



Digital & Analytics

by HCL Technologies

Riding the Data Wave to Digital Disruption

by Braden Kelley

The pace of change is accelerating.

Much has changed since we all started to dial in with our modems and connect to online services like Compuserve or America Online before eventually connecting directly to the Internet and the World Wide Web. Elements of our digital world continue to invade our language and our consciousness.

“Text me later.”

“Skype me tomorrow.”

“Google it.”

“#hashtag”

“ROTFL”

People are more likely to panic about leaving their mobile phone at home than their wallet. Soon you won't even need to carry a wallet (unless you want to). Canada stopped making pennies. Many businesses in Sweden no longer take cash. Have you tried buying a drink on an airplane lately?

We now live in a digital age. Not because technology is new, but because the way we react to it and interact with it is different.

We've had computers for a while, but we've used them primarily for performing calculations, and then for information storage and retrieval. But now, because the computer has moved from being a machine in a lab programmed with punch cards, to something nearly every one of us carries in our pocket or wears on our wrist, we're beginning to form relationships with machines and more importantly, to use our machines to form, maintain, and even deepen, our human relationships.

What does this mean for you as a business leader?

It means that people like me have to drag you kicking and screaming away from the way you've always done business, away from the way you've always structured your enterprise, away from the ways you've facilitated communication among employees and between you and your customers, partners, and suppliers and towards a fundamentally different way of organizing and operating your business.

Are you ready to run a digital business for the digital age?

No?

Well, your market is large and attractive to digital natives somewhere. While you struggle under the weight of your legacy systems and the denial that you must change how you think, change how you interact with customers, change how your business works inside, maybe they will re-imagine your entire industry from the ground up with a collection of digital strategies that utilize the power of the digital mindset to more efficiently and effectively utilize people, process and technology to challenge you and the other incumbents and put you all out of business. People are fascinated with startups like Uber and with good reason, but they should also be looking at what established technology companies like Amazon are doing because today's digital reality requires all companies to think like a technology company or go out of business.

Data is a Key Raw Material for Successful Digital Transformations

We live in an information economy, where some say that data is the new oil or the new gold. The biggest buzzwords in technology today are phrases like big data, machine learning, deep learning, data analytics, artificial intelligence, and data visualization. The data rush is on, the hype is real, and this flood of data is going to change everything.

A 2010 IDC/Dataquest study heralded a worldwide data explosion mentioned by [Oracle Storage Guy](#) showed a data explosion primarily in structured data:

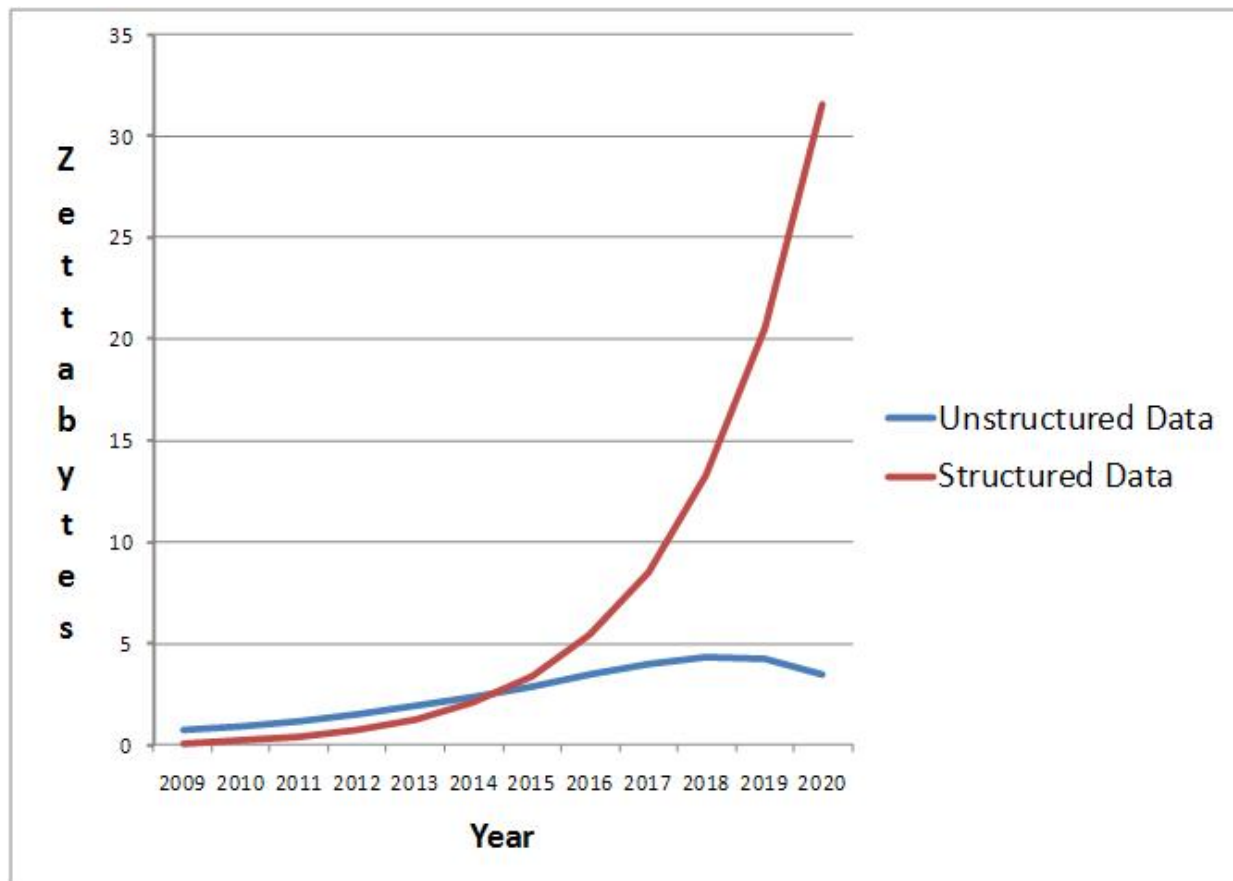


Figure 1 – A Worldwide Data Explosion (source: IDC/Dataquest 2010)

“The data-driven world will be always on, always tracking, always monitoring, always listening and always watching – because it will be always learning.” – IDC Data Age 2025

What is interesting is that the 2010 IDC/Dataquest estimate of the growth in the Global Datasphere shown above actually ended up predicting a zettabyte number **LOWER** than the 2018 reality. IDC’s latest prediction is that the Global Datasphere will grow from 33 Zettabytes in 2018 to 175 Zettabytes by 2025.

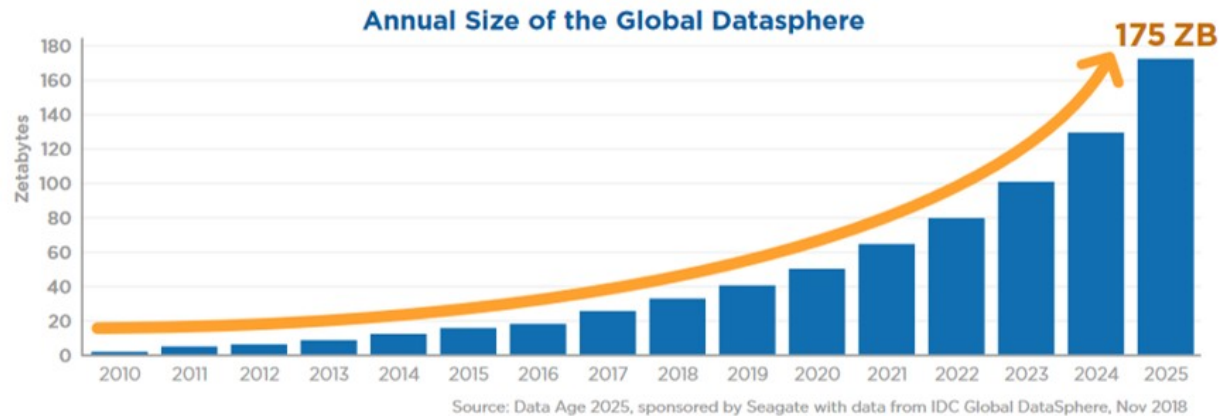


Figure 2 – Global Datasphere Growth (source: IDC Data Age 2025 – published in 2018)

According to IDC a Zettabyte is equal to a trillion gigabytes, or if translated to the physical world via DVDs, 175 Zettabytes worth of DVDs would circle the earth a whopping 222 times.

One other interesting point for businesspeople to ponder is the projected growth in real-time data and what that might mean to the operations of your business and the expectations of your customers.

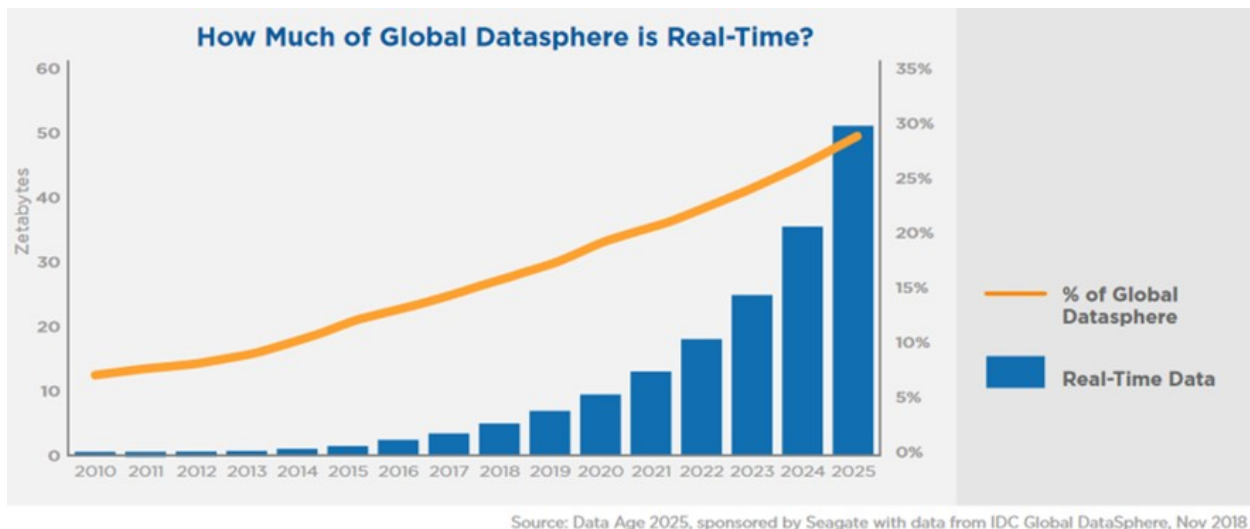


Figure 3 – The Rise of Real-Time Data (source: IDC Data Age 2025 – published in 2018)

Examining what this flood of data could mean to the evolution of humanity and its organizations requires new tools for forecasting the changes in our society and imagining what the future may bring.

Reframing our view of the world is very important for companies looking to digitally transform to keep up with the accelerating pace of change.

Are You Ready to Run a Digital Business for the Digital Age?

In our digital age, all companies must change how they think, how they interact with customers, partners, and suppliers, and how their business works on the inside. Customer, partner, and supplier expectations have changed, and a gap is opening between what they expect from their interaction with companies and what those companies are currently able to deliver. Companies must immediately work to close this expectation gap, or their entire business is at risk.

If digital natives attack, they will do it with a collection of digital strategies that utilize the power of the digital mindset to more efficiently and effectively utilize the available people, tools, and technology, and to design better, more seamlessly interconnected, and automated processes that can operate with only occasional human intervention.

To defend your company's very existence, you must start [thinking like a technology company or go out of business](#). Part of that thinking is to fundamentally re-imagine how you structure and operate your business. You must look at your business and your industry in the same way that a digital native startup will if they seek to attack you and steal your market. To make this easier, ask yourself these **five foundational questions**:

1. If I were to build this business today, given everything that I know about the industry and its customers and the advances in people, process, technology and tools, how would I design it?
2. From the customers' perspective, where does the value come from?
3. What structure and systems would deliver the maximum value with the minimum waste?
4. What are the barriers to adoption and the obstacles to delight for my product(s) and/or service(s) and how will my design help potential customers overcome them?
5. Where is the friction in my business that the latest usage methods of people, process, technology, and tools can help eliminate?

There are, of course, other questions you may want to ask, but these five should get you most of the way to where you need to go in your initial strategic planning sessions. What questions do you think are key for enterprises to ask themselves if they are to survive and thrive in the digital age?

Digital Strategy vs. Digital Transformation

How much appetite for digital change do you have?

Understanding how your management and your enterprise is likely to answer this question will help you identify whether your business should pursue a **digital strategy** or a **digital transformation**. The two terms are often misused, in part by being used interchangeably when they are in fact two very different things.

A **digital strategy** is a strategy focused on utilizing digital technologies to better serve one group of people (customers, employees, partners, suppliers, etc.) or to serve the needs of one business group (HR, finance, marketing, operations, etc.). The scope of a digital strategy can be quite narrow, such as

using digital channels to market to consumers in a B2C company; or broader, such as re-imagining how marketing could be made *more efficient* using digital tools like CRM, marketing automation, social media monitoring, etc. and hopefully become *more effective* at the same time.

Meanwhile, **digital transformation** is an intensive process that begins by effectively building an entirely new organization from scratch, utilizing:

- The latest best practices and emerging next practices in **process** (continuous improvement, business architecture, lean startup, business process management, or BPM, crowd computing, and continuous innovation using a tool like [The Eight I's of Infinite Innovation™](#))
- The latest **tools** (robotics, sensors, etc.)
- All the latest **digital technologies** (artificial intelligence, predictive analytics, BPM, etc.)
- The optimal use of the other three to liberate the **people** who work for you to spend less time on bureaucratic work and more time creating the changes necessary to overcome barriers to adoption and obstacles to delight through better leadership methods, reward/recognition systems, physical spaces, collaboration, and knowledge management systems, etc.

It ends with a plan of how to transform from the old way of running the business to the new way.

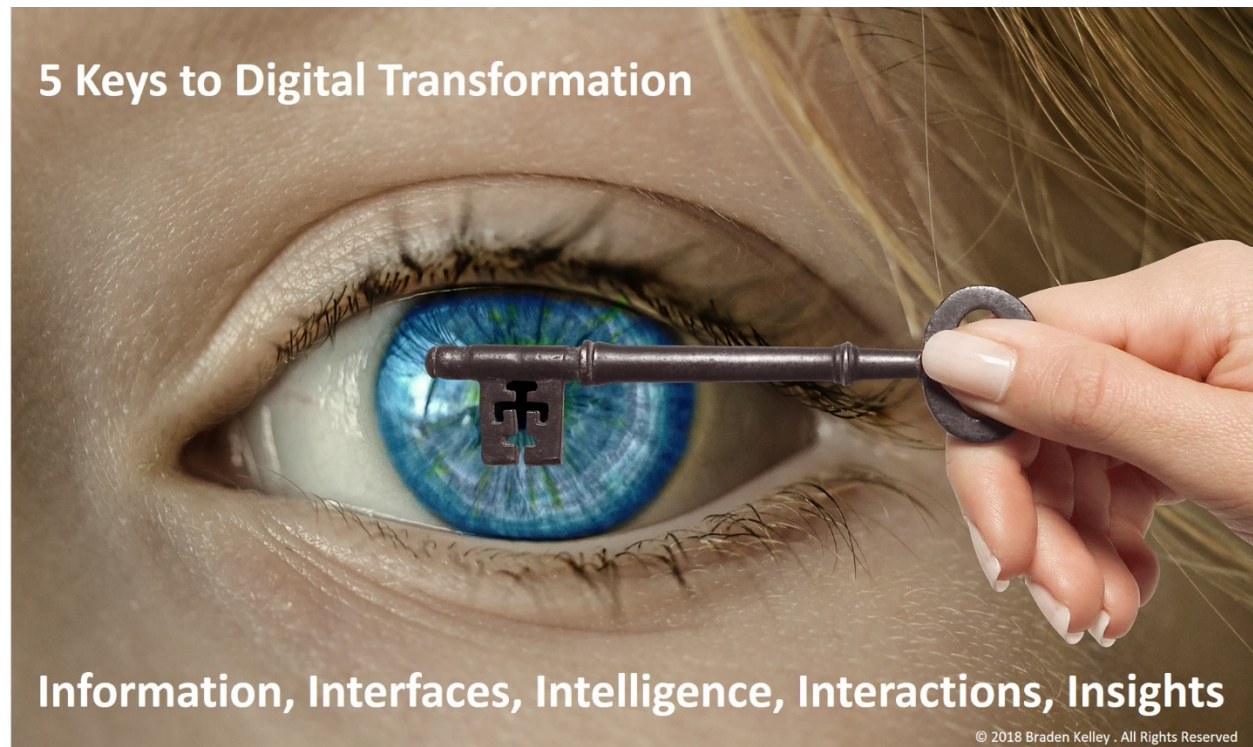
The planning of the digital transformation is all done collaboratively on paper, whiteboards, and asynchronous electronic communication (definitely not email) powered by a collection of tools like the [Change Planning Toolkit™](#). The goal is to think like a digital native, to think like a startup, to approach the idea of designing a company by utilizing all the advances in people, process, technology, and tools to kill off the existing incarnation of your company. Because if you don't re-invent your company now and set yourself up with a new set of capabilities that enable you to continuously reinvent yourself as a company, then a venture capitalist is going to see an opportunity, find the right team of digital natives, and give them the funding necessary to enter your market and reinvent your entire industry for you.

Tools to Accelerate Your Digital Transformation

First, I created the [Change Planning Toolkit™](#) to help companies around the world plan and execute change initiatives of any size, up to and including large change efforts like a Digital Transformation.

Now I bring you **The Five Keys to Digital Transformation**, designed to help companies and individuals look at the digital world through a new set of lenses, a new frame. In case you're not familiar with them, they are:

1. Information
2. Interfaces
3. Intelligence
4. Interactions
5. Insights



When you couple the **Five Keys to Digital Transformation** with the earlier **five foundational questions** and the following **three critical questions**, you will start to build a foundation for a successful digital transformation. So, ask yourself:

1. How are customer expectations changing?

- a. Customer expectations are not fixed, but evolve over time as the intersection between what's needed and what's possible shifts

2. What actions must we take to meet these expectations?

- a. Companies must monitor how customer needs are evolving and identify what customers trust you to do for them (and how this **circle of trust** is changing over time)
- b. Companies must understand what conversations their customers want and need to have with the company and how those conversations serve to expand or shrink the **circle of trust**
- c. Clearly understanding what is inside the **circle of trust** will determine the products, services, and experiences that you **MUST** create for the people who want to give you their money

3. What artifacts (products, services, experiences, communications, etc.) must we create to meet these expectations?

- a. Answering this question requires that you carefully monitor and understand
 - i. Technology, societal, cultural, economic, and environmental trends
 - ii. Behavioral economics
 - iii. Behavioral analytics
 - iv. Competitor actions (new products, services, experiences, communications)
 - v. The competitive factors startups are using to challenge our dominance

Now let's look at each of the **Five Keys to Digital Transformation** individually:

Key #1 – Information

Data is the raw material for the creation of information. Data has no value until it is transformed into information, and so big data by itself isn't very interesting.

While we may have gotten better at capturing data, it does not mean that we have gotten better at connecting it to create information, organizing that information, identifying the information that is actionable, and making that actionable information retrievable easily where and when it is needed.

When we look at the world through the information lens we are trying to identify the data we need to capture, and where and how it needs to be captured, connected, organized, and distributed to turn it into actionable information.

Key #2 – Interfaces

Interfaces are the places where the organization connects with suppliers, partners, employees, and customers. Interfaces are also the places where parts of the organization connect with each other and where the organization connects not just with its human resources, but also with its physical resources (including equipment, machinery, systems, etc.).

Interfaces represent the points and places where data enters and exit the system. Interfaces are where UX design shows its importance, where sensors can come into play to create Zero UI experiences, and where tools like voice-activated smart glasses (up to and including augmented reality or virtual reality) can create other types of hands-free interfaces.

When we look at the world through the interface lens we are trying to identify all the ways we can acquire or distribute the data necessary to drive actionable information, intelligence, and insights. Looking through the interface lens will also help us identify when and where we need to acquire or distribute relevant data and the types of interfaces best suited for the context of those data exchanges.

Key #3 – Intelligence

Information is the raw material for the creation of intelligence. The goal of turning data into Information is to create actionable information that provides the foundation for any necessary behavior changes within the organization for successful interactions with employees, suppliers, partners and customers.

The development of information into intelligence occurs as you become able to see what customers, partners, and suppliers are doing and what is happening within the business, allowing you take strategic decisions and to adjust the operations of the business.

Looking through the intelligence lens challenges you to identify the information that is strategic to the business, whether you currently have access to that information or you need to work with IT to begin gathering the data, or to connect the data you already have, to create the information necessary to power this intelligence. Heuristics, data analytics (including behavioral analytics and predictive analytics) and data visualization play key roles in the development of information into intelligence.



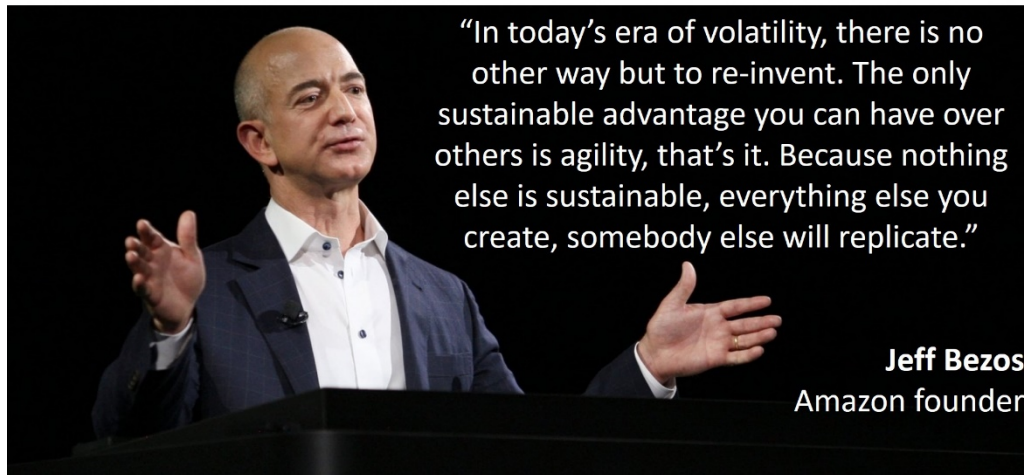
Key #4 – Interactions

Interactions occur at the interfaces of the organization. While it is possible to have machine to machine interactions, here we are more focused on the human element and what it is like for the humans to interact with the interfaces we have created and what kind of employee experience, partner experience, supplier experience, or customer experience (CX) we have created as a result.

While an interface determines HOW data and information are gathered or disseminated, the interaction determines WHAT data and information is gathered or disseminated.

Looking through the interactions lens helps us consciously focus on the human elements of information exchange and ensuring that we are gathering the necessary data to power information and insights without burdening employees, suppliers, partners, and customers with too many data requests while simultaneously ensuring we are disseminating relevant actionable information without creating information overload.

Service design and experience design play key roles in the success or failure of interactions. Machine learning, artificial intelligence, and deep learning are playing increasing roles in our interactions with organizations too. Chatbots anyone?



Key #5 – Insights

If interfaces determine WHERE and HOW data and information are exchanged, and interactions determine WHAT data and information are exchanged, insights are developed from the connection, distillation and analysis of data, information and intelligence to identify WHY the behaviors occur at all.

- **DATA** will tell us that we sold 20 black cars, 19 blue cars and 17 white cars in Atlanta.
- **INFORMATION** identifies that we sold more black cars than any other color in Atlanta.
- **INTELLIGENCE** helps us see that we sold 20 of 100 available black cars, 19 of 50 available blue cars, and 17 of 17 available white cars in Atlanta, meaning that Atlanta residents are crazy about white cars and we should be making more of them.
- **INSIGHTS** will tell us that the white cars sold out because people prefer white cars that stay cooler in the hot sun, and so perhaps in addition to building more white cars we should experiment with offering more light colors for sale in Atlanta.

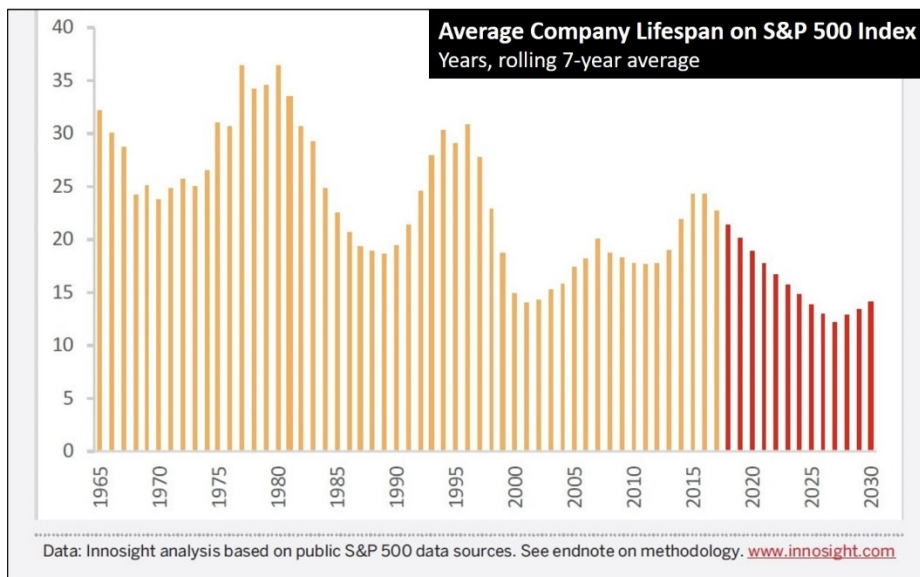
Looking through the insights lens forces us to focus on why things are happening and go beyond what the data, the information, or even our intelligence is telling us to get to the human influence on the situation we are evaluating. The insight lens forces us to look carefully at the data we are gathering to identify whether it will help us answer the WHY question and identify situations where we need to make modifications in our data strategy to help answer the WHY question or to commission separate research to answer it. Focusing on insights helps us be more empathetic, human-centric and to break out of the vicious cycle of gathering data just because we can.

Bringing it All Together

Digital Transformations are ultimately about helping organization get closer to their customers, closer to their partners, closer to their suppliers, and yes, closer to their employees. The goal is to create better experiences, to increase relevance and resonance, and to position the organization to keep pace with the accelerating changes in expectations (usually those of customers, but increasingly those of employees, partners, and suppliers as well). Digital transformation is also increasingly important to innovation because a successful digital transformation positions the organization to more efficiently and effectively co-create innovation with their employees, customers and suppliers while simultaneously positioning it as the partner of choice in the industry.

While data is increasingly available and increasingly important, Digital Transformations are not about data and they are not about technology. It may seem counterintuitive, but successful Digital Transformations focus on people not technology. This is why interfaces and interactions take center stage in the **Five Keys to Digital Transformation**, powered by information, intelligence and insights.

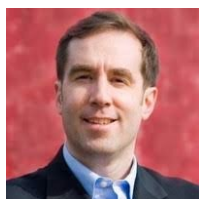
It may be possible to increase the chances of a successful digital transformation by focusing on one or more of the five keys but examining your planned digital transformation approach using all **Five Keys to Digital Transformation** will help you achieve exponentially better results. Using all five keys will force the diversity of perspectives required to create a more comprehensive digital transformation commensurate with the expectations of your customers, employees, partners and suppliers. Using all five keys will help you create the Digital Transformation your organization needs to remain relevant as digital natives attempt to disrupt you. Are you ready?



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So, let's work together to broaden and deepen the possibilities in your business and fuel increased success. Please contact me at info@bradenkelley.com to find out more about our offerings.



Braden Kelley is a Solution Director for HCL Technologies' Digital & Analytics practice. Braden specializes in customer experience, innovation, organizational change and design thinking. He is the author of the best-selling books [*Charting Change*](#) and [*Stoking Your Innovation Bonfire*](#), a popular keynote speaker and workshop facilitator, and the creator of [*Human-Centered Change™*](#).