

Information Resources Management (IRM) Strategic Plan

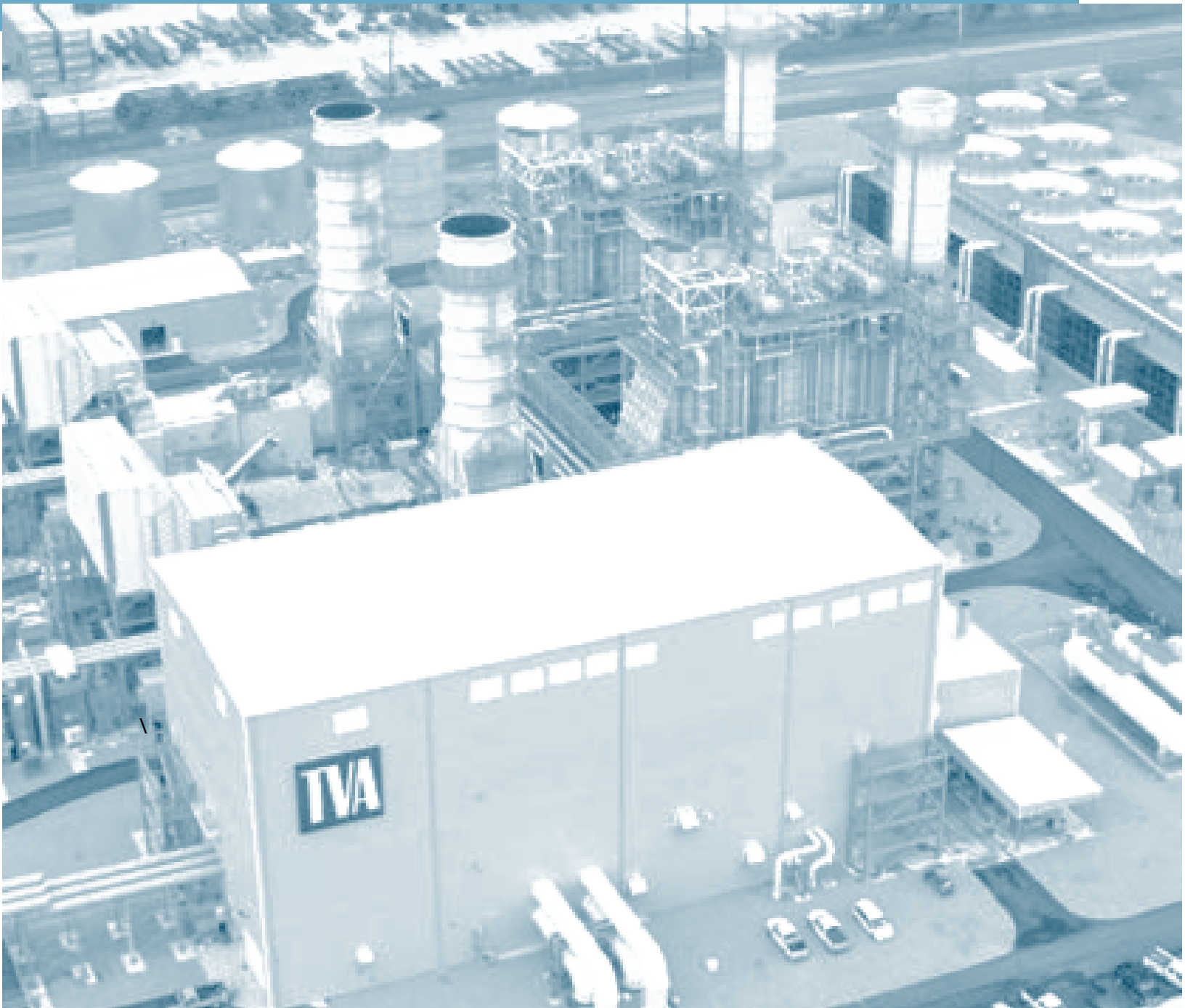


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Leadership Message

TVA's Information Technology organization is committed to delivering secure, reliable, compliant, and innovative technological solutions to improve the safety and productivity of the workforce and enhance the performance of our assets.

TVA is the nation's largest public power provider, providing 10 million people in seven states with electricity through local power companies. TVA has 32,000 MWs of owned diverse generation capacity and over 16,000 miles of transmission lines, with \$12 billion in annual revenue. As TVA's Chief Information and Digital Officer (CIO), Tammy Wilson is leading TVA's enterprise-wide digital transformation efforts aimed at increasing the performance of TVA's assets and improving the safety and productivity of TVA's employees through the application of technology to modernize how we innovate, operate and work.

This Information Resource Management (IRM) Strategy, aligned with the Office of Management and Budget (OMB) requirements for federal agencies, outlines TVA's information technology resource goals, how we manage our technology and data resources, and our path forward to advance innovation in our IT solutions and data management practices.

Our strategy focus areas outlined in this IRM are:

- Operational Excellence
 - Ensuring security
 - Modernizing technology
 - Optimizing IT processes
 - Upskilling IT workforce
- Digital Transformation
 - Delivering value through business focused planning and investments
 - Focusing on foundational systems
 - Enabling through data and analytics
 - Igniting innovation

Unlocking the power of data and technology will help TVA to continue its long-standing mission of service and meet the energy needs of the communities and people across the Tennessee Valley Region.



1. Background

TVA Mission and Vision

For more than 90 years, the Tennessee Valley Authority (TVA) has delivered on its mission to provide low-cost electricity, environmental stewardship and economic development. Today, TVA is meeting the region's growing energy needs through innovation and collaboration. Working with its partners and stakeholders, TVA is investing in new generation and energy efficiency while pursuing new technology and possibilities. Guided by the long-standing mission of service, TVA works to uplift communities through environmental stewardship and economic development and by providing affordable, reliable and sustainable energy to 10 million people.

TVA uses data as a strategic asset to better serve customers by maximizing efficiency, reliability, and transparency in operational activities. From a global to a regional scale across people, process and technology, industry drivers are forcing TVA to respond and adapt, continuously looking for ways to improve services to customers and operational efficiencies.

2. IRM Introduction

The Information Resource Management (IRM) Strategy outlines TVA's information technology resource goals, how we manage our technology and data resources, and our path forward to advance innovation in our IT solutions and data management practices. Data enables the mission of Tennessee Valley Authority (TVA), with the ability to power a better experience for its customers, support the workforce, and inform TVA leadership decisions.

TVA's information resource management strategy is grounded in seven guiding principles:

- **Strategic Alignment:** Ensuring that all technology initiatives are aligned with TVA's strategic priorities and business objectives.
- **Product Focus:** Emphasizing a product-centric approach to technology development and delivery.
- **Data and Analytics:** Leveraging data and analytics to drive decision-making and improve operational efficiency.
- **Value Investments:** Prioritizing investments that deliver the highest value and return on investment.
- **Cybersecurity:** Maintaining a strong cybersecurity posture to protect TVA's assets and data.
- **Innovation Culture:** Fostering a culture of innovation to drive continuous improvement and transformation.
- **Performance and Reliability:** Ensuring high performance and reliability of technology systems and services.

As it is the requirement of all federal agencies to establish a comprehensive approach to improve management of their information resources, this IRM outlines the mission, focus, principles, and compliance with relevant laws, regulations, and OMB guidance, specifically OMB Memorandum M-25-05 Phase 2 Implementation of the Foundations for Evidence-Based Policymaking Act of 2018: Open Government Data Access and Management.

As technology continues to evolve, it remains a priority for TVA to effectively manage its information systems and resources in a way that mitigates risks and enhances our ability to use data to achieve our mission in even more efficient and effective ways.

3. TVA IRM Strategic Goals

Information Technology's vision is transforming TVA through industry-leading technology and innovation. IT is driving the agency to innovate through transforming across digital domains, modernizing technology assets, improving processes, and investing in our people. We will achieve this vision through the key focus areas outlined below enabling both Operational Excellence and Digital Transformation.

Operational Excellence:

- Ensuring security - Execute and optimize programs and processes to strengthen TVA's cyber security across all digital assets and access points
- Modernizing technology - Modernize the digital footprint across TVA including foundational technology to improve asset performance, security, compliance, and technical debt
- Optimizing IT processes - Build IT's ability to deliver at increased speed and agility through continuous improvements focused on maturing the CI discipline, documenting all critical IT processes, and leveraging automation within processes
- Upskilling IT workforce - Continue to cultivate an inclusive IT culture while empowering employees for impactful enterprise success and innovation

Digital Transformation:

- Delivering value through business focused planning and investments - Position planning and execution for technological investments with business outcomes at the forefront
- Focusing on foundational systems - Optimize large enterprise systems using modern digital solutions to integrate and streamline core business processes while making data more accessible
- Enabling through data and analytics - Empower the enterprise to harness data, analytics, artificial intelligence, and productivity solutions to drive business value, produce actionable insights, and ignite innovation
- Igniting innovation - Continue to develop a sustainable process that encourages innovation across the enterprise from ideation to implementation

TVA's Digital Transformation is organized around seven business-facing domains and one technology domain to enable enterprise business value, improve financial strength, and drive collaboration and innovation. Each domain contains a set of products that ties together multiple end-to-end processes core to business value. Digital products are centered around business outcomes and incorporate multiple technologies and related aspects across processes, people, and information. TVA's foundational systems are core enterprise applications that serve as systems of record for the organization's critical data, and interface with multiple software products. These 13 Foundational Systems integrate core data and processes across domains.



Digital Asset Management

Deliver greater reliability and cost savings through more efficient asset definition, monitoring, analysis, and life cycle management. A combination of information and operational technologies and advanced analytics allows for proactive evaluation and response to equipment conditions, leading to higher reliability and lower costs.



Intelligent Grid

Monitor and manage TVA's energy and river resources more dynamically.



Digital Work Management

Improve work planning, scheduling, and logistics through mobility and analytics. This domain focuses on the creation of solutions that provide workers with training and preparation along with a better understanding of field conditions needed to perform tasks safely and efficiently.



Commercial Optimization

Optimize how TVA uses technology and offers more flexible solutions that address evolving customer needs. Modernizing end-to-end processes, increasing data quality, and improving reporting capabilities will enable more robust insights about the risks and value in TVA's commercial portfolio, ensuring it provides the most value to the Valley. This domain focuses on optimizing logistics through end-to-end integration from suppliers to fulfillment – reimagining vendor selection, planning, intelligent warehousing, and inventory control.



Digital Enterprise

Enhance employee engagement, recruiting, development, and retention in line with TVA values. The domain emphasizes the development of soft skills and making the right self-service tools available to employees.



Digital Finance

Seek out innovative business insights, enhanced decision-making capabilities, and streamlined delivery of financial capabilities using digital tools and automated processes.



Stakeholder Experience

Deliver seamless, engaging digital experience that today's customers and stakeholders expect through streamlined, personalized digital interactions across all channels. This domain offers new digitally enabled services to help customers meet market demands.



Technology

Optimizes how IT governs, manages, and delivers TVA's technology-centric products aligned to a best practice operating model. This includes modernizing our foundational technology and architecture, securely enabling TVA's technological resources and people through cybersecurity, and enabling the business to harness the power of data, analytics, and artificial intelligence.

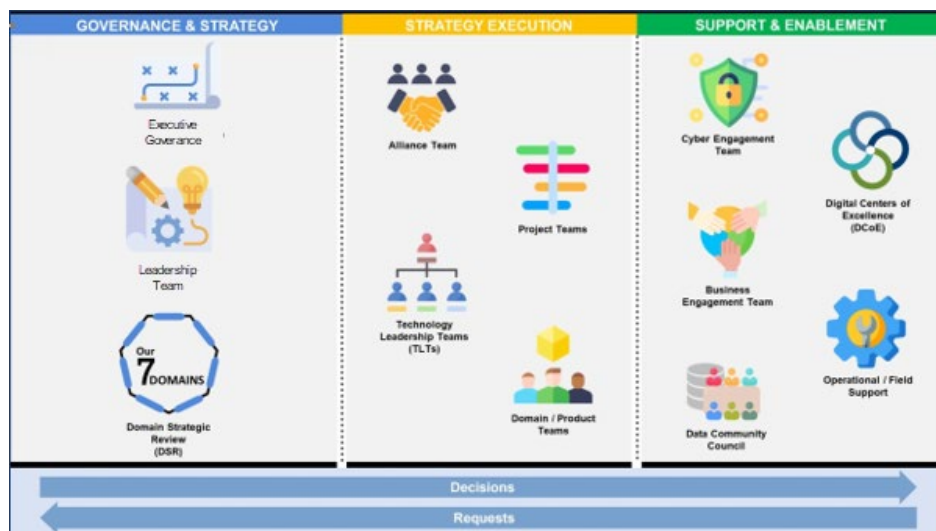
4. TVA's IT Engagement Model

TVA's IT engagement model demonstrates how we collaborate across the organization to deliver on TVA's digital transformation. TVA ensures strong governance, strategy, execution, support, and enablement with key cross-organizational teams at every level of the enterprise.

TVA's executives maintain governance that provides guidance, direction, and policy required to ensure that TVA achieves a comprehensive enterprise technology strategy. They play an important role in ensuring that the Technology Strategy aligns with the broader strategic goals of TVA and that the resulting organizational transformation occurs with proper oversight, support, and alignment.

TVA leverages Alliance teams, project teams, leadership teams, and domain teams to engage managers and functional leaders in defining and executing on the technology strategy.

TVA also utilizes centers of excellence, communities of practice, change agent teams, field support teams, and data communities to enable and empower employees and subject matter experts to support execution of projects and strategic initiatives, as well as sharing best practices and enhancing workforce capabilities through targeting training, hands on use cases, and assessments.



TVA’s data-led transformation objectives have been crafted to advance these priorities. Democratized data can help empower employees to address challenges that were difficult or even impossible previously. Leveraging cloud technologies and automation can help provide operational efficiencies as well as financial savings. With a solid foundation of data management capabilities, cutting-edge data capabilities such as artificial intelligence and machine learning will drive innovative solutions for TVA and its customers.

5. TVA’s Data Plan

TVA’s Chief Data Officer (CDO), Jessica Baker, under the CIO's guidance, is tasked with creating and executing a roadmap to enhance data management and governance, modernize data security and accessibility, and improve workforce data capabilities.

Over the next three years, we aim to maximize data value at TVA by leveraging new tools and technologies to strengthen data management, architecture, and security. Prioritizing

people and business processes will drive actionable insights and efficiencies as we foster a culture of managing data as an asset and equip our workforce with the skills to optimize its value, ensuring our data is visible, accessible, and trustworthy.

TVA is focused on four key components of high performing data-driven organizations.

DATA FOUNDATION integrates data across the enterprise in a structured way to provide faster access to trustworthy data that can be used to drive insights and real-time decision making.

DATA MANAGEMENT AND GOVERNANCE focuses on controlling and managing data at scale so that it can be leveraged as an enterprise-wide strategic asset.

Analytical **INSIGHT GENERATION** serves as the gateway to insight-powered enterprises, integrating data-driven decisions across the business functions.

VALUE REALIZATION ensures implementation of analytics strategy is generating business benefits and driving sustainable returns for the enterprise.

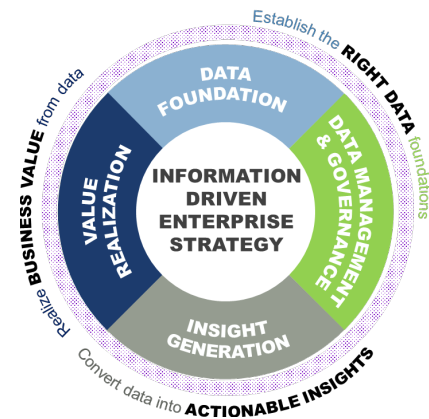


Figure 1: Key Components of a Data-Driven Organization

Within the four components, there are five critical data capabilities that are foundational to deliver the value from data across TVA using any available tools.

- **Data Governance:** Aligning to Strategy and Standards.
- **Data Structure:** Creating and maintaining master data, creating and managing data definitions and enterprise data model, and creating and managing metadata.
- **Data Quality:** Defining and monitoring data quality, analyzing and cleansing data.
- **Data Security:** Evaluating security, managing access, and enforcing protections.
- **Data Architecture & Integration:** Creating and maintaining platforms, managing data integration, and developing master data architecture.

These components are a culmination of a series of assessments and workshops that define where we are today as an organization and a future state that achieves our goals. We performed an initial data maturity level assessment that evaluated TVA's current state across several of these elements. We conducted a set of tabletop exercises to review processes, roles, and responsibilities. Finally, we conducted a series of workshops across our eight digital domains to understand current and future capability needs. Through analysis and synthesis, we aligned to our enterprise and IT strategies to develop this strategy and the accompanying execution plan.

6. Open Data Plan

As part of the IRM Strategic Plan, per OMB Memorandum M-25-05–Phase 2 guidance on the Implementation of the Foundations for Evidence-Based Policymaking Act of 2018: Open Data Access and Management, TVA is currently developing its Open Data Plan. The Open Data Plan will outline TVA’s publicly available data, collaboration with the public, and planned actions in creating and managing a standard data inventory and catalog.

Currently TVA has many avenues to provide information to and interact with the public.

Websites - TVA uses several websites to interact with the public and customers such as TVA.gov, TVA Kids, and industry and service specific sites. TVA also maintains official accounts on several social media outlets and provides mobile applications such as the TVA Lake Info App.

Reports and Requests - TVA publishes several reports on its website annually to reflect the essence of TVA’s operations and report on its strategic planning, financial health and more. In addition, TVA, like all federal agencies, is required under the Freedom of Information Act (FOIA) to disclose records that are not otherwise exempt under law to any person who requests such information in writing.

Examples of featured reports include TVA’s annual report, Integrated Resource Plan, New Nuclear Program, Strategic Intent and Guiding Principles, Financial information and filings, and investor information.

Public Meetings and Input – TVA requests public input and hosts several public meetings including Board and council meetings, environmental reviews, and long-range planning meetings, where we exchange information and ideas on issues important to those we serve.

Unprecedented opportunities exist for TVA to deliver new and improved services through modern data and analytics and key focus areas for the next three to five years. People are central to accomplishing this mission, so TVA must relentlessly seek ways to Empower Our People. Building Quality Data ensures that data will work as hard as the people at TVA do to achieve strategic priorities. Becoming a Data-Driven Enterprise is predicated on TVA mobilizing the full power of its resources – people, data ecosystem partners, innovation, trustworthy data, and framework – to use data and analytics to uncover insights, drive actions, and successfully achieve outcomes for TVA, its customers, and the people of the Tennessee Valley Region.