

White Paper

Unlock the Power of Data Capital: Accelerate DX

Sponsored by: Dell EMC

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Introduction

Digital transformation (DX) is reaching a macroeconomic scale. DX business objectives are balanced between tactical and strategic objectives and range from improvement in operational efficiencies and customer satisfaction to increasing existing product revenue to improving profit margins to launching new digital revenue streams.

Successful DX relies on utilizing data for services as well as converting data into actionable insights. This reliance on data is contributing to a new digital era. 3rd Platform (cloud, social, mobile, and Big Data) computing is the underpinning of DX worldwide. It enables collection of a vast breadth of data sets and delivers the agility and efficiency needed to accelerate DX (see Figure 1).

FIGURE 1

DX Industry Growth

Digital Transformation



By 2021, **at least 50% of global GDP** will be digitized, with growth in every industry driven by digitally enhanced offerings, operations, and relationships.

Note: For more details, see *IDC FutureScape: Worldwide IT Industry 2018 Predictions* (IDC #US43171317, October 2017).

Source: IDC, 2017

Intelligent applications based on artificial intelligence, machine learning (ML), and continual deep learning are the next wave of technology transforming how consumers and enterprises work, learn, and play. While data is at the core of the new digital economy, it's about how you sense the environment and manage the data from edge to core to cloud and how you analyze data in near real time and learn from it, and then act on it to affect outcomes.

No industry is exempt from the impact of digital transformation. What differentiates winning organizations from their peers is how they leverage data to deliver meaningful, value-added services or any enterprise decision making.

Data Capital – What Is It and Why Is It Important?

In economics, capital is a produced good, as opposed to a natural resource. Data is a new form of capital. It is on the same level as financial capital in terms of value for a business and/or generating new digital products and services. It is the wealth in the form of value derived from organizational data, commonly used to power digital experiences and/or unlock business insights. It can have long-term value just as physical assets, such as buildings and equipment, do. With data capital, if you know something about your customer, channel activity, ecosystem, or production process, it could yield value over the years.

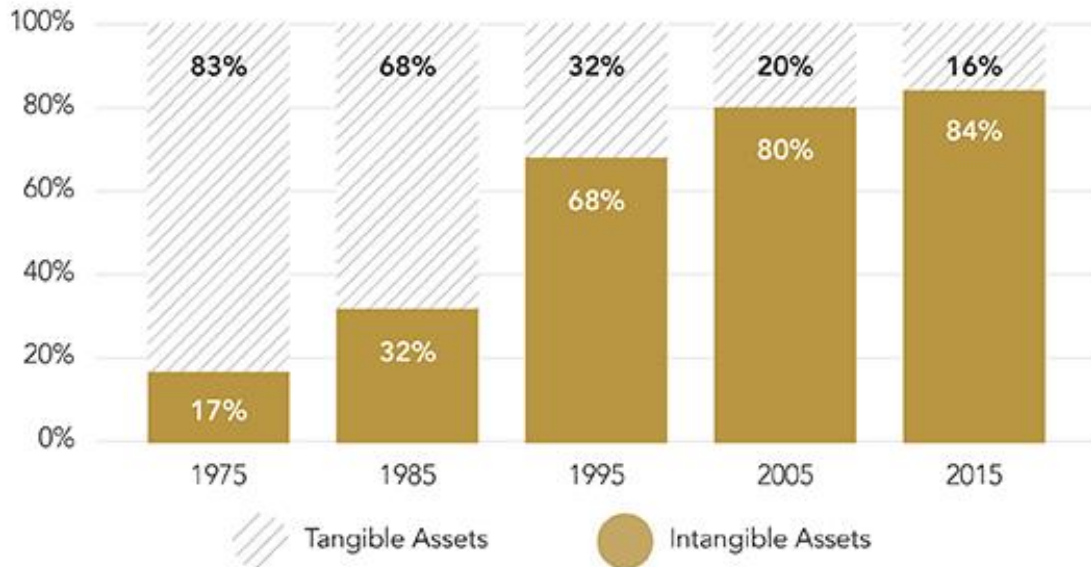
IDC forecasts that by 2025, the global datasphere will grow to 163ZB (i.e., a trillion gigabytes). That's 10 times the 16.1ZB of data generated in 2016. We are finding new ways for data to make our lives better, ways that we didn't imagine even a few years ago. The way society uses data is going through a fundamental shift: from entertainment to productivity, from business focused to hyperpersonal, from structured to unstructured, from selective to ubiquitous, from retrospective to here and now, and from life enhancing to life critical. Structured or unstructured, generated by humans or by machines, and stored in the datacenter or the cloud, data is the new basis of competitive advantage.

According to Ocean Tomo LLC's 2015 *Intangible Assets Market Value Study*, updated in 2017, 84% of the market value of S&P 500 companies comes from intangible assets, including data and software (see Figure 2), and the possible value of intangible assets, including data, in the United States is \$8 trillion.

FIGURE 2

Growth in the Value of Intellectual Capital Equity

COMPONENTS of S&P 500 MARKET VALUE



Source: Intangible Asset Market Value Study, 2017

An interesting DX story of exploiting the power of data capital is that of the telecommunications carrier Sprint. The telco, under pressure from large rivals such as Verizon and AT&T and in merger talks with T-Mobile, is reinvesting in technology after years of significant cost reduction, according to CIO Scott Rice, who is leading the charge. The focus is largely around analyzing data to improve the customer experience. Sprint is churning through hundreds of terabytes of data generated by logs, databases, emails, and other sources to gauge the performance of sprint.com. That data helps IT staff determine where glitches are impeding Sprint's ability to facilitate transactions, ranging from basic browsing to phone purchases to upgrades consumers are trying to complete online. Analyzing bugs and other delays helps Sprint pinpoint when and why a customer is abandoning a transaction. Sprint has also created a Hadoop-based data lake to analyze customer data, in an effort to improve the way it recommends products to consumers. For example, a 10-year iPhone user will only get iPhone offers. The entire effort is focused on building a breadth of information about customers and their relationship with Sprint. Sprint's transformation is continuing across all aspects of the business and the "IT organization is right in the middle of every transformation project," Rice says.

Data Capital Challenges and What Is Needed?

The accelerated pace of digitization and datafication of more value-creating business activities is leading to diverse, dynamic, and distributed data sets. There is proliferation of application deployment models and locations.

To unlock the power of data capital and accelerate DX, businesses need scalable, efficient infrastructure along with superior data integration and orchestration services. They need timely access and a unified view of their data sets. They need to run real-time analytics, ML algorithms, and batch processes – all to support timely business decisions.

Organizations are typically more mature in structured data management. However, unstructured data doesn't easily lend itself to older models of data storage and analysis. The challenges of unstructured data run the gamut from gathering to storing to using it to make decisions. By far, the volume of data is the biggest challenge. Its tremendous growth is creating major technical issues. As data volumes grow, so does the complexity and cost of storing and managing the data. Such a large volume of data also requires infrastructure that many businesses don't currently have or haven't budgeted for.

The challenge for every chief data officer is to maximize value creation from a company's data capital while ensuring its use complies with applicable policies, regulations, and laws. The majority of enterprises have very little visibility into what's happening across their unstructured data, and that presents challenges for both using and securing the data. The lack of awareness makes it more likely for enterprises to run afoul of the increasing number of regulations addressing data privacy. By nature, a large volume of unstructured data is unverified, leading to quality issues and lack of trustworthiness.

Another big challenge in working with unstructured data comes into play with machine learning and highlights the importance of knowing which factors actually drive customer behavior. It's the classic "correlation or causation" dilemma. An analytic model could give too much weight to factors that are merely correlated and, thanks to machine learning, the more the correlation is noted, the more weight it's given. But, since there is no actual causation, the conclusions are inaccurate, and they become more so as time goes on. For unstructured data to be usable, businesses will have to come up with a superior way to locate, extract, organize, and store data at scale.

Finally, the realities of modern data management require a diverse set of data that lives in systems that are best suited to hold it long term, and these systems make the data available with all the security, quality, availability, and scalability that enterprises need, and equally important, these systems should cooperate so seamlessly that analysts, developers, and data scientists do not even need to know where the data resides.

How Can Dell EMC Help?

Leveraging vast quantities and diverse data to uncover patterns and pursue breakthrough ideas, an enterprise can win the war in an increasingly competitive business landscape. Storage is integral to an organization's data strategy because it is an active contributor to the process of amassing and analyzing information. The challenge is to build storage systems that can handle such large volumes of data but keep costs low, without compromising on performance.

Dell EMC provides the foundational platform for both modern and legacy applications, architected for real-time and elastic data. Dell EMC Isilon is a scale-out network-attached storage platform targeted for the demanding workloads and has the ability to scale performance and capacity as needed. Dell EMC ECS is an exabyte-scale, flexible, and resilient object storage for traditional and next-generation workloads. These solutions help customers achieve the following needs and objectives:

- **Unified data lake:**
 - Eliminate data silos and get a unified view of the data at the edge, core, and cloud
 - Single platform for all of the unstructured content: file, object, and streaming

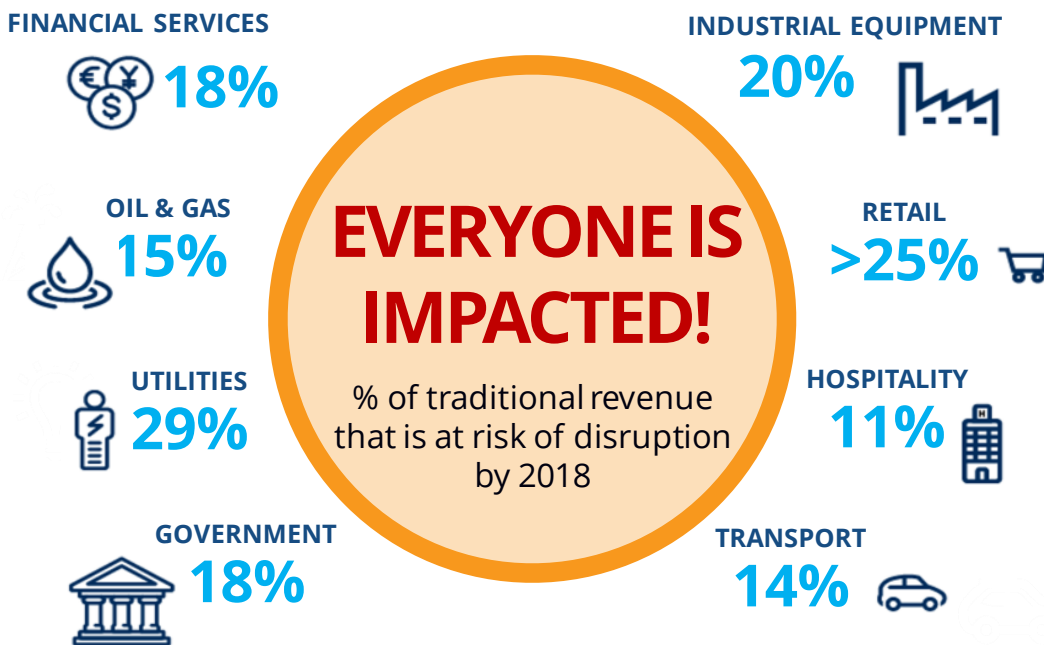
- **Simplicity at scale:**
 - Scalable platform that keeps pace with business needs
 - Simplified data management with policy-driven data management
 - Support for a global data footprint, lower TCO with improved storage efficiency
- **Extract value from data:**
 - Through tight integration with the leading analytics tools, deliver real-time actionable insights, streamlined workflows, and modern digital experience

Conclusion

Digital disruption is real. Average company life span on S&P 500 index (in years) in the 3rd Platform era is 18 years versus 25 years during the 2nd Platform era. To survive, companies need to embrace and accelerate DX. IDC research shows that organizations across every industry are under threat; the average percentage of traditional revenue that is at the risk of disruption vary from 11% for hospitality to 29% for utilities (see Figure 3).

FIGURE 3

Traditional Revenue at the Risk of Disruption



Source: IDC, 2017

Organizations that embrace and accelerate DX are attracting new customers and developing new revenue streams faster than their competitors. For example, the world of fast food is getting faster. Through utilizing data, industries are being formed overnight. The new breed of on-demand restaurants (Deliveroo, Uber Eats, or DoorDash) is fighting for greater customer experiences. McDonald's, which is one of the most recognized brands in the world due to high levels of customer

happiness, has made big steps such as its new purchasing screens to improve speed and to apply digital transformation to its customer experiences.

IDC advises every business to unlock the full power of its data capital to accelerate DX. It is a best practices recommendation to swiftly weave in a data-oriented culture – across new and existing methodologies, processes, measurements, and tools. Successful DX initiatives showcase alignment of a digital mindset to strategic planning at the executive level. Leadership is resilient in driving change and focusing on the future state. Cross-functional digital collaboration with sales and marketing is at the core. Continuous learning culture is enabled and measured with closed-loop processes in place to take timely and corrective actions. New capabilities enabled by data capital yield not only radical improvements in operational efficiencies but also new sources of competitive advantage.

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