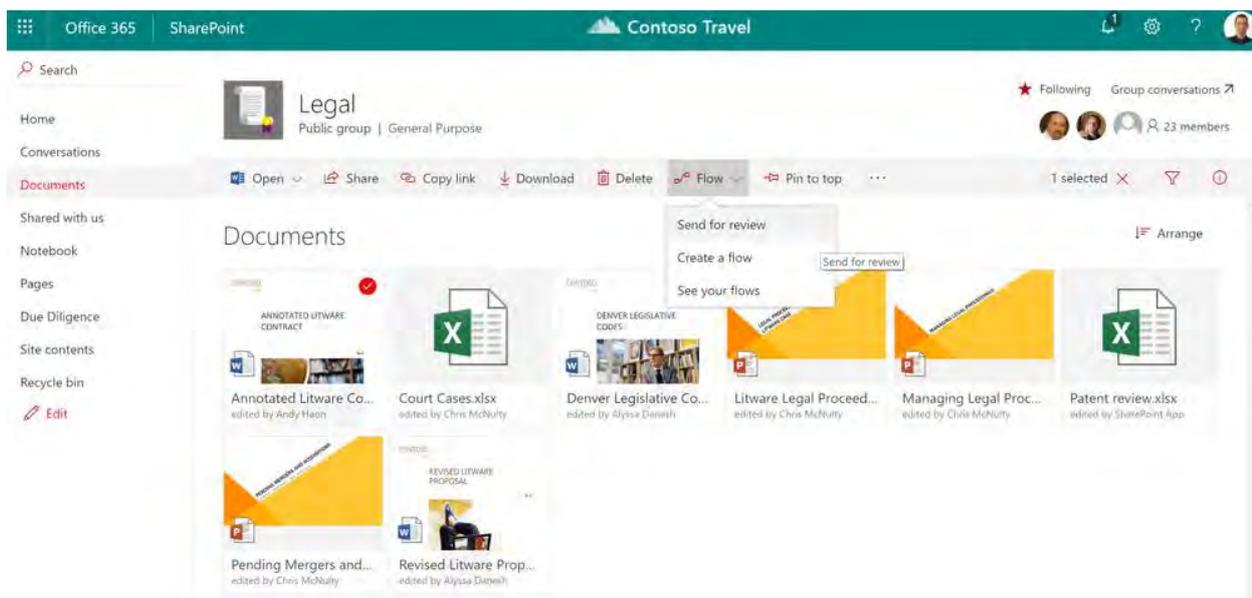
Every Flow can contain multiple parts:

- **Triggers:** A trigger is an event that kicks off the automation process. A trigger could be manually applied, included on a schedule, or initiated when an event happens, such as such as a *New Document Added to a SharePoint Library*.
- **Actions:** An action is what the automation process does! For example, Start an Approval, send an email, copy a document an email, copy a document
- **Logic branches:** A logic branch can be a parallel set of actions and triggers that execute at the same time. Each branch can reuse existing data, as well as have its own outcome.
- **Loops:** A loop is an instruction that continues to execute until a specific criterion is met.
- **Delays:** A delay ensures that a task can complete within a given time, before other steps.
- **Conditional controls:** A conditional control is used to validate data values and execute other logic based on those values. These controls are normally used to validate operators, such as EQUALS, LESS

OR EQUAL, GREATER THAN, and OR, as well as when values are empty.



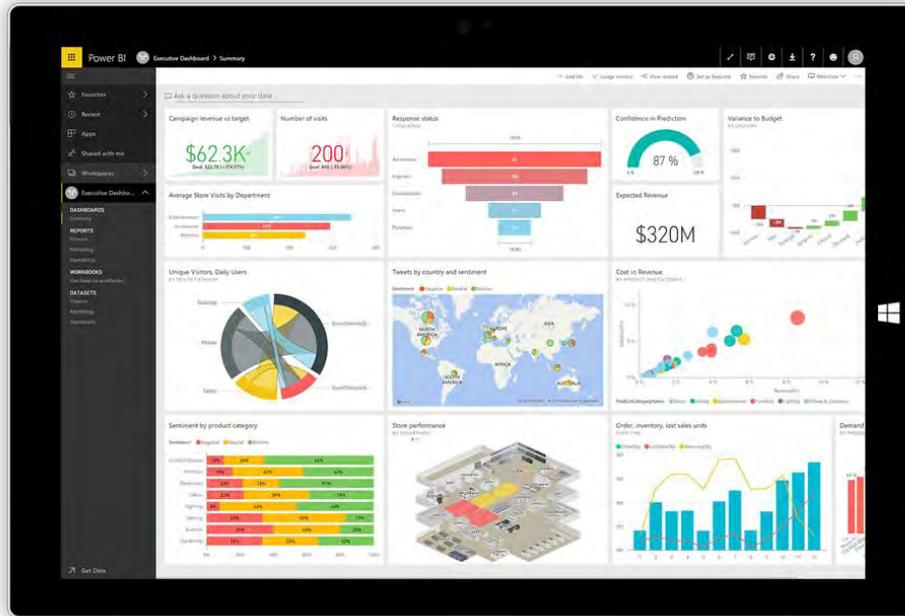
Flows are also directly integrated within SharePoint libraries. A Flow can execute when documents or files are added, updated, or deleted.



Flow replaces SharePoint Designer as your primary workflow creation tool, extending your toolset with additional functionality. While SharePoint 2010/2013 workflows created with SharePoint Designer will be supported through 2026 (extended support), Microsoft recommends using Flow for all your process automation needs. Organizations should start converting their existing SharePoint 2010/2013 mode workflows to take advantage of all the new features and performance enhancements available in Flow.

Power BI

Power BI allows business users to create powerful reports and dashboards, using data from over 200 different systems, and displaying it in the Power BI portal, in the mobile application, or in multiple other locations within Office 365.



Like PowerApps and Flow, Power BI can connect to what matters to your business, including Excel spreadsheets, on-premises data sources, big data, streaming data, and cloud services: it doesn't matter what type of data you want or where it lives, connect to hundreds of data sources with Power BI.



Excel



Azure Analysis Services



Google Analytics



Azure SQL Database



CSV



Web Pages



MySQL



Microsoft Dynamics
CRM



SharePoint Lists



Oracle

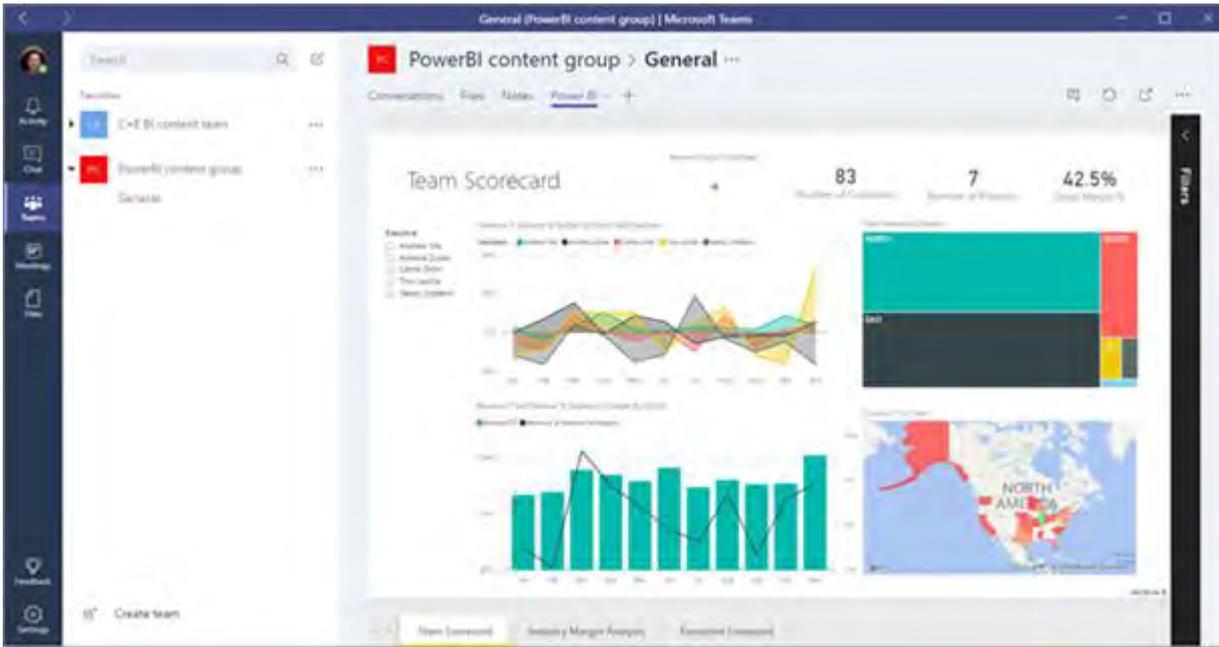


Salesforce

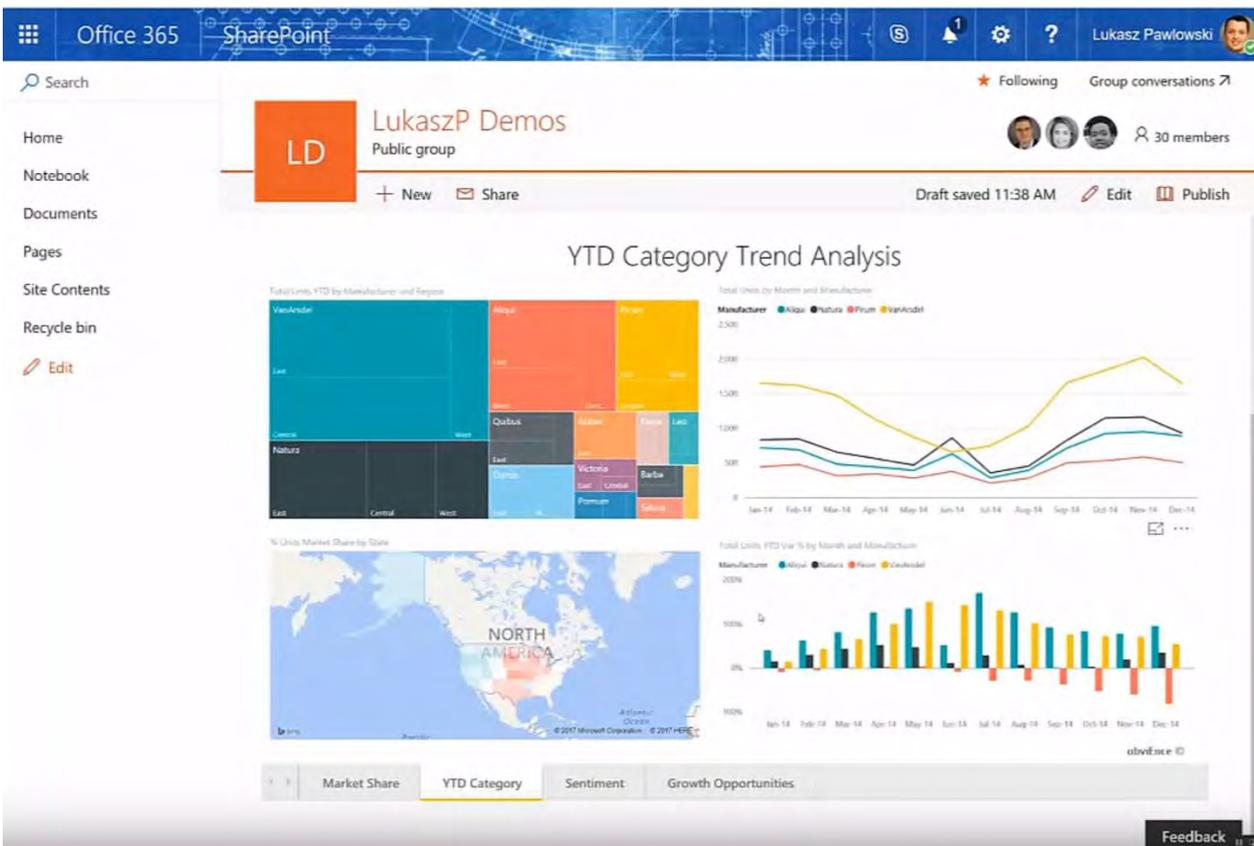


MailChimp

Power BI also integrates with multiple other applications inside Office 365. In the figure below, you can see a Power BI report sitting directly inside Microsoft Teams, allowing teams to discuss it without having to change context.



The same report can also be embedded inside a SharePoint site, enabling users to consume a report from where they feel most productive.



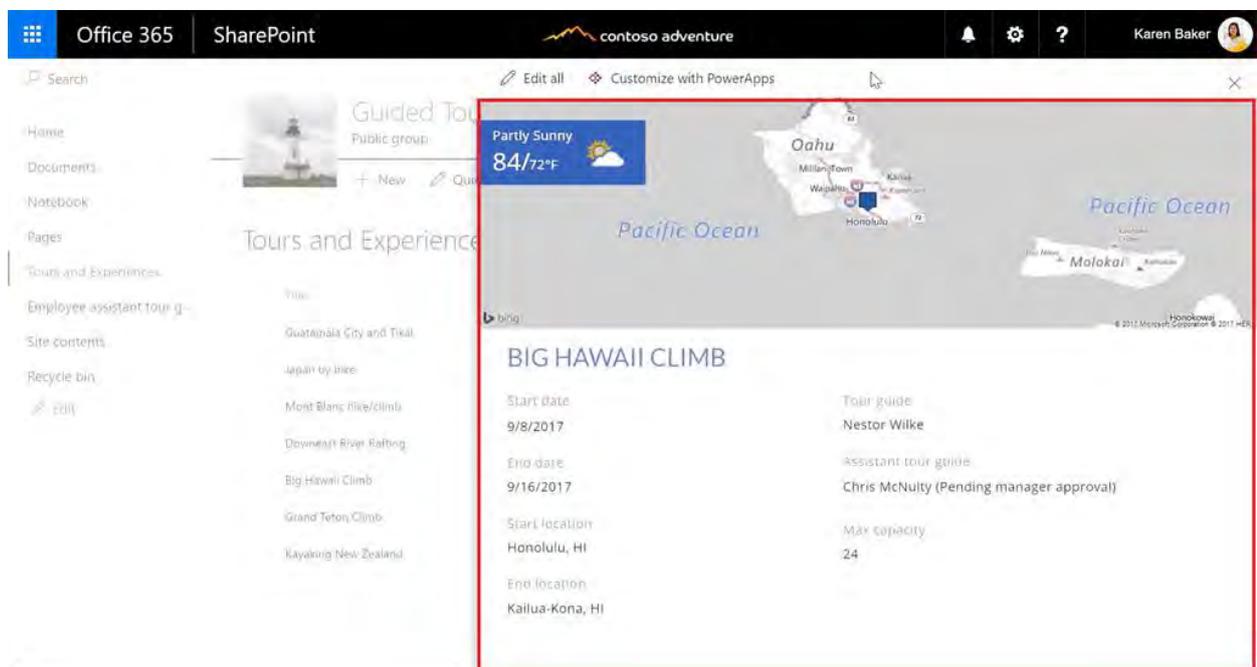
Lists

SharePoint lists can be used to gather information about people, issues, inventory items, events, and contacts, as well as simple data values. Modern SharePoint lists in Office 365 allow users to collaborate in an

even more productive way with features such as conditional formatting (see below), bulk editing, as well as integration with Flow and PowerApps.

| Title | Effort (Days) | Assigned To | Status |
|--------------------------------|---------------|------------------------|-------------|
| Herd Cats | 7 | Sadettin Dogan | In Progress |
| Book fancy dinner for the team | 4 | Hanne Peterson | Done |
| Lock down demo environment | 10 | Chinh Phan | Blocked |
| Book flights | 1 | Miroslava Polakovicova | In Review |

SharePoint lists can further be enhanced with PowerApps. By using PowerApps you can enhance the form by adding more business logic, rich controls and conditional formatting directly in context to your forms.



Integration Between Tools

All the solutions mentioned here have been built to integrate seamlessly. Instead of having to dictate where each service is consumed, users have the option to embed different services in different locations, allowing them to be more productive. The scenarios covered later in this whitepaper will share examples of how different Office 365 business applications can work together to create an end-to-end solution.

Leveraging Hybrid Solutions

While most organizations are now in the cloud, some companies need to keep parts of their data in an on-premises environment to respect different laws and regulations. But maintaining data and systems on-prem does not mean that organizations cannot benefit from the latest innovations in the cloud.

Microsoft offers multiple ways to make business users productive, regardless of their environmental factors. By leveraging the power of Office 365 in a hybrid environment, business users can leverage Flow for process automation and PowerApps for app creation, leveraging all their on-premises data.

With SharePoint Server 2019, the integration of these business tools will be even stronger. For example, users will be able to launch a Flow directly from a list or library from an on-premises environment, just as they are able to accomplish this within a SharePoint list in Office 365.

Management and governance

Many of these tools, such as PowerApps and Flow, provide capabilities to manage security, usage and governance. Full details are covered in other resources, but let's take a quick look at user management, environments and data loss protection.

User management

You can always look at individual user licensing in the Office 365 admin center by drilling into specific users. From the PowerApps administration center you can also produce a report focused on PowerApps licenses. This is one of the steps we recommend you do right away as a new administrator trying to understand your current licensing. You can download the report from admin.powerapps.com -> Tenant -> User Licensing

Environments

Environments are containers that administrators can use to manage apps, flows, connections, and other assets; along with permissions to allow organization users to use the resources. Environments are tied to a geographic location that is configured at the time the environment is created. Environments can be used to target different audiences and/or for different purposes such as dev, test and production. The actual number and purpose of environments in your tenant is up to you as an administrator. For more details, please see our white paper "Administering a PowerApps and Microsoft Flow enterprise deployment."

<https://aka.ms/powerappsadminwhitepaper>

Data Loss Protection Policies

Microsoft 365 allows rapid rollout of high value applications and automations -- increasingly becoming more connected across multiple data sources and multiple services. Some of these services might be external 3rd party services and might even include some social networks. Users may overlook the potential for exposure from data leakage to services and audiences that shouldn't have access to the data.

Microsoft 365 Compliance Center includes a rich set of dynamic Data Loss Protection (DLP) policies to help protect organizational data from unintended exposure such as files, conversations or messages.

PowerApps and Flow also offer optional DLP policies for environments and tenants. DLP policies enforce rules of what connectors can be used together by classifying connectors as either **Business Data only** or **No Business Data allowed**. Simply, if you put a connector in the business data only group, it can only be used with other connectors from that group in the same app. For example, if SharePoint is classified as "Business Data", and Facebook is classified as "No Business Data" allowed, Flow prevents SharePoint files from being pasted to Facebook, and blocks the automatic copying of Facebook posts to SharePoint.

Business App Scenarios

How to Use These Scenarios

Each of the following business app examples outline real-world scenarios to help walk you through the mostly-manual processes that existed prior to building each business app. We'll also provide you with a brief outline of the business value of each solution, and the components and data attributes included within each solution.

One of the best ways to learn about any new technology is to build something. Creating a simple business app will help you to become familiar with the various options within each tool, and to understand where to best modify and extend these simple solutions to meet the unique requirements of your organization.

And to get started, we've provided downloadable templates and samples on the Business Apps Resource Center (<https://aka.ms/sharepoint-bizapps>).

Scenario One – Travel Request App

Contoso currently uses a manual paper process for all company travel approvals. There is a paper form that employees must complete, and then take to specific individuals across multiple departments for approval. This process can take weeks to coordinate, and sometimes requires multiple people to approve each request. The current process also assumes that approvers are not on vacation, and that the form has not become lost within someone's inbox awaiting approval.

What is needed is a business app that helps Contoso automate the creation of new travel requests, streamlines approval assignment and notifications, and decreases the time required for approval from weeks to days. Additionally, automating this process will allow Contoso to improve reporting and analytics to better manage their travel budget.

How It Works

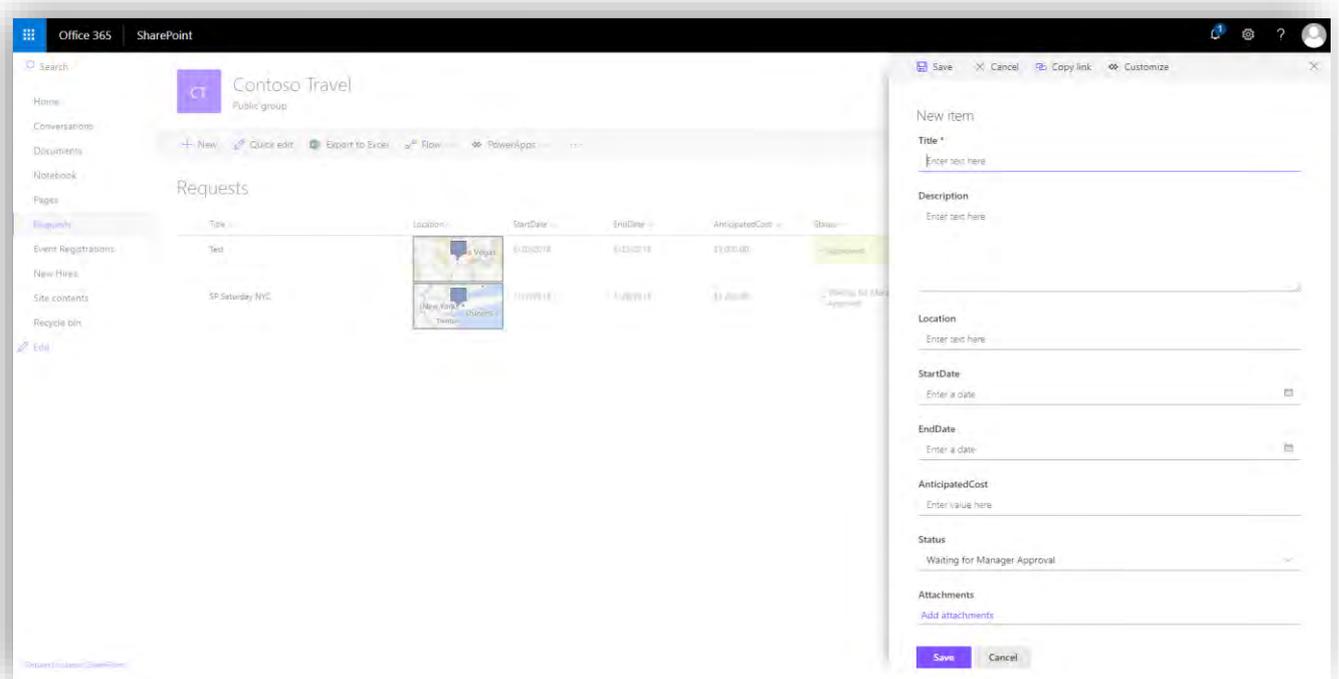
The business application utilizes three major components within the Office 365 components and services:

| Solution | Details |
|-----------------------|---|
| PowerApps | PowerApps provides the consistent data entry screens for web and mobile use. The form is mapped to the fields from the SharePoint List, allowing easy saving. PowerApps also stores the map image to the details form, so instead of an address or location, a map is displayed making the form interactive to both the approver and requestor. |
| Microsoft Flow | Flow is connected to the SharePoint List, handling the approval process of all vacation requests. The Flow, first retrieves the requestors Manager from Azure Active Directory, then sends approval request emails and waits for the task to be completed. Upon completion a final approval request is sent to the Travel Department. After all approvals are completed, Flow, emails the requestor the results, whether approved or not. |
| SharePoint | SharePoint Lists can store various types of data, as well as providing a great end user experience. The list itself allows for conditional formatting based on specific calculations or value comparisons. The travel request list uses cell coloring based on the current approval status. |
| Power BI | Power BI can consume data values from many types of platforms and repositories. SharePoint lists can be connected to Power BI, providing a great dashboard experience for data analysis. The dashboard allows |

| | |
|--|---|
| | the Travel Department to view charts, request statuses as well as allow them to anticipate the costs of the travel. |
|--|---|

The new design and approach will enable users to submit requests easily, as well as reduce the time it takes for approval. Users will be able to open a PowerApp, providing a form for submitting travel requests. The completed form data is then saved to a SharePoint list. Using a SharePoint list allows the travel department to view all the pending requests easily. A Flow, which is associated to the list contains all the business logic such as getting the users manager, allows each request to be routed to the correct person quickly. The manager is retrieved from Azure Active Directory, which is also used for authorization of the PowerApp itself.

When a request is completed, the Flow retrieves the manager for the requestor, and then sends an approval request email. After the manager approves the request, the business logic will then send a second approval request email to the Travel Department. Combining PowerApps, Flow, and a SharePoint list, this business app allows approvers and the requestors to see the status of the request through conditional formatting within the list and view. At any point, a requestor can easily see the state of their request, reducing extra communication for simply finding out the status of a vacation request.



Scenario Two – Event creation + Management App

Once a year, Contoso hosts an employee conference to announce new policies and procedures. This conference helps Contoso managers and employees to stay up to date in the highly competitive and changing business landscape. Contoso receives feedback from attendees during the event, as well as from the event managers. Attendees and event managers alike have complained about how difficult it can be to register for the conference, as well as stay up to date on conference news, updates and general information. The number of attendees has often been lower than expected, because potential attendees are not kept up-to-date and reminded of the conference dates, and event managers have limited visibility into the data surrounding each event to help them understand whether promotional activities and/or technical difficulties are impacting attendance. Contoso management has reviewed this feedback and decided that a new business application is needed.

The solution uses Microsoft Forms for registration, including end user options to receive email updates and notifications about the upcoming conference.

How It Works

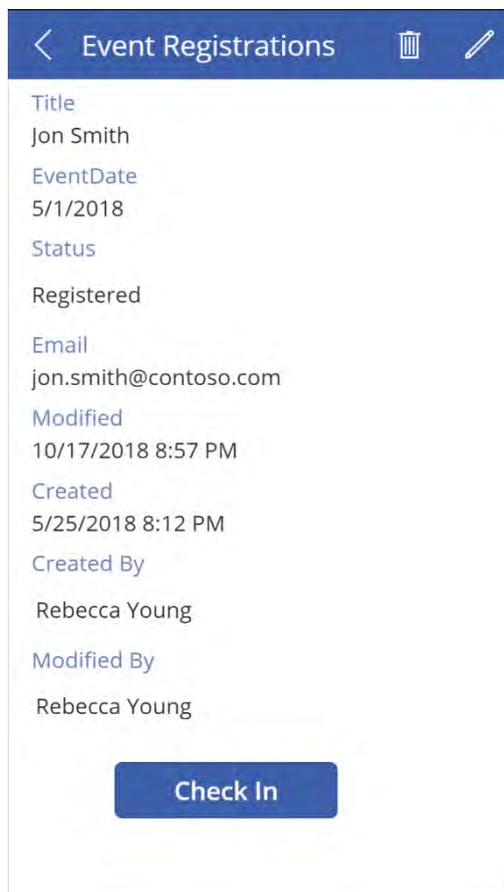
The business application utilizes four major components of Office 365:

| Solution | Details |
|------------------------|---|
| Microsoft Forms | All registrations for the event is handled through a Microsoft Form. This form itself contains similar fields to the where the data will be stored. However, they are disconnected from each other. To store the registration details, a separate process created in Flow is used. The Form is only used for core registration, specifically as it can be sent to any person anonymously and does not require authentication. |
| PowerApps | PowerApps provides the consistent data entry screens for web and mobile use. The check-in form is mapped to the fields from the SharePoint List, allowing easy saving. The PowerApp allows for the event managers to check-in users while on the move, directly updating the SharePoint List, which in-turn allows the Event Managers to see real-time data updates within the SharePoint List and the Power BI Dashboard. |
| Microsoft Flow | Flow is connected directly to the Form, as well as a separate one tied to the SharePoint List. When registration is completed using the Form, the Flow retrieves the data and stores the values directly into the SharePoint List. After registration is saved, another Flow executes managing the registrant reminder emails for the event. |

| | |
|-------------------|---|
| SharePoint | SharePoint Lists can store various types of data, as well as providing a great end user experience. For this business application, the list is used for registration and check-in, feeding other components. |
| Power BI | Power BI can consume data values from many types of platforms and repositories. SharePoint lists can be connected to the Power BI, providing a great dashboard experience for data analysis. The dashboard allows Event Managers to see, in real-time, the status of registrations, check-ins, and overall attendees. |

When an attendee registers through the form, the captured data is stored directly within a SharePoint list using a Flow attached to the form. Storing the registration information into a list allows the event managers to keep track of attendee details easily as well as view and filter the data as needed.

Another Flow is attached to the list and is launched when a new registration is added. The Flow will then wait until two days before the event begins, at which point it sends an email to the registrant reminding them of the event with other information, as needed. On the day of the event, Event Managers will utilize a PowerApp that is connected to the list of registrations, allowing them to quickly and easily check-in an attendee, and to review a complete list of attendees and real-time statistics on registration progress.



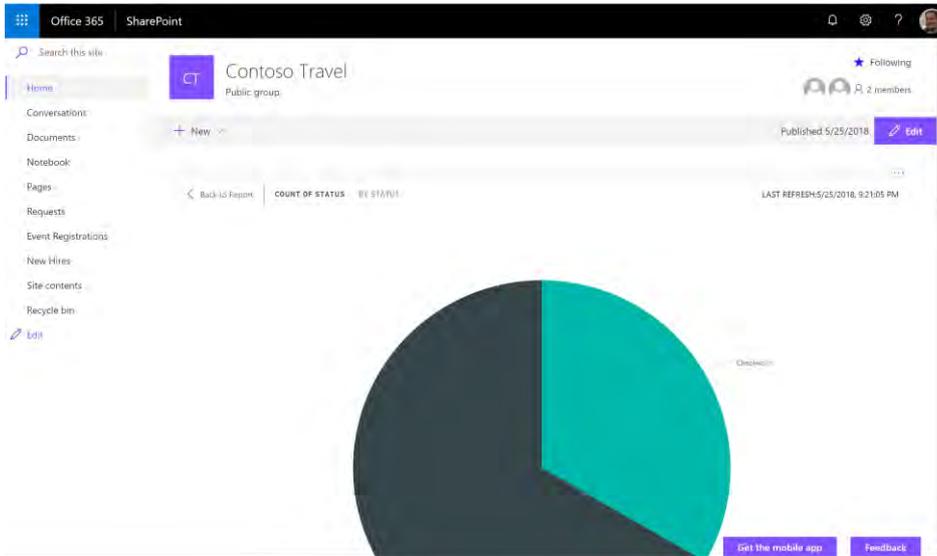
The screenshot shows a mobile application interface for 'Event Registrations'. The header is a blue bar with a back arrow, the title 'Event Registrations', and icons for delete and edit. Below the header, the following details are listed:

- Title:** Jon Smith
- EventDate:** 5/1/2018
- Status:** Registered
- Email:** jon.smith@contoso.com
- Modified:** 10/17/2018 8:57 PM
- Created:** 5/25/2018 8:12 PM
- Created By:** Rebecca Young
- Modified By:** Rebecca Young

At the bottom of the card is a blue button labeled 'Check In'.

This visibility is achieved using a SharePoint List which also serves as a data source for business analysis using Power BI in the cloud. This allows Event Managers to see the current registration status through a dashboard

during, and leading up to, the event, ensuring that Event Managers are well-informed on overall attendance, as well as allowing the data to be used for future event planning.



Scenario Three – HR On-Boarding App

In many organizations, onboarding new employees can be a complicated and laborious process. Multiple departments are typically involved leading to missed steps and other delays. In the past, Contoso has left many employees waiting for days to receive the equipment and training necessary for day-to-day work, such as their primary laptop computer, or training on key operating systems. In a few cases, this has meant that new employees are waiting for up-to a week to begin any actual work.

After reviewing the current on boarding process, as well as feedback from employees and department heads, Contoso management has authorized the creation of a new business application to improve the entire on boarding experience for both new employees and the business.

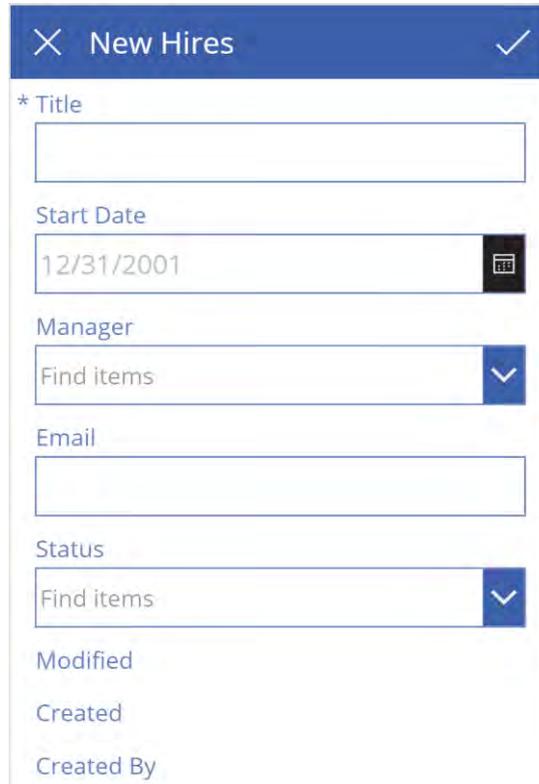
How It Works

The business application has four major components from Office 365:

| Solution | Details |
|-------------------------|--|
| PowerApps | PowerApps provides the consistent data entry screens for web and mobile use. The main form allows departments to request setup of a new hire. This form requires the the name of the new hire, associated manager, associated dates such as Start Date as well as the current Status. At any point a department owner or Human Resources employee can see the current status of a new hire process by opening the requests within the PowerApp. |
| Microsoft Flow | Flow is connected directly to the SharePoint List. When a request is completed using the PowerApps, the Flow initiates the newly created new hire business process, issuing approval emails and tasks. The Flow will issue tasks to multiple departments to facilitate provisioning of the new user account, equipment ordering, email address assignment and then controlling the new hire initial email that contains the link to the onboarding videos. |
| SharePoint | SharePoint Lists can store various types of data, as well as providing a great end user experience. For this business application, the list is used for all requests, status tracking and business process initiation. |
| Microsoft Stream | Microsoft Stream allows the storing and tagging of video content. All onboarding videos are stored and categorized with Microsoft Stream, ready for a new hire to access and view. |



PowerApps can standardize the data entry for all new employee requests. The data entered within the app will be stored directly into a SharePoint list.

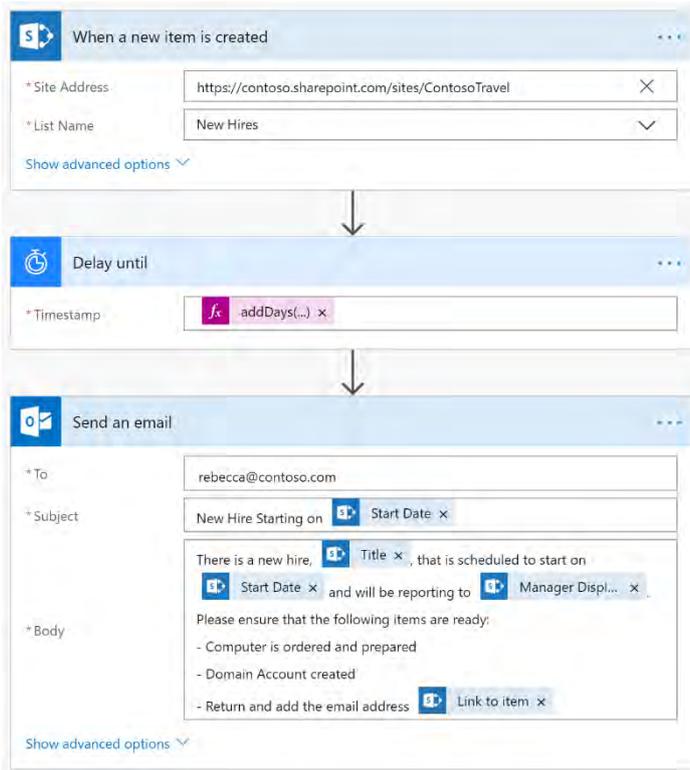


The screenshot shows a form titled "New Hires" with a close button (X) and a checkmark. The form contains the following fields:

- * Title**: A text input field.
- Start Date**: A date picker showing "12/31/2001" with a calendar icon.
- Manager**: A dropdown menu showing "Find items" and a downward arrow.
- Email**: A text input field.
- Status**: A dropdown menu showing "Find items" and a downward arrow.
- Modified**: A text label.
- Created**: A text label.
- Created By**: A text label.

The business process will be created using Flow, and directly attached to the SharePoint List. This process will execute as soon as an employee request is added, allowing the Human Resource department to instantly know that a request has been added, the status of each request, and over time to review the performance of the on boarding process by department or role.

Defining all the business steps within Flow ensures that the process is repeatable and consistent every time, removing the dependency on a single person to physically perform a task. Using automated tasks assignments and updates ensures that all requests are tracked, and nothing is lost.



Flow can handle very sophisticated processes and tasks, such as ensuring the new employee's account is created within Active Directory, ordering equipment (such as a laptop and new mobile phone), or scheduling the new employee for application training. Flow is executed at the point of creation and follows the specific steps and tasks of Contoso's onboarding process, providing data and alerts at each step along the way. With this new business app, new employees now receive an email on their first day with a link to the new hire orientation training videos and can check the status on additional equipment and training pertaining to their new role and team.

Getting Started

Business apps can be created very easily, utilizing many of the Microsoft 365 services. For an organization to create a business app, each user (creator) needs licensing within Office 365. A standard enterprise license, such as an E3, is enough for all tooling. Any users not assigned an E3 or E5 license may need specific service licensing.

Prerequisite

A combination of license and security then controls the ability to create business apps. Access control is an integral part of all services and tooling. Business apps cannot be created without the user first signing into their Office 365 tenant with their account. The system administrator can then enable features as needed for the business user to use within the business app. If IT has already created a Business app, it will be visible to end users based on the permissions that have been assigned. If a user has not been granted access the business app will not be displayed. If IT allows mobile device access, then these newly created business apps can also be deployed and managed centrally as part of a mobile device strategy.

For more information on Office 365 and Dynamics 365 plans that include PowerApps and Flow, visit the [PowerApps Licensing overview](#) page.

Resources

To begin creating business apps, access to the corporate Office 365 tenant is required as well as the correct permissions. The fastest way to become familiar with business apps and the associated applications, is to use those included within SharePoint for example, such as page approval, reminders or document sign-off. Seeing how the out-of-box solutions work, will help in creating a custom business app. Depending on the type of business app that is to be created the tooling is different.

| Business App Type | Creation Tooling | Use and Viewing |
|---|---------------------------------|-----------------------------------|
| Combined Data Capture and Business Process | PowerApps, use on Web | Browser, and Mobile Apps |
| Business Process | Microsoft Flow use on Web | Browser, and Mobile Apps |
| Data Entry Capture | Microsoft Forms on Web | Browser and Mobile Apps |
| Data Aggregation and Analysis | Power BI use on Web and Desktop | Browser, Mobile Apps, and Desktop |
| Collaboration | SharePoint | Browser and Mobile Apps |

The tooling can be easily downloaded and installed either directly from the mobile app or Windows apps stores, as well as direct from the service web portals for each specific service.

The following is a list of best practice guidance and available resources such as templates, to help you in building business apps.

Microsoft 365 Business Apps Resources

Resource Center: <https://akia.ms/sharepoint-bizapps>

Case Studies: <https://aka.ms/odsp-bacs>

PowerApps Template

Latest Template Releases: <https://powerapps.microsoft.com/en-us/blog/category/templates/>

Flow Templates and Connectors

Templates: <https://flow.microsoft.com/en-us/templates/>

Connectors: <https://flow.microsoft.com/en-us/connectors/>

Tech Community Guidance for Business Apps

PowerApps Community: <https://powerusers.microsoft.com/t5/PowerApps-Community/ct-p/PowerApps1>

Flow Community: <https://powerusers.microsoft.com/t5/Microsoft-Flow-Community/ct-p/FlowCommunity>

PowerApps & Flow Tech Community: <https://techcommunity.microsoft.com/t5/PowerApps-Flow/bd-p/PowerAppFlow>

Power BI Community: <http://community.powerbi.com/>

Forms Tech Community: <https://techcommunity.microsoft.com/t5/Microsoft-Forms/bd-p/MicrosoftForms>

Training Videos and Materials

PowerApps Documentation: <https://docs.microsoft.com/en-us/powerapps/>

PowerApps Guided Learning: <https://docs.microsoft.com/en-us/powerapps/guided-learning/>

PowerApps Webinars: <https://docs.microsoft.com/en-us/powerapps/maker/canvas-apps/webinars-listing>

Power BI Documentation: <https://docs.microsoft.com/en-us/power-bi/>

Power BI Guided Learning: <https://docs.microsoft.com/en-us/power-bi/guided-learning/>

Power BI Webinars: <https://docs.microsoft.com/en-us/power-bi/webinars>

Forms Documentation: <https://support.office.com/en-us/forms>

Flow Documentation: <https://docs.microsoft.com/en-us/flow/>

Flow Guided Learning: <https://docs.microsoft.com/en-us/flow/guided-learning/>

Partners Solutions

AIS - Event App for Company Offsite

Quickly publish a cross platform app for team and company events with details for attendees to review schedule, publish documents, share photos and fill out surveys.

<https://powerapps.microsoft.com/en-us/partner-showcase/ais-event-app-for-company-offsite/>

Avanade Inc - Digital @ Your Fingertips

The "digital @ your fingertips" solution enables a salesforce to have the necessary materials on any device and at their fingertips to support their role.

<https://powerapps.microsoft.com/en-us/partner-showcase/avanade-inc-digital-your-fingertips/>

Confluent - Industrial Pump Repair

Confluent's Industrial Pump Repair app is an end-to-end industry solution that replaces paper-based processes, captures tribal knowledge, generates real-time progress reports, and creates detailed audit histories required for legal compliance.

<https://powerapps.microsoft.com/en-us/partner-showcase/confluent-industrial-pump-repair/>

Neal Analytics, LLC - Vending Machine Refill Planner

Designed to help field sales technicians optimize their workdays, our app provides pertinent information needed to restock field assets like vending machines.

<https://powerapps.microsoft.com/en-us/partner-showcase/neal-analytics-llc-vending-machine-refill-planner/>

Ramp Technology Group LLC - QA Control

Design and develop tablet applications to empower shop floor workers and improve their manufacturing processes

<https://powerapps.microsoft.com/en-us/partner-showcase/ramp-group-shipment-delivery-qa-control/>

eBECS, a DXC Technology company - Lead Capture

Complete lead capture and assignment solution. Capture your leads in an instant, save business cards and automatically assign leads. Spend more time on talking, and less on typing.

<https://powerapps.microsoft.com/en-us/partner-showcase/ebeecs-lead-capture/>

Clouds on Mars - Idea & Problem submission app

Idea & problem submission app is a workplace collaboration solution that allows employees to instantly capture new ideas or register any problem or incident in the office that needs fixing.

<https://powerapps.microsoft.com/en-us/partner-showcase/clouds-on-mars-idea-problem-submission-app/>

Power BI Marketplace

<https://appssource.microsoft.com/en-us/marketplace/apps?product=pbi-solutiontemplates>

Microsoft 365 Business Apps Partners

While Microsoft has built many tools for developers and power users, helping customers transform their business processes doesn't stop there. Organizations need system integrators and independent software vendors (ISVs) to help deploy these technologies in innovative and functional ways to help our customers achieve their unique business process transformation goals.

To help equip our customers with modern applications and drive adoption of Microsoft 365 tools, Microsoft is partnering with top-tier SIs and ISVs as part of the SharePoint Business Applications Partner Program. Our partners have been recognized for their customer success in the following areas:

- Assessment and planning
- Education and training
- Packaged solutions for common functions
- Architecture and approach
- Automation
- Custom app development
- Security, compliance and management

Learn more about our Preferred Partners and their stories at <https://aka.ms/SPBizAppsProgram>.