

2021

Bureau of the Fiscal Service
Office of Financial Innovation and Transformation (FIT)

Digital End-to-End Efficiency (DEEE) Playbook

Digital is Here for Federal Government



The Federal government is instrumental in delivering services for the public, yet many business processes we rely on today are **manual and costly**. Digital and emerging technologies present significant opportunities to identify cost savings, improve customer experience, and enhance controls via digital transformation.

The Bureau of the Fiscal Service's Office of Financial Innovation and Transformation (FIT) **estimates there are significant government-wide cost savings opportunities** by transforming end-to-end processes.

FIT developed the **Digital End-to-End Efficiency (DEEE) Playbook** to accelerate digitization through reducing unnecessary process steps, boosting automation, and innovation to achieve large-scale efficiencies.

DEEE Playbook Benefits



Accelerates finding the largest process improvement opportunities by **blending Human-Centered Design (HCD) with traditional process analysis**



Enables digital transformation through a **simple step-by-step framework**



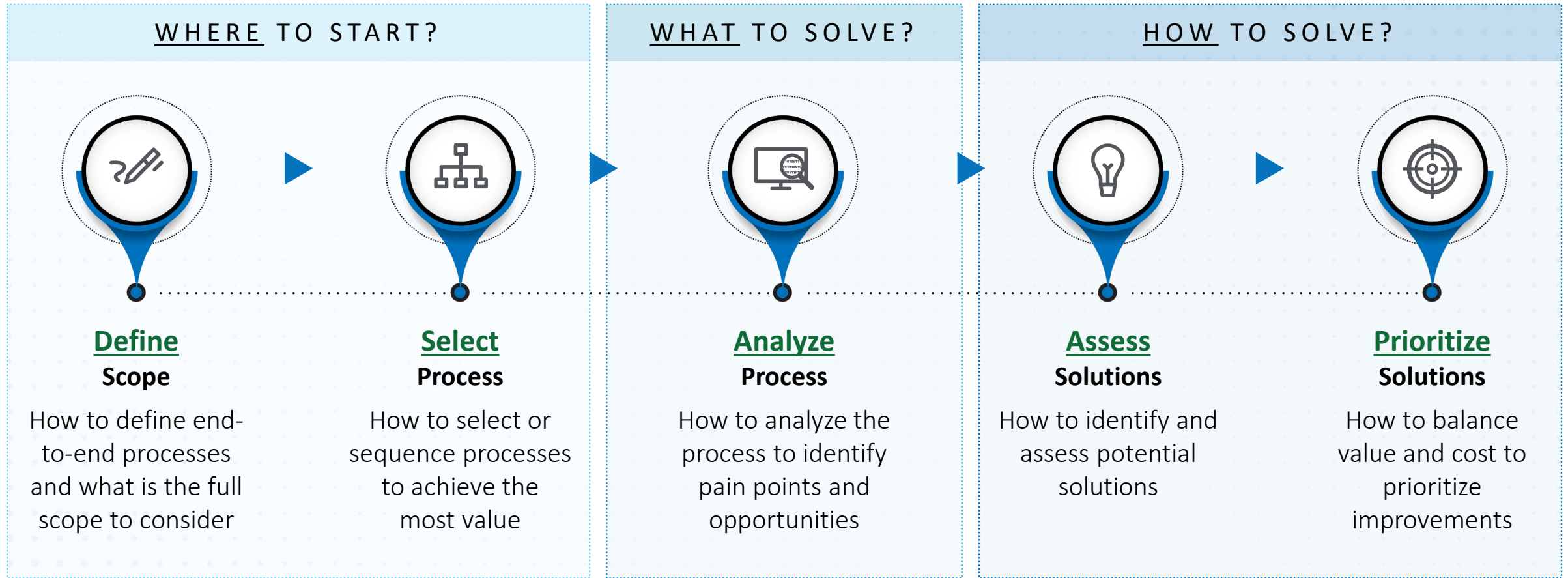
Provides a **suite of tools to implement** this framework on any agency business process

PLAYBOOK SUMMARY AND KEY CONCEPTS



DEEE Framework and Approach

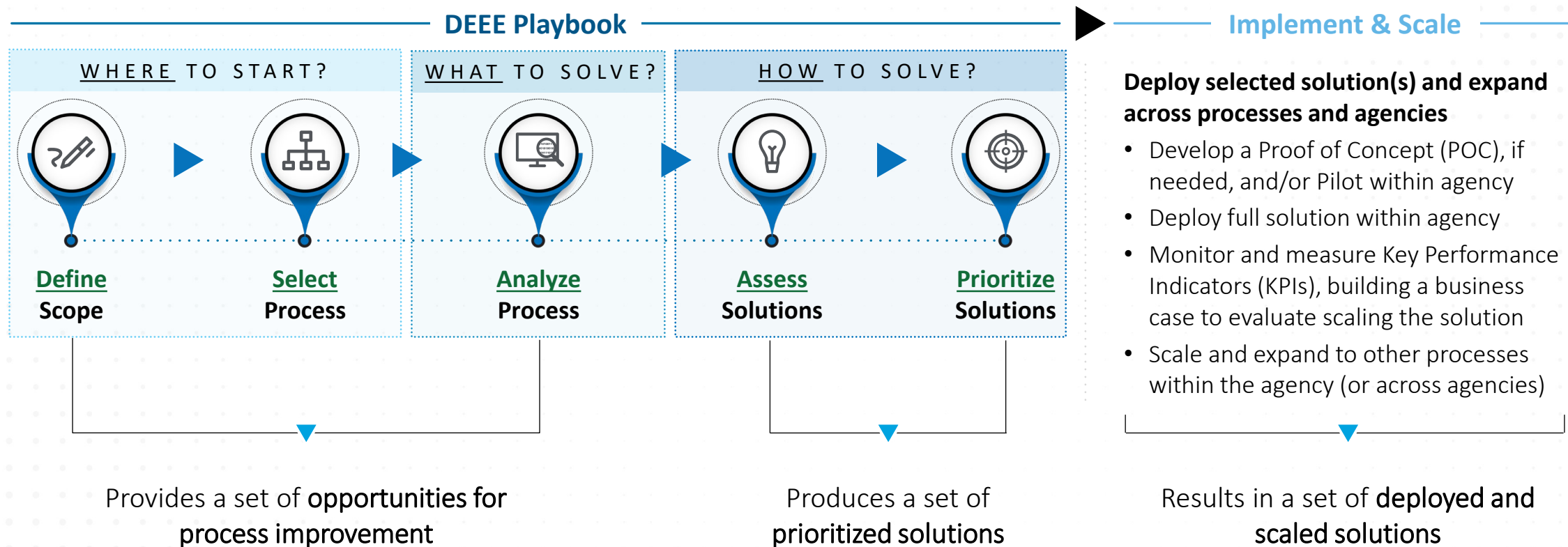
The DEEE Framework is a simple five step process



*Note: If the agency already has a process selected for analysis, skip to **Analyze Process Step***

DEEE Playbook Summary

The DEEE Playbook provides tools and techniques to supplement the Framework to **identify opportunities and solutions**, preparing agencies to **implement and scale solutions** to transform processes



Key Concepts: Drivers of Value



Digitization

Moving from manual or paper-based **processes** to **systematic or automated processes** to change the way work is done



Scalability

Deploying solutions across **processes** that can solve many similar problems and **support greater volumes or users** with a consistent or similar cost



Transformation

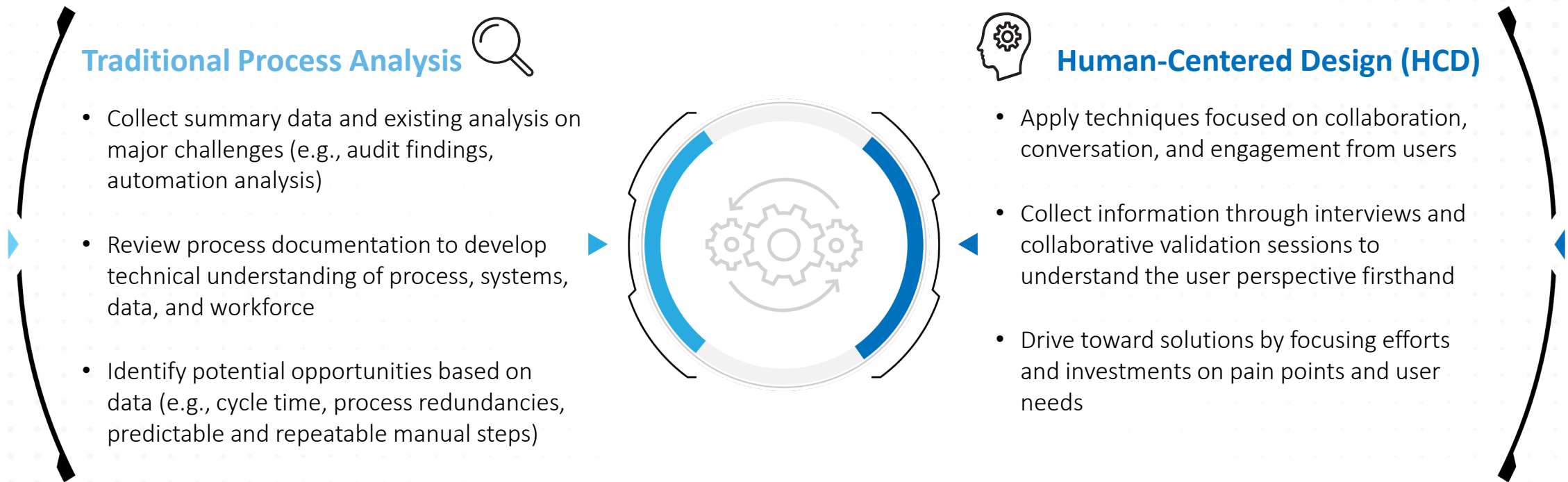
Changing and improving the nature of how the entire process is performed **start to finish vs. deploying “point” solutions** (i.e., a solution for a single problem)

These concepts are woven through the DEEE Playbook because together they drive the expected value to agencies



Leverage Traditional Process Analysis with Human-Centered Design

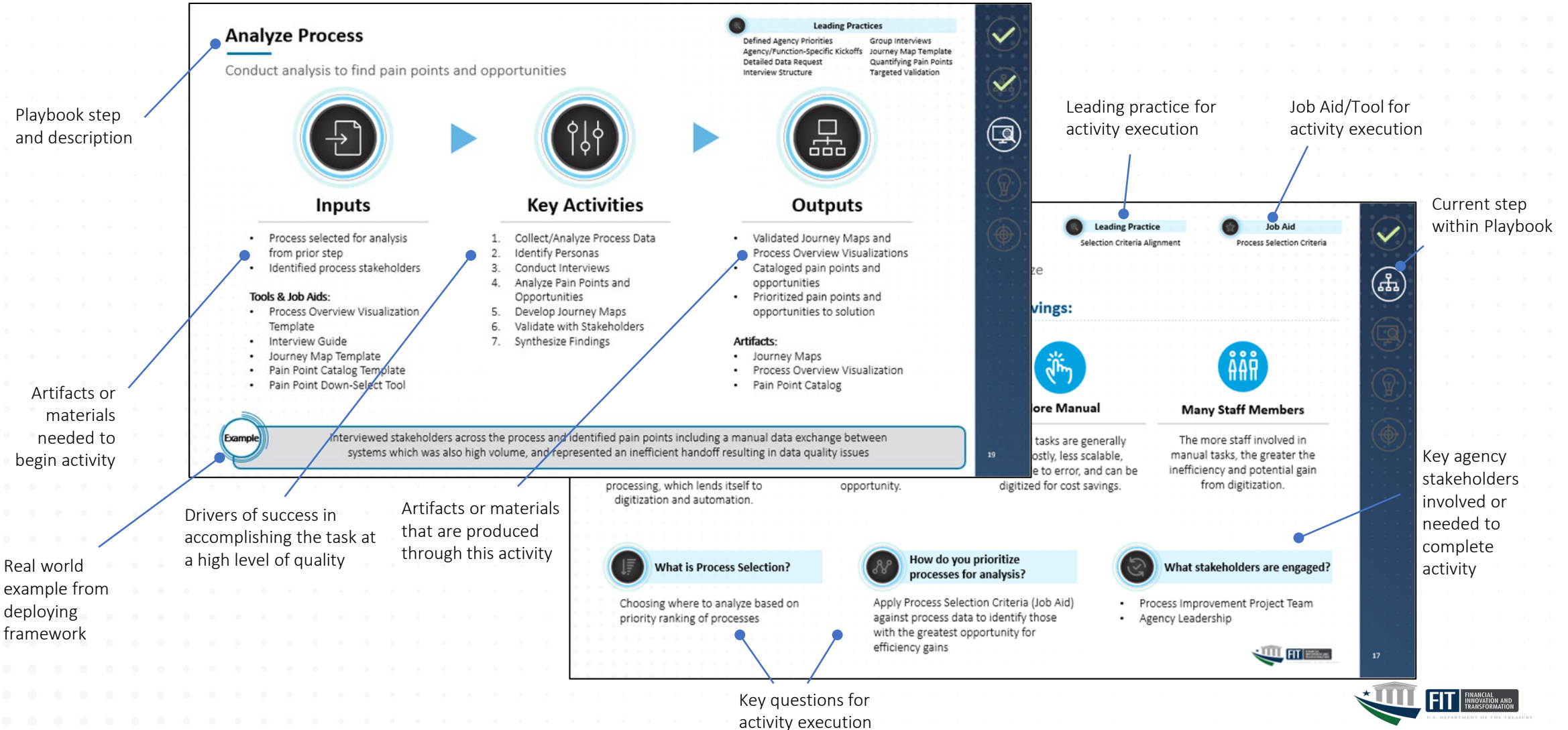
The Playbook helps agencies identify improvement opportunities through detailed analysis of process documentation while also understanding the experience, needs, expectations, and pain points of the users involved



Blending HCD puts the focus on allowing Agency's to gain a better understanding of their customers' and employees' need, leading to **quickly finding opportunities** that are far more **effective and cost-efficient**, and **accelerating the rate of adoption**

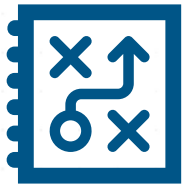
How to Read this Playbook (1/2)

This Playbook is divided into sections aligned to the five steps of the DEEE Framework and provides information on how to implement it in conjunction with the associated tools and job aids



How to Read this Playbook (2/2)

This Playbook is best leveraged in combination with the DEEE Tools & Job Aids as well as the outlined leading practices within each of the five steps of the framework



Playbook

Steps for agency to follow



Tools & Job Aids

Documents to use during each framework step



Leading Practices

Techniques to consider

Use all **three artifacts** above in combination to **apply** the DEEE Framework

DEFINE SCOPE



Define Scope

Identify project boundaries by defining key requirements and objectives



Inputs

- What are your agency's priorities (e.g., cost savings, improved customer experience, enhanced controls/auditability)?
- What processes are you interested in evaluating (e.g., what functions or areas are open to analysis)?



Key Activities

1. Collect existing process definitions
2. Create process taxonomy, if needed
3. Align process definitions to end-to-end processes, if needed



Outputs

- Agency processes mapped to end to ends
- Detailed scope boundaries (start to finish and all contents) for process analysis and selection

Artifacts:

- Agency process alignment to end-to-ends

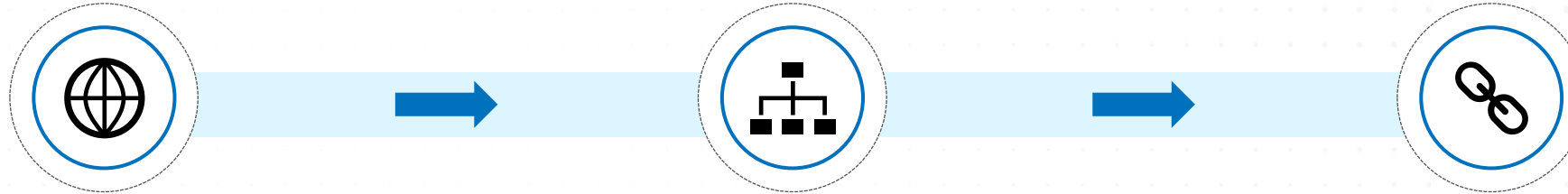
Example

An agency defines its processes through its structured service catalog, which the project team analyzed and mapped to government wide end-to-ends



Define Scope

Define End-to-End (E2E) process scope, which represents a start-to-finish outcome-based procedure



Identify Full Scope of Processes

Capture all agency business scenarios and sub-processes

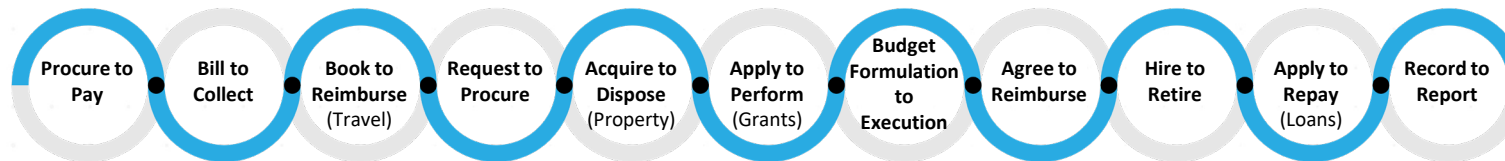
Organize into Taxonomy

Create structured decomposition of processes/sub-processes

Align to governmentwide E2Es

Crosswalk agency processes to standard definitions

There are 11 Government-Wide End-to-End (E2E) Business Processes:



What is a process taxonomy?

Defines the full scope of agency processes, structures multiple levels of sub-processes, and provides high-level definitions of each



Why is this important?

A standardized way to think about business processes with an outcome-based view, organize data, engage all relevant stakeholders (e.g., multiple functions), and align across agencies through consistent definitions



What stakeholders are engaged?

- Process Improvement Project Team
- Process Owners

SELECT PROCESS



Select Process



Leading Practice

Selection Criteria Alignment

Evaluate agency goals and strategic objectives to select a process for improvement



Inputs

- Agency processes mapped to end to ends
- Detailed scope boundaries (start to finish and all contents) for process analysis and selection

Tools & Job Aids:

- Process Selection Criteria



Key Activities

1. Select and validate appropriate selection criteria
2. Collect and analyze data against criteria
3. Rank processes by priority
4. Select process or sub-process to analyze



Outputs

- Selected process for analysis
- Defined focus area within end-to-end process (if applicable)

Artifacts:

- Selected process

Example

Analyzed agency data by service and used process selection criteria to choose the Bill-to-Collect (B2C) E2E process for analysis based on having the most manual/high volume services across all E2Es



Select Process



Leading Practice

Selection Criteria Alignment



Job Aid

Process Selection Criteria

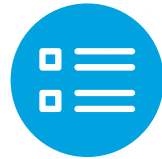
Apply Process Selection Criteria Job Aid to select a process to analyze

Key criteria to select processes with most potential cost savings:



Transactional (vs. Analytical)

Transactional activities are more routine and generate value from quick and accurate processing, which lends itself to digitization and automation



High Volume

Greater volume translates to scale for efficiency gains and results in larger overall opportunity



More Manual

Manual tasks are generally more costly, less scalable, susceptible to error, and can be digitized for cost savings



Many Staff Members

The more staff involved in manual tasks, the greater the inefficiency and potential gain from digitization



What is Process Selection?

Choosing where to analyze based on priority ranking of processes



How do you prioritize processes for analysis?

Apply Process Selection Criteria (Job Aid) against process data to identify those with the greatest opportunity for efficiency gains



What stakeholders are engaged?

- Process Improvement Project Team
- Agency Leadership

ANALYZE PROCESS



Analyze Process

Conduct analysis to find pain points and opportunities



Inputs

- Process selected for analysis from prior step
- Identified process stakeholders

Tools & Job Aids:

- Process Overview Visualization Template
- Interview Guide
- Journey Map Template
- Pain Point Catalog Template
- Pain Point Down-Select Tool



Key Activities

1. Collect/Analyze Process Data
2. Identify Personas
3. Conduct Interviews
4. Analyze Pain Points and Opportunities
5. Develop Journey Maps
6. Validate with Stakeholders
7. Synthesize Findings



Outputs

- Validated Journey Maps and Process Overview Visualizations
- Cataloged pain points and opportunities
- Prioritized pain points and opportunities to solution

Artifacts:

- Journey Maps
- Process Overview Visualization
- Pain Point Catalog



Leading Practices

- | | |
|-----------------------------------|-------------------------|
| Defined Agency Priorities | Group Interviews |
| Agency/Function-Specific Kickoffs | Journey Map Down-Select |
| Detailed Data Request | Quantifying Pain Points |
| Interview Structure | Targeted Validation |

Example

Interviewed stakeholders across the process and identified pain points including a manual data exchange between systems which was also high volume, and represented an inefficient handoff resulting in data quality issues



Process Analysis Activities

Key steps to analyze a process or sub-process



Leading Practices

Defined Agency Priorities
Agency/Function-Specific Kickoffs
Detailed Data Request
Interview Structure
Group Interviews
Journey Map Down-Select
Quantifying Pain Points
Targeted Validation



Job Aids

Process Overview Visualization Template
Interview Guide
Journey Map Template
Pain Point Catalog Template



Collect/Analyze Process Data

Analyze process documentation, gather baseline cost and performance data, define start and end point for analysis, identify opportunities

Identify Personas (Multiple Functions)

Identify all key actors and roles in the end-to-end process (all functions; customer and provider) and validate with Process Owners

Conduct Interviews

Review process using Overview Visualization, capture observations, pain points, goals, and needs

Analyze Pain Points and Opportunities

Understand, analyze, and organize the full scope of challenges and opportunities across personas

Develop Journey Maps

Visualize the process from the user's point of view and layer journey maps across process

Validate with Stakeholders

Confirm that journey maps and pain points reflect "reality on the ground" and down-select pain points using tool, as needed

Synthesize Findings

Evaluate final, validated pain points, opportunity catalog, and lessons learned



Process Analysis Key

- Traditional Process Analysis (TPA)
- Human Centered Design (HCD)
- Blended Analysis (TPA + HCD)

Pain Point and Opportunity Categories

To drive cost savings through digitization, consider pain points that fall into these categories



Redundancies or duplicative activities across teams



Manual process steps



Disconnected steps or inefficient handoffs within a process



Service delivery inefficiencies (incl. customer issues/complaints)



Historical **internal control risks** and/or **audit findings**



High volume of occurrences



Activities to **improve the process outcome** (vs. process efficiency)



Data quality issues



What are pain points?

A challenge or process inefficiency from the user's experience. Some are derived from quant analysis and may not be specifically identified by any one user.



Why are pain points important?

Pain points help identify improvement opportunities to **digitize processes** and deliver cost savings, enhanced controls, and improved customer experience



What stakeholders are engaged?

- Process Improvement Project Team
- Process Owners
- Process SMEs/Users

ASSESS SOLUTIONS



Assess Solutions

How to identify and assess potential solutions



Leading Practices

Technology Stakeholder Engagement
Sample Solution One-pagers
Solution Session Participants

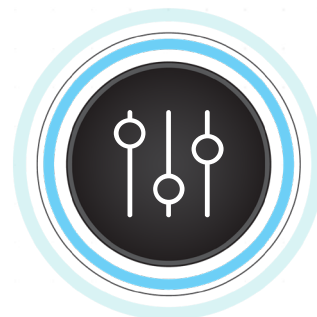


Inputs

- Prioritized pain points

Tools & Job Aids :

- Solution Category Decision Tree



Key Activities

1. Project team brainstorms potential solutions for pain points with Technology Subject Matter Experts
2. Hold working sessions with stakeholders to review and discuss potential solutions



Outputs

- Understanding of available technologies
- List of potential solutions for prioritized pain points

Artifacts:

- Identified Solutions for prioritization



Example

Identified a pain point related to funds availability checks between travel and financial systems, and while considering digitization solutions, discovered that a policy change enabling a different funds distribution level (reduce/optimize) would eliminate the risk of insufficient funds in many cases, resolving the root cause of the issue



Solution Set Overview:



Leading Practices

Technology Stakeholder Engagement
Sample Solution One-pagers
Solution Session Participants



Job Aid

Solution Category Decision Tree



Reduce/Optimize: Eliminate cumbersome process steps and streamline

What it is: Reduce unnecessary activities considering whether the way business is done today is how it needs to be done (including policy changes to enable process changes or trainings, etc.)

Investment: Low to no cost (non-technology solution)

Digital Maturity: Moving toward optimized processes by simplifying and rationalizing, enabling digitization

Digitize: Move from manual to systematic or automated processes

What it is: Apply digital technology to automate/eliminate manual steps, reduce paper-based steps, and streamline the process

Investment: Limited cost (often using existing technology or capabilities)

Digital Maturity: Automating or streamlining process steps

Innovate: Transform digital capabilities with intelligent automation

What it is: Apply new and emerging technologies to transform business processes and unlock long-term efficiency gains

Investment: Variable cost (may include net new investments)

Digital Maturity: Augmenting digitized processes with human intelligence and transforming processes



How do we select our solutions?

Identify a range of solutions for each pain point from each solution set as applicable using the solution category decision tree



How to achieve quick wins?

- Eliminate low value-add steps
- Streamline disconnect process steps
- Leverage existing software capability
- Leverage existing technologies



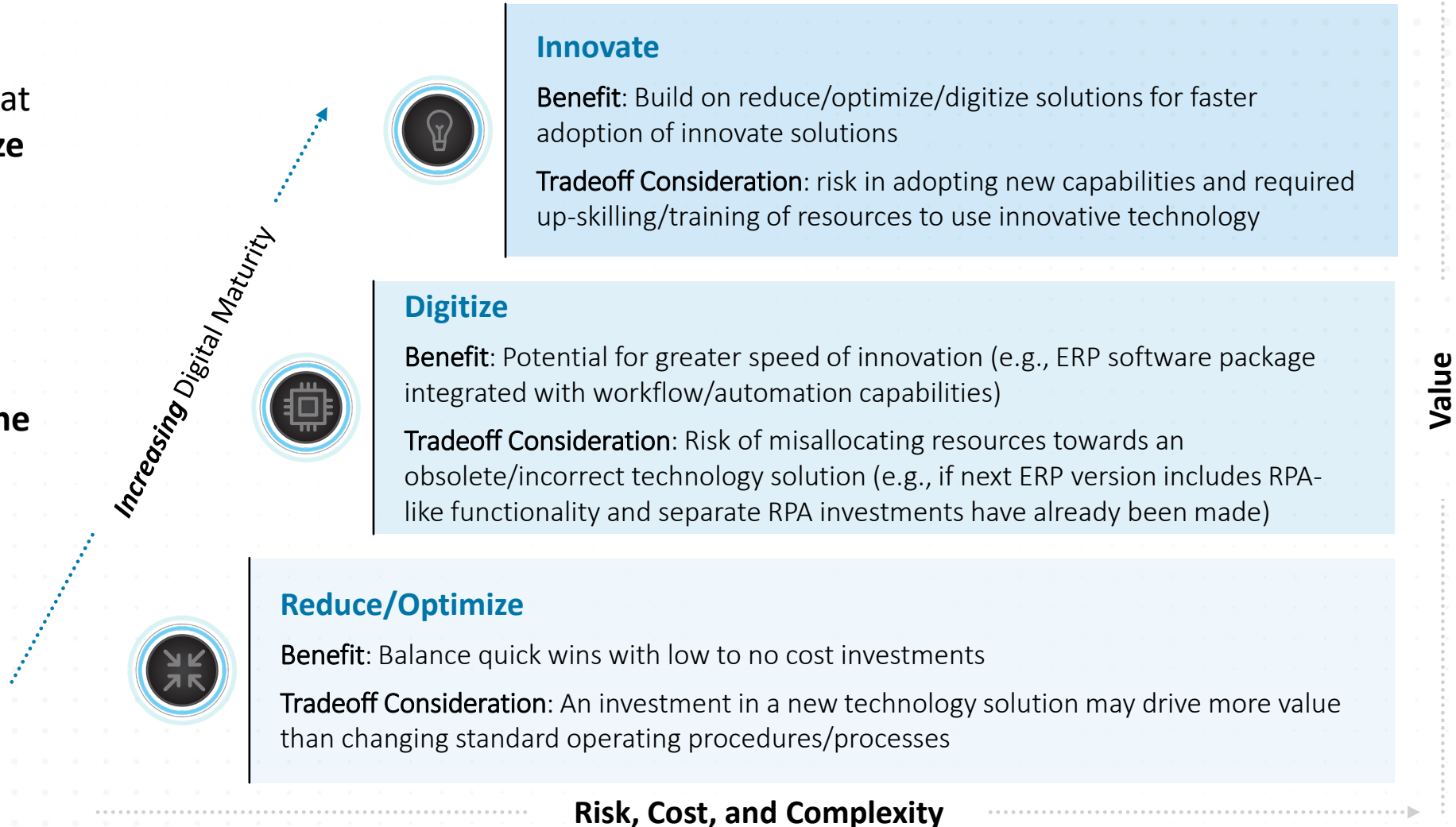
What stakeholders are engaged?

- Process Improvement Project Team
- Process Owners
- OCIO/Technology Team

Digital Maturity

Evaluating Risk, Cost, and Complexity

Start by looking at **Reduce/Optimize** solutions, then move to **Digitize and Innovate** solutions which can **transform the nature of work** and enable new capabilities and services



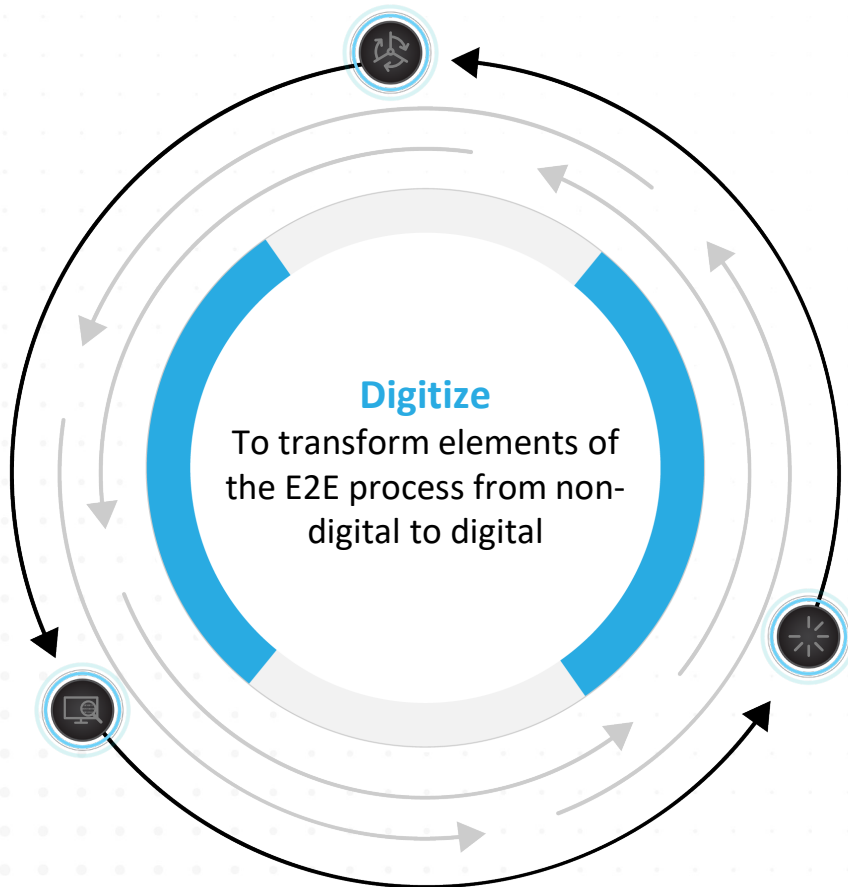
Job Aid

Assess Solution Tool



Sample Digitize Technologies

Technologies that may apply to pain points based on need for digitization or streamlining



Smart Workflow Enhancement

What it Is: A rules-based software that processes sequence data and improves manual processes

How it works: Smart workflow systems are configured by the user to automate any specific routing need or business requirement

Why to use it: Automate routing of tasks and documents between stakeholders

Where to use it: Automate routing of information between multiple stakeholders; custom email notifications for action required by an individual; integrate user-generated data into one interface

Data Analytics

What it Is: The process of analyzing raw data to highlight useful information, draw conclusions, and support decision-making

How it works: Data is sourced and analyzed to draw patterns, predictions, and visualizations

Why to use it: Identify insights from data and support decision-making

Where to use it: Create data visualizations; Capture and manage to operational efficiency metrics; Leverage data to enable predictive maintenance

Robotic Process Automation

What it Is: Software solutions that can complete repetitive rules-based tasks with “bots”

How it works: Software configured to automate manual processes between multiple systems to improve business processes

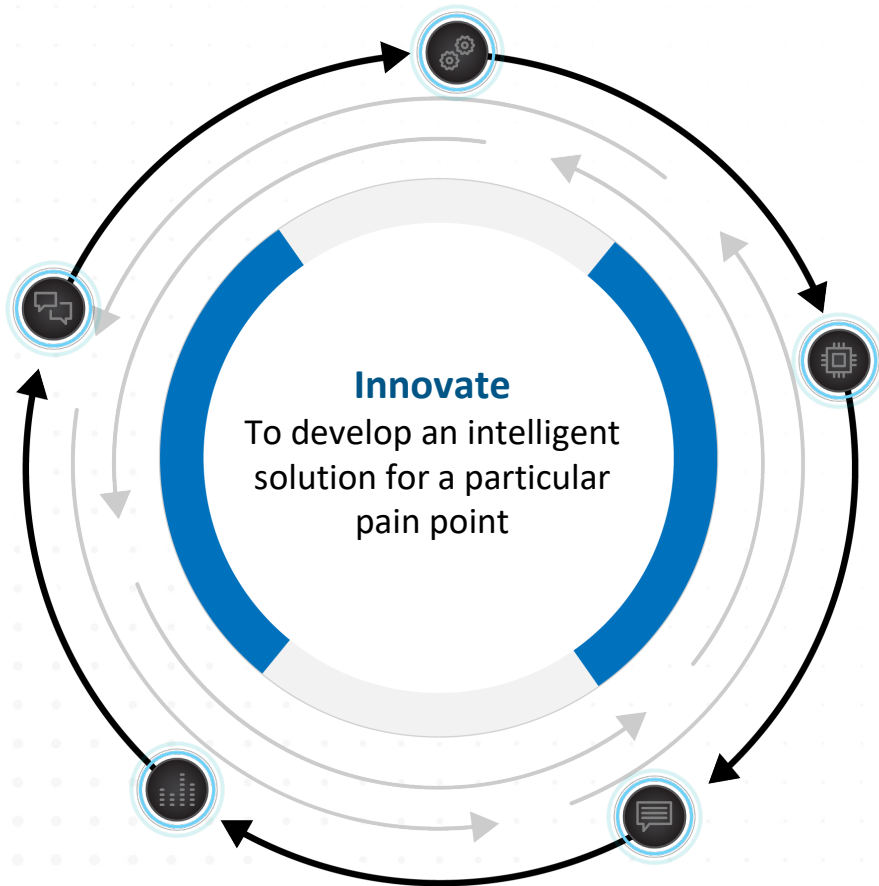
Why to use it: Automate manual, repetitive, rules-based tasks

Where to use it: Automate data collection; replicate human activity in systems; deploy general automation; conduct rules-based business process management

Digitization can also include custom-developed applications or software as well as use of existing software capabilities.

Sample Innovate Technologies (1/2)

Technologies that may apply to pain points based on need for intelligent solution



Conversational AI

What it is: A computer program that uses human language for interaction through automated messaging

How it works: Natural Language Processing and AI are combined to contextualize human conversation, responding to and anticipating customer needs

Why to use it: Deliver quick, on-demand user/customer care and responses

Where to use it: Deploy chatbots; enable 24/7 customer service by automating service; call center deflection; automate responses to frequently asked questions

Machine Learning

What it is: An artificial intelligence (AI) capability that mimics human judgment

How it works: Algorithm's source large data-sets to create improving predictions

Why to use it: Improve operational efficiency and better use data for prediction

Where to use it: Enable voice assistants; identify high-risk transactions to improve fraud detection; analyze and draw insights from unstructured super data sets

Natural Language Processing

What it is: An AI capability that performs written and spoken human language analysis

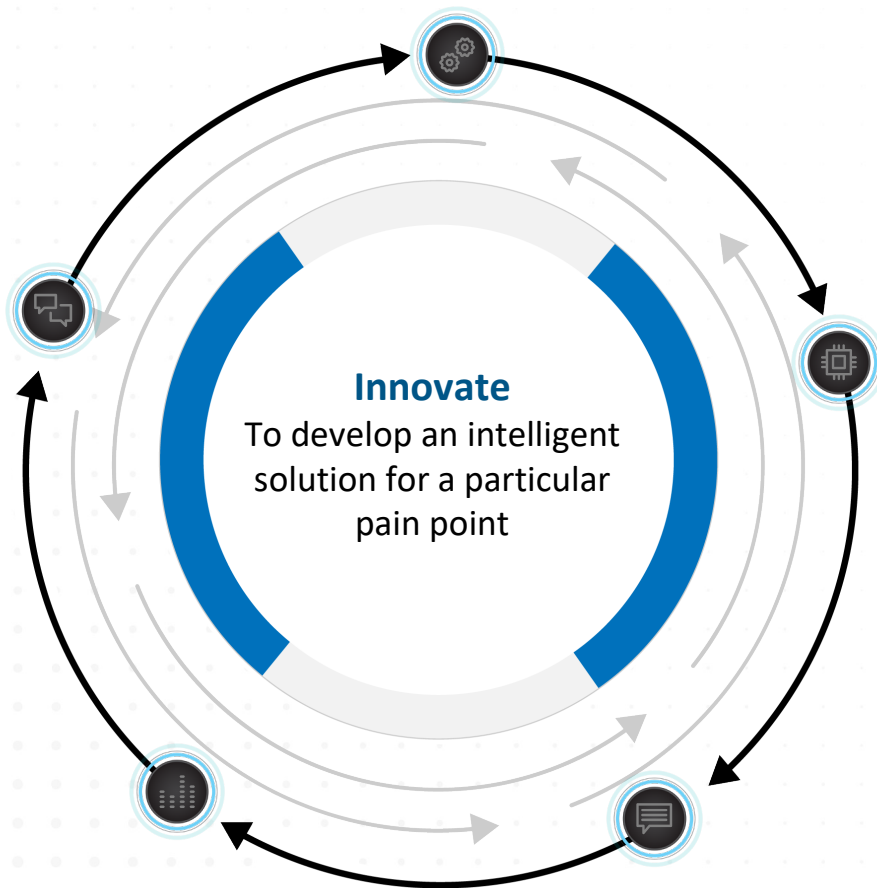
How it works: Systems determine meaning from elements of the human language and produce an output that corresponds

Why to use it: Analyze human-generated data more quickly and efficiently

Where to use it: Enable autocorrect capabilities; create predictive text; deploy chatbots

Sample Innovate Technologies (2/2)

Technologies that may apply to pain points based on need for intelligent solution



Distributed Ledger Technology / Blockchain

What it is: An immutable record of interconnected transactions

How it works: Data is stored on multiple servers while letting anyone on the network access, modify, and distribute the data in real-time

Why to use it: Securely transact with another entity (or many entities)

Where to use it: Streamline Intragovernmental Transactions (IGTs); incorporate code to execute financials; improve recordkeeping via automation

Intelligent Optical Character Recognition (IOCR)

What it is: A process that can examine printed or handwritten text and translate it into code for data processing

How it works: Online or physical documents are scanned and IOCR is implemented to recognize and translate the text

Why to use it: Process handwritten documents faster with limited human intervention

Where to use it: Automate applications (onboarding, census and various forms processing); process standard documents like invoices; integrate e-invoicing portal; process claims documents and benefit enrollment

PRIORITIZE SOLUTIONS



Prioritize Solutions

How to prioritize potential solutions



Leading Practice

Technology/Business-Side Engagement



Inputs

- List of potential solutions from the prior step

Tools & Job Aids :

- Solution Prioritization Tool
- Transformation Blueprint Template



Key Activities

1. Hold working session with business stakeholders to estimate value
2. Hold working session including technology stakeholders to estimate cost
3. Consider solution scalability
4. Align with leadership on prioritization and course of action of initiatives



Outputs

- Prioritized list of solutions
- Alignment on course of action for implementation

Artifacts:

- Prioritized Solutions
- Transformation Blueprint

Example

While comparing two potential solutions to the earlier pain point on funds availability, the team identified a CRM solution that was high cost, high value (Consider Carefully) and the agency decided to choose the funds distribution policy solution (Best Bets) because it was lower cost and delivered immediate value.



Solution Prioritization



Leading Practice

Technology/Business-Side Engagement



Job Aid

Solution Prioritization Tool

Prioritize potential pain point/solution opportunities using value and cost metrics in alignment with agency goals

Value



Digital

Will it make the process more digital?



Efficiency

Will it be faster and/or cheaper?



Viability

Will it work in your environment?



Desirability

Is this something the agency wants?



Customer Experience

Will it improve customer satisfaction?



Controls

Will it be more accurate?



Cost



Full Time Employees (FTEs)

Allocated labor costs



Implementation

Cost to implement



Operating & Maintenance

Annual operating and maintenance costs



Hardware/Software

Cost to purchase Hardware/Software



User Adoption

Cost to enable organization (training, change management)



Risk of software/technology

Cost to manage success of implementation; audit and control considerations



How are solutions prioritized?

Solutions are evaluated through cost and value metrics within the Solution Prioritization Tool to align opportunities and agency goals



How do we balance value and cost?

The project team partners with agency stakeholders to capture/estimate value and cost metrics. The Solution Prioritization Matrix is used to evaluate multiple solutions for each pain point, as well as solutions across the process.



What stakeholders are engaged?

- Process Improvement Project Team
- Agency Leadership
- Policy/Audit/Risk Teams
- Process Owners
- OCIO/Technology Team

Solution Prioritization Matrix



Use the solution prioritization tool to generate this matrix to support course of action on initiatives



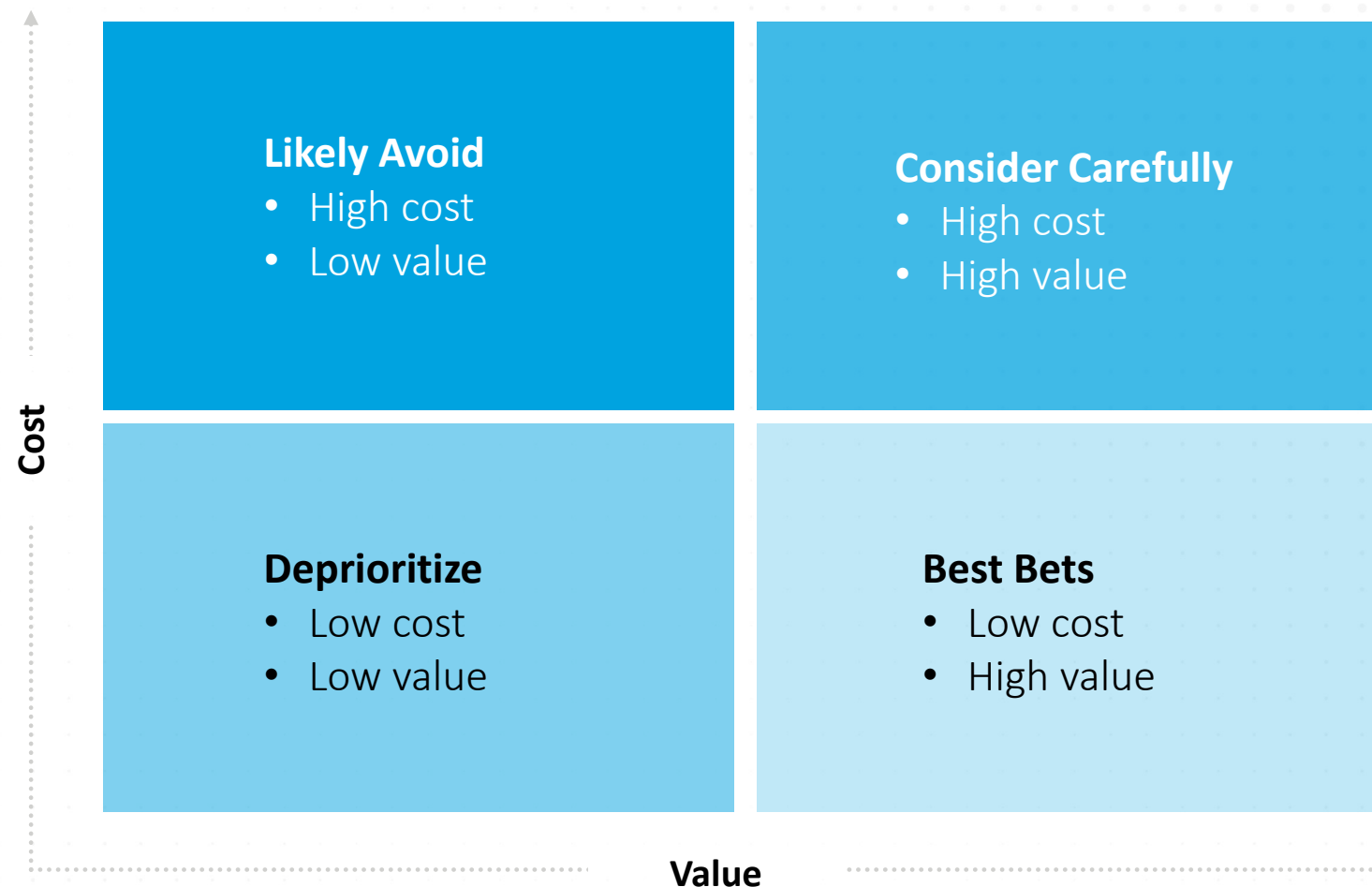
Leverage the value and cost metrics to plot solution opportunities on the 2x2 matrix



Collectively evaluate and synthesize prioritization matrix results



Use matrix results to align with leadership on prioritization and sequencing of initiatives



Scale Opportunities and Solutions

Based on prioritized solutions, consider how to **extrapolate opportunities and solutions to scale across the process and the enterprise**

Pain Points & Solutions



Full transformation value is achieved through **analyzing the entire end-to-end process solutions**, not looking for “point” solutions (i.e., a solution for a single problem)

SCALABILITY



Opportunity

1. Consider nature/root of challenges
2. Analyze where else these root challenges occur (even if not identified previously as a pain point)



Knitting together **one solution to many similar problems** drives process transformation



Solutions

1. Assess how each prioritized solution could be scaled across the process or enterprise
2. Evaluate factors such as flexibility; scope of functionality; value/cost/risk to deploying widely; additional opportunities it may enable



Example

Analyzed an identified manual data exchange pain point, extrapolated the need to identify all other manual data exchanges, and considered solutions that could resolve all of them, resulting in 10x overall cost savings from scaling the opportunity.



WRAP-UP



DEEE Playbook Summary



Accelerates finding the largest process improvement opportunities by **blending Human-Centered Design (HCD) with traditional process analysis**



The Playbook provides process selection criteria and an analysis approach that **combines Human Centered Design (HCD) with traditional process analysis** to quickly identify opportunities



Enables digital transformation through a **simple step-by-step framework**



Digital and emerging technologies are presented through examples of how to apply them, and key concepts/tradeoffs to consider when evaluating solutions are explained



Provides a **suite of tools** to implement this framework on any agency business process



For additional guidance when implementing the Playbook, the **Job Aids & Tools** section provides reference materials, templates, and tools to help through each major step of the process

...resulting in cost savings through transformed processes with scaled, digital solutions



DEEE Implementation Support



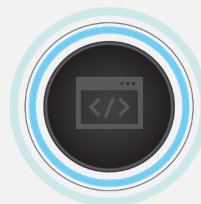
For additional guidance, the Job Aids & Tools (in Appendix) at the end of this document provide decision aids, templates, tools in addition to leading practices that enable analysis within each step

For questions and/or feedback regarding the Playbook or its implementation please contact:

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<https://fiscal.treasury.gov/fit/deee>

APPENDIX:
KEY STAKEHOLDERS AND
TOOLS & JOB AIDS

Key Stakeholders Engaged in Deploying the Playbook

Deploying this Playbook requires engaging a cross-level, cross-organization set of stakeholders to understand perspectives across the CFO and CIO organizations and drive feasible, desirable, and viable solutions



Process Improvement Project Team

A selected group of agency representatives identified to work towards improving a selected business process and sponsored by agency leadership



Process Owners

Individuals (end users & service provider) that oversee or manage the selected process overall and have insight into processes, procedures, policies, tools, and workforce



OCIO/Technology Teams

Practitioners who understand, maintain, and deploy agency technology systems and experts to help assess emerging technologies



Agency Leadership

CFOs, Directors, Branch Chiefs, and/or other leaders of customer and provider agencies responsible for leading business transformation efforts and empowered to make decisions



Process SMEs & Users

Stakeholders that execute or carry out the selected process (“fingers on keyboards”) and those with expert process knowledge (end user & service provider)








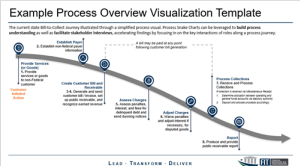
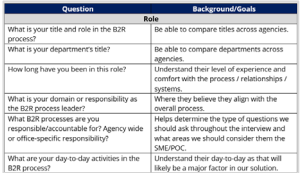
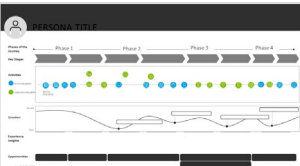
Policy/Audit/Risk Teams

Individuals or teams responsible for auditing and assessing policy controls of end-to-end processes



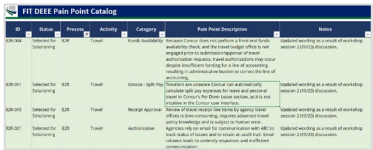



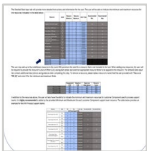
Supplementary Tools & Job Aids (1/2)

The DEEE Job Aids and Tools can be leveraged during each step of the playbook to analyze end to end (E2E) processes, identify pain points, and evaluate solutions to reduce/optimize, digitize, or innovate processes

DEEE Framework Step		What is it?	What does it look like?
Select Process	 End to End Business Processes	There are 11 end to end processes definitions that provide a standardized understanding of how government carries out a specific financial management process. Each start with a user's goal and goes through the steps to take until the goal is fulfilled.	
	 Process Selection Criteria	This criteria allows users to identify the end-to-end business process with the greatest opportunity for efficiency gains	
Analyze Process	 Process Overview Visualization Template	A simplified process visual that can be leveraged to build process understanding and facilitate stakeholder interviews, accelerating findings by focusing in on the key interactions of roles along a process journey	
	Interview Guide Template	This job aid guides the user during interviews to understand the interview experience, identify pain points and areas for improvement, and validate methods	
	Journey Map Template	This tool assists in creating representative journey maps and personas to document user goals (for outcomes/experience of the process), core traits, needs, and frustrations	

Supplementary Tools & Job Aids (2/2)

The DEEE Job Aids and Tools can be leveraged during each step of the playbook to analyze end to end (E2E) processes, identify pain points, and evaluate solutions to reduce/optimize, digitize, or innovate processes

DEEE Framework Step		What is it?	What does it look like?
<div>Analyze Process</div>	Pain Point Catalog Template	This job aid is used to document and organize pain point information to trace and reference when collecting process information	
	Pain Point Down Select Tool	This tool helps agencies analyze the full scope of challenges which may require solutioning and/or resolution to optimize the end-to-end process and down select to those best aligned to project goals and agency priorities	
<div>Assess Solutions</div>	Solution Category Decision Tree	This job aid guides the user in the process of determining potential solution categories for a pain point (reduce/optimize, digitize and/or innovate)	
<div>Prioritize Solutions</div>	Solution Prioritization Tool	This tool helps prioritize potential pain point / solution combinations using criteria and agency goals/priorities to identify the best use of resources to resolve each pain point	 
	Transformation Blueprint Template	A Transformation Blueprint can be used to help visualize key process pain points, and associated reduce, optimize, and digitize solutioning opportunities	