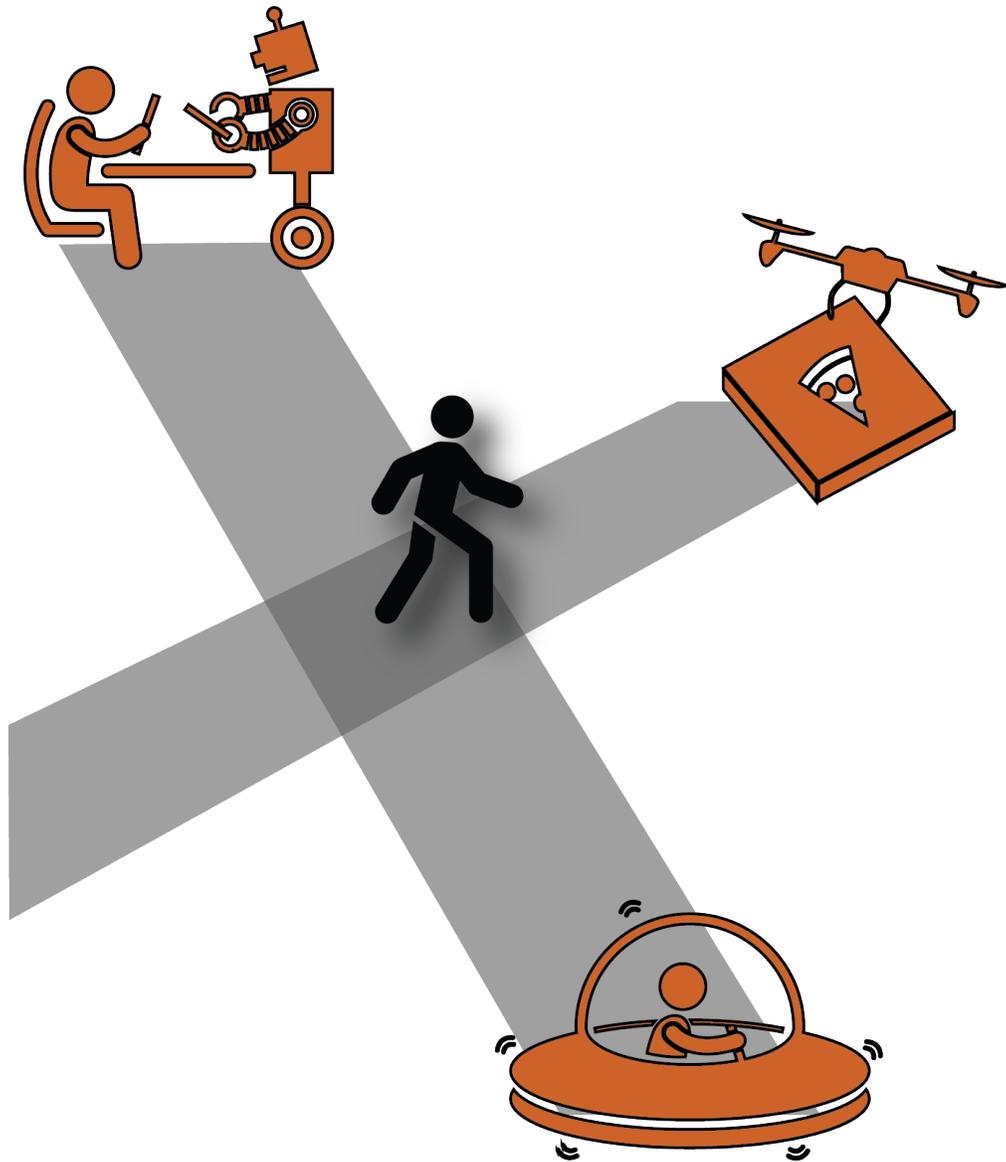


Confidently Navigate Technology:

Your organization's guide to becoming more tech savvy



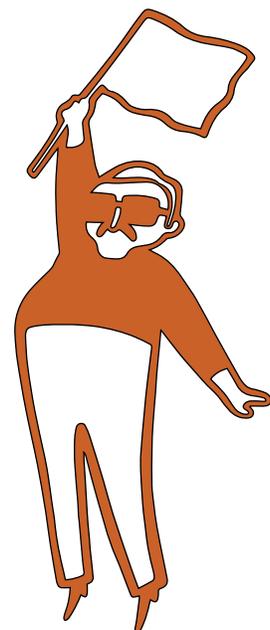
**Civic
Sphere**

Janae Futrell, AICP, LEED AP

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Time to Start Navigating Technology



Introduction

Online Survey + 30-minute Consultation

I'm Janae Futrell, AICP, LEED AP, and I've written this guidebook to orient you on the path to helping your organization become more tech savvy. Getting started is no small feat, and my hope is that you feel not only capable, but also empowered on your journey. The guide opens with a brief survey, which is also available as an online survey. After completing and **submitting the online version**, you'll receive a 30-minute consultation with me at no cost. Your responses help orient me to your particular situation, so I can provide insights into how you could move forward with a more tech savvy approach at your organization.

Graphics + Guidance

After the survey, the guide shifts into a "big picture" graphic to show you how all the parts fit together. It also includes "steps on the path" guidance to further describe how to get started and how take your tech savvy approach to the next level. Towards the end, "next steps" are provided to help you transition from the guide to the real world and taking action. A few printable worksheets are provided to keep with you for creative exploration.

Educational Article Series for Reference

As a reference, be sure to review the **Educational Article Series: Getting Started with Tech Savvy Planning**. It provides background on **Tech Savvy Planning: The Level-Headed Cousin of "Smart Cities"** as well as guidance on **How to Focus, Categorize, and Integrate Your Urban Technology**, **How to Evaluate Technology According to Potential Impact**, and **How to Apply Strategic Planning Techniques to Manage Future Technology Unknowns**. These articles are companion resources to this guide and further illustrate some of the concepts mentioned, often noted within the guide.

How We Can Help

To find out more about how Civic Sphere can help you navigate technology and become more tech savvy, see details on the service area, **Tech Savvy Planning**. We can work 1-on-1, with your work team, in-person, and virtually in order to personally help you with your journey to help your organization become more tech savvy. Our services span a full range from providing hourly guidance and 1-3 day workshops to creating Technology Strategic Plans, Technology Vision Plans, Technology Tactical Implementation Plans, and others.

Contact Me Anytime

As a fellow urban planning and management professional who knows how challenging it can be to become more tech savvy in an increasingly technological world, I wish you all the best on your journey and applaud you getting started. Reach out to me at **janae@civicsphere.com** to share your thoughts about how your journey is going - I'm all ears and eyes!

Survey

The survey below is also available as an online survey.

After completing and submitting the **online version,
you'll receive a 30-minute consultation at no cost.**

1. Does your organization have a clear and effective focus for technology-related work?
 - a. If yes, please describe.
 - b. Where do you see areas for improvement?

2. Is your organization aware of all the categories of technology-related work, including analytical, operational, and public-facing products, and can you list and describe all technologies within each category?
 - a. If yes, please describe.
 - b. Where do you see areas for improvement?

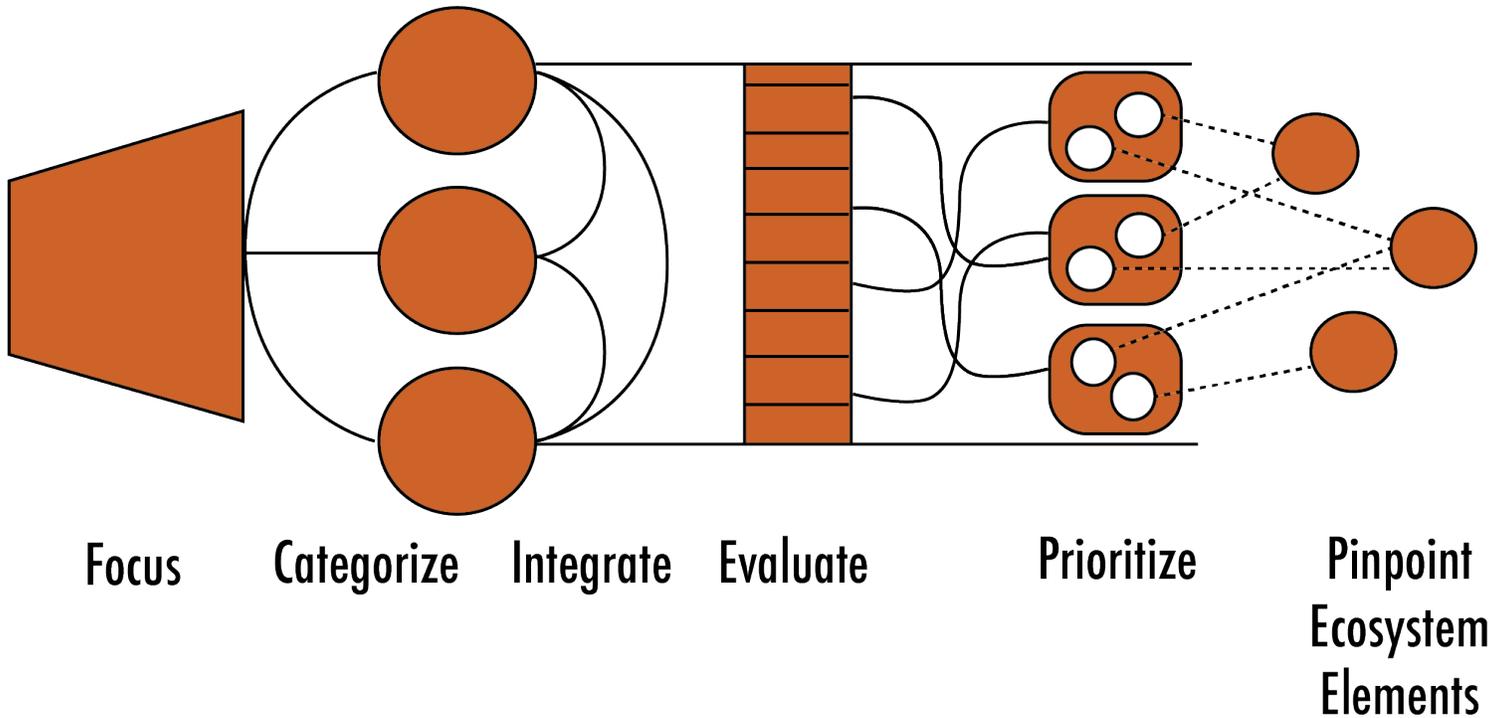
3. Is your organization aware of all the connections and integration needed between each technology, such as the data produced, or complementary functions?
 - a. If yes, please describe.
 - b. Where do you see areas for improvement?

4. Has your organization systematically evaluated all current and potential future technology product types by comparing anticipated results and applying specific criteria?
 - a. If yes, please describe.
 - b. Where do you see areas for improvement?

5. Has your organization systematically prioritized all current and potential future technology product types to inform future actions?
 - a. If yes, please describe.
 - b. Where do you see areas for improvement?

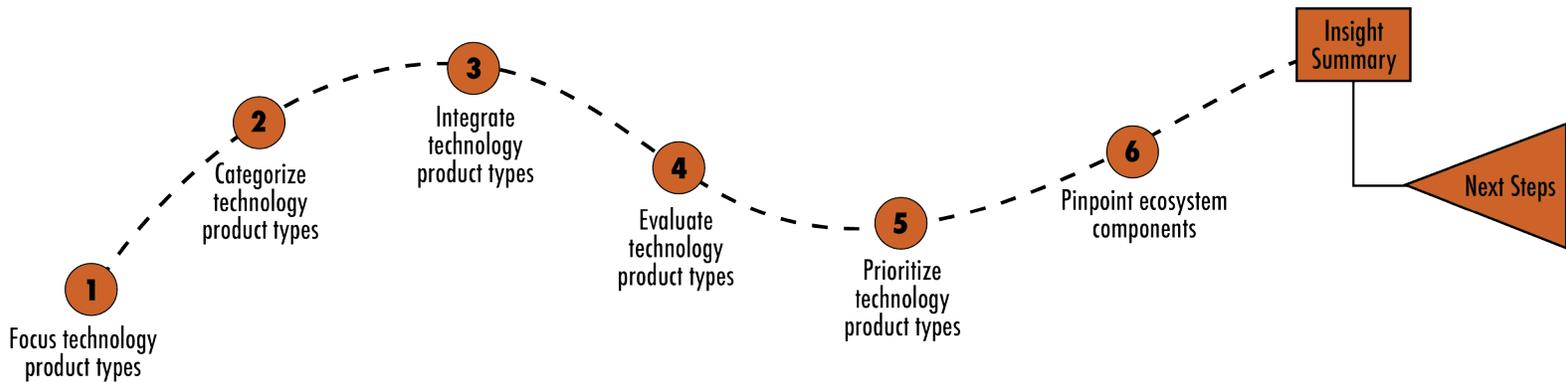
6. Has your organization reviewed the prioritized technology product types for a deeper level of ecosystem and network effects understanding?
 - a. If yes, please describe.
 - b. Where do you see areas for improvement?

Big Picture



This “big picture” graphic provides an illustration of the structure and parts of an ideal technology planning process. It begins, at left, with focusing the technology product types, moving into categorizing, integrating, evaluating, and prioritizing the technology product types. On the right, it ends with pinpointing the ecosystem elements for the technology product types. Before you move onto the following pages, take a few moments to jot down your thoughts about how your organization structures its technology planning processes, in comparison with the graphic. Are there major areas that are different? Are there questions you have about the graphic, perhaps parts you think are missing? Go ahead and make note of all these thoughts, and see if they become clearer as you move through the guide. If not, revisit these thoughts and questions when you get to the “next steps” page in case follow-up actions are needed.

Steps on the Path



STEP 1 Focus technology product types

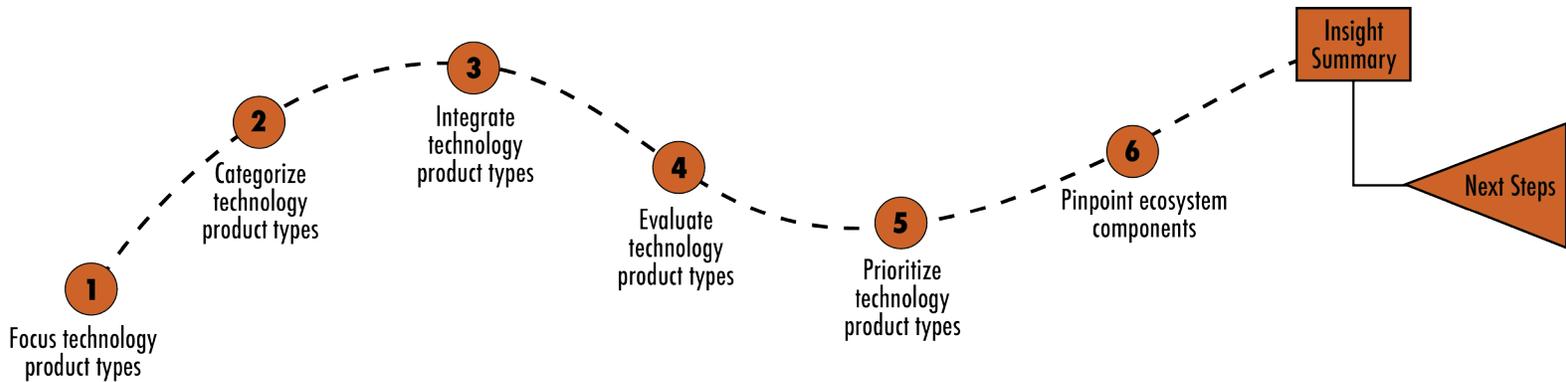
From **How to Focus, Categorize, and Integrate Your Urban Technology**, “Starting an urban technology journey, as with many journeys, begins with focus...Think, alone or with colleagues, about what technology can help and in which situations it can help. Sketch or map out these areas to collect your initial, fresh insights. At this point, it is not about being right or wrong, it is about getting started and capturing thoughts that may remain highly relevant as you build your tech strategy. You’ll continue to add on additional layers, but this initial brainstorm is the best place to begin. We’ll refer to this later as the ‘focus sketch.’” Once you have created a focus sketch, move to Step 2.

STEP 2 Categorize technology product types

From **How to Focus, Categorize, and Integrate Your Urban Technology**, “Now, let’s get into the functional categories of technology in cities. After we’ve run through these, you’ll have additional thoughts to add to your focus sketch. This is not intended to be an exhaustive list of categories, but an illustrative one. First, there are analytical products. These tend to be software that are used for certain purposes such as Geographic Information Systems (GIS) for mapping and data analysis and specific functions depending on the agency. Take a transit agency for example; they often use route-planning software customized for such a purpose.

Second, there are operational products. These are common for service-oriented organizations or those requiring real time data collection for various purposes. Again, thinking of transit agencies, they tend to have fare payment systems, automatic vehicle location platforms, and asset management software. Operational products tend to have a mix of software and hardware as well as Internet connectivity to process extracted data in real time.

Steps on the Path



STEP 2

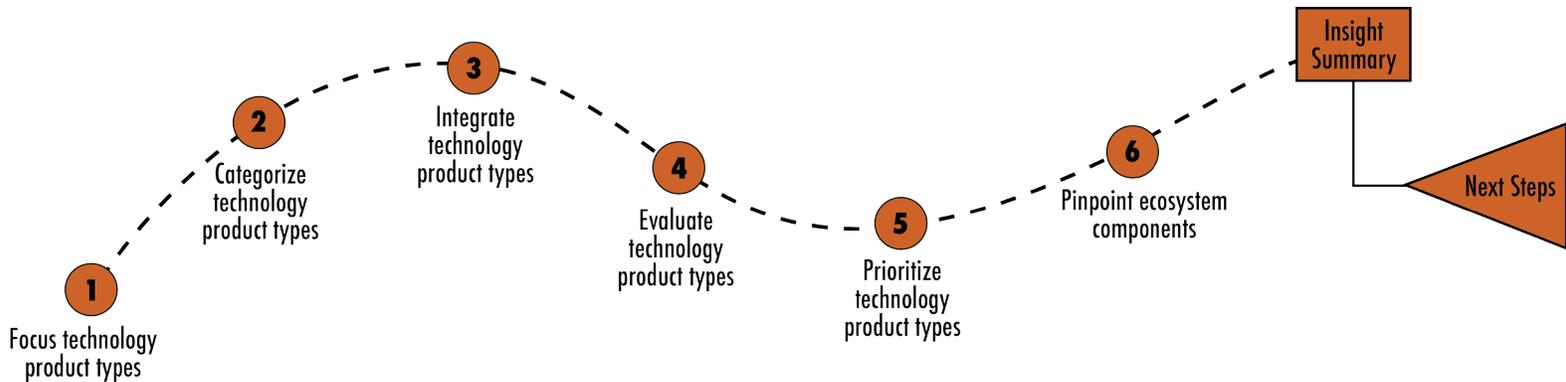
Categorize technology product types

Other common examples are traffic congestion monitoring and bike and pedestrian data. While there have been separate 'counters' for each of these items (cars, bikes, pedestrians, etc.) in the past, it is becoming increasingly common to capture data on these items through one single piece of hardware, a well-positioned device with a video camera and connected algorithms to track such items, count them, note the direction of their movement, and assess if collisions occurred.

Third, there are public-facing products, such as apps and website that provide the public with information they need such traffic conditions, service notifications, utility payment platforms, and real time transit data. Of course, there are other technologies for office functions such as talent management and payment processing, but our scope is focused on how the organization serves the public.

Now that you understand the categories, create a new 'categorization sketch' that illustrates all the technology product types you think might be useful. Perhaps you captured them all already through the focus sketch. If you identified some new ones, go back to the focus sketch and see if any of the new ones in the categorization sketch are worthy of focus. If so, add them to your focus sketch." Once you have created a categorization sketch, move to Step 3.

Steps on the Path



STEP 3

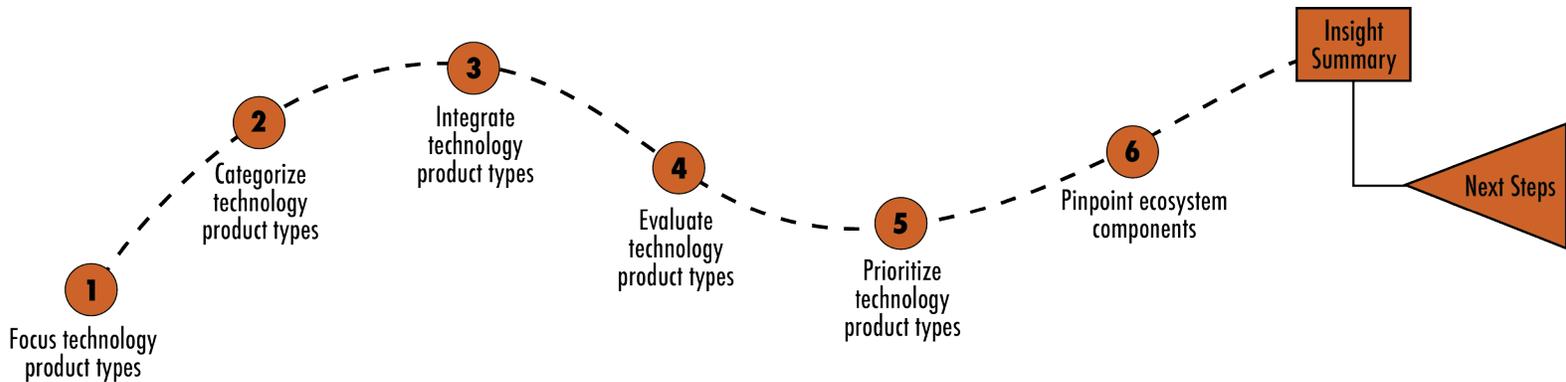
Integrate technology product types

From **How to Focus, Categorize, and Integrate Your Urban Technology**, “For this step, you’ll create a basic diagram of the categories with the technology components core to each category branching from it. In this diagram, you’ll bring any strong ideas from the focus sketch and categorization sketch into one big picture.

You’ll tag the technology product types with terms including ‘current, soon, and long term’ to differentiate between what you already have (current), should deploy in the near future (soon), and what comes later down the line (long term). Then, you’ll look at each technology and map connections between them with tags including ‘existing and future’ for cases in which a) there is an existing connection between two current technology product types (existing) or b) there should be a connection made in the future (future).

From **Educational Article Series: Getting Started with Tech Savvy Planning**, “One example in the transit space is leveraging automatic vehicle location (AVL) data for fleet management (i.e., real time data on the location of vehicles to estimate on time arrivals) for public-facing real time transit data apps, such as One Bus Away. Agencies need the AVL data for operational purposes, but they can plug that data into public-facing apps to provide public information as well.’ Some integration concepts will be less obvious, so it’s important to think deeply about all the ways connections could be useful for a variety of purposes.” Once you have created a categorization diagram, move to Step 4.

Steps on the Path



STEP 4

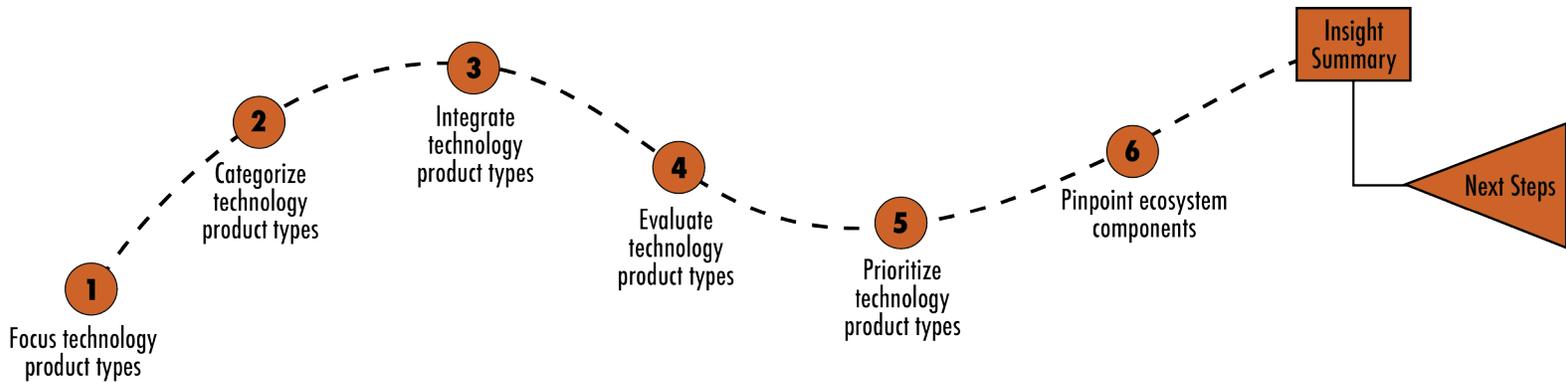
Evaluate technology product types

From [How to Evaluate Technology According to Potential Impact](#), “While [How to Focus, Categorize, and Integrate Your Urban Technology](#) covered key topics, it did not get into the details of evaluating technology product types for potential impact. [How to Combine Mapping and Results for Holistic Organizations](#) states, ‘The impact your organization makes is the combination of proven results across the three levels – functional, cross-functional, and outcome-based. Each level is important in its own right, but it is the combination of all three that holds real power for exponential impact.’ Further, potential impact is the likelihood of successfully moving from anticipated results (AR) to proven results (PR). Review the same article for an explanation of functional, cross-functional, and outcome-based levels as well as for AR and PR. This is a framework you’ll use to evaluate potential impact.

First, alone or with colleagues, build out a table that lists the technology product types under discussion in the left column. For each technology, decide where each one best fits - functional, cross-functional, or outcome-based. In some cases, a technology that is multi-faceted could belong to more than one of these types. In such cases, describe the detail according to the appropriate column. Explain the anticipated result in each box, as you currently understand it. This will evolve over time as you learn more.

While there are many ways to evaluate and prioritize, I’ll share a fairly simple, subjective approach for you to consider using. To evaluate, use three subjective criteria for scoring including 1) ease of implementation, 2) potential impact, and 3) organizational focus. Ease of implementation encompasses a multiple of subfactors such as cost, internal/external support, staff skills, set up and maintenance, and others.

Steps on the Path

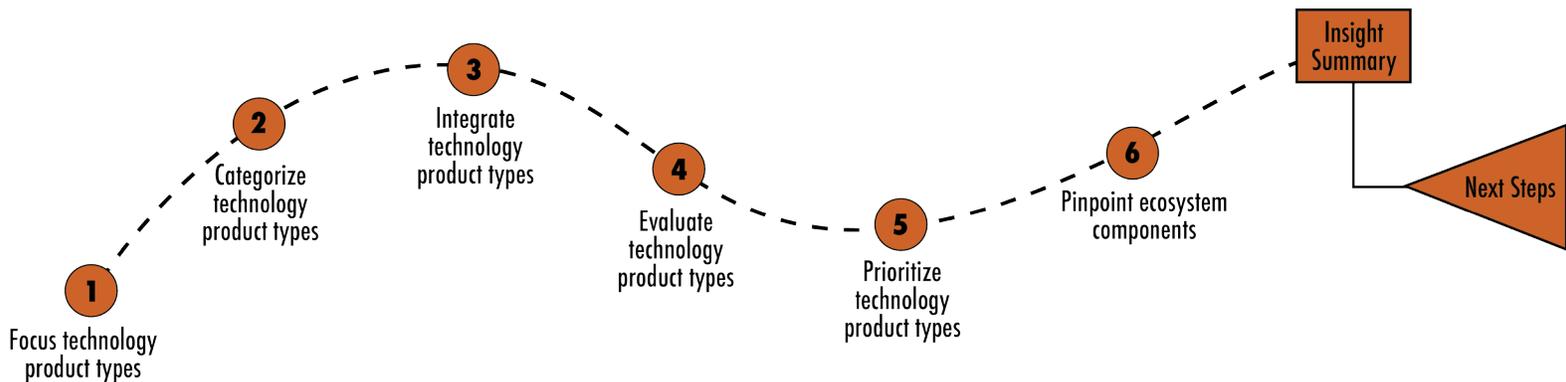


STEP 4

Evaluate technology product types

It could vary depending on the potential for partnerships in cases where implementation would benefit from external collaboration. Potential impact is the likelihood of successfully moving from anticipated results (AR) to proven results (PR). Take a look at the anticipated result table you created. Whether the AR is functional, cross-functional, or outcome-based, consider how impactful the result would be, if it were achieved. What would it do? What would it change? Does it help solve a big problem? Does it put a dent in a major challenge? Then, consider the likelihood of the AR becoming a PR. Sometimes, we have a great technology idea, but there are reasons it is highly unlikely it will get off the ground. Some barriers are surmountable, and others are not. As a professional or group of professionals, it is up to you to understand such implications. If a technology with an AR is very impactful, but with a low likelihood of success, it should probably either be removed or placed on a low priority. The last criterion is organizational focus. This pertains to the organization's core delivery areas, but it could also relate to its core competencies. This may be formally stated in the organization's mission, goals, and tactics, or it may be a fuzzier concept worthy of more thought. Once you are done, you'll end up with a table like the one below to summarize the evaluation. You could have actual numeric scores or 'low, medium, and high' categories." Once you've completed your evaluation table, move onto Step 5.

Steps on the Path



STEP 5 Prioritize technology product types

From **How to Evaluate Technology According to Potential Impact**, “From here, you will prioritize the technology product types in terms of low, medium, and high. There are a few rules of thumb to follow here. If a technology is ‘low’ across all 3 criteria, it should be removed or put on a low priority. If a technology is ‘high’ across all 3 criteria, it should be put on a high priority. If a technology is ‘low’ on potential impact, it should be removed or put on a low priority. If a technology is ‘low’ on organizational focus, it should also likely be removed or put on a low priority. If it is ‘high’ on impact, regardless of the score for the other 2 criteria, it may deserve to be on a high or medium priority, unless it is also ‘low’ on organizational focus, rendering it infeasible. And the list goes on until you have each technology associated with a low, medium, or high priority. After this step is complete, you can build the technologies into other planning efforts for budgeting and phasing. Keep in mind, this is a highly iterative process. This is just a first pass at bringing together a large and complex amount of decision-making information. You’ll continue to refine these steps as you move forward. Some of them may even be left grey while some research is conducted to have a realistic idea of how the technology would perform or to understand its value to your mission.” Once you’ve completed your prioritization table, move onto Step 6.

STEP 6 Pinpoint ecosystem components

From **How to Evaluate Technology According to Potential Impact**, “After you finish an initial pass at evaluation and prioritization, consider that some of the technology product types may be mutually reinforcing. What that means is that some might be stronger together than separate. Take a look at the integration diagram you created through **How to Focus, Categorize, and Integrate Your Urban Technology**. Are there connections between some of the technologies that warrant a note on your prioritization table that they should stick together? Perhaps two highly connected technologies are on different prioritization levels and should be brought onto the same one and thought of as a complementary pair. Think of how you can translate insights you gained from the integration diagram into your prioritization table.” Finalize these insights as your last step.

Next Steps

1

Take the insight summary you created from Steps 1-6, and compare it with how your organization currently approaches its technology. Identify missing elements in what you currently have to pinpoint gaps. Use the printable worksheet on p.11 to help order your thoughts.

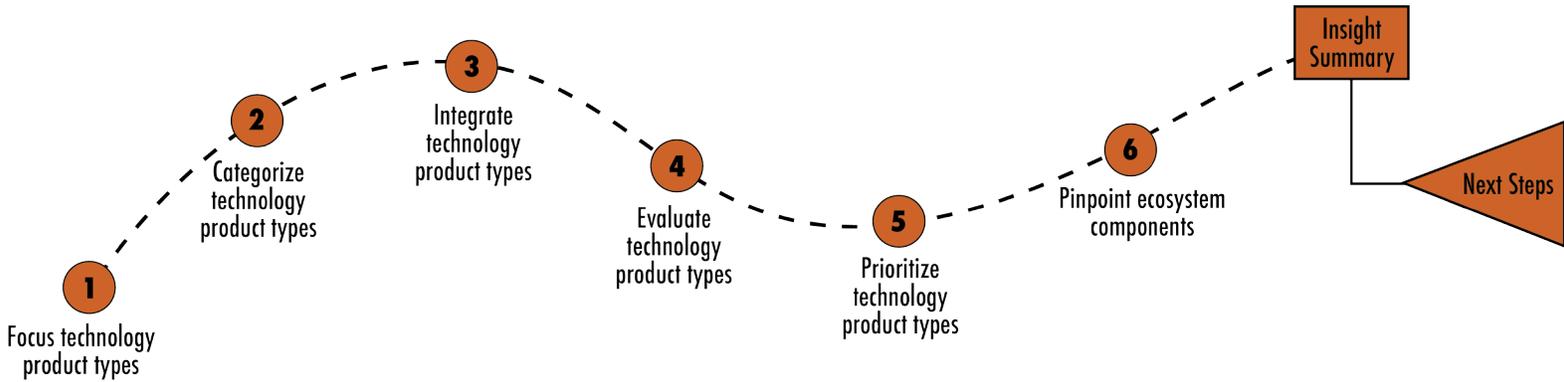
2

Take the clarity you gained from Next Step 1, and identify ways that you could foster the technology changes needed. This will be your action items list, and you can get started making progress when you are ready. Use the printable worksheet on p.12 to help order your thoughts.

3

Pinpoint additional technology planning needs that were not covered in this guidebook or in the **Educational Article Series: Getting Started with Tech Savvy Planning**. Make sure you are clear on the items you still need in order to help your organization become more tech savvy. If you would like further advice, contact me at **janae@civicsphere.com**.

Printable Worksheet 1



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| Step 1 Gaps | |
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| | Step 2 Gaps |
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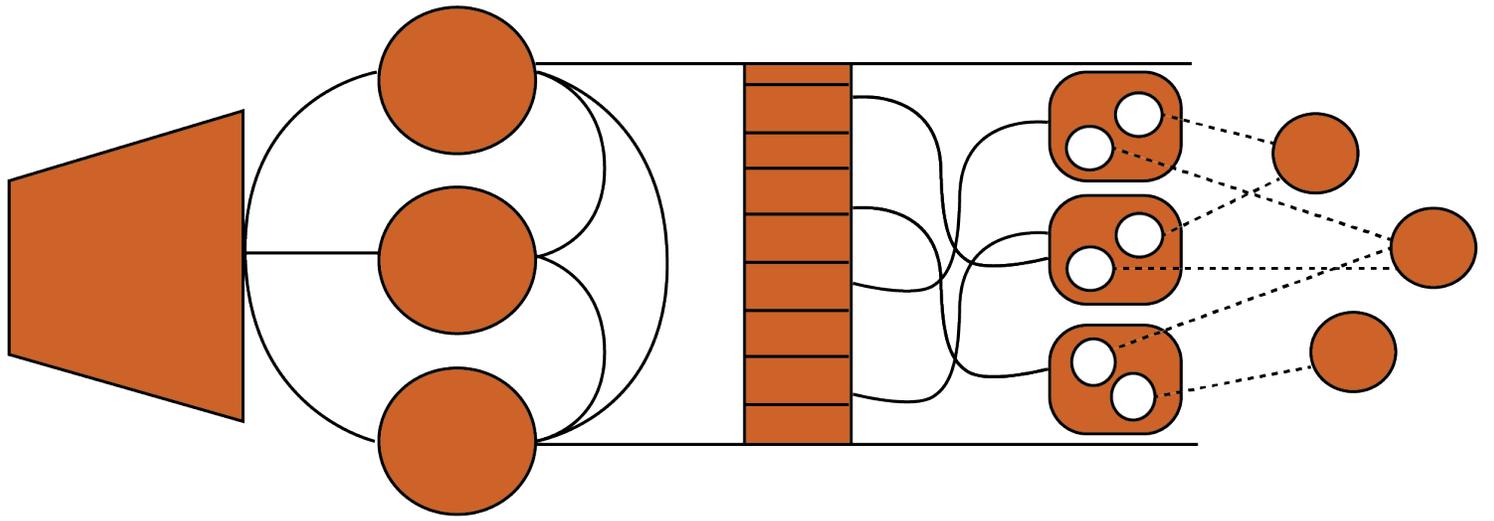
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| Step 3 Gaps | |
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| | Step 4 Gaps |
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| Step 5 Gaps | |
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| | Step 6 Gaps |
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Printable Worksheet 2



Focus

Categorize

Integrate

Evaluate

Prioritize

Pinpoint
Ecosystem
Elements

Action Items for
Focus + Categorize

Action Items for
Integrate

Action Items for
Evaluate

Action Items for
Prioritize

Action Items for
Pinpoint Ecosystem Elements