

Governing Citizen Development:

A Strategy Guide for
CIOs and IT Departments



Introduction

No- and low-code platforms are disrupting, and democratizing, software development. By decreasing- or removing entirely- the programming knowledge needed to build applications, these platforms are changing the landscape of development. Speedier time to delivery on a no- or low-code platform changes the expectation that development is an inherently time and labor intensive ordeal, and many platforms are expanding the definition of who can contribute to application delivery. Enter the citizen developer.

Citizen developers are not part of the IT department, and in some cases may not have formal programming experience. But they are building applications with growing frequency, and these apps have growing impact on organizations -- both positive and negative. Employees who create spreadsheets or other digital solutions that organize or departmental functions are trying to find ways to improve workflows and solve business-problems. The downside is that, because these citizen developers are operating apart from the activities, and jurisdiction, of a central IT department, this development activity often creates a new set of problems all its own.

Governance is what converts disorganized, rogue IT initiatives into citizen development. A no- or low-code platform is the tool that enables said governance, and harnesses the potential of citizen developers to positively support organizations.

Key Takeaways

- Organizations can counter the risks of citizen development like lack of control, unsupported software, and vulnerability to security threats with an implementation strategy, governance policy and sanctioned platform.
- A governance strategy should address the who, what, where, when and how of an organization's citizen development program.
- Establishing a centralized citizen development command center within the IT department provides resources, structure and accountability through monitoring.
- Citizen developers will need tools, resources and support in order to be successful, including software or development platforms, coordination with IT departments and tech support.
- Training is fundamental in terms of both gatekeeping citizen development platforms and teaching fundamentals of data security, as well as continuous development and skills building.
- Security is paramount and all citizen development activity needs to be strictly monitored to ensure compliance.

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Governance Transforms Shadow IT into Citizen Development



With no central governance or accountability, however, citizen development can result in a large number of unmonitored applications operating throughout an organization. Efforts to shut down citizen development activity or hold it at arm's length only seem to exacerbate the problem, but the hesitation on the part of IT departments and leadership to embrace citizen development is understandable. Considering the following oft-cited risks and roadblocks citizen development may create, you can even argue that it is warranted:

1. Citizen developers don't know enough to be helpful, but know just enough to create problems that IT has to clean up.
2. Security, security, security, security.
3. What to do about data stored in legacy systems and data coherence.
4. Shadow IT.

The solution is to embrace and centralize citizen development, and a governance will provide the necessary structure. By integrating citizen development activity within the existing framework of your organization, you will ensure that it meets the structural requirements to augment and add value to existing IT efforts, rather than hinder them. A solid governance model should serve as the backbone of any citizen development program.

How to Use This Guide



This guide is intended as a vision for organizations who wish to implement citizen development systematically and strategically, thus gaining control over rogue IT efforts and harnessing the power of the large untapped pool of citizen developer potential that can be found in enterprises.

A citizen development governance model will undoubtedly vary depending on each organization's unique structure and needs. The following should serve as both an outline of recommendations for CIOs and IT managers to customize within their own organizations, and a framework for choosing a citizen development platform to implement it.

A solid governance model should serve as the backbone of any citizen development program.



Governance Guidelines

Tip 1 – Frame your strategy.

Good strategy requires clear objectives, so that’s a good place to start. Write down what you want to do, and make it visible. What is your vision for citizen development within your organization? What do you hope to achieve with citizen developers and a no- or low-code platform?

It is likely that many in your organization will not yet be familiar with citizen development, and more still will need to be convinced of not only its value, but also its viability. It is therefore crucial to document even the “why” of your pursuit of citizen development to educate, generate support, and keep an overall vision central for all stakeholders.

Once you have identified your objectives in implementing citizen development, the following key questions should form the basis of your strategy. These should serve as a starting point for the implementation of a citizen development initiative (“Use a Light Touch to Govern Low-Code Development Platforms,” Forrester research, 2017).

Who are your citizen developers?

Take inventory of who within your organization will be operating as a citizen developer. Are they already self-aware, or do you need to recruit known power users or business developers to the cause? Either way, make sure it is clear who will have, first, clarity on what is expected of them, and of course, access and rights to the necessary tools.

Where (in which department(s)) will there be citizen developers operating?

How are you going to structure citizen development activity? Depending on your organization, you might have designated citizen developers in one or more departments or business units.

Organizations that have launched successful citizen development strategies tend to roll out new technologies to facilitate citizen development on a small scale first, for example within one department, and growth is scaled outward as it spreads to adjacent departments gradually.

How will apps be developed by citizen developers?

The ideal citizen developer strategy will provide a single, unified platform on which all citizen development activity will be done. This eliminates the risk of having many untrackable, unmonitored Excel spreadsheets or other end-user created applications from LotusNotes or Access and so on running throughout the organization.

In addition to the technology platform, there are existing ways of working within your organization as a whole, and as development teams more granularly. In the age of big data security is always a concern, but military, finance, healthcare and other government sectors are governed by strict processes that ensure due process and protocol throughout their organizations. An effective citizen development strategy has to operate within these existing frameworks.

If the application development and delivery teams are already operating along a common way of working, citizen developers should be encouraged to adopt

those practices. Think Agile, DevOps, continuous integration and delivery, etc. Citizen development will be more quickly established when it follows the existing workflow and protocols of an organization.

The desired outcome is a common way of working for all citizen developers. This ensures accountability, transparency, and of course, the uniformity and organization that enables monitoring and governance.

When will citizen developers contribute to application delivery?

It is important to determine how you will you prioritize which applications will be built by citizen developers, and also to set guidelines as to the expectations for citizen developer output. Will departmental workflow apps have priority, or customer-facing ones? How much of a citizen developer's time should be allocated for application development and delivery, considering that it is probably not their primary role?

What types of apps will citizen developers build?

There are several approaches you can take to delegate the types of applications that fall to the responsibility of citizen developers, in order to implement more structure. One approach is to mobilize citizen developers around single departmental or business unit applications. You could also delegate applications of a particular type, like database or workflow apps, to citizen developers. Yet another approach is to classify applications by class or purpose, eg. apps for external engagement or noncritical departmental apps.

If your organization plans to use citizen developers primarily to develop prototypes, you should clearly chart a path for the journey from MVP to enterprise grade. In this case, citizen developer apps will need to be transferred to IT at a defined point.

Tip 2 – Create a Centralized Citizen Developer Command Center.

There needs to be centralized accountability for a citizen development program, where all activity will be monitored and managed. This office (in many cases, housed within the IT department) will own the governance strategy, and be responsible for monitoring and ensuring that all citizen development activities follow the regulations of other parts of the organization, and integrations with other systems in use. This office will direct the citizen development program in full, and via the following suggested responsibilities:

- i. Maintain the citizen development policy and guidelines.
- ii. Aggregate and provide resources.
- iii. Organize activities, trainings, and otherwise facilitate a community for citizen developers.
- iv. Assume responsibility for managing the platforms and systems that citizen developers use to build, independently and in coordination with the organization's existing IT portfolio.
- v. Catalog, maintain, and publish a list of relevant data services and APIs.
- vi. Report on the status of the program to internal and external stakeholders.

The key to success is multidisciplinary teams in general, and close collaboration with IT specifically. Organizations where the IT department assumes responsibility for the sanctioned use of a platform on which citizen developers can work, there should be multidisciplinary teams of both IT professionals as well as business liaison officers to make the initiative a success.



Tip 3 – Provide Tools, Support and Services

Tools

What separates a strategic, coordinated citizen development program from rogue IT activity is a common platform from which citizen developers can operate. No- and low-code platforms are viable options, depending on the amount of supplemental programming needed (in the case of low-code platforms). Of course, not all platforms are created equal, and even among no-code options there are a variety of capabilities on the market today. Every organization must assess their needs and current portfolio to find the best fitting platform and vendor for their objectives -- and of course, one that supports a governance model.

Support

Citizen developers will need support in several forms, in terms of resources, technology (tools) and human support.

Coordination with IT - One of the pillars of a successful citizen development strategy is a close cooperative relationship between citizen developers and the IT department. IT departments should mentor and help citizen developers improve their technique in addition to overseeing development activity.

Build a community - Citizen developer programs are likely to fail in organizations that do not provide adequate opportunities for collaboration. Citizen developers should be involved in active collaboration with not only the IT department, but also within a network of other citizen developers. Communities of citizen developers are necessary for skill sharing, but also to prevent feelings of isolation.

Tech support - Citizen developers need to know where to go for technical issues. In extension, applications developed by citizen developers will inevitably require maintenance, and there should be established protocol for who takes this over and when.

Tip 4 – Train Citizen Developers.

A key part of the support and services citizen developers will require to be successful is training. There are 2 pillars that form the basis of citizen development training:

1. The first training pillar serves to establish and qualify who can be considered a citizen developer. This preliminary training should serve two objectives, with the first being purely educational. An initial training should introduce citizen developers to basic concepts, expectations and how citizen development fits into their organization. This will include training in any software, platform or tooling. Citizen developers will also need to be briefed on relevant data lists and connected systems. The second objective is to pass an assessment before gaining access to platforms and data and to begin developing.
2. Continuous training thereafter will ensure that citizen developers are not only receiving the support that they need, but that they are offered opportunities for growth and to learn new skills that will allow them to contribute applications of increasingly greater value to the organization. Some of this training will be formal workshops, but hackathons and community events to promote skills sharing are also key.

Tip 5 – Prioritize Security.

The most insidious concerns posed against citizen development are those that call into question security risks. Critics argue that citizen development is fundamentally insecure, owing to the fact that it is inherently uncontrollable, and will only result in unsupported and vulnerable software and a lack of compliance with wider security regulations.

By centralizing citizen development activity and providing clear and strategic governance, each of these concerns can be systematically averted. Because you have delegated ownership to a department or individual, there will be checkpoints in place to ensure that all citizen developer activity (and output) is catalogued, monitored and quality controlled.

Together with the use of no- or low-code platforms that include out-of-the-box security features, and therefore minimize the need for security documentation, there is also an added layer of accountability through what is essentially an internal review system.

Proper training can also augment security, when citizen developers are provided with compliance guidelines and receive supplementary information security certifications.

Final Recommendations



Integrating a citizen development program and establishing a governance strategy is a complex task, because in order for it to be successful there must be both organized centralization as well as strategic inroads to coordinate multiple existing branches of the organization. It is not a simple process, nor will it happen with the implementation of a platform alone. The key to success is a thorough, yet flexible, strategy that incorporates fundamental pillars in the way of resources, training, collaboration and security.

Because this set of guidelines will vary in its implementation from organization to organization, a certain degree of trial-and-error is to be expected. A good starting point is to focus on integration with the existing systems, both digital and organizational, within your organization, and then expand outward. And, as a final recommendation, citizen development governance should be approached with an openness to continuous iteration and development where necessary.



Greetings from the team!

About Betty Blocks

Betty Blocks is the leading no-code application development platform in the world. As the only, truly no-code platform based in the cloud, Betty Blocks enables you to build complex, enterprise-grade applications efficiently and effectively. With the focus on the people, Betty Blocks' no-code platform empowers any organization to experiment towards the right solution and take control of their digital transformation.



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