A Data Strategy Primer:

BUILD A WINNING
DATA STRATEGY IN 2023

TREDENCE
Beyond Possible

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Taming the Data Big Bang

In 2022, most organizations have already started their data maturity journey and entered a data big bang. The stakeholders can now smartly and swiftly discern data value from data hype. The leaders do not need a primer on data's significance. And more than 83% of enterprise executives now pursue data for competitive advantage. [1]

Their next data milestone, probably the hardest so far, is organizing the torrential enterprise data to deliver business value continuously. Organizations with a strong focus on data have already started reaping the benefits: [2]

5.32% ▲
Annual Revenue

4.85% ▼
Operational Expenses

97%
Met Customer Retention Goals

60%
Exceeded Customer Retention Goals

Sources:
[1] Forbes [2] Splunk

The value of data is impossible to ignore, but also challenging to achieve as organizations struggle to create:

A well-thought meticulous data strategy

A surefire roadmap to value-based success with data

A one-size-fits-all data strategy that satisfies both of the above doesn't exist. With each organizational ecosystem being steeped in its unique context and cross-functional relationships, it's important to devise a tailor-made strategy covering all their bases. This gameplan should be competent in dealing exhaustively with factors of their data organization and decision intelligence supply chain.

This requires a comprehensive understanding of all the levers that affect and shape a data strategy. By manipulating each lever, hidden or apparent, data leaders should be able to activate data for value generation and deliver results for different functions simultaneously.

Value realization from data hinges on getting this strategy right. By starting early on the strategy formulation, data leaders will get sufficient time to factor in all the levers, attribute accountability, and define metrics to monitor them continuously.

TAMING THE DATA BIG BANG

DATA DEFENSE

OPERATIONAL EXCELLENCE
- Data Infrastructure
- Data Management
- Data Integration
- Test Data Management
- Data Governance

RISK MANAGEMENT
- Regulatory Compliance
- Infrastructure Security
- Device and OT/IT Interface Security
- Data Security

DATA OFFENSE

CUSTOMER CENTRICITY
- Analytics-driven Insights
- Customized Products

PRODUCT INNOVATION
- Feedback-driven Product Enhancements
- New Analytics-led Products

2

Data strategy:

Understanding Both Ends of the Decision Pipeline

Data is viewed so often from the vantage point of attractive dashboards and ML model outputs that it's easy to forget the entire journey of data that ends up there. To create a holistic data strategy that successfully delivers clean and contextualized data at the doorstep of business analytics, data science, and data engineering leaders, one need to address the entire data pipeline, end to end.

A robust data strategy will focus on action areas along the complete data lifecycle. By solving for the larger data problem space rather than just one data problem, organizations can avoid the most common traps, such as: [3]

49%
Organizational data sources and applications are siloed from each other

93%
Businesses believe they need to improve their data operations

42%
Businesses report that their manual data operations haven't been automated

88%
Find loading data into warehouses challenging, mainly due to legacy tech

Source:
[3] Snaplogic

Piecemeal data management, broken data governance, and passive data monetization add up to a collective failure of the data institution and planned roadmaps. Data leaders should have all their data strategy elements laid out to take back control of the narrative. By dynamically organizing these elements early on, leaders can ensure outcome-driven success and start building a data-driven culture enterprise-wide.

This is a massive undertaking and can be simplified by understanding the two primary uses of data:

Data Defense   **Data Offense**

Data defense focuses on maintaining data integrity and its operations in the organization, ensuring compliance and security. Data offense, on the other hand, centers on generating differentiating value from data through insight delivery. Both are pivotal to a data strategy but are also likely to trade off with each other. So, data leaders need to harmonize the two by balancing data standardization and data flexibility. In 2023, many organizations are still struggling to put up a strong data defense, while the offense is largely divided into disconnected initiatives.

In this paper, we define a broad approach that will help data leaders identify their key action areas for 2023 in both data offense and defense and plan their overall data investments accordingly. While absorbing this information, we urge data leaders to keep in mind that their organization's position on the defense-offense spectrum needs to be fluid as their organizational goals evolve. With this approach, at their fingertips, they will be able to spot which investments should be re-directed and which elements need renewed organizational focus, on the go.

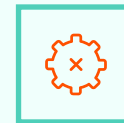## DATA OBSTACLES IN 2022–23 AT A GLANCE

Data Volume Abundance
Quality vs. Quantity (Data Obesity)

Lack of Data Literacy

Lack of Contextual Automation

Siloed Change Management Process
instead of Enterprise-level Change Management Process

Varied Data Types/Formats
Struggle to Mesh them Together

Immature Data Compliance & Governance

Lack of a Data-driven Culture

Rigid Enterprise Data Architecture

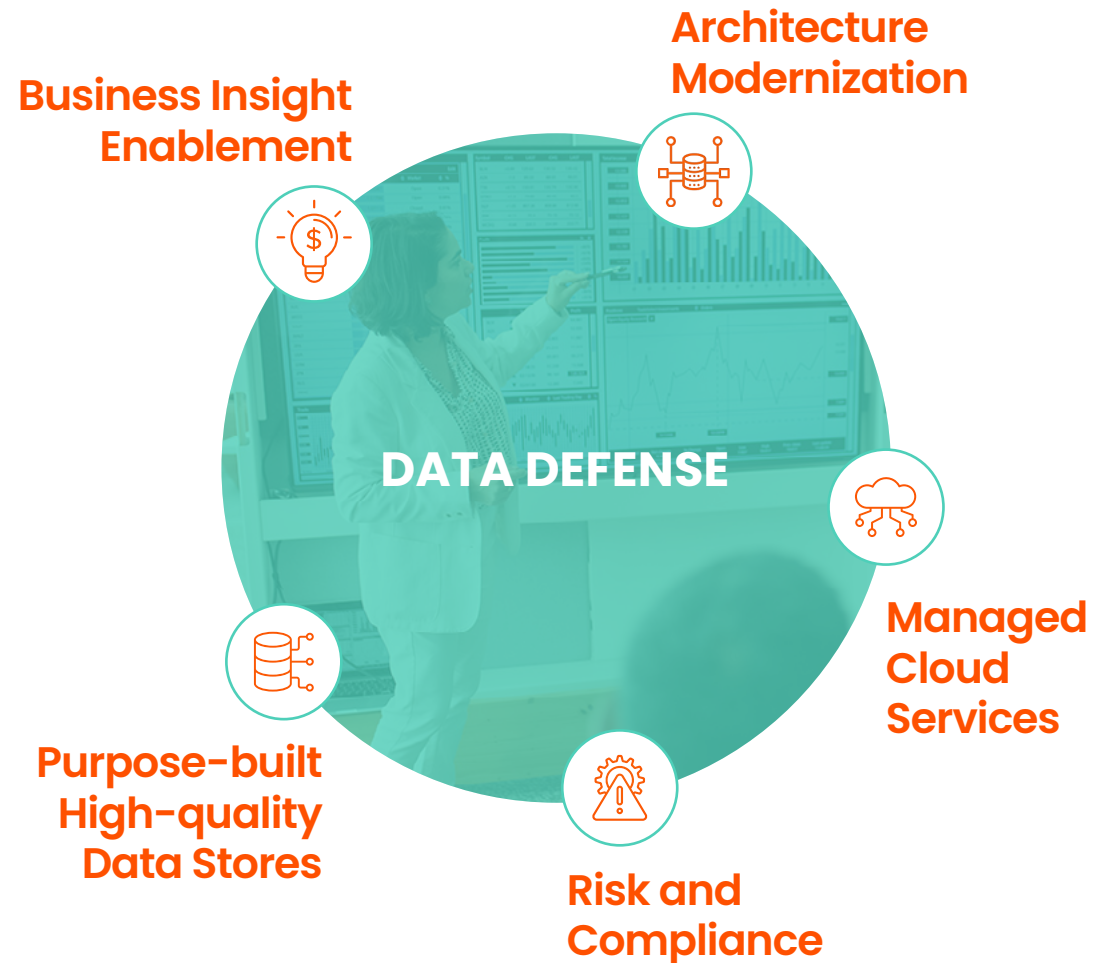**Slow Data Provisioning**

Insufficient Focus on Data Security

3

Data Defense:
Finding Your Feet With Data

Data defense is vital to the organization's data-driven performance. The primary purpose of data defense is to improve data quality, enhance data integrity, and reduce data-related risks. It drives efficiency in data usage and resource allocation, cutting down day-to-day operational expenses.

Business Insight Enablement

Architecture Modernization

DATA DEFENSE

Managed Cloud Services

Purpose-built High-quality Data Stores

Risk and Compliance

Data defense is cemented by setting up a single source of truth(SSOT) – a clean, authoritative central enterprise data repository – along with standardized scalable processes and pipelines. Such a data source solves for redundant data while ensuring that key data relationships remain untouched. A single source of truth offers the business tight control over their data, helping them respond quickly and efficiently to changes in their ecosystem. It also anchors the data activities, helping build a culture of responsible data handling.

Multiple surveys have found that over 70% employees are able to access privileged data that they shouldn't have access to. On the flip side, 80% of analysts' time is spent preparing the data for downstream operations. As a result, businesses are burning the bridges on both ends.

Foundational data projects in data defense are infamously known as 'data plumbing jobs,' but they prepare the data to create value through the right people at the right time.

Businesses invested in data defense often find it to be disproportionately rewarding as its various components create a flywheel effect where each component drives the momentum of the next one.

PUTTING DATA DEFENSE IN PERSPECTIVE

33% Organizations believe that their current customer and prospect data is inaccurate [4]

91% C-Suite believes data preparation costs their business in terms of resources and efficiency [4]

93% Organizations that focus on data felt they tend to make better, faster decisions than competitors [5]

$3.1B Costs borne by the US economy due to poor data quality [5]

Source:
[4] Experian [5] Splunk

3a

Data Defense:
Operational Excellence

The data organization's projects are usually viewed as a capital expense (CapEx). However, foundational data projects often chip away costs from operational expenses (OpEx). Traditional data infrastructure such as on-premises servers requires huge CapEx investments, which depreciate over a period of time. Moving to cloud and structuring data assets flexibly reduces the CapEx burden and even reduces the overall OpEx when the strategy hits home.

DATA INFRASTRUCTURE

- The structure, size, and flexibility of the data infrastructure should be carefully determined based on the current and anticipated use cases.

- Resource allocation should be optimized, ensuring that the organization doesn't oversubscribe and under-utilize. Data leaders should pay special attention to the category of infrastructure resource, the duration, and the licensing terms.

- Data leaders must maintain the right balance between various implementation approaches, i.e. open-source, cloud providers, on-premise servers, etc.

DATA MANAGEMENT

- Businesses should assess the value of data across the data lifecycle, before investing in people, resources, or platforms for each stage.

- Leaders should implement or upgrade to a nimble data architecture that absorbs changes with small or no downtime.

- Data pipelines should be designed with multiple caches of incremental latencies so as to implement only the relevant caches of each use case.

TEST DATA MANAGEMENT

- Organizations should take a metadata-led structured approach to create and continuously enhance test and validation data.

- Leaders should assess and adopt relevant Commercial Off-the-Shelf tools and build automation frameworks as appropriate.

- A focused team to maintain the test data environments and test data refreshes is a good investment.

DATA INTEGRATION

- Businesses should focus on a metadata-driven development that can handle diverse data integration, orchestration, and data pipeline needs while insulating them from underlying technology changes.

- A scalable framework for error handling, change data tracking, and data lineage is a must.

- While dealing with real-time data from physical devices such as IoT sensors, leaders should prefer open-source, lightweight, and reporting by exception (report only changes) data feeders.

DATA GOVERNANCE

- Right data governance organization structure, aligned with the business needs, is pivotal for the success of data governance initiative

- A comprehensive and living data catalog and business glossary serve as a data governance hygiene measure.

- Data leaders should decide on the position of data quality layer, including master data management engine, in the data pipeline based on the use cases and data latency vs. quality trade-off.

- Businesses should consider building metadata and reference data repositories and enable an offline update mechanism, for efficient resource usage.

- Having a scalable audit control and monitoring system set up will help in data integration as well.

3b

Data Defense:

Risk Management

Data security is not simply an organizational concern, it's a customer concern with far-reaching social and political implications. Weaving a risk-cautious approach into the data strategy early on can help build a culture of data security consciousness in the organization. It also helps the business business become proactive in its risk detection and mitigation initiatives.

Risk is multi-faceted in its presentation and prevention, so data leaders should examine their security posture from these four key perspectives:

REGULATORY COMPLIANCE

- Designing data security and accessibility frameworks considering the compliance rules of GDPR, HIPAA, CCPA, PIPEDA, etc.

- Taking into account not just the usage and accessibility of the data but also the storage location and duration of storage for the data strategy.

- Creating stringent norms for data breach alerts and defining rapid communication protocols to inform affected parties.

INFRASTRUCTURE SECURITY

- Defining strong firewalls that may allow rule-based traffic movement in and out of the network.

- Setting up encrypted VPN connections between endpoints, creating a secure "tunnel" of communication.

- Forming a strong security posture for wireless networks, which are more susceptible to attacks.

DEVICE AND OT/IT INTERFACE SECURITY

- Defining the count and type of security vulnerability points and designing security frameworks based on that.

- Developing a rule-based framework to connect devices to enterprise/ cloud network.

- Leveraging behavioral analytics to automatically detect network activity that deviates from usual activities.

- Promoting the Stop->Think->Connect policy while connecting to any new network of devices.

DATA SECURITY

- Classifying data as Restricted, Confidential, Internal, and Public and enforcing rules as per business needs.

- Building access control and persona management using a combination of application names, asset details, data source, type of access for a user group or groups.

- Defining data privacy, obfuscation, and encryption rules at data schema, row, and data operational level.

4

Data offense:

From Data to Decisions to Actions

Just as data defense is crucial for an organization's undisrupted operations, data offense is critical for its survival. In 2023, any business that does not use data to raise its baseline risks extinction. Data offense focuses on customer-facing and business-oriented initiatives to drive profitability and customer satisfaction.

Customer Insights

Personalization

DATA OFFENSE

Trend Evaluation

Loyalty Cultivation

Customer Feedback

Customers are the focal point around which the data offense ecosystem is positioned. As opposed to a data defense setup, a customer insight delivery engine demands flexibility from the data engine and pipeline. While the single source of truth provides reliable standardized data, it's difficult to derive strategic customer insights directly from it.

This is where Multiple Versions of Truth databases (MVOTs) come in. MVOTs are business-led contextualization of data to deliver insights that support active and robust customer interactions.

To run data offense and defense in parallel, data leaders should enable an SSOT with multiple MVOTs that cater to various business functions. This empowers functions with the customizability to use the data with relevance and purpose while providing them with a firm foundation for insight generation.

Data defense is a field of constant innovation with massive potential to generate returns and value. Analytics-driven insights – ranging from descriptive to prescriptive – are helping create hyper-personalized customer journeys and deliver on customer trends before they become the norm and recalibrate the market. Advanced analytics and AI support data offense while last-mile adoption of insights seals the probability of high returns.

PUTTING DATA DEFENSE IN PERSPECTIVE

89% Executives agree that inaccurate data affects their ability to provide excellent customer experience [6]

61% Organizations believe that better customer relationships help brands stand out [6]

48% Organizations feel that customer experience is a key consideration that shapes their data strategy [6]

52% Businesses say that analytics is the top data-enabled business opportunity while real-time processing is the second top priority with 47% [6]
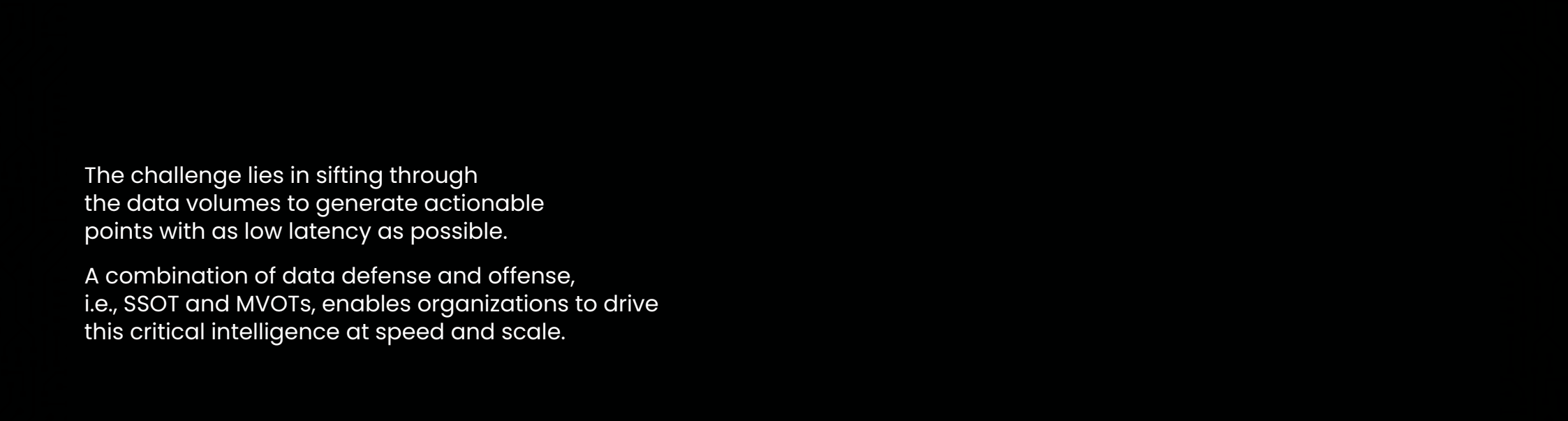
Source:
[6] Experian

4a

Data offense:
Customer Centricity

AI-powered insights are helping brands answer tomorrow's questions with today's data. Businesses that redefine the way data and business strategies meet improve insights delivery speed, allowing teams to focus on product and customer innovation. Many industry leaders leverage intelligence frameworks and automation to create micro-moments that become defining milestones in their customer relationships. In an era of product saturation, where customer retention is a challenge, forging deeper associations helps turn shoppers into loyal customers. It's important to stay in the mindspace of the customer and present them with the right deals at the opportunity of conversion.

The challenge lies in sifting through the data volumes to generate actionable points with as low latency as possible.

A combination of data defense and offense, i.e., SSOT and MVOTs, enables organizations to drive this critical intelligence at speed and scale.

ANALYTICS-DRIVEN INSIGHTS

Data maturity can range across the spectrum of DIPP – Descriptive, Inquisitive, Predictive, and Prescriptive. While many data and analytics first-adopters have become comfortable with prescriptive analytics, they still maintain capabilities across the spectrum.

For a strong data offense, the focus should be on:

- Setting up a single customer view that serves as a dependable customer 360⬚.

- Leveraging the above SSOT with various MVOTs to model customer behavior and generate predictive and prescriptive insights.

- Establishing an agile pipeline from data to differentiated insights.

- Building the mechanism to trigger action on these insights for the relevant and readily available offers quickly.

Customer analytics help brands respond to changing customer trends in context and in time. Insight-driven organizations have amplified the voices of their customers through customer analytics and connected previously unconnected dots to create impactful impressions on their customers.

CUSTOMIZED JOURNEYS AND PRODUCTS

Advanced analytics have empowered customers to expect more than just a delightful customer experience. Increasingly, they look for a differentiated experience.

So it's time businesses look beyond analytics-led cross-selling and upselling, and use data-driven analytics and behavioral insights to tailor their offering of services, products, and customer experience.

Leading brands have already embraced personalization through micro-segmentation, serving bite-sized customer segments with tailored products and services. They are steadily moving toward hyper-personalization, wherein customization will focus on each customer. With advanced analytics, both are achievable and reap high returns when implemented correctly.

Insights-driven customization hasn't just enhanced revenue for existing channels, it has also opened up new, unprecedented revenue channels for businesses looking to reinvent their customer journeys.

4b

Data offense:
Product Innovation

Data is also redefining customer engagement at a more personal level – how they experience and interact with their products. What was once an event outside of brands' visibility is now their compass for product innovation. By creating feedback loops with their customers, brands are able to receive direct customer experience signals, in near real-time, to reposition their offerings and enhance product capabilities.

Customer-focused product innovation now draws structured and unstructured data directly from various customer forums, social media comments, likes, and public opinions to discover which features work and which ones don't. Armed with this intelligence, brands have hit closer to home on customer expectations with their products and services.
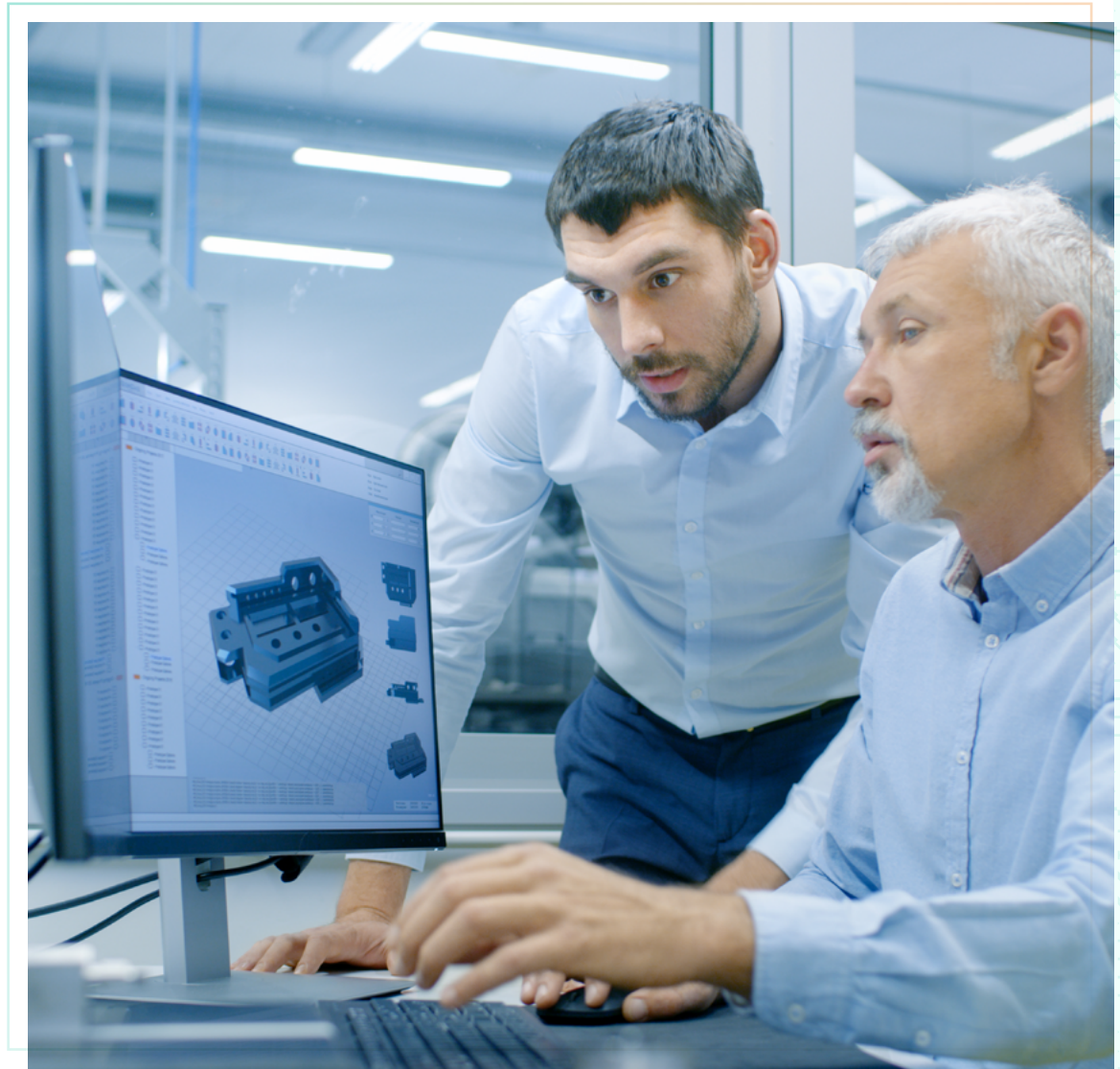
FEEDBACK-DRIVEN PRODUCT ENHANCEMENTS

Introducing a new product is an investment-intensive decision for brands. And products are rarely perfect and often miss the mark narrowly.

With specific, actionable feedback from customers, brands can re-orient and drive product enhancements in rapid rollouts. Unsurprisingly, such insights rest on both data offense and defense. So businesses need to:

- Setup continuous customer feedback loops and superimpose customer feedback on a resilient data fabric to understand the true gap in their offering and customer reception.
- Seek value by creating the most desired products and services on the market where margins are sustained by premium pricing.

ANALYTICS-DRIVEN NEW PRODUCTS

Product innovation demands some simple but sophisticated analytics. It calls for on-point trend-spotting through customer forums, social chatter monitoring, and customer surveys.

Analytics-led trendspotting will help businesses separate trends from hype and ensure they invest in the right offerings. By running analytics on customer behavior and preference data, brands can identify the whitespace in current offerings and marketplace. This helps product managers start off with tight product outlines, shorten product development cycles and hit the market quickly before the trend diminishes.

Data Offense and Defense are two complementary strands of the data strategy DNA. Data offense is cluttered without data defense. While data defense is difficult to justify financially without data offense ROI.

That being said, each organization may have its unique coordinates across the offense-defense axes. It's best for data leaders to understand the data strategy mix and design a strategy that aligns with organizational vision and goals. This data offense-defense primer can serve as the starting point, with specific differentiators and strengths informing each organization's data strategy for maximum ROI. A mature data strategy isn't about covering all the bases all at once, it's about knowing which base to focus on at any given point of time.

TREDENCE – YOUR A-TEAM FOR DEFENSE AND OFFENSE

Tredence is a leader in advanced analytics and full-stack AI services, recognized as a Forrester Wave Leader in Customer Analytics in 2021 Q3 and the AI Gamechanger by NASSCOM.

Since 2013, Tredence has led with a sharp focus on 'last-mile adoption' of insights and AI to help brands create sustained impact through their data analytics initiatives. With wide and deep expertise in all things data and carefully curated understanding about leading it to actionable insights, Tredence has empowered over 50+ established brands to become insight-driven. Our clients agree that our AI-enabled analytics, primed for speed and scale, have been key to powering decisions that unlock growth and differentiation.

In the last few years, Tredence has shifted from a "Customer Analytics Mindset" to a holistic "Customer Experience Mindset" to align closely with the rapidly changing customer expectations. As a result, our clients enjoy lasting attention and enduring loyalty from their customers globally. Tredence has built a sustainable ecosystem to complement this services vision. From conducting listening tours to workshops to strategy to co-creation to business value realization, we bring in contextual interventions across the customer life cycle to improve customer experience. Our focused workshops with CDOs on aligning their responsibilities, prioritizing challenges, and customizing strategies for their organization's specific environment have been widely well-received.

We are augmented by Tredence Studio, our product engineering arm that's home to over 30 vertical accelerators, custom-designed with a customer-first approach. Tredence Studio powers all vertical specialization efforts, helping clients build technology differentiators and adapt to disruptive market shifts at speed and scale.

Our vertical focus combined with our horizontal reach has been instrumental in building a space for data-led innovation, which culminates in:

Harmonizing Data. Humanizing Experiences. And Operationalizing AI.

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Shobhit is a seasoned professional with experience in CXO-level client stakeholder management, multi-practice program governance, delivery management, delivery KPIs ownership, cost management, people management, consulting, practice building, program management in IoT, data science, machine learning, analytics, business insight, and information management.

Shobhit's domain experience includes healthcare payer, provider, manufacturing, and financial services. He is also an expert in data science, data quality, and master data management.

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