TVSnext Ai Digital Platforms

WHITEPAPER

Disrupt and Grow Using Data Platform Modernization

Contents

Introduction

"Data has become a new factor of production, in the same way as hard assets and human capital," writes José María Cavanillas, Edward Curry, and Wolfgang Wahlster in their book New Horizons for a Data-Driven Economy. This is truer still, following the rapid digitization of the world post COVID-19, with organizations having access to unprecedented volume, variety, and velocity of data.

$230B Big data opportunity	**93%** of leaders are using a plan to use EDW
96% fortune 100 leaders have successful outcomes from data	**92%** are accelerating investments

However, the outcomes of big data projects are not equally distributed. Much of present-day growth in the big data, analytics, and AI market is driven by large enterprises. Beyond the Fortune 500s and multi-national organizations, there is limited value being realized from big data. This puts businesses at a distinct competitive disadvantage, taking the wind out of their sails. In this whitepaper, we discuss the opportunity that big data presents for organizations, the unique challenges they face, the support they need, the partners they deserve, and the plan we recommend for their future.

Challenges Facing Enterprises In Data-driven Transformation

Lack of Defined Digital Budgets

Building big data capabilities can be expensive. Organizations need to set up their big data infrastructure; source, clean, and transform data; build or buy tools; hire and train experts to maintain them and so on. This can cost "hundreds of millions of dollars for an organization," which most do not have the luxury of. Moreover, not all enterprises do have budgets for large technological investments.

Therefore, despite the significant cost arbitrage from the cloud, and the exponential business opportunity that big data analytics can enable, many enterprises remain conservative about their investments.

Low Technology Maturity

From our experience talking to several enterprises across North America and Asia, we know that most of them have begun their big data journey. This means that in 2021, most enterprises have crossed the nascent stage of the TDWI big data maturity model. They understand the importance of big data and may have even made some investments in perhaps cloud migration, a data warehouse, etc. However, the biggest challenge here is that these initiatives are conducted as sporadic experiments, most of which fail or produce inconsistent results. Once bitten, twice shy, they withdraw from their data-driven digital transformation journey.

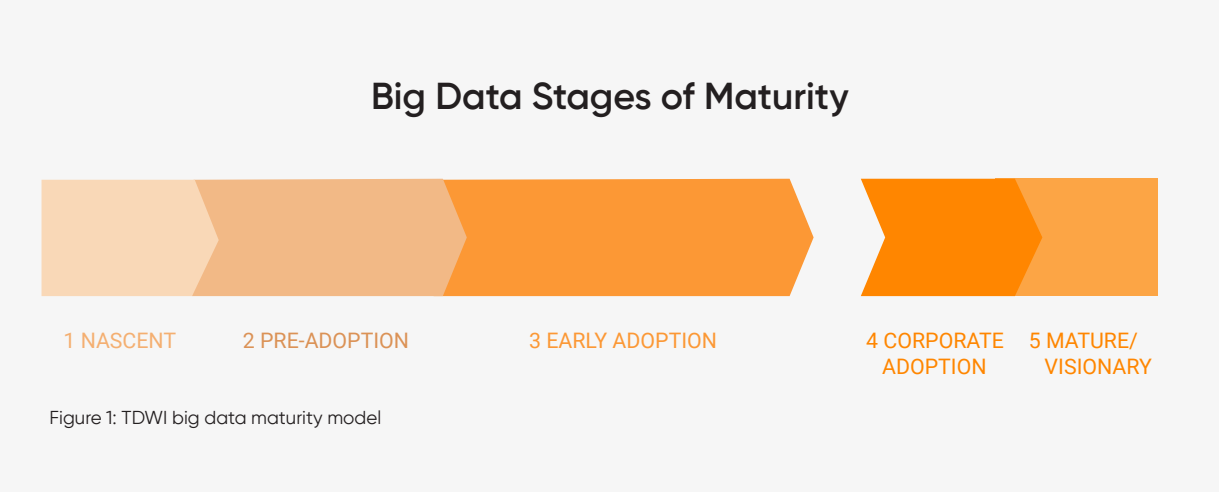


Figure 1: TDWI big data maturity model

Legacy Systems

74% of US-based businesses say that "using new technology effectively is key to their company's survival and growth." Yet, a vast majority of organizations continue to use their legacy systems. As a result, most of their data and applications are on-prem across disparate ecosystems. This presents a considerable challenge: Despite having large amounts of data, organizations cannot bring them on the same page to make sense of them.

Dearth of Talent

Driving a data-driven business transformation initiative requires talent. From leaders with a vision to multi-skilled teams executing the vision, talent plays a vital role in the success of big data projects. Hiring such talent in-house can be expensive for many companies.

More importantly, it also takes time and resources that they cannot spare. This is the reason why many enterprises seek external help. However, when the partner does not understand or is not focused on the business goals of these initiatives, the outcomes often become undesirable.

Cultural Resistance

Studies show that "cultural challenges — not technological ones — represent the biggest impediment around data initiatives." Most enterprises are not known for their agile, modern, and futuristic technology strengths. Most of them continue to look at IT merely as a 'support function'. More often than not, we hear leaders asking, “why change a system that is working?” as an objection to digital transformation initiatives. This resistance can be rather potent for enterprises.

Confusing Tooling

Across multiple clouds (including hybrid cloud), data architecture, data engineering, analytics, business intelligence, AI/ML, monitoring and governance, organizations use myriad tools. In the world of everything-as-a-service, it takes just a moment to adopt another tool to solve a problem. This creates a landscape of tools that organizations find complex to handle and confusing to use. Managing multiple tools can also turn into a nightmare for maintenance, integration, and customization.

No ROI Visibility

Of all the challenges that data-driven digital transformation projects face in organizations, this is the most impactful. Without a clear strategy to measure return on investment (ROI), these projects continue to stay experiments. As a result, they do not get the buy-in of key stakeholders, which results in low budgets, botched executions, and so on. Without a strategic outlook to business value, this can be challenging.

Despite these challenges, CEOs, CTOs, and CDOs of enterprises, understand the urgency to embrace digital transformation. They see that in the post-pandemic world, the sense they can make of their data will play a fundamental role in how they serve their customers. To overcome these challenges and adopt data-driven digital transformation, enterprises need specific and value-driven interventions.

What Enterprises Need For Data-driven Digital Transformation Success

Digital transformation is more than just a siloed technology project. Leveraging data for business goals often requires a whole new outlook towards IT and software engineering. We believe that this new outlook has three dimensions: Experience, Engineering, and Intelligence. In this chapter, we explore what enterprises need across these dimensions.

Experience Needs	Engineering Needs	Intelligence Needs
Strategy that works for you	Automated data pipeline	Dashboard and visualization
Data discovery and modernization	Data engineering	Predictive and prescriptive analytics
Considered tooling	Data quality and governance	Personalization
ROI measurement		

Experience Needs

Strategy That Works For You

One of the critical reasons for this is the lack of a considered data strategy that brings together data discovery, architecture, business intelligence, data management, data governance, compliance, security, and more. Most digital transformation consultants apply a one-size-fits-all solution, which rarely works and leaves behind technical debt.

Depending on the organization's size, the industry they operate in, data they have, goals they set, vision for the future, etc., enterprises need a strategy that's designed for them. The digital transformation partner needs to bring experience working with similar size companies, within the same domain, to demonstrate long-term value.

"Cross-industry studies show that on average, less than half of an organization's structured data is actively used in making decisions—and less than 1% of its unstructured data is analyzed or used at all."

Data Discovery and Modernization

At the core of any digital transformation initiative is data. Given their low technology maturity and legacy systems, most enterprises are not yet ready for organization -wide projects. Forcing large-scale transformation on such organizations is a sure shot way to failure. Instead, a good digital transformation partner will work closely with the business teams to understand their data landscape. They will perform thorough data discovery that will also serve as the bedrock of data governance, which will soon become critical. They will enable data modernization — leveraging a modern cloud data lake or data warehouse and set up with a scalable data stack.

Considered Tooling

There are hundreds of tools that perform the tasks any project needs to accomplish, but obviously, they all don't deliver the same value. An essential part of the strategy is prototyping and tool evaluation.

A good digital transformation partner will help evaluate available tools, shortlist the relevant ones, conduct experiments and choose what's best. They will ensure your tools are perfect for your present-day needs as well as long-term sustainability.

ROI Measurement

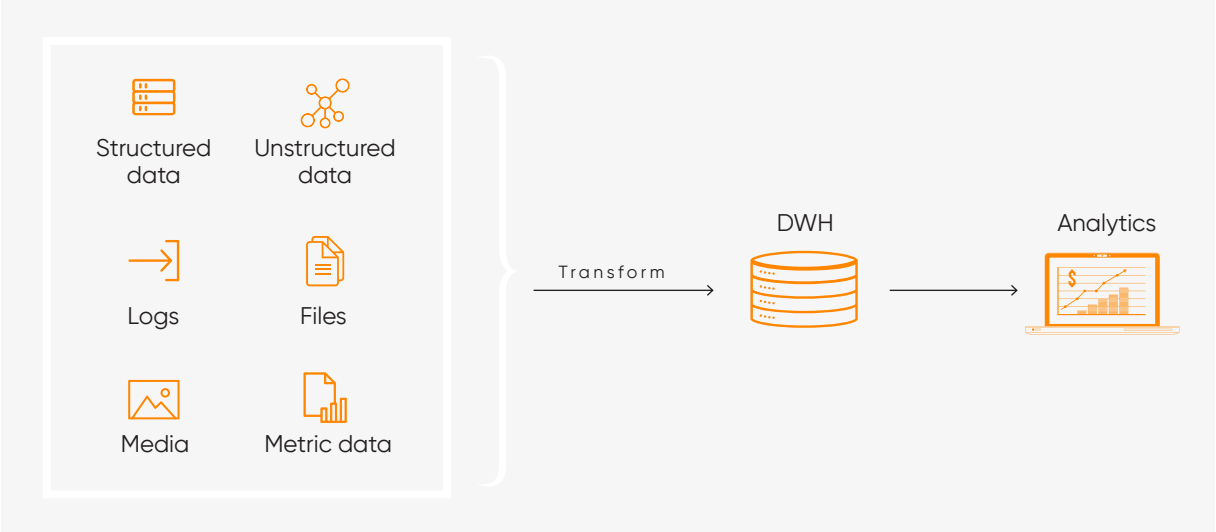
"It's not enough to manage data and create insights. These activities must deliver measurable business outcomes."

- Debra Logan, Vice President, Gartner

Most data initiatives end at delivering insights. This is one of the key reasons they fail. We've repeatedly seen that organizations that define key performance indicators (KPIs) around business outcomes build stronger and more effective data projects. A good digital transformation partner needs to bring the market intelligence and domain knowledge to define and achieve business-driven KPIs.

Engineering Needs

Automated Data Pipelines



To ingest data, both structured and unstructured, from across sources, in various formats, in real-time, enterprises need automated data pipelines. This must include clear extract, transform, load (ETL) processes that can handle increasing volume, variety, and velocity of data over time. A good digital transformation partner will ensure that all organizational data is leveraged without unnecessary cost burdens.

Data Engineering

This is the central part of any data-driven digital transformation initiative. It forms a bulk of data platform architecture, data lake/warehouse design, wrangling, querying, and analyzing data. Data engineering is the foundation for business intelligence. It enables data science, activates analytics, creates consistency, and reduces data risk within the organization.

A good digital transformation partner brings strategic consulting as well as implementation capabilities in data engineering. This is what we at TVS Next enabled for a leading retailer. We configured, implemented, integrated, and deployed a structured enterprise data warehouse that enabled near real-time visibility in sales, purchase, inventory, HR, and finance.

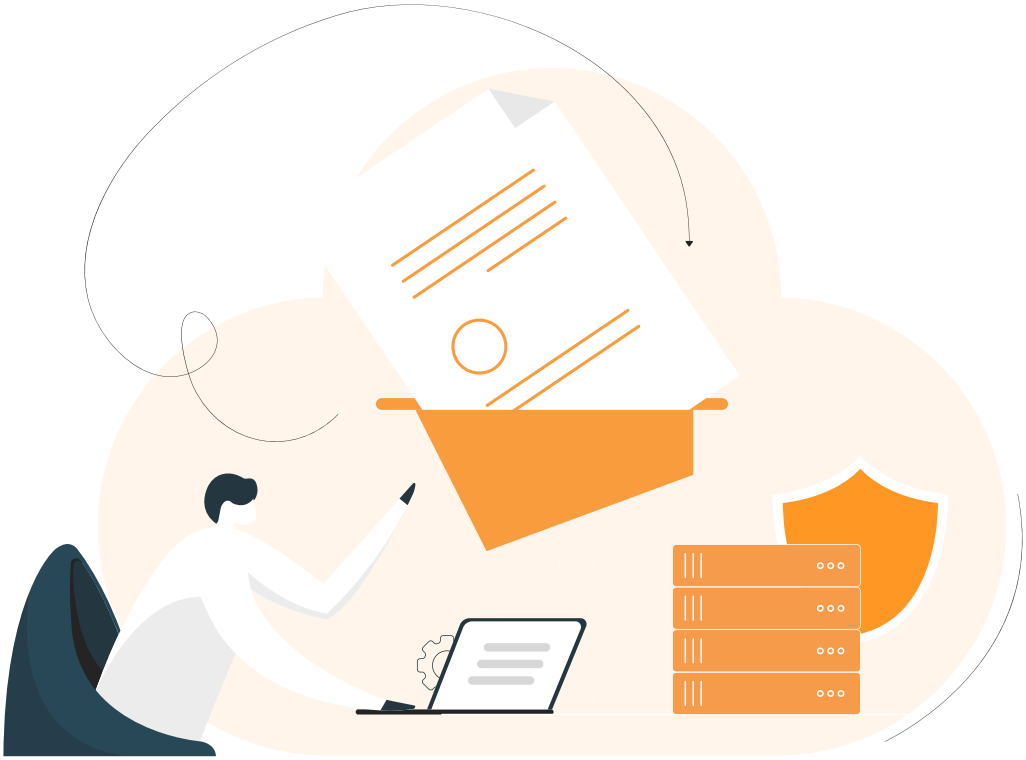
Data Quality and Governance

"When implementing an enterprise-wide advanced analytics platform, more than half of organizations noted data quality as a challenge; in fact, it was the No. 1 problem."

Forrester Study

Not all data is valuable. Any organization building a long-term data strategy will need to clean and transform existing data for insights and optimize data sources to capture and produce high-quality data. The technology systems for this will be around setting up data dictionaries, enabling traceable data lineage, establishing quality controls, restricting access, imbibing security protocols, etc. The business end also needs to include organizational processes, policies, and standards; monitoring and regular reviews; protocols for issue resolution, etc.

A good digital transformation partner will bring the 360-degree expertise and frameworks to ensure data quality not just in the present, but also in the future.



Intelligence Needs

Dashboards and Visualization

Marketing

Finance

Sales

Logistics

Advertising

Supply chain

Operations

CX

Transportation

Quality control

Alighned to business goals

KPI driven dashboards

Persona specific

Real time analytics

A good partner will enable this end-to-end visibility as per the organization's needs, goals, and a lot more.

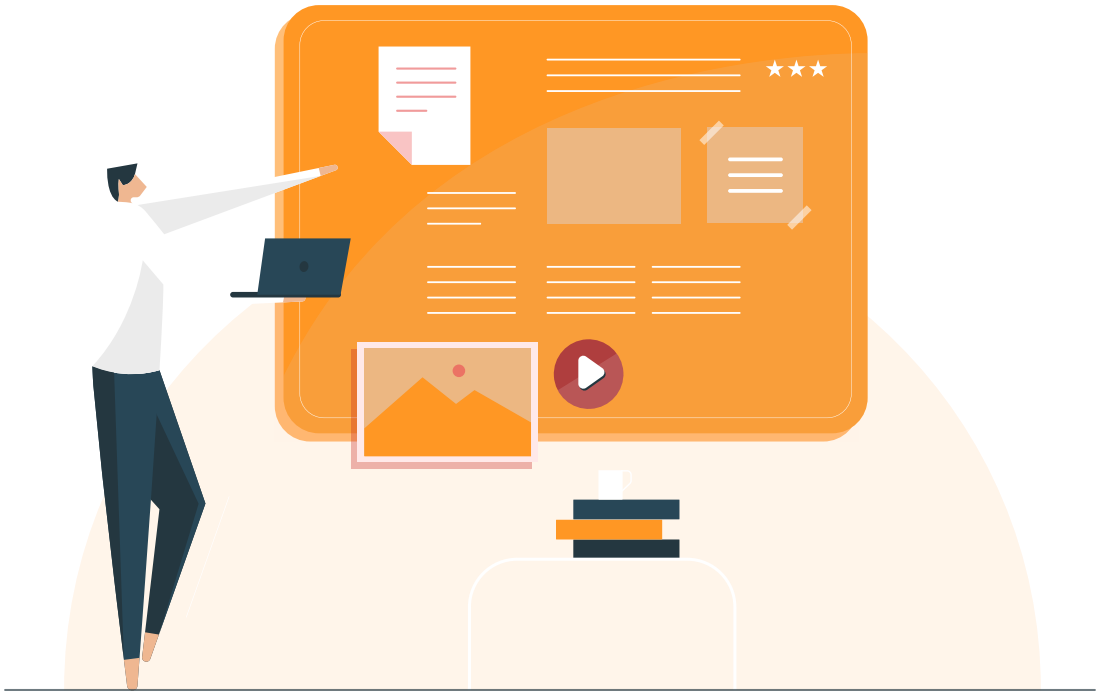
Predictive and Prescriptive Analytics

Despite being useful, dashboards are still merely insights. Users spend significant time and energy processing various kinds of reports to make decisions. The next milestone in the digital transformation journey is predictive and prescriptive analytics.

Predictive analytics can add value to a wide range of functions: AIOps, where organizations can predict and prevent downtimes, or in marketing, where campaign investments can be optimized based on predicted performance. From there, organizations can also build prescriptive analytics solutions, which will recommend a course of action for every insight at scale!

Personalization

Further down the maturity lifecycle, a data-driven digital transformation initiative can enable a enterprise to become a true digital business. By leveraging natural language processing (NLP), computer vision, machine learning, and artificial intelligence, enterprises can deliver a significant part of their solutions and customer experience digitally. They can hyper-personalize customer experience for every single user, increasing engagement and share of wallet. It is here that exponential business growth begins.



Use Case

Customer Challenges

A leading affiliate marketing platform required real-time insights which were not possible as the architecture was monolithic, and the workloads were built for batch jobs. Because of this, the marketing platform was unable to build repeatable loyalty programs due to a lack of consumer insights.

What TVS Next did?

Tasked with the need to modernize the current data engineering platform, TVS Next leveraged its well-defined modernization methodology and tools to define migration & modernization strategy, prototype and modernize the architecture through agile method and LEGO approach to break services into insights based microservice architecture.

Combining our methodology and cloud-based platform infrastructure, the client was able to perform intelligent analytics to address current business challenges and enabled a new initiative.

Result

- 68% improvement in real-time feedback & live monitoring
- 98% speedy delivery & release cycles
- Migrated 270TB to a hybrid cloud platform with Snowflake

Immediate outcomes; Long-term impact

Data-driven digital transformation delivers improved organizational visibility to perform root-cause analysis, identify inefficiencies, resolve issues, optimize performance and improve efficiencies. And actionable insights derived from data in real-time, in context, with a much higher level of accuracy.

At TVS Next, we believe that the biggest leverage organizations can gain from data is a level playing field - against the largest and most powerful competition.

Data-driven digital transformation can empower organizations to compete on a level playing field with large enterprises as well as tech-driven start-ups. It can help organizations identify digital opportunities and proactively leverage them. It can provide them with a competitive advantage for the present and the future.

At TVS Next, we are laser-focused on enterprises. We understand the intricacies of being an enterprise — the challenges, the quirks, and the possibilities.

To see how TVS Next can help you leverage the data opportunities of the future, speak to a digital intelligence expert today.

Authors

Brinda Sereno C

Brinda is the Vice President - Digital Consulting at TVS Next. She is major advocate of human centric design principles and design-led thinking. She is an expert in building omnichannel and custom design experiences and boosting customer loyalty.

Can be reached at brinda.c@tvsnext.com

February 2024

tvsnext.com
linkedin.com/company/tvsnext/