A Forrester Total Economic Impact™ Study
Commissioned By Microsoft
March 2020

The Total Economic Impact™ Of Power Apps

One In A Series Of Total Economic Impact™ Analyses Looking At Microsoft Power Platform Solutions

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ABOUT FORRESTER CONSULTING

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Key Benefits

Reduced app development and costs:
74%

Revenue uplift linked to more and faster development efforts:
4.3%

Worker hours saved from streamlined and automated activities (Year 3):
132,000

Executive Summary

Microsoft provides no-code/low-code application development solutions that help its customers speed up application development and empower both pro developers and non-developers (citizen developers) to create applications better and faster. Microsoft commissioned Forrester Consulting to conduct a Total Economic Impact™ (TEI) study and examine the potential return on investment (ROI) enterprises may realize by deploying Power Apps. The purpose of this study is to provide readers with a framework to evaluate the potential financial impact of Power Apps on their organizations.

To better understand the benefits, costs, and risks associated with this investment, Forrester interviewed six customers and surveyed an additional 53 using Power Apps either with or without other Platform Solutions — Power Automate and Power BI. Regardless, this study looks specifically at the benefits and costs associated with Power Apps as a standalone solution. Interviewees said that by reducing application development time and empowering developers to create custom applications, they were able to greatly reduce development costs and increase worker efficiencies. These improvements delivered business benefits such as reduced time-to-market, better customer service, and increased revenues.

Prior to using Power Apps, organizations used traditional tools for all application development, and only “high-code” developers were engaged in these activities. This meant that there was a large backlog of IT projects, and developers never translated many business ideas into system improvements because the cost and effort was too high. Adopting Power Apps transformed the IT function from one perceived as a blocker to an enabler. One interviewee said: “The business is not waiting for IT anymore, which was their most common complaint. [Power Apps] takes that off the table. We are now seen as an enabler, not a roadblock.”

Key Findings

Quantified benefits. The following risk-adjusted present value (PV) quantified benefits are representative of those experienced by the companies interviewed and surveyed and applied to a composite organization with 2,000 employees who have access to Power Apps through their Office 365 and/or Microsoft Dynamics licenses:

- **The average cost to develop an application is 74% less with Power Apps.** For applications that can be developed using these new tools and included connectors, the internal development effort, professional services fees, and/or vendor applications purchase costs are much lower. Additionally, the effort to maintain code and manage applications is less. Over the life of the study, the composite avoids $4.9 million in application development and management costs.
- **Developing additional applications in-house eliminates vendor license costs.** Interviewees provided examples of external applications replaced by in-house developed applications using Power Apps. For the study, the composite replaces two applications with a total savings of $742,449.
- **Power Apps increase activity efficiencies.** The applications that are created digitize existing, manual, and often paper-based activities. The efficiency gains can vary widely by role, and mobile workers especially

ROI
188%

Benefits PV
$9.4 million

NPV
$6.1 million

Payback
<6 months

benefit from these improvements. Overall, 1,650 users save 1.6 hours per week by Year 3 of the study. Applying a 50% productivity capture, because not all productivity gains translate into additional work, the composite achieves $3.7 million in efficiencies.

Unquantified benefits. The interviewed organizations experienced the following benefits, which are not quantified for this study:

- **Better applications enable business transformation and improved business outcomes.** Interviewees described many ways that their businesses have improved. This includes happier customers, reduced time-to-market, and increased revenue (4.3% according to the survey). Because these benefits can vary greatly from one organization to the next, Forrester did not include them in the financial analysis.
- **Employees can make better and faster decisions from better access to information.** Much of the development work completed with Power Apps enables faster collection of information from first-line workers and transferal to decision makers in a more usable format. This, in turn, means that better decisions are made based on data sets that are larger and closer to real time.
- **Power Apps empowers users, which increases employee satisfaction.** Both IT and business users can now more efficiently and effectively create applications that deliver business value. In many cases, these applications would never have been built without these tools. This gives users more control over their work and enables them to eliminate repetitive and annoying manual activities.
- **Organizations realize additional value with other Power Platform and other Microsoft solutions such as Dynamics CRM and Teams.** Interviewees described how these solutions, being part of the Microsoft stack, enable them to build on prior investments to create more value.
- **Mobile applications developed with Power Apps are more secure than would likely otherwise have been developed.** Because these applications and workflows tie into Azure Active Directory and other Microsoft security solutions, IT can control permissions at the data and application levels. Additionally, users building in these tools reduces shadow IT. All Power Apps that are built on the Common Data Service for Apps are automatically GDPR-compliant.

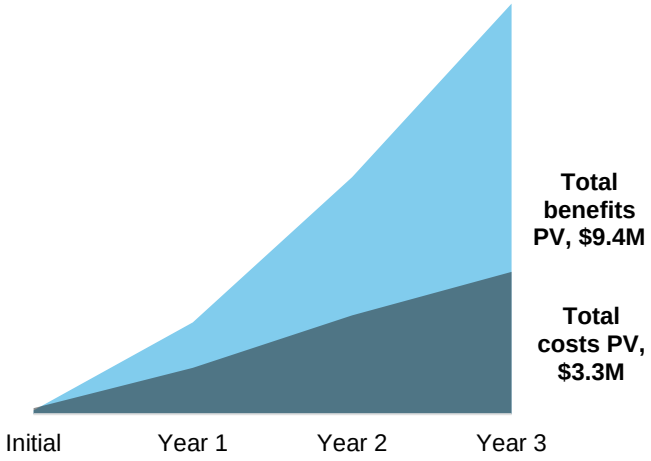
Costs. The interviewed organizations experienced the following risk-adjusted PV costs, modeled by the composite organization:

- **Internal and professional application development costs average $45,000 per application.** The average cost per application developed with Power Apps can vary widely based on its functionality and how experienced users are with the tools. Subtracting these costs from the avoided application development costs in the Benefits section results in the net savings that the composite organization realizes. The organization develops a total of 33 applications over the life of the study, and the total development costs are $2.0 million.
- **Ongoing corporate IT management and development of Power Apps code and business user training costs $1.2 million**. The effort to manage the Power Apps solution is very low at 0.1 FTE. The corporate IT department is also involved in maintaining and developing code. IT also spends time training business users on how to develop with Power Apps. The centralized development and training function grows to four FTEs by Year 3 of the study (the 0.1 for solution upkeep is

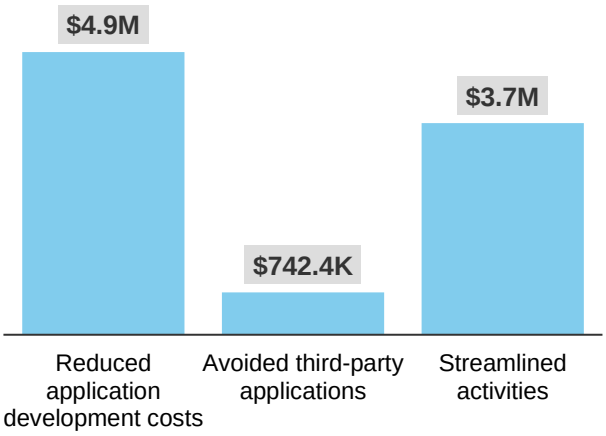
included in here) as the number of Power Apps increases. Users who require premium connectors for things like enterprise resource planning (ERP) integrations require premium licenses. The number of paid licenses depends on the number of users leveraging the paid features in their apps.

Forrester's interviews with six existing customers, survey of an additional 53 customers, and subsequent financial analysis found that an organization based on these organizations experiences benefits of $9.4 million over three years versus costs of $3.3 million, adding up to a net present value (NPV) of $6.1 million and an ROI of 188%.

Financial Summary



Benefits (Three-Year)



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TEI Framework And Methodology

From the information provided in the interviews, Forrester has constructed a Total Economic Impact™ (TEI) framework for those organizations considering implementing Power Apps.

The objective of the framework is to identify the cost, benefit, flexibility, and risk factors that affect the investment decision. Forrester took a multistep approach to evaluate the impact that Power Apps can have on an organization:

The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

DUE DILIGENCE
Interviewed Microsoft stakeholders and Forrester analysts to gather data relative to Power Apps.

CUSTOMER INTERVIEWS AND SURVEY
Interviewed six organizations and surveyed an additional 53 using Power Apps to obtain data with respect to costs, benefits, and risks.

COMPOSITE ORGANIZATION
Designed a composite organization based on characteristics of the interviewed and surveyed organizations.

FINANCIAL MODEL FRAMEWORK
Constructed a financial model representative of the interviews and survey using the TEI methodology and risk-adjusted the financial model based on issues and concerns of the interviewed organizations.

CASE STUDY
Employed four fundamental elements of TEI in modeling Power Apps' impact: benefits, costs, flexibility, and risks. Given the increasing sophistication that enterprises have regarding ROI analyses related to IT investments, Forrester's TEI methodology serves to provide a complete picture of the total economic impact of purchase decisions. Please see Appendix A for additional information on the TEI methodology.

The Power Apps Customer Journey

BEFORE AND AFTER THE POWER APPS INVESTMENT

Interviewed And Surveyed Organizations

For this study, Forrester conducted six interviews with Power Apps customers. Interviewed customers include the following:

INDUSTRY	REGION	INTERVIEWEES	USERS WITH ACCESS TO POWER APPS
Industrial equipment servicing	North America	-VP of IT and purchasing	430
Beverage distributor	US regional	-Cloud services manager	1,600
Power generation	North America and Australia	-Enterprise architect	2,200
Financial services	UK	-Head of CRM solutions -Chief data officer	3,500
Field services	Global	-Director -IT operations -Digital transformation manager	10,000
Bank	HQ in Africa	-BI specialist	3,000

There were 53 survey respondents using Power Apps. The top three industries were IT professional services, business professional services, and financial services. The average number of Power Apps users was 1,044.

Key Challenges

The interviewed companies faced common challenges around delivering modern IT, supporting more users and growth, and managing increasing costs.

- **IT had to support more first-line and mobile workers.** Moving to Office 365 can significantly increase the number of users who are consuming IT services. Additionally, companies are putting more effort into making mobile workers more effective and efficient. Together, these two trends meant that IT struggled to deliver the necessary tools to a greatly expanded number of users. One interviewee said: "When we switched to Office 365, we all of a sudden had lot more users to support, and we had to figure out a way to deliver everything mobile first. Now, a guy on a forklift has access to these applications."
- **IT systems did not meet current needs, and there was limited budget to make changes.** Interviewees described an IT estate that could not support new initiatives. When it comes to ERP systems, the cost to upgrade or replace was larger than available budgets. There was also a shortage of application development skills in-house, as well as a lack of budget to outsource development. The interviewed VP of IT and purchasing said: "We have an antiquated ERP system that is the market leader in our industry. We were looking at replacing it but were told there wasn't budget to do that. We identified some of the biggest limitations and fixed those using Power Apps."

> "We needed to switch to a mobile-centric delivery model to support merchandizers in the stores. We also needed to get information back from them that didn't require email or driving back to the office."
>
> *Cloud services manager, beverage distribution*

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- **The lack of internal and customer-facing applications hurt business performance.** Existing applications did not fully meet the needs of employees or the increased desire for customer self-service. This resulted in low user satisfaction and hurt the business in terms of innovation and growth. One interviewee explained how Power Apps was needed as part of a larger digital transformation initiative: "We were trying to make employees more digitally adept so they can be more relevant. Office 365 is at the center of this, and citizen development takes it even further."

The top four adoption drivers from the survey included:

- Deliver more actionable insights.
- Reduce system complexity.
- Replace paper-based process steps.
- Address IT's inability to keep up with development requests.

Key Results

The interviews and survey revealed several key results from the Power Apps investment:

- **Power Apps streamlines activities and enables business transformation.** Interviewees provided many examples of activities and of reworking old processes that no longer made sense in a mobile-first world. This applies to Power Apps as a standalone solution, but it can be even greater when coupled with Power Automate. Increased standardization also had a large impact. One interviewee said: "Low code is the best way to get something out quick and dirty. By far, the biggest benefit is productivity. We can digitize and try things we never could before."
- **Development in Power Apps saves money.** The financial analysis section of the study includes many examples of cost savings. The overall reduction, including development and centralized IT management costs, is 45%. One interviewee said: "We would not have been able to do any of this development work the old way. We could not have justified the investment. The Power Apps work we did would have cost $750,000."
- **IT organizations are now more responsive to business needs.** Interviewees described how utilizing Power Apps helped them to create modern IT organizations that can deliver better and faster solutions to the business. One interviewee said: "We can now build once and deploy to different places. The organization didn't want to invest in traditional application development anymore. We can now make changes on the fly and support a very dynamic business."

> "Traditionally we could do something either right, fast, or cheap. With Power Apps, we can do all three."
>
> *Cloud services manager, beverage distribution*

The top five business benefits from the survey included:

- Improved IT team productivity.
- Increased revenue.
- Faster time-to-market with new products/services/solutions.
- Better customer service.
- Faster solution quoting.

Composite Organization

Based on the interviews, Forrester constructed a TEI framework, a composite company, and an associated ROI analysis that illustrates the areas financially affected. The composite organization is representative of the five companies that Forrester interviewed, as well as the survey, and is used to present the aggregate financial analysis in the next section.

The composite organization is a services company with 2,000 Power Apps users. Knowledge workers are predominantly on Office 365 E3 licenses. First-line workers are on a mix of Office 365 E1 and F1 licenses. These licenses give users access to Power Apps. There are 50 users with premium licenses because they are building apps that require premium connectors into ERP solutions.

Key assumptions

2,000 Power Apps users

33 development projects

Analysis Of Benefits

QUANTIFIED BENEFIT DATA AS APPLIED TO THE COMPOSITE

Total Benefits

REF.	BENEFIT	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Atr	Reduced application development costs	$90,000	$1,278,000	$2,160,000	$2,538,000	$6,066,000	$4,943,779
Btr	Avoided third-party applications	$0	$270,000	$315,000	$315,000	$900,000	$742,449
Ctr	Streamlined activities	$0	$662,019	$1,544,712	$2,427,404	$4,634,135	$3,702,201
	Total benefits (risk-adjusted)	$90,000	$2,210,019	$4,019,712	$5,280,404	$11,600,135	$9,388,429

The table above shows the total of all benefits across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total benefits to be a PV of nearly $9.4 million.

Reduced Application Development Costs

All interviewees provided many examples of Power Apps reducing development cost and effort. The level of savings varies greatly based on the scope of the development efforts. A large contributor to the effort reduction is using off-the-shelf connectors that are included with Power Apps — especially connectors into ERP systems. Interviewees shared the following regarding pro and citizen development efforts:

- "In the first year, we saved $500,000 in external developer costs. We expect similar savings in future years. There is no shortage of projects for these tools because people are coming up with all sorts of ideas."
- "We built a warehouse picker app that was one simple screen. Without Power Apps, it would have cost us thousands of dollars to build. We have a lot of flexibility in testing ideas because the costs are so low."
- "We built an app as a PoC [proof of concept] in less than six weeks, including building some custom APIs. Most of it was done in .NET and C#. We could do this because the tools are so simple to use."
- "We were looking at custom development work for a corporate communications mobile app on [the two main mobile platforms]. The cost from the vendor was getting out of control. We used the Microsoft tools and completed it in one week. Otherwise, it would have taken months more. We threw away $70,000 in previous work and saved an additional $30,000."
- "We just completed another substantial project for the wind generation people. The initial savings was $200,000 per year based on two months of development for 1.5 FTEs. We anticipate an additional savings of $1 million to $2 million per year as it is rolled out wider."
- "Low code is a huge benefit for UI [user interface] development of simple apps. It is 2x to 3x faster."
- "We conduct regular hackathons. A lot of ideas and apps come out of those."
- "Power Apps helps us avoid a lot of professional services for application development."

The survey asked about different IT-related cost savings. Ninety-four

"A recent web app we built would have cost 3x to 4x more using traditional tools. That is a good, long-term ratio for cost savings."

Enterprise architect, power generation

"The biggest benefit is that non-developers, both IT and business, can build their own software."

Director, field services

percent of Power Apps users agreed that costs had been reduced because they are no longer "managing and maintaining multiple solutions." Ninety-one percent agreed that moving to the cloud has enabled them to reduce costs.

For the financial analysis, Forrester assumed:

- The composite completes one development project using Power Apps as a PoC during the initial period. It completes eight more in Year 1, and IT and business users undertake 12 in Years 2 and 3.
- The average development cost using traditional tools and a mix of internal and external resources was $175,000 per project. In the initial period, this was $100,000 because the PoC was a smaller scope. Subtracting the Power Apps development effort in the Analysis Of Costs section of the study provides the net benefit.
- An ongoing cost to manage and update code equal to 20% of the development cost also decreases.

The avoided costs can vary greatly based on the number of development projects that are completed with Power Apps as well as the scope. Costs will also vary depending on the mix of internal and external resources. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year risk-adjusted total PV of $4.9 million.

Impact risk is the risk that the business or technology needs of the organization may not be met by the investment, resulting in lower overall total benefits. The greater the uncertainty, the wider the potential range of outcomes for benefit estimates.

Reduced Application Development Costs: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
A1	Number of development projects		1	8	12	12
A2	Average avoided traditional development cost		$100,000	$175,000	$175,000	$175,000
A3	Reduced development costs	A1*A2	$100,000	$1,400,000	$2,100,000	$2,100,000
A4	Reduced IT management and maintenance	A3 [through previous year]*20%		$20,000	$300,000	$720,000
At	Reduced application development costs	A3+A4	$100,000	$1,420,000	$2,400,000	$2,820,000
	Risk adjustment	↓10%				
Atr	Reduced application development costs (risk-adjusted)		$90,000	$1,278,000	$2,160,000	$2,538,000

Avoided Third-Party Applications

Applications built with Power Apps can replace existing and/or future, third-party applications that have license and maintenance costs. Interviewees provided several examples:

- Replacement of an expense reporting solution that cost $25,000 per year.
- Avoided risk control application. "The solution under consideration would have cost GBP £250,000 plus 20% maintenance and not fully met our needs."
- A timesheet solution that cost GBP £25 per user per month.

For the financial analysis, Forrester included an avoided risk management solution and an avoided timesheet solution (for 1,000

"Someone was going to buy a timesheet app that cost GBP £25 per user per month. We built it in 50 days. There is at least one example of this per year."

Chief data officer, financial services

employees) similar to the examples provided by the interviewees. Forrester encourages readers to think about existing third-party solutions, such as the examples provided above, that could be retired or possible future expenditures that could be avoided.

The savings will vary depending on if the development effort replaces third-party applications versus development of bespoke functionality that would have been built in-house. To account for these risks, Forrester adjusted this benefit downward by 10%, yielding a three-year risk-adjusted total PV of $742,449.

Avoided Third-Party Applications: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
B1	Timesheet application	1,000 users*$25*12 months			$300,000	$300,000
B2	Risk and control application	$250,000 [maintenance at 20%]		$300,000	$50,000	$50,000
Bt	Avoided third-party applications	B1+B2		$300,000	$350,000	$350,000
	Risk adjustment	↓10%				
Btr	Avoided third-party applications (risk-adjusted)			$270,000	$315,000	$315,000

Streamlined Activities

Increasing user efficiency and effectiveness, along with the unquantified improved business outcomes described later in this study, were the most important benefits according to the interviewees. In this section, Forrester looked at specific business improvement examples that interviewees were able to quantify. The efficiencies gained vary based on the existing business activities being streamlined with Power Apps and by a user's role. Some examples include:

- "We had a person driving around in one region collecting paper forms. That's gone away."
- "The mileage reporting app we built is used by over 150 merchandizers. That time savings alone is equivalent to 1.5 FTEs across the company."
- "Salespeople are saving a lot of time through better insights. Two hundred out of 400 workers are saving time because they no longer have to attach pictures to an Excel spreadsheet."
- "In one territory, three or four salespeople cut the time to complete surveys in half. That's 30 to 60 minutes per week."

> "We were able to reduce the number of people writing up quotes from two to one in each shop. We have 20 locations."
>
> *VP of IT and purchasing, industrial equipment servicing*

Power Apps survey respondents said that "line-of-business employee productivity" improved by 3.2 hours per week. For the financial analysis, Forrester assumed:

- In total, three development projects are completed using Power Apps. Each project impacts, on average, 50 users.
- The average time savings across all affected workers is 1.6 hours per week, half of the survey findings to be conservative.
- An average fully burdened cost (including all taxes and benefits) for all workers across the composite organization is $90,000.

Because this benefit was calculated from a productivity increase perspective instead of an elimination of specific roles and headcount, Forrester adjusted it downward by 50% because not all time savings results in additional work being completed.

Forrester encourages readers to think about how improved business activities can reduce costs in their organizations. Where possible, other improved business outcomes, which were not included in the financial analysis, should be calculated.

The benefit will vary based on how many workers are impacted, the size of the efficiency gains, and the type of workers. To account for these risks, Forrester adjusted this benefit downward by 15%, yielding a three-year risk-adjusted total PV of $3.7 million.

Streamlined Activities: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
C1	Total number of projects	=A1 [sum through current year]	1	9	21	33
C2	Number of affected workers	C1*50 workers	50	450	1,050	1,650
C3	Hours saved	1.6 hours*50 weeks		80	80	80
C4	Average hourly fully burdened cost (rounded value shown)	$90,000/2,080 hours	$43.27	$43.27	$43.27	$43.27
C5	Total efficiency gains	C2*C3*C4	$0	$1,557,692	$3,634,615	$5,711,538
C6	Productivity capture		50%	50%	50%	50%
Ct	Streamlined activities	C5*C6	$0	$778,846	$1,817,308	$2,855,769
	Risk adjustment	↓15%				
Ctr	Streamlined activities (risk-adjusted)		$0	$662,019	$1,544,712	$2,427,404

Unquantified Benefits

Interviewees described other business benefits that were not included in the financial analysis. This could be due to the fact that there was too great a variation, e.g., business transformation, or it was impossible to add a realistic financial value to the business benefit, e.g., increased employee satisfaction.

Improved Business Outcomes

Related to the efficiencies benefit described above, companies shared many examples of how the business is transformed and benefits from Power Apps. This included making IT more of an enabler rather than an unintentional bottleneck and improving collaboration between IT and lines of business to increase innovation. Examples included:

- "Overall service quality is getting better through standardized forms, and warranty claims are down. The work we have done [with Power Apps] is a part of this. So far, warranty claims are down $260,000 in the first five months."

- "We created a customer self-service portal so our salespeople can get reports faster. This resulted in better customer service and happier customers."
- "We are getting paid faster because reports are being generated faster."
- "These new apps allow us to react to critical out-of-stock events. This makes our customers happier, and they say that we care about the conditions of their stores."
- "We now provide better customer experiences. Our Net Promoter Score has gone up six to eight points since launching the Welcome App."[1]

The survey revealed the following business outcome related findings:

- Power Apps helped reduce time-to-market for new products and services from 21 months to 13 months.
- Revenues increased by 4.3%.
- Data input and user action errors decreased by 21.1%.

Better Decision Making

Many of the projects that companies undertook with Power Apps were about collecting information from the field and sending it back to corporate. This gives managers more information and more timely access to make better and faster decisions.

- "The tools we built helped managers understand what was going on in stores. They could pinpoint the locations and prices and explain what was going on."
- "We can now deliver hard metrics to end customers, which improves our relationships."
- "We now give managers data in new ways and at a faster rate than ever before. This saves time and money. They can take preventative actions quicker because all of the information is in a single decision support tool."
- "We built a tool so operators could determine, based on market conditions, if an emergency repair trip should be scheduled. We've gone from fulfilling one call every weekend to sometimes not doing one in an entire month."

Increased Employee Satisfaction

Employees across different roles, including pro developers, were reported as being happier because they felt more empowered and could work more efficiently.

- "If you polled the mechanics, the consensus would be that they enjoy the new electronic solutions. Even some of the biggest skeptics have come around."
- "Being able to do this type of development work is very empowering for the IT department."
- "We have had very positive feedback from mobile workers because they have better access to company information."
- "Pro developers use Power Apps for rapid prototyping. This enables them to work on more, varied projects."

"Time-to-market savings is huge, but I can't necessarily quantify it. We've gone from people saying that we can't deliver anything on time to, 'Wow, this fast delivery time is exactly what we want.'"

Enterprise architect, power generation

"We are now collecting data that we haven't been collecting for the last 20 years of operations. We didn't know what we didn't know."

Cloud services manager, beverage distributor

Additional Value Realization From Related Microsoft Solutions

Interviewees are using Power Apps to expand the capabilities within other Microsoft solutions they are using. Microsoft Dynamics 365, SharePoint, and Teams were three that were especially called out. This means companies can get a higher ROI on previous IT investments. Interviewees also said that using Power Apps in conjunction with Power Automate and Power BI greatly increases the benefits.

- "Office 365 has been able to leverage our work in Power Apps to drive a lot of our improvements. As a whole, our company has come a long way."
- "We have a fairly mature SharePoint solution. We are using PowerApps to consolidate information from a bunch of different SharePoint sites. This saves us from doing data movement and data replication."
- "We use Teams as a community engagement tool across the bank, and it is tied into the Power solutions."
- "Having everything in one place — Apps, Automate, and BI — delivers more benefits."
- "We are using data that has already gone through the GDPR processes in Dynamics. We do not have to create another data store, which saves us effort and complexity."

Enhanced Application Security

Power Apps can improve security in several ways. First, it uses the permissions within Active Directory to limit access to data and systems. It is also tied into the same authentication mechanisms as other Microsoft solutions. All applications built on the Power Apps Common Data Service for Apps are automatically GDPR-compliant. Finally, IT departments are using Power Apps to eliminate shadow IT and take control of managing applications developed by end users.

> "This has helped with GDPR compliance and overall better security."
>
> *Head of CRM solutions, financial services*

- "We are leveraging these tools to take shadow IT out of the shadows."
- "If we did mobile apps the traditional way, we wouldn't have been as integrated. Power Apps helps us with mobile device management (MDM)."
- "We can do more with these apps because we have security through Azure AD."
- "We save money because the solutions are using Microsoft's security features. For example, someone said we should create a common user interface for employees and customers using [a new solution]. It was going to be four months of development effort. Instead, we did it in three days using the Microsoft stack."
- "From a security perspective, the biggest piece is Azure AD. Since we are using all parts of the Microsoft stack, we fully trust it and benefit from it. This secures our apps and Power BI."
- Eighty-three percent of survey respondents said that threat detection has improved by adopting Power Platform solutions, including Power Apps; 77% reported benefits tied to encryption.

Flexibility

The value of flexibility is clearly unique to each customer, and the measure of its value varies from organization to organization. There are multiple scenarios in which a customer might choose to implement Power Apps and later realize additional uses and business opportunities.

Interviewees described how utilizing Power Apps has made their organizations more agile, allowing them to see the future-state possibilities for these tools. One area that the companies are moving toward is to make Power Apps more available to business users to develop their own solutions, as part of a "citizen developer movement." Organizations that are not using Power Automate and Power BI have made adopting those solutions a top priority. None of the future opportunities were included in the financial analysis.

- "We are beginning to embed Power BI into some apps."
- "People use the term 'agile development,' but when you use these tools you can quickly iterate through a lot of scenarios to get to the right solution a heck of a lot faster."
- "The Power suite as a whole makes for a strong citizen developer model. If a user needs a simple [Power Automate workflow], they can easily do it."
- "We will do things in Power Apps first before other alternatives where possible."
- "A bunch of singles really add up. There are thousands of little processes we can improve."
- "We have a list as long as our arm of things we want to do. There are 30 paper-based processes in our stores that can easily be fixed. A business process owner could develop those."

Flexibility, as defined by TEI, represents an investment in additional capacity or capability that could be turned into business benefit for a future additional investment. This provides an organization with the "right" or the ability to engage in future initiatives but not the obligation to do so.

"Our vision is that we will let people look at their part of the business and create their own apps, to take the load off of traditional development."

Head of CRM solutions, financial services

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Analysis Of Costs

QUANTIFIED COST DATA AS APPLIED TO THE COMPOSITE ORGANIZATION

Total Costs

REF.	COST	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Dtr	Development costs	$68,250	$714,000	$882,000	$756,000	$2,420,250	$2,014,261
Etr	Corporate IT solution and code management	$68,250	$298,200	$571,200	$571,200	$1,508,850	$1,240,558
	Total costs (risk-adjusted)	$136,500	$1,012,200	$1,453,200	$1,327,200	$3,929,100	$3,254,819

The table above shows the total of all costs across the areas listed below, as well as present values (PVs) discounted at 10%. Over three years, the composite organization expects risk-adjusted total costs to be a PV of nearly $3.3 million.

Development Costs

The development efforts shown here are in place of the eliminated development effort in the Analysis Of Benefits section of the study. Overall, interviewees said that the level of effort is much lower. Most of them are using existing, non-developer IT staff to create applications with Power Apps.

Interviewees also described the change management component as easy. “Change management is relatively low,” said one interviewee. “The nice thing about making a clean start with these tools is a common interface across everything. There is the same user experience across phone and laptop. We can role applications out to a broad user community without training.”

Some companies completed all development work in-house, and some used professional services. For the financial analysis, Forrester assumed a mix of internal and external costs, specifically:

- The average internal development effort is two FTEs for three months. The average fully burdened cost is $7,500 per month.
- To be conservative, Forrester included professional services and the amount varied over the years. For the PoC, it is lower because of the limited project scope. Year 1 projects include the most professional services, which includes some custom API work and other specialized efforts. This decreases over time as development efforts are based more on the standard Power Apps toolsets.

The development costs will vary based on the number and scope of projects. Increased professional services can increase costs, but empowering business users to create their own apps can reduce costs. To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year risk-adjusted total PV of $2.0 million.

Implementation risk is the risk that a proposed investment may deviate from the original or expected requirements, resulting in higher costs than anticipated. The greater the uncertainty, the wider the potential range of outcomes for cost estimates.

Development Costs: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
D1	Number of projects	=A1	1	8	12	12
D2	Average development cost per project	3 months*2 FTEs *$7,500	$45,000	$45,000	$45,000	$45,000
D3	Average professional services per project		$20,000	$40,000	$25,000	$15,000
Dt	Development costs	D1*(D2+D3)	$65,000	$680,000	$840,000	$720,000
	Risk adjustment	↑5%				
Dtr	Development costs (risk-adjusted)		$68,250	$714,000	$882,000	$756,000

Corporate IT Solution And Code Management

IT organizations expend effort on managing the Power Apps solution, as well as on the code that is developed with these tools. A best practice that emerged in the interviews is that all code should be managed by the IT organization, even if it is developed by business users. The code is transferred to the IT organization for ongoing development and management.

Managing the tools themselves was described as “less than 10% of one person’s job.” The additional effort is for maintaining and further developing Power Apps code that has been developed by or handed over to corporate IT and to train users on the solutions. Total effort increases over time for the composite as more code is centrally managed and further developed, totaling four FTEs in Year 3. Fifty paid premium Power Apps licenses are included in the analysis for users who require premium connectors to ERP systems.

Management costs will differ depending on 1) the overall level of development being completed with Power Apps and 2) if a centralized IT management model is adopted. To account for these risks, Forrester adjusted this cost upward by 5%, yielding a three-year risk-adjusted total PV of $1.2 million.

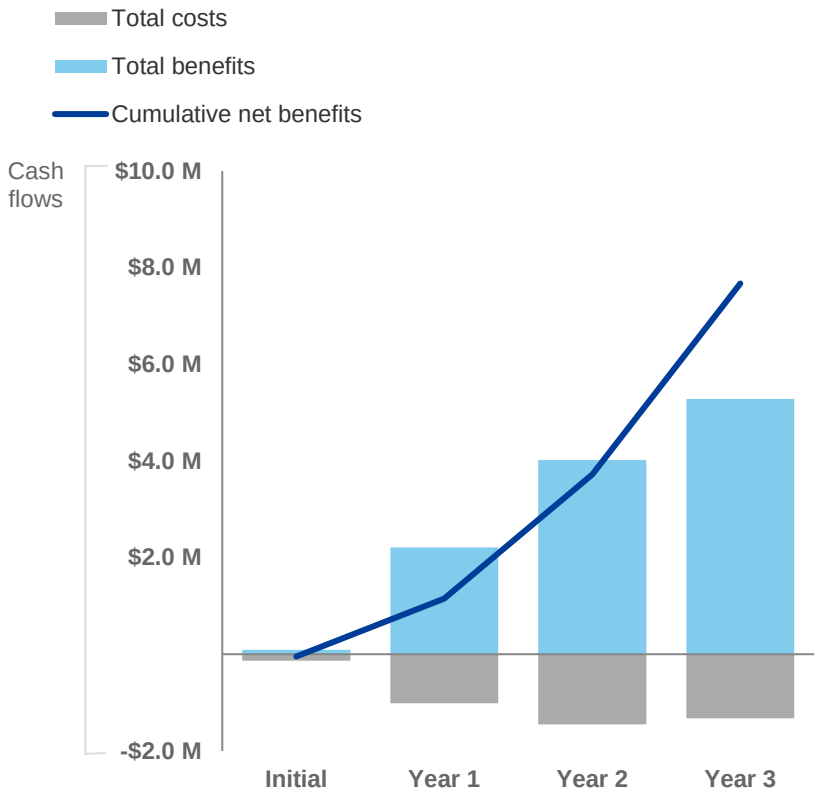
Corporate IT Solution And Code Management: Calculation Table

REF.	METRIC	CALC.	INITIAL	YEAR 1	YEAR 2	YEAR 3
E1	Corporate IT code development and repository management effort (FTEs)		2	2	4	4
E2	Number of months		3	12	12	12
E3	Corporate IT team costs	E1*E2*($130,000/12 months)	$65,000	$260,000	$520,000	$520,000
E4	Power Apps paid per-user licenses	50*$40*12 months [beginning Year 1]	$0	$24,000	$24,000	$24,000
Et	Corporate IT development and code management	E2+E3	$65,000	$284,000	$544,000	$544,000
	Risk adjustment	↑5%				
Etr	Corporate IT development and code management (risk-adjusted)		$68,250	$298,200	$571,200	$571,200

Financial Summary

CONSOLIDATED THREE-YEAR RISK-ADJUSTED METRICS

Cash Flow Chart (Risk-Adjusted)



The financial results calculated in the Benefits and Costs sections can be used to determine the ROI, NPV, and payback period for the composite organization's investment. Forrester assumes a yearly discount rate of 10% for this analysis.

These risk-adjusted ROI, NPV, and payback period values are determined by applying risk-adjustment factors to the unadjusted results in each Benefit and Cost section.

Cash Flow Table (Risk-Adjusted)

	INITIAL	YEAR 1	YEAR 2	YEAR 3	TOTAL	PRESENT VALUE
Total costs	($136,500)	($1,012,200)	($1,453,200)	($1,327,200)	($3,929,100)	($3,254,819)
Total benefits	$90,000	$2,210,019	$4,019,712	$5,280,404	$11,600,135	$9,388,429
Net benefits	($46,500)	$1,197,819	$2,566,512	$3,953,204	$7,671,035	$6,133,610
ROI						188%
Payback period						< 6 months

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Power Apps: Overview

The following information is provided by Microsoft. Forrester has not validated any claims and does not endorse Microsoft or its offerings.

Power Apps

Power Apps is the end to end low-code application development platform that spans Azure, Office 365, Dynamics 365 and stand-alone and 3rd party applications enabling you to build rich web and mobile applications. It empowers everyone, from a citizen developer, to an IT admin or a Professional Developer to collaborate and solve business problems and innovate faster. Consolidate your data with over 300+ built in connectors including on premise data sources, manage your business logic with no-code and prebuilt entities in common data service, leverage AI Builder for insights and, engage your suppliers, partners and customers through Power Apps portals.

With built in security and governance, customers have deep visibility into app usage and performance and can easily track IT policies and keep administrators up to date on the platform through monitoring tools, dashboards and solution health checkers. Experience the full range of development and application lifecycle management, with rich pro developer tools to rapidly package and deploy apps with reusable components. Professional developers can now code at the speed of their creativity by automating repetitive parts of the DevOps cycle and scale through citizen developers.

Built on Azure, with massive scale, 54 data centers worldwide and more than 90 compliance certifications; Power Apps provides a fully managed modern data platform enabling organizations to become more agile, speed delivery of services, and realize ROI faster than ever before.

Appendix A: Total Economic Impact

Total Economic Impact is a methodology developed by Forrester Research that enhances a company's technology decision-making processes and assists vendors in communicating the value proposition of their products and services to clients. The TEI methodology helps companies demonstrate, justify, and realize the tangible value of IT initiatives to both senior management and other key business stakeholders.

Total Economic Impact Approach

Benefits represent the value delivered to the business by the product. The TEI methodology places equal weight on the measure of benefits and the measure of costs, allowing for a full examination of the effect of the technology on the entire organization.

Costs consider all expenses necessary to deliver the proposed value, or benefits, of the product. The cost category within TEI captures incremental costs over the existing environment for ongoing costs associated with the solution.

Flexibility represents the strategic value that can be obtained for some future additional investment building on top of the initial investment already made. Having the ability to capture that benefit has a PV that can be estimated.

Risks measure the uncertainty of benefit and cost estimates given: 1) the likelihood that estimates will meet original projections and 2) the likelihood that estimates will be tracked over time. TEI risk factors are based on "triangular distribution."

The initial investment column contains costs incurred at "time 0" or at the beginning of Year 1 that are not discounted. All other cash flows are discounted using the discount rate at the end of the year. PV calculations are calculated for each total cost and benefit estimate. NPV calculations in the summary tables are the sum of the initial investment and the discounted cash flows in each year. Sums and present value calculations of the Total Benefits, Total Costs, and Cash Flow tables may not exactly add up, as some rounding may occur.

Present value (PV)

The present or current value of (discounted) cost and benefit estimates given at an interest rate (the discount rate). The PV of costs and benefits feed into the total NPV of cash flows.

Net present value (NPV)

The present or current value of (discounted) future net cash flows given an interest rate (the discount rate). A positive project NPV normally indicates that the investment should be made, unless other projects have higher NPVs.

Return on investment (ROI)

A project's expected return in percentage terms. ROI is calculated by dividing net benefits (benefits less costs) by costs.

Discount rate

The interest rate used in cash flow analysis to take into account the time value of money. Organizations typically use discount rates between 8% and 16%.

Payback period

The breakeven point for an investment. This is the point in time at which net benefits (benefits minus costs) equal initial investment or cost.

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Appendix B: Endnotes

[1] Net Promoter and NPS are registered service marks, and Net Promoter Score is a service mark, of Bain & Company, Inc., Satmetrix Systems, Inc., and Fred Reichheld.