Launch and scale citizen development on the Now Platform
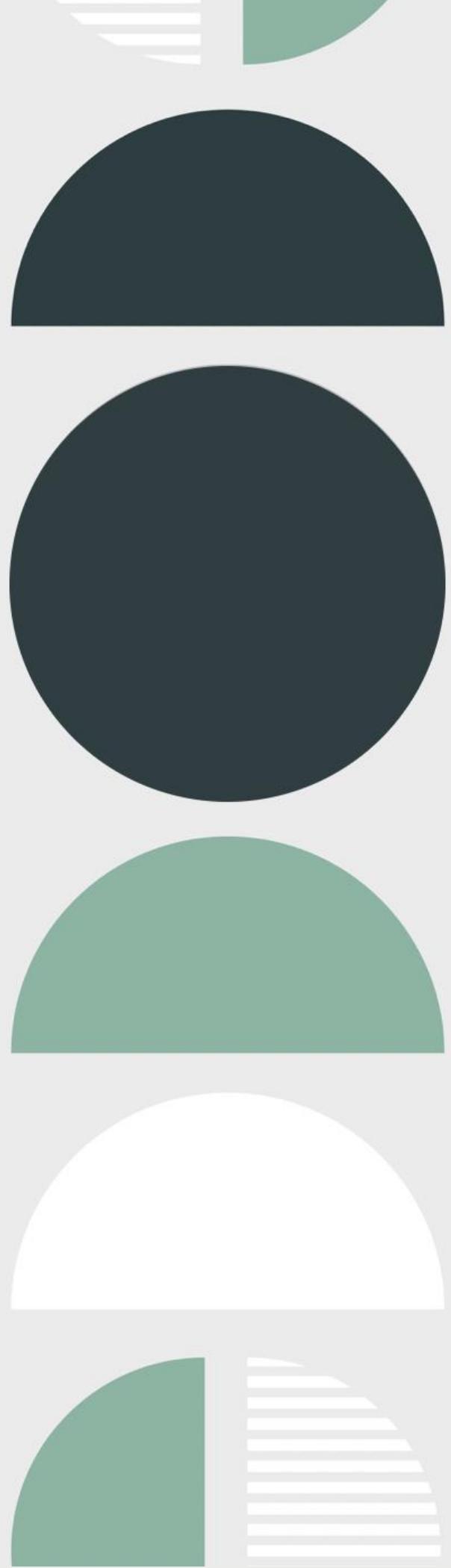
Developed by the ServiceNow Customer Success
Leading Practices team

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servicenow.

What is the payoff in getting this right?

Low- and no-code development can help your organization expand its application development to include citizen developers. These end users build applications using IT-approved technology and processes with little to no coding experience—and your organization probably already has several candidates.

With effective management in place, citizen development boosts your digital transformation efforts and delivers more innovation because it extends your development potential beyond the IT developer team.

What do you need to get started?

A successful citizen development program is aligned with your organization's existing ServiceNow® practices, including your application development methodology and Center of Excellence and Innovation (CoEI). If you don't have these already, create them using these resources:

- **Now Platform® application development model –** Start by reading our workbook on how to manage application development on the Now Platform so you can build a solid application development foundation with governance and processes.

- **CoEI –** Follow the steps in our playbook to stand up a ServiceNow Center of Excellence and Innovation for your organization.

Also check the Customer Success Center additional helpful resources.

What will this workbook help me do?

This Success Workbook will teach you how to build and scale your citizen development program as you also establish guardrails to protect your organization against unacceptable risk.

How to use this Success Workbook

Start by reading through the Workbook Checklist and review the steps and tasks. From the checklist page, you can either proceed through the workbook page by page or navigate only to the sections that you need using the hyperlinks.

Each section includes "check your progress" questions that you can answer to test whether you need to complete the tasks listed on that page or if you've already done so and should move forward. Hyperlinks are included throughout the workbook so you can navigate back and forth between the checklist page and different sections.

Workbook Checklist: Launching citizen development on the Now Platform

Step 1: Align citizen development with your organization's goals

❑ 1a: Identify how citizen development on the Now Platform will support your digital transformation objectives

Step 2: Set the foundation for citizen development to pilot and scale

❑ 2a: Establish support for a successful citizen development program

❑ 2b: Establish a program framework for your citizen development program

❑ 2c: Provide your citizen developers with learning programs and support

Step 3: Establish development processes to support citizen developers

❑ 3a: Make sure your development processes will support citizen development

❑ 3b: Establish a portfolio review process for citizen-developed applications

Step 4: Expand your citizen development program

❑ 4a: Use feedback and program data to expand your citizen development program

Additional resources
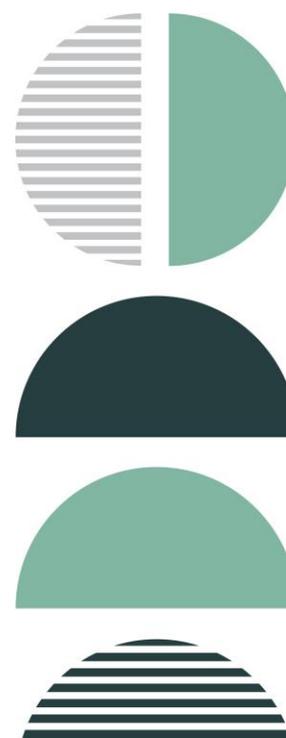
Step 1a: Identify how citizen development on the Now Platform will support your digital transformation objectives

Citizen developers—end users who aren't part of your IT development organization and who create new, IT-sanctioned business applications on your platform—can accelerate your digital transformation. Think about the development potential you'll gain—and about what your IT developer team won't have to spend time on. To make this happen, start by developing a citizen development strategy that aligns with your organization's digital transformation objectives.

Check your progress:

☐ Have we determined how citizen development will support our digital transformation objectives?

☐ Do we have leadership support for a citizen development program?

If you answered "yes" to both questions above, proceed to the next step. If not, complete the action steps below to complete this step:

1. **Identify how citizen development on the Now Platform can support your digital transformation objectives.**

   Here are some objectives supported by citizen development:

   - **Improving development speed and efficiency –** Expanding your development pool can improve your speed to market and support your business objectives.

   - **Shifting IT resources from lower-priority projects –** Citizen developers can take on some less complex IT projects, allowing you to reallocate IT resources to higher-priority projects.

   - **Harnessing frontline innovation –** Citizen development can empower the teams that are closest to the business problems to solve them in valuable and innovative ways.

   - **Increasing organization IP –** Applications developed by citizen developers using company resources are proprietary to your organization.

   - **Reducing shadow IT –** Shadow IT occurs when employees go outside of the IT-sanctioned applications and servers to do their work. When you give employees the tools to develop their own solutions, you're also giving them what they need to create viable solutions within IT-approved space.

2. **Solicit support from your ServiceNow executive sponsor and CoEI.**

   Connect with leaders who have enough authority to support a citizen development program that will scale across lines of business. These might be your ServiceNow executive sponsors or leaders in your CoEI.

   When you have this conversation, focus on how citizen development can support your organization's goals so you can gain these leaders' support to start the program.

Step 2a: Establish support for a successful a citizen development program

Citizen development should be managed as a program that will pilot and scale over time. To be successful, this program will need support from key stakeholders and the appropriate level of management and oversight.

Check your progress:

☐ Do we have support from our key stakeholders for a citizen developer program?

☐ Have we established a scalable technical management framework?

If you answered "yes" to both questions above, proceed to the next step. If not, complete the action steps below to complete this step:

1. **Build support among your key internal stakeholders based on how citizen development will support their goals.**

   A successful citizen development program requires support from your key stakeholders. Here's how to gain it:

   - **Line up support from your business partners –** Give your business partners a clear vision of how citizen development can bring them value, such as the ability to automate faster. Then, explain explicitly what you'll require from them; it could be funding for training or certification for citizen developers, facilitating the time citizen developers spend in the program, or other needs you have.

   - **Secure support from your platform team and CoEI –** Your citizen developers will need coaching, guidance, and clear guardrails. Make sure your platform team and CoEI are committed to helping with this from the start.

2. **Establish a scalable technical management framework to support citizen development.**

   As you think about citizen development, you'll need to consider the technical standards and oversight requirements that you'll need to enforce for citizen developers and balance them against the benefits of democratizing development to groups outside of your IT developer teams. Technical constraints are important but overregulating them can dampen the value and innovation your citizen development program delivers.

   Instead of making blanket constraints across all citizen developer projects, consider a blended approach that applies the right level of management and oversight depending on the application. Some applications your citizen developers lead will require extensive oversight, but others won't.

Here are three levels of management that you could apply, depending on the application being developed:

- **Light technical management –** Use this approach for applications with low complexity and risk, such as converting a simple spreadsheet into an application. A platform team lead or citizen development champion should support and oversee the citizen developer's work.

- **Hybrid technical management –** Use this approach if it's appropriate to have your ServiceNow platform team support citizen developers and complete checks at critical steps. An example of this is when your citizen developers are creating an application with a process that dynamically changes based on the user's location. Technical support may go to your line of business (LOB) product architect first, depending on your organization's structure.

- **Full technical management –** Use this approach for applications with higher complexity and risk—as when an application uses confidential employee information, complex components, or integrations. In this case, involve your central ServiceNow platform team throughout all or most of the development.

The recommended inputs for creating the scorecard outlined in Step 3a will help you identify the right level of management and oversight based on each application's criticality, security, data, complexity, and the nature and number of its users.

3. **Set the required technical guardrails to support citizen development.**

A citizen development program requires an environment that allows citizen developers to create and experiment. Given the shared nature of the Now Platform, these technical guardrails are critical to protect the platform from the developer and the developers from each other. To set your technical guardrails, make decisions about:

- **Instance architecture –** Consider using a separate development instance for your citizen developers.
- **Role-based access controls –** Define the appropriate access for citizen developers using groups, roles, and access control lists. Limit citizen developers' development access to only a dev environment.
- **Inheritance –** ServiceNow provides the very powerful capability to extend core platform tables—task, incident, problem, change, and other tables. Decide whether you'll allow citizen developers to extend tables when they build their applications.
- **Scoped applications –** Use application scoping to provide a "walled garden" for citizen developers. A general best practice is to prohibit citizen developers from building applications in the global scope.

Step 2b: Establish a program framework for citizen development

The best approach is to establish program management for a citizen development program that will pilot and scale. Approach citizen development with program management rigor so you're certain to have ownership, measurement, and participation criteria.

Check your progress:

☐ Have we appointed appropriate program management?
☐ Have we set KPIs for our citizen development program?

If you answered "yes" to both questions above, proceed to the . If not, complete the action steps below to complete this step:

1. **Assign program management.**

   Appoint a program sponsor who will champion the program to leadership and a program manager who will run the program and ensure its participants will be successful. Include your citizen development community in the larger program and, depending on the group's size, consider including some citizen developers as program advisors.

2. **Set KPIs that align with your goals for your citizen development program.**

   Good KPIs should provide evidence that your citizen development program is helping achieve your digital transformation objectives. They should be simple to understand and, ideally, be available in real time. Align the KPIs with the goals you set in Step 1a. Here are some examples:

Goal	Example KPI
Improving development speed and efficiency	Throughput of applications delivered to the business
Shifting IT resources from lower-priority projects	% of applications or development hours delivered by citizen developers
Harnessing frontline innovation	# of innovative applications created by citizen developers
Increasing organization IP	# of applications that automate proprietary processes and/or capture unique knowledge from SMEs
Reducing shadow IT	Reduction in in the number of applications maintained outside the involvement of IT

Practitioner insight: Create a citizen development program dashboard to present the KPIs and make it accessible to your entire enterprise. Automate the collection of the data supporting the KPIs so you can provide accurate and real-time reporting.

2. **Identify who can participate in citizen development.**

    Set entry criteria for citizen developers for your pilot. Ideal candidates for citizen developers include those who have process expertise, are comfortable with spreadsheets, have a desire to learn no-code app development, and understand how app functions can add value to the business.

    Determine how many citizen developers to involve in your pilot depending on your organization's size and the intended scope of your program. Some organizations choose to pilot within a particular business unit while others open participation more broadly.

3. **Establish long-term commitment from your citizen development participants.**

    Your citizen development program will only achieve its goals if the participants consider it a long-term commitment rather than an option to build a pet project. This customer profile on how Jabil scaled its citizen development program is a great example of the commitment Jabil requires of its citizen developers. They include:

    - Building and maintaining development skills and training, including completing delta exams within 90 days of release
    - Complying with good coding practices
    - Attending at least 75% of CoEI meetings
    - Participating in communities of practice
    - Keeping the defect rate under 10% across all code reviews
    - Participating in upgrades and portfolio management

Step 2c: Provide your citizen developers with learning programs and support

Check your progress:

☐ Have we engaged and inspired our potential citizen developers?
☐ Have we established a citizen developer learning program?

If you answered "yes" to both questions above, proceed to the next step. If not, complete the action steps below to complete this step:

1. **Start by engaging and inspiring potential citizen developers.**

   Don't assume that potential citizen developers understand the capabilities of the Now Platform or how they might provide value to their business or their own personal skill development. Create an environment that fosters curiosity and engagement. Here's how:

   - **Deliver an orientation to citizen development and the Now Platform for your potential citizen developers –** During the orientation, explain what citizen development is, the Now Platform's capabilities, and how they might participate in application development. Record these orientations and make them available on demand.

   - **Find quick wins –** When citizen developers are early in their skill development, look for potential applications that require knowledge of their specific LOBs as their first projects. The apps should be relevant to their departments, have "missing" functionality that could provide more value, and require low technical knowledge.

   - **Celebrate successes –** When citizen developers create applications that result in innovative user experiences or deliver value, brag about them and celebrate the success. Consider using a leaderboard within your citizen developer community that includes recognition from senior leaders. Jabil's CoE awards special privileges, including giving citizen developers more platform access so they can gain additional experience.

2. **Support developers with a citizen developer learning program.**

   Set up your learning program so it establishes the standards and teaches the skills that will allow citizen developers to be active developers. This includes defining their learning standards and identifying areas of opportunity for learning improvement and expansion. Include these components in your learning program:

   - **Official learning and certifications –** The ServiceNow-based training courses and learning paths set the foundation for developer onboarding and enablement, like this one for no-code application development.
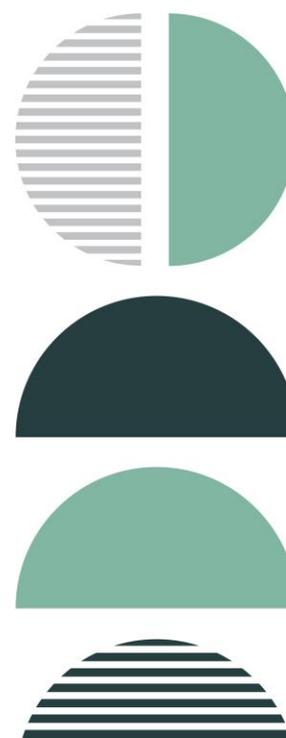
- **How-to reference library –** Create a library of learning resources for your citizen developers so they can expand their knowledge on an ongoing basis and use it when they have questions or need additional support. These could include broadcasted show-and-tell sessions and internal community knowledge bases.

- **Practice environments –** These are sandbox environment(s) where your citizen developers can practice. Consider adding practice labs to these instances. Instance options include stand-alone instances through the ServiceNow developer portal or a customer-dedicated sandbox instance.

- **Assessments –** Assessments are a way to evaluate the skills levels of your citizen developers on their knowledge of your company's best practices. These can be part of formal assessment or through gamification of learning. They can also include formal written exams, practical labs and exercises, and accomplishment tracking.

Plan to give your citizen developers access to increasingly advanced capabilities as they expand their training and demonstrate competence. See our Success Quick Answer on how citizen developers can enhance their learning and go to the ServiceNow developer site for extensive information and guidance.

2. **Provide ongoing support to citizen developers.**

Support your citizen developers with programs that support their current and developing skills:

- **Offer hands-on training for beginning developers–** Get participants in your beginner groups to set up an instance and give them hands-on training so they can build their first apps on the developer portal. ServiceNow training content can support this. Remember to train citizen developers on features they may overlook, such as emailing scheduled reports. Plan to test their knowledge before they build applications on their own.

- **Build a community of practice among your citizen developers –** A typical community of practice provides a range of offerings, including networking opportunities, knowledge sharing, an online community, social events, and mentoring or coaching. If you have a CoEI, consider hosting a weekly session with it and all citizen developers. This way, your new developers can get coaching from experienced peers and experts. These efforts also provide a forum where you can communicate policies and best practices, identify champions, and promote organizational change management at the same time you're helping your citizen developers learn, share, and grow.

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Step 3a: Make sure your development processes will support citizen development

Your existing application development processes will need some modifications to align with citizen development.

Check your progress:

☐ Do we have an intake and review process that can identify the level of technical guidance and oversight that we'll need for citizen developer projects?

☐ Do we have a process to give citizen developers the tools they need and are qualified to use?

☐ Do we have processes to support and enforce consistent development standards?

☐ Have we clearly defined the responsibilities for testing and deployment?

If you answered "yes" to the above questions, proceed to the next step. If not, complete the action steps below to complete this step:

1. **Create an intake system that captures the information your demand review will require.**

    Use consistent demand intake guidelines for all applications to help teams focus on whether an app will deliver value relative to its cost and the level of effort required to develop it. Your intake form must:

    • **Capture information to facilitate a business evaluation –** The evaluation will need to address how the application will meet a business need, whom it will serve, and how you'll measure its success.

    • **Create a technical management scorecard –** Collect information to create a scorecard that can determine the appropriate level of technical management you need for a project. Score your technical management on a low-medium-high scale against this criteria:

        o **Criticality –** Is it critical that this application is always up and running?

        o **Security –** What sources or systems does it connect to? What types of integrations are in use and how do those integrations work?

        o **Data –** Is confidential or sensitive data involved? Are there any requirements for cross-functional approval or potentially setting up data service access? Would the application use reusable data components?

        o **Complexity –** How complex will this application be to build? Will it require involving professional developers?

        o **Users –** Who will use the application—executives, a specific department, the entire enterprise? How many users will it have? How would it impact your IT help desk if it went down?
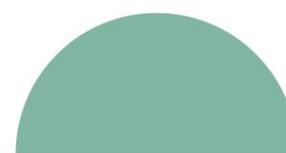
Applications that score high in any of the above criteria should be candidates for high technical management. Candidates with low scores on the above criteria are candidates for light management, and candidates in the middle require a hybrid approach.

- **Capture information to determine if the citizen developers have the necessary skills and training –** Your technical management team will need to evaluate if a citizen developer has the necessary training and certifications to build a particular application. If there's a knowledge gap, determine if the citizen developer can acquire those skills in time or if you need to find another developer to take on the task.

2. **Create a demand management model.**

   Your demand review board should evaluate and prioritize demands. This review process involves three key roles:

   - **Demand manager –** Manages intake pipelines and leads the demand review
   - **ServiceNow architect –** Performs the technical evaluation, including an evaluation of the skills or certifications a citizen developer must have to build the demanded app
   - **Business sponsor –** Assesses the demand's potential business value

   Define the minimum thresholds to guide the demand review board's involvement in decision-making. For example, let's say you've measured an intake request against the technical criteria in your technical management scorecard and you see that it's non-critical, has no data risk, and will be used only in a single department. In this case, your demand board probably doesn't need to review a citizen developer who's already certified to build it.

   Consider defining simpler approaches so you can approve demands faster—and without the demand board's involvement. One way is to define a list of automatically approved demands—and doing this also frees up the demand board for more complex demands.

   If you don't have a demand management model in place, take a look at our resources on managing platform demand for best practices.

3. **Provide developers with tools that will help them build applications.**

   Give your citizen developers tools that will help them as they start with and mature in their application development. Here are a few to consider:

   - **A library of application templates –** These templates can be effective starting points for building applications. You can create artifacts and components for citizen developers to modify to their needs. Also consider including App Engine Studio templates.

   - **Analytics support –** Create a library of suggested performance and value metrics that a citizen developer can attach to their application to showcase the results to the business.

   - **Modular components –** Create a library of prebuilt components that a citizen developer can plug and play into their application. These components can range from complex workflow logic, packaged scripts, integration spokes, and workspace or portal widgets.

   - **Data services –** Provide data services that include spokes or access that allows inter-application collaboration and data exchange. These can be foundational or operational.

4. **Promote consistent development standards to your citizen developers.**

Citizen developers will need to know about your organization's development management guidelines and policies. These will act as guardrails and give citizen developers the standards they need to follow.

- **Implement communication plans so the guardrails are apparent –** Be sure citizen developers know what they can and cannot do and how to get assistance or approvals.

- **Promote standardized development guidelines to citizen developers –** Standardize guidelines and maintain them so all developers solve problems in a similar manner. Ask your pro developers to share application process guidance, application review policies, maintenance guidelines and practices, naming conventions, documentation, UX/UI standards, testing protocols, and security requirements. Make sure they know these standards are relevant to citizen development and give them clear and concise guidance. *Only* provide guidelines that are relevant to your citizen developers so you don't overwhelm them with all the complexities of application development.

5. **Establish clear expectations for the citizen developers' role in testing and deployment.**

For effective testing and deployment:

- **Include citizen developers in testing –** All testing should include Automated Test Framework (ATF), code review, and UAT. Citizen developers should participate in testing but your ServiceNow platform team oversees it as well as performs any additional testing at the platform level.

- **Empower your ServiceNow platform team with the decision to deploy –** Though citizen developers participate in testing, your ServiceNow platform team should own the testing and make sure that deployment was planned using the release management process. This team should also have the ultimate decision-making power to say that an application is fully tested and ready to deploy. As your citizen developer program scales, consider defining different release process paths based on the application's size and complexity.

6. **Automate your review, testing, and deployment processes.**

Automating the development process will shield your citizen developers from complexity at the same time it reduces the burden on your core ServiceNow team. Try using:

- **A code scanning tool –** If you have access to it, use Instance Scan to automate code review for adherence to standards and best practices. Otherwise, try any of the scanning tools found on the App Store.

- **Automated Test Framework –** Automate your testing by deploying ATF. At a minimum, require creating simple regression tests for all citizen-developed applications.

- **Development pipeline automation –** Consider using the ServiceNow CICD spoke and its associated integrations to automate code scan and ATF test execution. When scanning and testing is complete, you can use the CICD spoke to promote the application from environment to environment, in other words, from DEV to TEST to PROD.

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3b: Establish a portfolio review process for citizen-developed applications

Next, think about how you'll perform portfolio reviews on citizen development to be sure you avoid technical debt.

Check your progress:

☐   Have we identified the citizen developer role in the portfolio review?
☐   Have we defined the triggers for application portfolio review?
☐   Do we measure value in our curation decisions?

If you answered "yes" to the above questions above, proceed to the next step. If not, complete the action steps below to complete this step:

1. **Portfolio review is critical to minimize technical debt –** Ideally, a strong analytics-driven portfolio review will predict and highlight issues in near real time. At a minimum, aim to complete annual application portfolio reviews. Many customers align these reviews with their upgrade schedules because upgrade processes can determine if any applications in your portfolio have been superseded by new functionality.

   Consider deploying Application Portfolio Management (APM) for visibility into your applications. This visibility will help you to rationalize applications by comparing applications' value using a simple value measurement framework relative to cost.

2. **Inform application curation by measuring value –** You'll need the right metrics to inform decisions to retire or consolidate applications. Create a value management score for each application based on metrics that align with its objectives. This can be simple, 1–5 scoring that you can weigh based on your business context for these categories:

   • Number of process users, end users, and/or customers served

   • Estimated financial savings

   • Estimated cycle time savings

> **Practitioner insight:** Remember that adoption doesn't equal quality. Something may have high adoption rates simply because there's no better alternative. Or an application with relatively low use could be delivering compelling business results.

4a: Use feedback and program data to expand your citizen development program

Once your pilot has demonstrated value, plan to expand citizen development.

· **Check your progress:**

☐ Do we collect data from citizen developers to inform future improvements?

☐ Do we measure and report on citizen developer results and have planned subsequent phases?

If you answered "yes" to the above questions, proceed to the . If not, complete the action steps below to complete this step:

1. **Solicit feedback –** Ask for feedback from your citizen developers, ServiceNow platform team, and business units to find opportunities to improve your training and expand your citizen developer pool. Ask for feedback that will give you insight into how the program is performing against your business, application development, and program goals.

2. **Measure and report on progress –** Continuously measure the KPIs you identified in Step 1. Share the results with your executive sponsor, program team, and ServiceNow platform team lead. Report on the data as it relates to the business, application development, and program goals. Use this data and the feedback you collected from citizen developers to plan the next phases of your citizen development program.

Additional Resources

- Get started with ServiceNow citizen developer training
- Manage application development on the Now Platform
- Learn how Jabil scaled its citizen developer program
- Build a dedicated governance process, policies, and team
- Manage platform demand
- Avoid customization pitfalls so you can innovate and meet demand at scale
- How should citizen developers enhance their learning?
- Define development management practices
- Govern your ServiceNow environment

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