

2021

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

Digital End-to-End Efficiency (DEEE) Playbook

**This is a pre-release Playbook
The final Playbook will be released in mid-March**

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, costly, and do not meet the needs of the public**. Digital and emerging technologies present significant opportunities to identify cost savings, improve customer experience, and enhance controls through digital transformation.

Bureau of the Fiscal Service's Office of Financial Innovation and Transformation (FIT) **estimates there are significant government-wide cost saving opportunities** through 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 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

Digital End-to-End Efficiency Approach



Define Scope

How to define end-to-end processes and what is the full scope to consider.



Select Process

How to select or sequence processes to achieve the most value.



Analyze Process

How to analyze the process to identify pain points and opportunities.



Assess Solutions

How to identify and assess potential solutions.



Prioritize Solutions

How to balance value and cost to prioritize improvements.

DEFINE SCOPE



Define Scope

How do we define processes?

FIT has defined 11 End-to-End (E2E) Business Processes¹:



What is an E2E process?

An End-to-End (E2E) process represents a **start-to-finish outcome-based procedure**.



Why is this important?

A standardized way for agencies to think about their business processes with an outcome-based view and to help engage all relevant stakeholders (e.g., multiple functions, customer/provider, OCIO, Policy offices).



What stakeholders are engaged?

Process Improvement Project Team (i.e., team implementing the DEEE framework) and Process Owners.

1: Source: <https://www.fiscal.treasury.gov/fit/use-cases.html>

SELECT PROCESS



Select Process

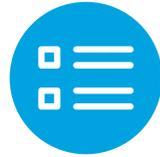


Example Criteria for Assessing Potential Processes:



Transactional (vs. Analytical)

Highly transactional activities present opportunity for increased focus on analysis and other value-add activities.



High Volume

Process characteristics that indicate greater volume and scale for efficiency result in larger overall opportunity.



Many Staff Members

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



More Manual

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



What is Process Selection?

The DEEE Playbook is designed to be applied to one process or subprocess at a time. The first step in process selection analysis is to **sequence activities directionally to accelerate beginning of analysis.**



How do you sequence processes for analysis?

Evaluate each process against selection criteria to identify processes with the **greatest opportunity for efficiency gains** (which for the 4 criteria above translate to cost savings but could be tailored focus on other goals).



What stakeholders are engaged?

Process Improvement Project Team (i.e., team implementing the DEEE framework) and the associated Agency Leadership.



ANALYZE PROCESS



Process Analysis Approach



Traditional Process Analysis

Identifying improvement opportunities through documentation analysis

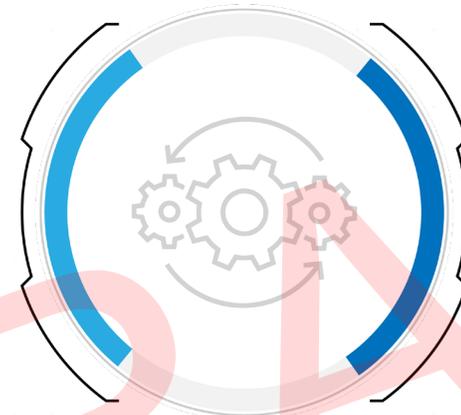
- Collect summary data and existing analysis on major challenges (e.g., audit findings, automation analysis)
- Review process documentation to develop technical understanding of process, systems, data, and workforce
- Identify potential opportunities based on data (e.g., cycle time, process redundancies)



Human-Centered Design

Understanding users and their behaviors, ambitions, and goals to identify pain points

- Apply techniques focused on collaboration, conversation, and engagement from users
- Collect information through interviews and collaborative validation sessions to understand the user perspective firsthand
- Drive toward solutions by focusing efforts and investments on pain points and user needs



How are processes analyzed?

The DEEE Playbook presents an approach to process analysis that **blends Human-Centered Design (HCD) with traditional process analysis** to identify pain points and opportunities.



What is the value of Human-Centered Design?

Leveraging an HCD approach highlights the user perspective to develop a **Human-Centered solutions** that will be **readily adopted** and can provide a **desirable user experience**.



What stakeholders are engaged?

Process Improvement Project Team, Process Owners, and SMEs (including “fingers on keyboards” end-users).

Pain Points and Opportunity Categories

What pain points and opportunities are likely to drive the most cost savings?



Redundancies or duplicative activities across teams



Manual process steps



Disconnected steps or inefficient handoffs within a process



Service delivery inefficiencies related to customer/work allocation



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 inefficiency in a process from the user's experience. Keep in mind that while many do, some improvement opportunities may not be a pain point to any one specific user.



Why are pain points important?

Pain points help identify process improvement opportunities to deliver cost savings, enhance controls, and improve the customer experience.



What stakeholders are engaged?

Process Improvement Project Team, Process Owners, and SMEs (including "fingers on keyboards" end-users).

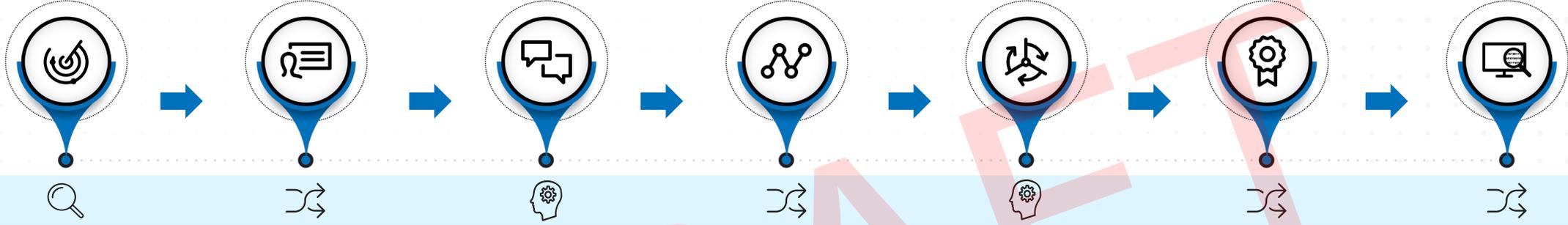


Process Analysis Activities

How do we analyze a process or sub-process?

Job Aid

- Snake Chart Template
- Interview Guide
- Journey Map Template
- Pain Point Catalog



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)

Define key actors and roles in the end-to-end process (all functions; customer and provider)

Conduct Interviews

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"

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)



ASSESS SOLUTIONS



Solution Set Overview:



Reduce/Optimize

Reduce unnecessary steps, leverage existing capability, refine existing process/organization, and/or update policy for low to no cost

Examples: Training Program, Process Improvement, or a Policy Change

Digitize

Leverage existing technology, platforms, and/or investments

Examples: Smart Workflow Enhancement, Data Analytics, and Robotic Process Automation (RPA)

Innovate

Invest in new/emerging technology

Examples: Blockchain, Machine Learning, Natural Language Processing (NLP), Conversational AI, and Intelligent Optimal Character Recognition (OCR)



How do we select our solutions?

Reduce/Optimize, Digitize, and Innovate opportunities are identified for each pain point. A range of solutions are considered for each pain point and tradeoffs are evaluated.



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, Tech Teams (to understand currently available solutions/functionality and discuss implementation and cost).

Digital Maturity

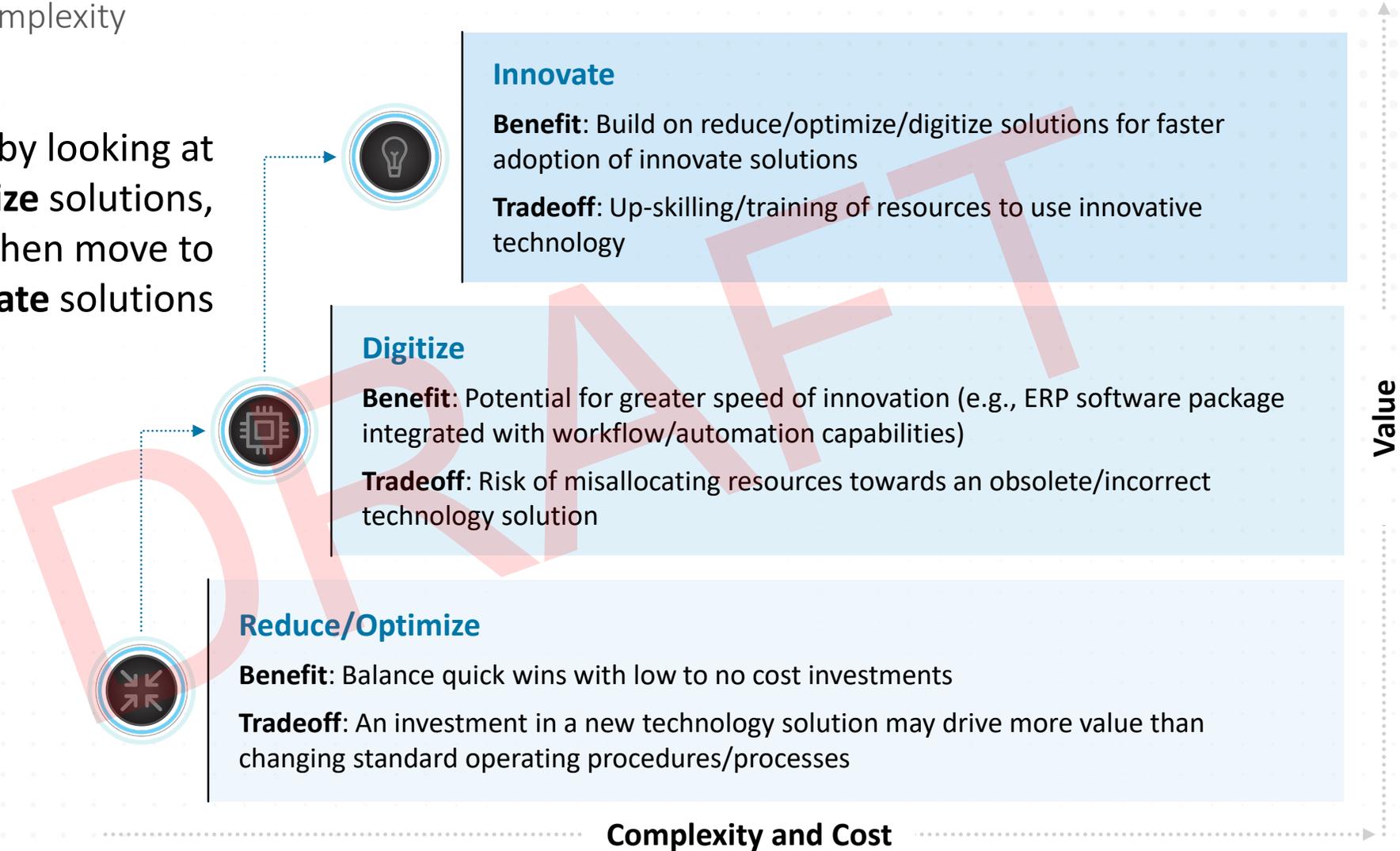
Evaluating Cost and Complexity



Job Aid

Assess Solution Tool

Start by looking at
Reduce/Optimize solutions,
then move to
Digitize and Innovate solutions





Smart Workflow Enablement

Software designed to **automate manual handoffs and routing** (i.e., Smart Workflow) allows users to **eliminate cumbersome activities and unlock countless staff-hours**.

Example: Emails sent to a shared inbox can be automatically routed to the appropriate recipient, reducing the risk of human oversight and accelerating business processes.



Data Analytics

The analysis of an organization's data allows analysts and leaders alike to **extract valuable insights** (e.g., transaction volume forecasts) from raw information that is readily available.

Example: Visualizations of transactional data can be quickly, automatically produced to assess operational efficiency across lines of business in near-real-time.



Robotic Process Automation

Software configured to automate manual processes (i.e., RPA) **eliminates rote tasks and frees employees to focus on value-add, mission-critical activities** rather than routine tasks better suited for modern computers.

Example: Manual reconciliation and reporting activities can be programmed into RPA "bots," leaving just the simple output validation activity for human actors.



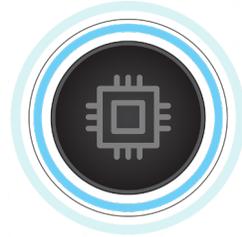
Innovate Solutions Examples



Blockchain

Distributed ledger technology (i.e., blockchain) **generates significant time and cost savings** by enabling process automation and removing intermediaries **while supporting audit and regulatory compliance.**

Example: Utilizing a blockchain network for governmental transactions reduces/eliminates manual involvement in Identity, Credential, and Access Management (ICAM), auditing, and reporting activities.



Machine Learning

Algorithms that analyze large data sets repeatedly to improve predictions over time (i.e., machine learning) **result in continuously optimized data models and business tools (e.g., voice assistants).**

Example: Fraud detection models implemented at IRS continue to provide improved results over time without the need for significant human intervention.



NLP

Software designed to interpret the meaning of human language (i.e., NLP) can **turn cumbersome text into valuable data, reduce processing times, and enhance human communication.**

Example: A computer equipped with NLP can analyze rejection comments on returned invoices to determine the appropriate routing such that the invoices are corrected and accepted as quickly as possible.



Conversational AI

Computer programs applying Natural Language Processing & Generation (i.e., conversational AI) **create low-cost digital assistants that enhance customer and employee experience while improving efficiency and accuracy.**

Example: Chatbots help customers resolve issues without human intervention, and customer service agents using conversational AI can better support customers by leveraging the tool to quickly gather data, check policy, and more.



Intelligent OCR

Image-processing bots that recognize and understand language and figures (i.e., intelligent OCR) **enables individuals and organizations to rapidly digitize nearly any paper-based process, even if text is hand-written.**

Example: Computers can analyze non-standard documents (e.g., invoices with different formats) and extract the same information while standardizing and validating results.



PRIORITIZE SOLUTIONS



Solution Prioritization

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

Value

-  **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)



How are solutions prioritized?

Evaluate each potential opportunity and solution combination using defined 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 across agency to capture/estimate metrics using the solution prioritization tool. The tool helps evaluate **multiple possible solutions for the same pain point as well as solutions across the process.**

What stakeholders are engaged?

Process Improvement Project Team, Process Owners, Tech Teams, Leadership Team.



Solution Prioritization



A two-by-two matrix generated by the prioritization tool visualizes costs and values associated with each solution for an evaluation of best fit



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



WRAP-UP



DEEE Playbook Summary



Accelerates finding the largest process improvement opportunities by **blending human centered design with traditional process analysis**



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



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



Digital and emerging technologies are presented through common use cases and examples, 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



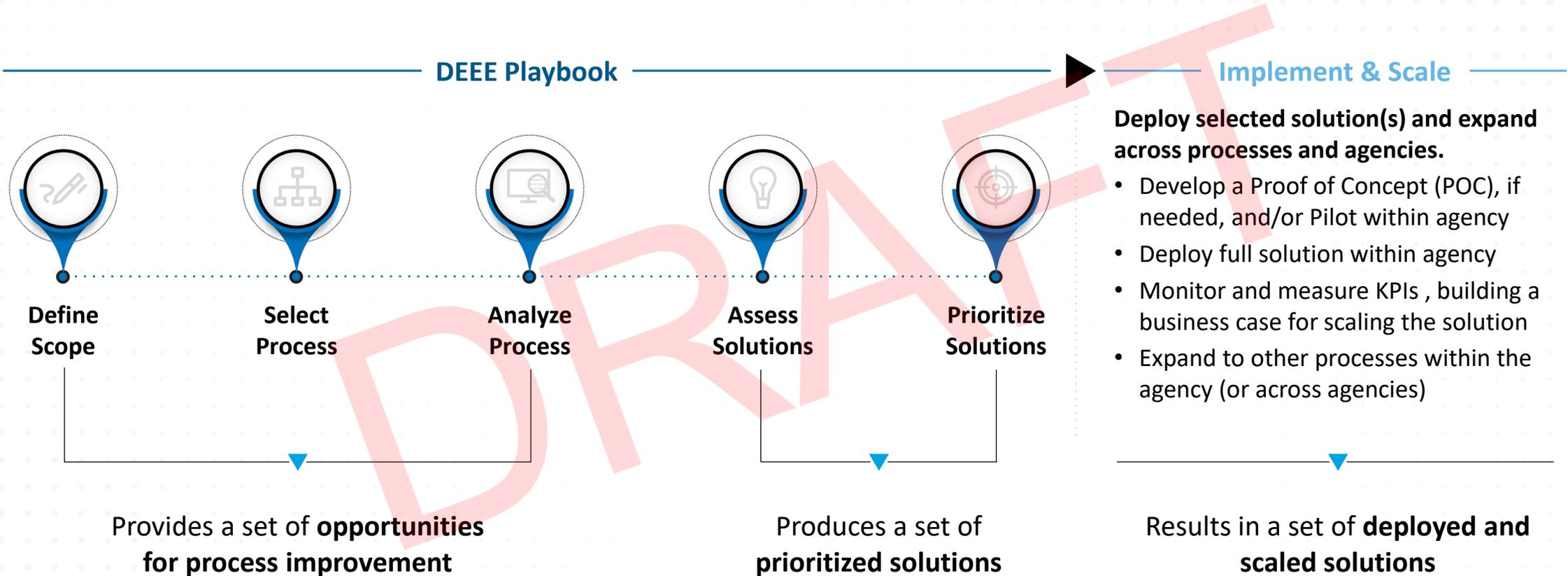
For additional guidance when implementing the Playbook, **the Job Aids & Tools section provides reference materials, templates, and tools to help through each major step of the process.**

...resulting in improved controls, enhanced customer experience, and lower costs.



DEEE Playbook Summary

The DEEE Playbook provides tools & techniques to identify opportunities and solutions, preparing agencies to implement and scale successful solutions.



DEEE Implementation Support



For additional guidance when implementing the playbook, the Job Aids & Tools section at the end of this document provides reference materials, templates, and tools to help throughout each step.



For questions and/or feedback regarding the Playbook or its implementation please contact the following **Bureau of Fiscal Service POCs**:

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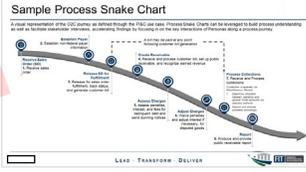
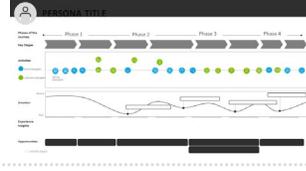
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JOB AIDS & TOOLS

DEEE Tools and Job Aids Overview (1/2)

The purpose of the DEEE Tools and Job Aids is to provide a set of dynamic tools for Federal agencies to analyze end to end (E2E) processes, identify pain points, and evaluate solutions to digitize, innovate, or reduce process steps to optimize the process.

DEEE Tool and Job Aids	What is it?	What does it look like?																					
<p>1 Process Selection Criteria</p>	<p>This criteria was created to allow users to identify the end-to-end business process with the greatest opportunity for efficiency gains</p>																						
<p>2 Example Process Snake Chart</p>	<p>A simplified process visual that can be leveraged to build process understanding as well as facilitate stakeholder interviews, accelerating findings by focusing in on the key interactions of roles along a process journey</p>																						
<p>3 Interview Guide Template</p>	<p>This job aid was created to guide the user during interviews to understand the interview experience, identify pain points and areas for improvement, and validate methods</p>	<table border="1"> <thead> <tr> <th>Question</th> <th>Role</th> <th>Background/Goals</th> </tr> </thead> <tbody> <tr> <td>What is your title and role in the B2R process?</td> <td>Be able to compare titles across agencies.</td> <td></td> </tr> <tr> <td>What is your department's title?</td> <td>Be able to compare departments across agencies.</td> <td></td> </tr> <tr> <td>How long have you been in this role?</td> <td>Understand their level of experience and comfort with the process / relationships / systems.</td> <td></td> </tr> <tr> <td>What is your domain or responsibility as the B2R process leader?</td> <td>Where they believe they align with the overall process.</td> <td></td> </tr> <tr> <td>What B2R processes are you responsible/accountable for? Agency wide or office-specific responsibility?</td> <td>Helps determine the type of questions we should ask throughout the interview and what areas we should consider them the SAOPIC.</td> <td></td> </tr> <tr> <td>What are your day-to-day activities in the B2R process?</td> <td>Understand their day-to-day as that will likely be a major factor in our solution.</td> <td></td> </tr> </tbody> </table>	Question	Role	Background/Goals	What is your title and role in the B2R process?	Be able to compare titles across agencies.		What is your department's title?	Be able to compare departments across agencies.		How long have you been in this role?	Understand their level of experience and comfort with the process / relationships / systems.		What is your domain or responsibility as the B2R process leader?	Where they believe they align with the overall process.		What B2R processes are you responsible/accountable for? Agency wide or office-specific responsibility?	Helps determine the type of questions we should ask throughout the interview and what areas we should consider them the SAOPIC.		What are your day-to-day activities in the B2R process?	Understand their day-to-day as that will likely be a major factor in our solution.	
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<p>4 Journey Map/Persona Template</p>	<p>This tool was created to assist in creating representative journey maps and personas to document user goals (for outcomes/experience of the process), core traits, needs, and frustrations</p>																						
<p>5 Pain Point Catalog Template</p>	<p>This tool was created to document and organize pain point information to leverage and reference when collecting process information</p>																						

DEEE Tools and Job Aids Overview (2/2)

The purpose of the DEEE Tools and Job Aids is to provide a set of dynamic tools for Federal agencies to analyze end to end (E2E) processes, identify pain points, and evaluate solutions to digitize, innovate, or reduce process steps to optimize the process.

DEEE Tool and Job Aids

What is it?

What does it look like?

6

Pain Point Down Select Tool

This tool was created to **understand and 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**



7

Solution Category Decision Tree and Solution One Pagers

This job aid was created to guide the user in the process of **determining potential solution categories for a pain point** (reduce/optimize, digitize and/or innovate)



8

Assess Solution Tool

This tool was created to assist in **filtering down what potential technology solutions can be leveraged** for the "prioritized" pain point



9

Solution Prioritization Tool

This tool was created to **prioritize potential pain point / solution combinations** using criteria and agency goals/priorities to identify the best use of resources to resolve each pain point



10

Example Transformation Blueprint

A Transformation Blueprint can be used to help **visualize key process pain points**, and associated reduce, optimize, and digitize **solutioning opportunities**

