



BAYWORK

Digital Worker Assessment Tool Checklist and How-To Guide

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Table of Contents

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01.

Introduction

03.

Digital Worker Research

06.

Digital Worker Events

08.

Organizational Preparedness
Assessment Tool

10.

Tips and Strategies for
Improving your Organization's
Position

17.

Conclusion

19.

Appendix A



NOTIFICATION

Bringing in a digital tool to a water or wastewater utility can be daunting and should be treated as a change management initiative to be successful. The bigger the tool, the bigger the challenge.

Potential issues that must be addressed include the management of the project (whether internal or external through a consulting firm), coordination and collaboration among diverse groups (power users and stakeholders), resources management (budget, personnel, and time), and building organizational trust. When these digital projects fail, the cost of failure oftentimes far exceeds the original scope and project budget and can have lasting impact on an organization's willingness to take on other digital initiatives.

Utilities must clearly understand and define the need(s) they are trying to address with a new digital tool. Rapid technological advancement had led to many vendors selling proprietary digital solutions without an intimate knowledge of the water/wastewater industry; without a clear definition of the issue, effort can be wasted on tools that don't meet the requirements. Utilities must address several considerations, including what current tools are available that may perform the same functions.

In what ways are current tools deficient to address the need? What is the functionality needs for various users? Who will champion the initiative and implementation? How will the new tool impact work processes? Who will maintain the tool?



DIGITAL WORKER RESEARCH

Since 2019, BAYWORK has been engaged in investigative research to uncover the challenges faced by utilities and to find opportunities to ensure success in the selection and implementation of digital tools. This body of work began with a survey in 2019 to ascertain the various digital tools BAYWORK utilities use. The timeline of this activity and the products (events and reports) can be found [on the BAYWORK website, here](#). We decided to do a deeper dive on how small, medium and large utilities manage their digital tools, what training is provided, and the challenges encountered.



In 2020, leaders of BAYWORK facilitated a one-day workshop at the Utility Management Conference on digital tools: *The Digital Worker: Workforce Implications of Digital Tools*. The room was electric. The workshop included panel presentations and discussion groups led by table facilitators after each panel presentation.



DIGITAL WORKER RESEARCH

During the workshop, utility staff engaged in brainstorming and collaboration sessions to share concerns and challenges and identify needs in the following categories:

1. Selection of digital tools
2. Organizational culture
3. Coordination with existing workflows and systems
4. Human Resource issues
5. Information Technology support
6. Initial and ongoing staff training
7. Developing qualified candidates for digital jobs
8. Artificial intelligence
9. Cybersecurity

The workshop provided rich and insightful data.



Breakout Sessions at The Digital Worker – Building Our Digital Future



DIGITAL WORKER RESEARCH

A white paper was produced summarizing these findings, entitled Using Digital Tools to Deliver Water Services, published in May 2021 You can find that white paper at this link:

baywork.org/baywork-digital-worker-white-paper.pdf.



Breakout Sessions at The Digital Worker – Building Our Digital Future



DIGITAL WORKER EVENTS

Webinar Series

BAYWORK also offered a webinar series on the information contained in the white paper in the Fall of 2021. You can find that webinar recording at this link:

baywork.org/workshop/the-digital-worker-a-three-part-webinar-series



THE DIGITAL WORKER

A 3-Part Webinar Series



Webinar 1



Webinar 2



Webinar 3

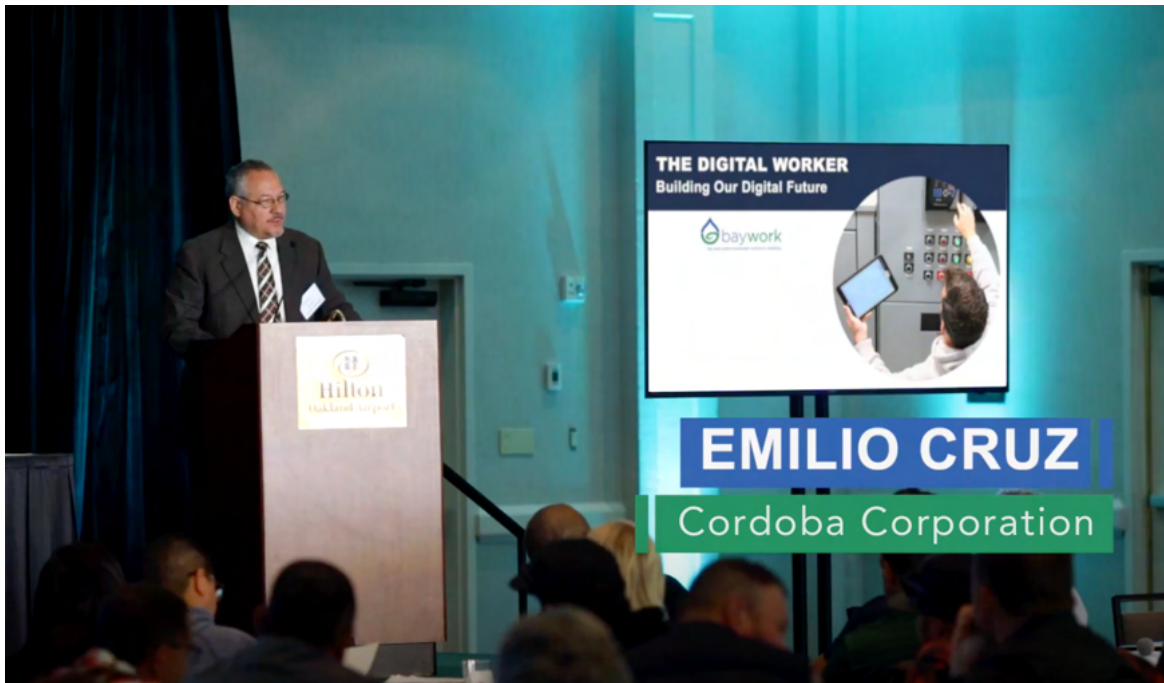
Live Event

In May 2022, BAYWORK hosted a live workshop entitled The Digital Worker – Building Our Digital Future which offered panel presentation and two exercises. These exercises expanded on the findings of the white paper and delved into potential presentations can be found at this link:

baywork.org/workshop/the-digital-worker-building-our-digital-future-event



The first exercise was digital readiness self-assessment. Participants were asked to pick out the top 10 questions utilities should consider ensuring their utility was ready for the adoption of new digital tools, followed by a table discussion to share why they made their specific selections. The second exercise asked participants to identify the most effective next steps for ensuring **digital tool readiness**.



Session at The Digital Worker – Building Our Digital Future

Several aspects of organizational preparedness for the adoption of digital tools were identified as major challenges, and thus this How-To Guide was born; providing utilities with an Organizational Preparedness Assessment Tool to assess different aspects of their organization’s readiness to take on new digital tools.

This high-level assessment tool will address specific questions and determine your organization’s general readiness to introduce new digital tools and manage the change that will ensue. It will also give you basic tips and strategies for working toward readiness.



ORGANIZATIONAL PREPAREDNESS ASSESSMENT TOOL

BAYWORK has prepared an assessment tool that will help individuals within water/wastewater utilities understand how ready their organization is to implement new digital tools.



The questions in the assessment have been grouped into three categories:

- 1 People:** related to staffing levels, organizational collaboration, specific skill sets, and training aspects of implementing a new digital tool. Ensuring that a utility has a champion for implementation, a collaborative environment, and a willingness to train on efficient use of a new tool is critical for successful implementation.
- 2 Processes:** related to the specific organization workflows that the new digital tool will attempt to solve, and the organizational workflows used to implement the project. If a workflow is dysfunctional and not well-designed, a digital tool is not likely to resolve the problem.
- 3 Technology:** related to the physical infrastructure, tools, hardware, software, and maintenance of systems that a new digital tool will rely on for success. The technology backbone needs to be able to support a new digital tool for adoption to be successful.



ORGANIZATIONAL PREPAREDNESS ASSESSMENT TOOL

A copy of the Organizational Preparedness Assessment Tool is included in Appendix A of this How-To Guide, but you are invited to visit the BAYWORK website to download an Excel-based version to score your organization and view the results.



The Organizational Preparedness Assessment Tool can be found at this link: baywork.org/Organizational-Preparedness-Assessment-Tool.xlsx



TIPS & STRATEGIES FOR IMPROVING YOUR ORGANIZATION'S POSITION

Once you have assessed where your organization is today, you can review the following sections that provide tips and strategies for improving your organization's position with respect to People, Processes, and Technology.



Every organization is different, and what works for one will not necessarily work for all.



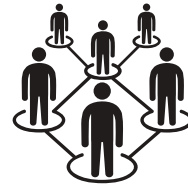
Every organization is different, and what works for one will not necessarily work for all. The tips provided in this tool guide attempt to provide high-level guidance on specific efforts an organization can make to improve the likelihood of success in implementing digital tools.



TIPS & STRATEGIES FOR IMPROVING YOUR ORGANIZATION'S POSITION

Tips and Strategies for People

Below are some tips and strategies to increase your readiness with people.



1

Define the problem.

Report the common understanding of the problem to department management, and ultimately, executive leadership. Seek buy-in that the problem is worth devoting resources to solving. Check in with executive leadership often to update on progress.

2

Collaborate across organization.

Seek diverse input from across the organization to understand how the problem may affect different workgroups or departments in different ways. Identify areas for collaboration and common goals.

3

Collaborate with IT.

Research to determine if the desired tool is compatible with the IT network, systems, and cybersecurity policy.



TIPS & STRATEGIES FOR IMPROVING YOUR ORGANIZATION'S POSITION



Tips and Strategies for People continued

4

Develop implementation strategy and learning culture.

Objectives are found in a strategic business plan or planning document and it is a big initiative to change the culture from siloed work groups to a learning organization. Management is committed to this initiative. Create reward systems for learning culture: mutual learning and sharing feedback and ideas encouraged by management.

5

Establish training.

Determine who develops and offers training. IT offers training on the digital tool itself, as well as training on phishing, cybersecurity issues, and hacking. Training is mandatory and tracked in a Learning Management System. IT supports digital tool implementation and ongoing use. IT staff have adequate bandwidth to support all digital tools and training needs for those tools across the agency.

6

Form a power user group.

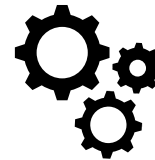
Power users will guide implementation and test the tool. The group provides feedback to management. The group connects with others to learn how they are using the tool and what is working and what is not working.



TIPS & STRATEGIES FOR IMPROVING YOUR ORGANIZATION'S POSITION

Tips and Strategies for Process

Below are some tips and strategies to increase your readiness with process.



1 Create a digital tools inventory.

Develop a list of digital tools, including their features and functionality, within each department. Identify digital tools widely used across the organization; assess where they are being effectively used as intended, identify any adaptations implemented to improve effectiveness, and where these tools are ineffective. This inventory should be centralized and accessible by all teams as needed. The inventory should be consulted before onboarding new digital tools to reduce redundancy.

2 Perform a “gap assessment.”

Assess most commonly used digital tools to identify and understand their shortfalls within and across departments. Analyze common gaps and identify solutions. Share results with departments, IT, and leadership.

3 Develop a feedback process.

Establish a formal process across the organization for collecting feedback on the implementation of new digital tools, including sharing with leaders and a timeline for follow up; document this process. Engage teams across the organization in the development of this process, including leadership.



TIPS & STRATEGIES FOR IMPROVING YOUR ORGANIZATION'S POSITION



Tips and Strategies for Process continued

4

Develop job descriptions for digital workers.

Identify positions where the use of digital tools is most critical to staff effectiveness; ensure job descriptions and onboarding checklists for these positions are updated to reflect new digital tools and technologies, including the need for new knowledge/skills/abilities. Assess where additional training and supervision may be needed. Ensure HR staff routinely review, and update job descriptions as new tools and technology are implemented.

5

Implement cybersecurity practices.

Consider procuring an external cybersecurity consultant, or hiring expertise in-house, to assess the risks associated with current digital tools and systems; identify and implement basic steps needed to reduce risks. Develop plan to address cybersecurity threats across the organization; implement regular assessment of risks and staff training protocols to combat threats. Communicate relevant information to staff quickly and proactively.

6

Create and inventory policies and procedures.

Inventory policies/practices/procedures for digital tools currently in use; identify gaps in hardware configuration, end user how-to, or cybersecurity configuration, etc.



TIPS & STRATEGIES FOR IMPROVING YOUR ORGANIZATION'S POSITION

Tips and Strategies for Technology

Below are some tips and strategies to increase your readiness with technology.



1 Develop an inventory of all major technologies, projects, and alignment.

Prepare IT Master Plan. Provide budget and resources to IT Master Plan. Report to Management on Master Plan.

2 Assess hardware/software.

Evaluate current systems for compatibility with a new digital tool and reliability that is desired. Consider replacements if needed to meet compatibility or reliability requirements. Proactively manage hardware for reliability and multi-department integration.

3 Implement and utilize Learning Management System (LMS).

If your organization doesn't already have an LMS, research LMS tools in coordination with management. Provide training on LMS for staff and supervisors and make sure all trainings are tracked in the LMS system, including digital-tool-specific training, cybersecurity trainings, and other trainings.



TIPS & STRATEGIES FOR IMPROVING YOUR ORGANIZATION'S POSITION



Tips and Strategies for Technology continued

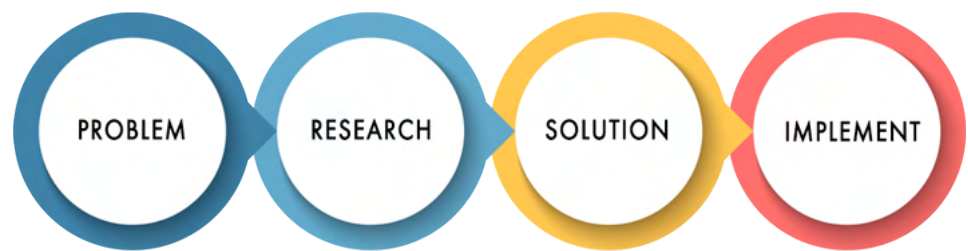
4

Train IT staff on cybersecurity.

Train IT staff on risks, regulations, and assessment of server logs for vulnerabilities. Train staff on basic cybersecurity risks like phishing. Evaluate cybersecurity action to identify malicious activity. IT Staff should understand cybersecurity and use resources to investigate alternative technologies to ensure the best digital tool is selected for the problem that needs to be solved.



In BAYWORK's Digital Worker White Paper, we stated that purchasing digital tools does not solve water utility problems. Utilities often build business cases that compare the purchase price of a digital tool with an anticipated return on investment, without taking into account all of the resources that will be required for successful implementation of the tool.



What utilities need is a clear definition of the problem that needs to be solved, and how a digital tool will address it. We also need a thorough investigation of alternative approaches and tools for solving the problem. Additionally, we need to consider employee impacts, ranging from potential elimination of jobs to the need to learn new workflows and new tools as well as both initial and long-term support for user training (e.g., ongoing training, and continuous availability of training materials and mentoring.) This can't be emphasized enough! Training is often the weakest link. Finally, we need to evaluate the cybersecurity risks of the tool and make sure it is compatible with our current in-house IT systems.



CONCLUSION

Identification of existing workflows and systems that will be impacted by a new system — including impacts on workgroups other than those that will be using the tool is also an important consideration. The cost of modifying job classifications, job descriptions and requirements, salaries, and recruitment practices, to support recruitment and retention of skilled digital workers also must be factored into the equation. The leadership required to provide sound and consistent guidance to the project is critical.

We would like to acknowledge the invaluable contributions of IT staff and end users from Fairfield Suisun Sanitary District, San Francisco Public Utilities Commission, Contra Costa Water District, and other agencies who provided feedback and insights during the vetting process of the Digital Worker Assessment Tool. Their expertise and collaboration were essential in shaping the tool into a more effective resource.



BAYWORK has invested five years in the research and development of materials to help water utilities identify and use digital tools in our industry. This How-to-Guide and Self-Assessment Tool on Digital Readiness can benefit all agencies as they implement digital tool solutions to their work. We would appreciate hearing your feedback on how this tool has worked for you.



*To provide feedback, please email
sfbaywork2011@gmail.com.*



APPENDIX A

Organizational Preparedness Assessment Tool.

Click anywhere below to open the Excel Assessment Tool.

INSTRUCTIONS (sheet 1)

ORGANIZATIONAL PREPAREDNESS ASSESSMENT TOOL

v. 1.1

6/17/24

INSTRUCTIONS:

1. On the "Data Entry" tab of this spreadsheet, review the readiness levels described in each row.
2. At the far right (Column H), use the dropdown menu to select the readiness level that best applies to your agency.
3. Repeat for each row in the spreadsheet.
4. Each section (People, Processes, Technology) will calculate an average result.
5. Review the "Results" tab for more detailed analysis of your results.

READINESS LEVEL (sheet 2)

QUESTION	-- READINESS LEVEL --					YOUR ORGANIZATION'S RATING
	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	
PEOPLE						
Do staff have a common understanding of the problem that needs to be solved?	One individual has suggested a problem.	A workgroup is aligned in defining a common problem.	A division/department is aligned in defining a common problem.	Several divisions/departments are aligned in defining a common problem.	Most of the organization, including executive management, is aligned in defining a common problem.	
Is there a champion for the digital tool that will help orchestrate the effort?	No champion.	An individual has expressed interest in a new tool.	An individual has agreed to lead digital tool implementation and adoption efforts.	An individual champion exists, and other individuals are willing to pilot the tool and support implementation.	A multi-disciplinary team, including IT and end-users, has been established to lead implementation and adoption efforts.	
Does the organization foster a collaborative environment?	No, or very limited, collaboration.	Individuals collaborate, generally within their own department.	Some cross-disciplinary collaboration for certain initiatives.	Moderate cross-disciplinary collaboration for initiatives.	Broad cross-disciplinary decision-making process, including different staff levels, roles, and department within the organization.	
Does the organization foster a learning culture that is open to feedback and ideas?	Feedback is not encouraged.	Channels for learning from others are in place but are used inconsistently; sharing of feedback and ideas is limited.	Specific workgroup supervisors encourage learning from each other and providing feedback and ideas.	Some department/division managers foster a learning culture within their team.	The organization as a whole actively encourages a learning culture, providing honest feedback, and asking questions.	
Is there a strong technical team to ensure technology is ready to support new digital tools?	No, or very limited, IT support for implementing new tools.	Some initial research and compatibility support is available when identifying new tools.	Some basic hardware support when establishing new tools, but limited application/end-user support.	Moderate support, from a hardware and software perspective.	Comprehensive IT support is available to assess needs for hardware/software and to provide long-term support for end users to achieve successful implementation.	
Are staff provided with an opportunity to develop new skills, especially related to implementation of new digital tools?	No, tools are provided without training.	Passive training (e.g., written manuals, training presentations) are available to review.	Active trainings occur once and follow-up rarely occurs.	Active training occurs; ongoing refresher trainings are available, and documentation is public.	Power user group formed to test functionality of tool, provide feedback to IT and management, recommend documentation updates, and mentor others on the use of the tool.	
Do IT staff have the bandwidth to take on more tools?	No, very limited IT support.	No, but IT can confirm that new digital tool does not duplicate existing functionality.	IT staff have some bandwidth to support implementation (one-time) but may not be able to support long-term.	Help desk is available for people to call but the solution may take time.	IT staff have adequate bandwidth to support implementation and ongoing operation of a digital tool.	
Are IT staff abreast of current technologies?	No, very limited IT support.	IT is not aware of new technologies, including cybersecurity rules and regulations. Can't keep up with changes.	IT staff knowledge is not detailed enough to be able to help with technology selection, but can assist with implementation.	IT keeps up with new technologies and cybersecurity best practices and invests in sending people to training.	IT staff have resources to investigate alternative technologies, cybersecurity best practices, and new regulations, and to ensure that the best digital tool is selected for the problem that needs to be solved.	

RESULTS (sheet 3)



Thanks to all that contributed support in creating this tool selection guide.

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