

Bend the curve

Get your enterprise innovation-ready by putting data at the heart of your strategy

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But first AI...



Artificial Intelligence is a big deal right now, not because it takes enormous dollars to get the wheels turning, but because it is changing the fundamentals of human-machine interactions.

AI is driving the market forces in 2024, showing a glimpse of what the world could be to consumers, brands, and technology. Our AI experts predict that it won't be too long before the governments, too, jump on this bandwagon, even though they are usually the last adopters of any technology.

Our team at W2S Solutions has been working with brands and leaders across geographies and industries now. The pressure to build a sustainable world- both socially and environmentally empowering, is only increasing day by day. The emergence of AI amid all these tensions is viewed as a pivotal opportunity to solve these incredibly complex challenges.

However, for AI to live up to its full potential, it needs enormous amounts of quality and reliable data. The race to deliver value with AI has started now, and players with a robust data infrastructure will be the ones landing on the top.



EMBARKING

on the data journey

Making sense of Data in the context of growth

Let's face it - every organization, big or small, has an abundance of data in their systems, but most of these organizations have no idea of the power they can harness through this data. Businesses for a long time have been looking at only the data and perspectives that have been traditionally accepted markers for business decisions. But data is bigger.

With newer technologies and systems in place, organizations now have the ability to see beyond. The volume of data that they receive from their systems and operations offer immense opportunities for insight-driven business growth. Of course this data can be overwhelming for most organizations, because they don't have the right infrastructure to receive this information, make sense of it or draw insights.

The **volume, velocity, veracity and variety (4 Vs)** of data are some of the most impactful factors of deciding the quality of your data analytics system. As technology has moved from bare-paper records to data warehouses and data lakes, organizations need to set up the right infrastructure to handle the data, in the context of the 4 Vs mentioned above.

Historically, the evolution of humankind through every era has been based on data. The caveman did not move up the food chain without understanding the benefits of the flame: Primeval Data Analytics.

If we move to more recent times, you'd notice that not much has changed - we see something, understand how it works / makes an impact, and implement it as we see fit.

But Big Data offers more than this: because we now understand data in context, laterally, vertically and historically, it is even possible to look into the future.

The missing elements in Digital Transformation: Data & Analytics

Most organizations understand that Data is integral to their business' growth and sustenance. But what they fail to realize are the opportunities that Big Data offers beyond traditional ideologies.

In an age of the now almost ubiquitous discourse on Digital Transformation, organizations around the world have been able to see real value in their [digital adoptions only with Data & Analytics on their side](#). And as technology advances, it becomes even more evident that the organizations that don't adopt a more data-driven approach to their business might be left behind in the wake of advancement.

One of the primary reasons for the massive adoption of digital by organizations is resilience. And data provides exactly that. Every successful brand in the 21st century has established itself as a digital enterprise, and the success that follows is mainly attributed to the adoption of a data-driven approach to business & operations. For instance, a company like Domino's®, which sells 3 million pizzas per day, is as much a data company as it is a pizza company. Among its 350,000 employees, the F&B giant has a massive fleet of data engineers and analysts, making it one of the largest digital enterprises in the world!

In this new reality where every business is trying to be a digital enterprise, being digital is to be data-positive.

“To drive value in the age of AI, enterprises must prioritize data, democratize it, and make it an integral part of their DNA.”



THE IOT INFLUENCE

From connectivity to data-gate devices

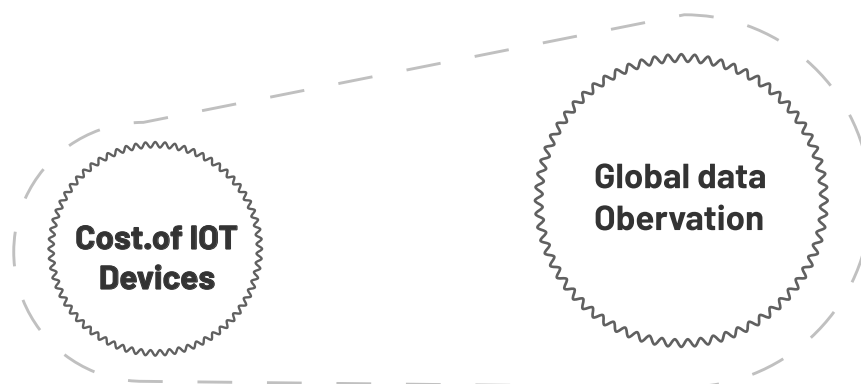
Efficient data leveraging = Control X Connectivity

IoT plays a major role in data production. In the past decade, the number of IoT devices has increased exponentially - from toaster ovens to cars, everything connects to the internet. There once was a time when we treated data as just a by-product of business operations. But data now has more value than money itself. We are at peak consumerism, and commercial activities on digital platforms are higher than ever. And every one of these activities creates and revolves around data.

Simultaneously, our extensive dependency on IoT has blurred the line between our digital and physical worlds. This creates data at an unparalleled scale, and the nature of this data, too, is becoming more complex. So, anyone with an intention to leverage data should understand the influence of IoT.

We know that IoTs are the agents of connectivity, but we also have to understand that they are the bridge between the digital world and us. Brands, in particular, have to see IoT as both the means for connectivity and a gate checker for their data vision.

Although consumer data is a gold mine for brands, it's important to define boundaries not to violate consumers' privacy.



In the last 5 years, the cost of IoT devices went down by almost 50%, producing data at a rapid pace. The availability of global data increased by nearly 700%, enabling brands, enterprises, and governments to track their impact.

Efficient data leveraging = Control X Connectivity

With platforms like metaverse becoming mainstream, your data will define your online identity. A brand can leverage analytics to dissect the data and extract insights that define the very aspect of a consumer accurately. This drastically changes the game for brands as they can control the direction they want to move in. They can use these insights to devise aggressive marketing strategies or amplify their R&D efforts to build successful products at minimal costs - the options are just infinite.


The increase in the number of connected devices, presents a bigger inflow of data at greater speeds, demanding more robust data infrastructure. As edge computing is normalized, complex data at scale can be easily digested by the system.



When we collaborated with the National Institute of Ocean Technology to create the disaster management system, enormous opportunities emerged with edge computing capabilities, which offers great scope for a range of innovative solutions.

- Madhu Kesavan, CEO, W2S Solutions.

When we were strategizing for effective data transmission using GPS satellites, we learned that if we replace this traditional system with edge platforms, we would be processing data at much faster speeds, and the distribution, too, would be much more efficient.

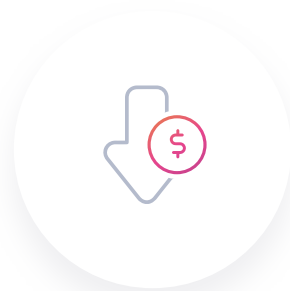


IMPLEMENTATION SHOWCASE:

The impact of data measured

Saving costs. Maximizing innovation.

Data-led optimization for a historic automobile manufacturer



Reduced warranty costs

As our client's products got better, their expense to cover warranty claims reduced by **62%**, allowing them to shift resources to more critical operations

Better product build

By helping our client get in touch with their huge volume of product data, they were able to build on durability and efficiency in their products



A global report states that only 20% of the data strategies are tapping real potential.

So, in an age where every business is hopping on the data bandwagon, the accuracy and efficiency of their data strategy can make all the difference for a business. But it is important for the CXOs to understand that not all data vision is tied to an ROI, at least not directly. Predefining their goals for data, and what they aim to achieve with it can help give direction to their data strategy.

We worked with a client in the automotive industry to help them get in touch with their data. This client is a **historic automobile manufacturer**, transforming transportation for over a century. But they faced a very particular challenge in select manufacturer plants. Say model X of our client was performing really well in the west-coast markets, the same product's performance in the pacific region was not so optimal. Our client faced increased warranty expenses as the product performance didn't match their consumers' expectations.



So, our client had to solve two problems simultaneously to move forward with model X.

- 1) Reduce the warranty expenses
- 2) Innovate model X to suit the geography better

The stakes were high for our client as model X was a highly successful model everywhere else, so if they didn't neutralize these problems, the overall image of their peak-performing model could be tarnished.

To solve this challenge, we helped our client create cross-functional teams across their global R&D and manufacturing plants. Once we established these teams, we created multiple source points to collect data associated with their model X. The approach was to collect data about the product at an exponential rate to identify the problem areas immediately.

Once we had enough data, we collaborated with our client to process the huge pool of data from different global facilities of our client. We devised an aggressive cloud plan to move such huge volumes of data, and this helped us democratize insights among our client's various operational locations.

Upon processing the data, our client identified that their core problem is that model X is not properly optimized for the road conditions of the pacific region. This induced increased stress in the suspension systems & chassis of model X, drastically affecting the durability of the product.

From this point, our client was able to solve the problem easily. They modified and upgraded the model X with their engineering team, optimizing it to better suit the geography.

The trickiest part was in identifying the problem, and without data, the client would have been in the dark, unable to continue their legacy into the future.

Minimizing data waste. Maximizing business.



Recycling Data

Analytics empowered our client to reduce data waste by **83%**, offering deep-dive insights on customer behavior


Better R&D

A crucial department in our client's business, we helped them collect **4X** data for better product development



Data is the new oil, but unless the data can be converted to insights, it may pollute your organizational vision and strategy, draining your company's resources. This is particularly true for one of our clients - a global key player in the billion-dollar pet food industry. R&D plays a huge role in our client's business model as it allows them to constantly innovate their product line, experiment with new ideas, produce highly nutritional pet food at reduced costs, and offer a wide range of options for different customer segments.

Given the nature of our end-consumers, i.e. the pets, collecting feedback on the product was relatively harder, if not impossible. While pet owners were able to provide valuable information, our client was determined to create top-of-the-line pet food that sets new standards for the industry, using real-time pet behavior data.



Our client had to find a non-invasive, pet-friendly method to accurately understand the physiological conditions of the pets.

To understand the exact physiological reactions from the pets, we leveraged IoT-integrated collar bands that could monitor various metrics like temperature, heartbeat, blood pressure, water consumption pattern, scratching habits and spikes / decrease in physical activity. These collar bands were also bluetooth-enabled for seamless data transmission.

Our client experimented with a controlled group of pets of different breeds and physical conditions. By switching their normal neck collars for our IoT-integrated collars, our client was able to observe the pet's behavior without missing a beat. We built a custom cloud-based application for our client to store the data from the pets, and used a minimalist design to encourage our client's global audience to navigate the application with ease.

We simultaneously started processing the collected data to deliver insights for our clients. We devised a global insights pipeline for our client to deliver the information from our client's HQ.

This pipeline delivered value from a single R&D to multiple production centers across the globe, enabling regional heads to skip complex data processing to arrive at actionable insights.

Our client leveraged this data to create top-of-the-line products, driving their presence across various markets. By bringing in the IoT-integrated collar, our client capitalized on the opportunity to create a digital ecosystem that's inclusive of the pets and the pet owners, too. R&D was eventually able to expand their scope in creating sustainable pet food at reduced costs.

And all these changes began with getting our client over data inertia.

Empowering a community. Enabling life.



Field data

Understanding the ground reality in sustainability is crucial for effective solutions. Our analytics and visualization solutions helped our client understand complex field data with ease

Disaster management

The organization was able to accurately predict abnormal activities in the coastal region, helping safeguard the coastlines and the people in those regions




A global initiative

Real-time ocean data will help international organizations to better understand the global climate patterns and oceanic movements

The coastlines of India are some of the most vulnerable regions of the country, facing more climate-based natural disasters than any other part of the country, including hurricanes, cyclones and Tsunamis, every year. The Indian Government has been making every effort to mitigate the effects of such natural calamities, with extensive support from the National Institute of Ocean Technology (NIOT).

To amplify the efforts of the Indian government, we collaborated with the NIOT to monitor ocean behavior and the impact it has on global climate change.



Our goal was to devise a system that alerts the coastal authorities of abnormal ocean activities beforehand, offering them a window to implement protective measures before any major event.

The trickiest part was in differentiating an abnormal event from an almost abnormal event. Raising false alerts heavily impact the efficiency of the entire system, causing unnecessary wastage of resources.

To gain accuracy, we had to center our strategy around data. With a data-centric approach, we were able to deliver accurate information to data scientists, climate change experts, and the disaster management committee.

Firstly, we needed to find a way to collect data from the ocean. Keeping in mind that the data will be different at various points of the ocean, we deployed several IoT buoys that float at different levels across the ocean. Specialized sensors were installed on these buoys, allowing the transmission of a steady flow of data from the buoys to the processing centers.

We created a cloud environment to store the vast amount of data, which enabled NIOT's data engineers to process the information efficiently.

We also built a cross platform application to distribute these insights. Our application was intently one-dimensional to keep things straight to the point.

However, the real purpose of the application was to democratize the insights across multiple teams in the hierarchy - from field teams to decision makers. The entire process was designed in such a way that the information transfer happened near-instantly.

This lay the foundation for understanding the realistic stakes in creating a sustainable future for the country, and for humanity at large.



DRIVERS OF ADOPTION:

**Cloud Tech & the
UN SDGs**

The inevitability of the Cloud in your Data vision

The Cloud is integral to drive strategic capital for your business today. While a data-led transformation can help you better understand customers, strengthen business operations, and act faster to create more business opportunities.

Cloud technology enables this: real-time data, at scale & flexibility, and access to the market's most influential machine learning and analytics tools.

In most cases, you can make better decisions with business data analytics on the cloud, even if you don't have a basic infrastructure in your organization. You just need to have the right business data analytics experts to assist you in your journey to the top of the competitive market, with cloud-based data transformation.



Data works better for sustainability



Why is sustainability in the digital era so important? Because we have the power to transform the world for the better. And with great power arrives the responsibility to build a sustainable community that has achieved carbon neutrality and fosters inclusive development. We have to be driven to address social inequities and inequalities, the effects of climate change, economic inclusion, and dwindling natural resources.

It's time for enterprises like us to implement methodologies such as product planning, system design and innovation, eco-design implementation, and environmental business models to address sustainability challenges.

Sustainable strategies connected to the right technologies like business data analytics have immense potential, and will help you focus on responsible business growth, enhance operational eco-efficiency, and lead sustainable transformation through process improvements, innovation, and disruption.

SHIFTING GEARS:

**Increasing accuracy through
context**



Moving From Big to Small

Global disruptors such as the 2020 Pandemic have affected how historical data is perceived and processed by AI & ML systems. Because of which models that were based on Big Data can now become obsolete, without a newer perspective: Small & Wide Data.

According to Gartner, by 2025, **70% of organizations** will shift their focus from Big to Small and Wide Data, providing more context for analytics and making artificial intelligence (AI) less data hungry.

While Small Data requires lesser quantities of data, Wide Data is a conglomerated view of Small and Big data. This offers a more contextual understanding of data for self-learning systems, ensuring increased accuracy in analytics, insights and learning.

“Both approaches facilitate more robust analytics and AI, reducing an organization’s dependency on big data and enabling a richer, more complete situational awareness or 360-degree view.” - Jim Hare, distinguished research vice president at Gartner.

This, of course, does not make Big Data obsolete - on the contrary, it only emphasizes the need for faster adoption and implementation of robust Data & Analytics systems.

Mapping the way

FORWARD



Roadmap for a robust D&A implementation

An efficient Data & Analytics Strategic Plan is non-existent without a clear understanding of the organization's needs for Data & Analytics. Whether this is a top-down or bottom-up approach, it is imperative to clearly define the requirements and how the system will satisfy these needs.

1

Define the Data Vision and Mission of the organization clearly

2

Define the strategic goals of the organization in the context of data

3

Understand and determine the potential impact of implementation

4

Prioritize the PoA (plan of action) of your implementation strategy

5

Build a scalable, strategic D&A roadmap

6

Implement the roadmap

7

Track, Measure and Record the impact of the implementation



W2S Solutions

With 200+ developers and 20+ industry experts, we help business leaders and enterprises embrace digital transformation and move toward the bigger picture. We take a core tech approach and offer a wide range of services, like app development, data engineering, cloud deployment, and enterprise transformation.

Operating at 6 different global locations, we have worked with a variety of brands and organizations, including critical industries like education, healthcare, agriculture, energy, etc.

W2S Solutions is also a strong advocate for sustainability, and we help businesses shift to the post-carbon economy without compromising on their scalability plans, creating a more holistic, sustainable, and inclusive future for all.

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