



# Knowledge is Power:

Context-Driven Digital Transformation



# The Digital Transformation Imperative

There was a time when digital transformation was considered a strategic vision for how organizations evolve from a traditional model of customer engagement to the new digitally enabled and data driven go-to-market paradigm. That time has passed. For most companies, the need to operate as a digital business is now a matter of survival. The choice is a simple - embrace the digital age now and stay competitive or risk becoming irrelevant.

There are hungry competitors in every marketplace investing in advanced digital capabilities to attract and retain customers, including yours, to their businesses. This heightened competitive environment has made digital transformation projects a board-level priority for the executive leadership of most organizations.



According to Altimeter Group, 88% of companies are undergoing digital transformation efforts. Perhaps your company is one of them. However, the same survey indicates that only 25% of respondents can map their customer journey in terms of digital touch points – an indication these initiatives lack the necessary know-how to succeed.

This points to a central issue that threatens the success of any digital transformation project - focusing on tools and technologies without a comprehensive information architecture that delivers the contextual data and content required to make them effective. This amounts to putting the information cart before the horse.

Without the right information strategy to provide a solid foundation, investing in state of the art technologies and building advanced digital capabilities is like having a Ferrari in the garage but having rutted dirt roads to drive on. An effective information infrastructure must deliver the right content to the right user or customer at the right moment or performance will suffer.

For B2C organizations, merchandising needs to react to data in near real time. Marketing needs to measure campaign effectiveness and rapidly adjust. Customer service needs access to all customer data and be able to supply the answers customers demand immediately.

**Digital transformation projects often focus more on tools and technologies than content and context.**





Commerce teams need to get products on the website quickly and efficiently and associate them with the right content.

B2B organizations face the same challenges. Even if a company does not sell through its web site, business customers still learn about offerings and solutions online. Prospective buyers are armed with knowledge and information and if yours is out of date, they will go to a competitor.

Digital transformation has internal challenges that are equally important. Business processes need to be faster and more efficient. Engineering needs to design product iterations quickly to meet changing customer needs and competitive challenges. Marketing needs to understand buyer behaviors. Manufacturing needs to monitor quality and make knowledge available as it is needed.

Companies are amassing enormous volumes of data and content from multiple sources. Big data and little data can take the form of structured or unstructured and real-time or historical data that is:

- Stored in multiple systems and across multiple applications
- Consumed by a variety of users with diverse needs
- Changed and updated by many processes simultaneously
- Adapted and expanded for new customer experiences
- Synchronized through multiple channels and devices

And frequently without:

- An overarching knowledge framework to guide usage
- A harmonized, consistent structure
- Information quality processes and governance
- Mechanisms for onboarding new content and data sources
- Scorecards to monitor business impact

Under these circumstances, the organization's digital transformation efforts will be at best hindered and at worst, will fail.

How can the vast reservoir of enterprise information be tapped for better business intelligence and decision-making? How can it be mined for the insights that lead to innovation and new operational efficiencies? How can customer facing functions and processes react, respond and engage in an agile, efficient manner?

**Without the right information strategy, digital technology is like a Ferrari sitting in a garage but having rutted dirt roads to drive on.**

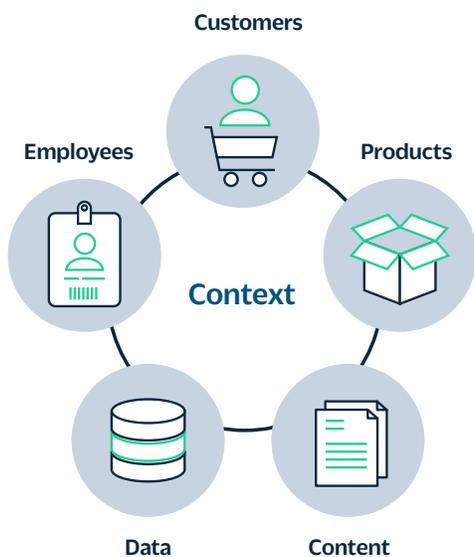


# Context-Aware Information Infrastructure

For any digital technology to be effective, it must deliver content in context. After all, customers only care about what they care about. And employees only care about information that is relevant to the business problem they are solving.

This may sound simple and obvious when expressed in this way, but contextualization is actually a very complex information architecture challenge. It requires very sophisticated content modeling and relationship mapping between information types and categories with supporting governance and change management processes.

Contextualization requires a strategic understanding of customers, employees, products, data and content. It's the glue that brings information together in a



## The Contextual Information Value Chain



way that delivers true value and creates a meaningful customer experience.

Context enhances everything, whether it's the relevance of content marketing and social media campaigns, the impact of related product recommendations, the publication of targeted product information, the accuracy of search or the precision of business analytics. Without context, content loses value and its impact on the performance of your digital business will be diminished.

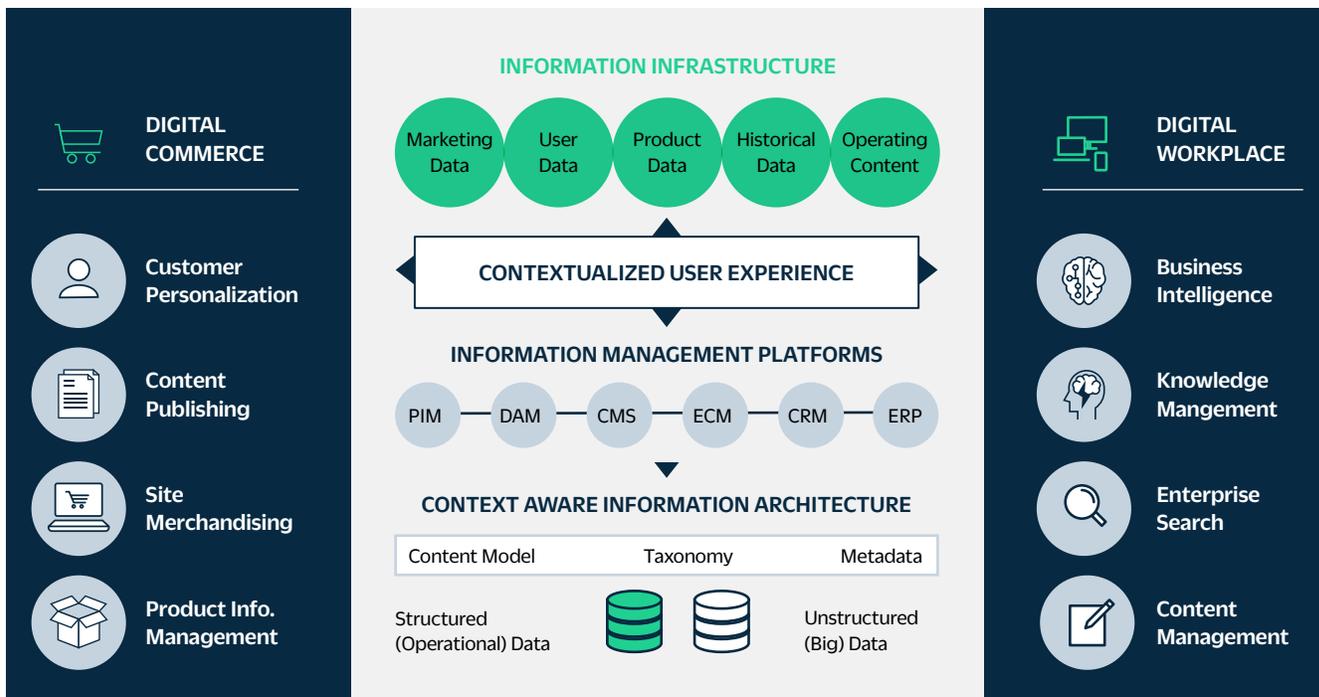
Contextualization of information can be viewed as a value chain. Data and content provide the greatest value to the enterprise when viewed holistically across information silos where it can be organized, structured, harmonized and tagged to deliver more meaningful analytics and attributes that represent contextual relationships.

This enables a data-enabled and metrics-driven approach for producing the insights and intelligence needed for customer profiles and user role definitions. This way, content can be delivered in context – based on the customer and their buying journey or the internal user and the business processes they are following.

Realizing the benefits of the information value chain requires a context-aware information infrastructure – a framework for building an external digital commerce engine or an internal digital workplace.

The following reference architecture illustrates a framework for driving maximum performance from a digital commerce engine as well as knowledge management initiatives in the digital workplace.





The diagram illustrates the importance of building a solid foundation of content structures (models), consistent terminology (taxonomies) and data standards (metadata) for transforming digital technologies into business solutions. A context-aware information architecture provides a logical representation for all data sources, from structured and operational data to unstructured content and big data. This foundation layer maps data silos into an integrated model based on business process focused

taxonomies and uses precise metadata relationships to convey meaning and relevance.

A context-aware information architecture is used to create a contextualized user experience that combines multiple classes of data, integrates multiple information platforms and easily adapts to multiple digital commerce and knowledge management solutions.

The greatest challenge in achieving this is the very nature of context itself. Different views of information, different applications, different processes, different roles and even different points in time impact the context of an architecture. It is taking these elements into consideration during the design of a reference architecture that determines how agile, adaptable and extensible

it will ultimately be. Beginning at the business strategy, developing consistent business language and then translating into the various technical elements across the enterprise information ecosystem leads to a significantly improved outcome over traditional master data or enterprise architecture approaches that typically begin with a focus on technology.

The accuracy and completeness of this architecture will make or break the performance of the tools and technologies that power a digital business. Many organizations make the mistake of acquiring technology before the correct foundation is in place. Before making investments in systems or replacing technologies, be sure to have a comprehensive information architecture design and a roadmap in place for operationalizing it.

**“When we fixed the taxonomy, the technology finally worked like it should!”**

- CIO of S&P manufacturer



# Enhancing the Customer Experience

There is an active industry dialog about customer experience and the need for a context-driven approach for delivering the best possible experience. Here's why. An obsession with the customer's contextualized experience will drive higher revenues, customer loyalty and retention.

**“We spent millions upgrading technology... looking back, i'd get the taxonomy right from the beginning!”**

*- Chief Marketing Officer, \$8B Scientific Equipment Maker*

The research consistently shows that buyers expect, and prefer, a personalized online shopping experience – as long as the personalization is accurate. It saves customers time and helps them to make the best purchasing decision for their needs.

For a customer profile to be accurate, it must be based on a number of data points that typically reside in multiple systems. These include purchasing history and buying behavior, market segment data, customer service

information, and real time site behavior – the “digital body language” of the customer.

Here are example data sources and outcomes:

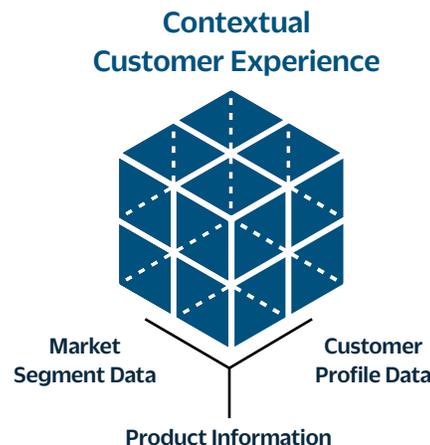
- Customer Profile Data Sources
- Purchase history
- Clickstream data
- Social media data
- Customer journey data
- Channel preferences
- Market segment data
- Demographics
- Psychographics
- Effective Personalization Outcomes
- Better product recommendations
- Contextual search results
- Relevant content marketing
- Context-driven promotions
- Improved engagement
- Greater brand loyalty
- Increased wallet share

The goal is to build a more personalized and contextualized digital experience that bases product recommendations on multiple factors and facets of buyer behavior to improve cross-sell and upsell opportunities.

Here are some real-world examples taken from past projects:

- 20%+ increase in SEO page entries
- Up to 40% increase in product search click-through (CTR)
- Up to 40% increase in product detail page conversions
- Double the pace of item on-boarding
- Reduce or eliminate on-boarding backlog
- 20%+ increase in website usability customer satisfaction

The business impact of a well-designed, context-driven information architecture is compelling. The investment in building a solid foundation for your digital business will generate big returns in the form of a high performance digital commerce engine. A context-driven information architecture supports upstream operational efficiencies as well as the end customer digital experience.



# Streamlining the Digital Workplace

The same level of contextual modeling is required for streamlining your digital workplace and implementing knowledge management solutions. Instead of buyer profiles and market data, the contextual model for knowledge management is based on business processes and role-based access to information by employees.

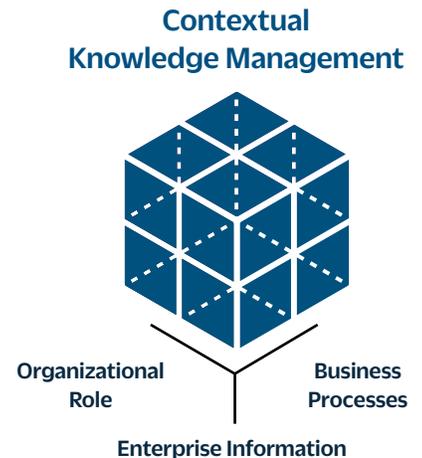
***A user in human resources requires a different view of data than an engineer or a salesperson.***

For example, planning for an audit is a very different process than releasing a clinical trial. Planning a marketing campaign is a very different process than troubleshooting a support issue. And a user in human resources requires a different view of data than an engineer or a salesperson. There are countless examples of business process or organizational roles that will result in very different contextual uses of information.

Here are some of the benefits of a streamlined digital workplace:

- Fast and actionable business intelligence
- Integrated real-time and historical analytics
- Easy access to structured and unstructured data
- Improved process and operational efficiency
- Instant market intelligence and business agility
- Deeper insights and innovation abilities
- Faster product development and improved time-to-market
- Actionable customer knowledge and market insights
- Alignment of customer experience with operational metrics
- Improved market agility and competitive responsiveness

Digital agility requires efficient upstream processes. Improving the user experience requires removal of sources of “friction” caused by poor search functionality, manual manipulation of data and the re-creation of content rather than reuse of existing assets.



# Design, Delivery and Deployment

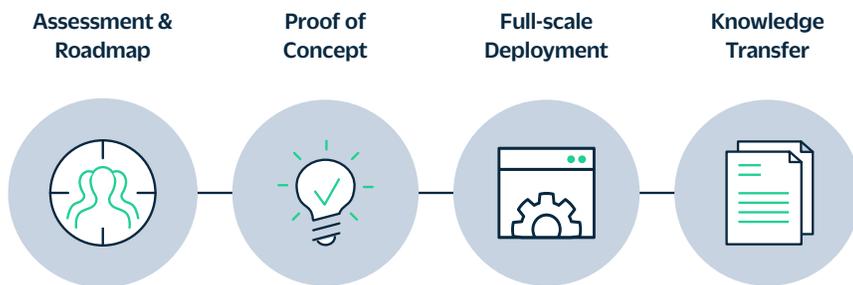
A common approach for undertaking the design, delivery and deployment of an information architecture is to choose the right champion, form a team and follow a very controlled methodology with phases and a phase review process.

An internal team or an experienced consulting firm like EIS can execute this approach. Here is a brief description of each phase.

## 1. ASSESSMENT & ROADMAP

During this phase, an assessment of the business goals, functional requirements, resource planning and a high-level project schedule in the form of a roadmap will be produced. This will tell the executive team that the project is well defined, can be adequately resourced and the approach taken has the right business outcomes in mind.

## Information Architecture Project Phases



During this phase, high value content and data supporting high priority processes are identified. Baseline metrics are described and a linkage to the desired business outcome is articulated. Business ownership and buy-in from financial stakeholders is critical in order to develop a credible business case and justifiable ROI. In some cases, the ROI is not clearly definable. In that circumstance, either a CDB (cost of doing business) model is defined or subsequent phases that will lead to ROI are described.

## 2. PROOF OF CONCEPT

Once the roadmap is approved, the proof of concept stage can elements of the design on a small and manageable scale to ensure its feasibility and to look for any hurdles or gaps in functionality, performance, usability, scalability, etc. During this phase a very detailed scope of work is developed in preparation for taking the pilot program into its deployment and adoption phase.

*An internal team or an experienced consulting firm like EIS can execute a very controlled methodology with phases and a phase review process.*



***It includes designing a more complete information architecture and more detailed taxonomy and metadata for the targeted processes as well as classifying and tagging supporting content and integrating this information across systems.***

### **3. DEPLOYMENT & ADOPTION**

At this stage, the project is ready to begin wider deployment and adoption across the organization including targeted high priority information management platforms. It includes designing a more complete information architecture and more detailed taxonomy and metadata for the targeted processes as well as classifying and tagging supporting content and integrating this information across systems. It also includes data cleansing, governance and compliance processes as well as user interface development. Before going live, a rigorous testing and verification process is performed.

### **4. KNOWLEDGE TRANSFER & USER TRAINING**

Throughout the project, and specifically as part of project close out, knowledge transfer is conducted to ensure that the appropriate personnel involved in design, development, operation and support are trained and familiarized with the aspects of the project relevant to their respective areas. The business stakeholders are educated about their role in application of the new information infrastructure, ongoing content and knowledge curation and information hygiene. New information management practices need to be part of the day to day routine of users or be built into work processes and duties in order for change to be sustained.

### **TYPICAL BUSINESS SOLUTIONS:**

#### **B2C digital commerce**

- Product curation for a world-class product catalog
- Site merchandising taxonomy & attribute design
- Information architecture design for shopper context

#### **B2B digital commerce**

- Product search & findability
- Product information management
- Product knowledge management
- Digital workplace
- Enterprise content & records management
- Information architecture
- Enterprise knowledge management





---

## Choosing Your Champion

***Most business people do not understand information science and most IT practitioners do not understand business challenges.***

Given the complexity associated with an initiative of this scale and impact, you will want to carefully consider who acts as your champion for the information architecture initiative. This can be a very challenging decision as the champion must have a deep understanding of information management practices while, at the same time, have strong expertise on the business side as well.

This is a tough bill to fill. Most business people do not understand information science and most IT practitioners do not understand business challenges and strategies to overcome them. Marketing managers would benefit from an advocate who is able to translate business targets and performance metrics into an information strategy while digital agencies focus on design, navigation and user experience development. There are many gaps to be bridged.



# Information Architects for the Digital Age

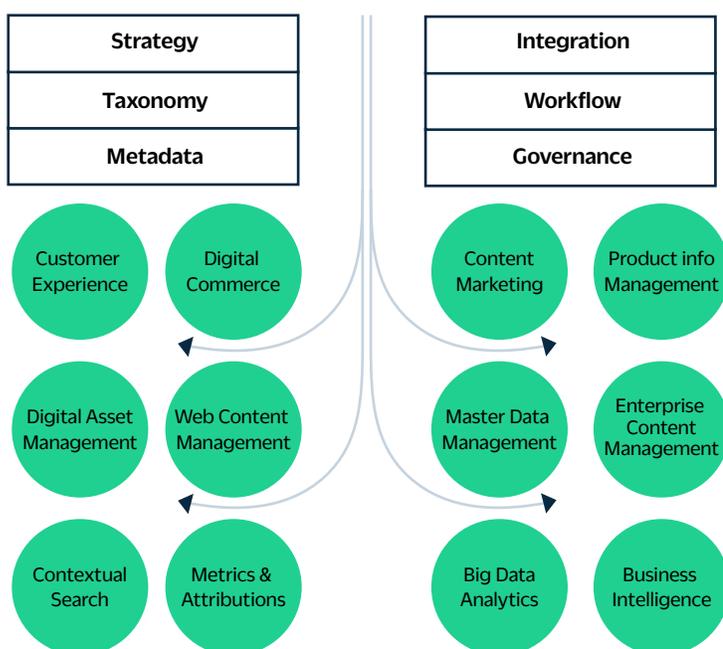
Earley Information Science (EIS) is a consulting firm that focuses on information architecture for the digital age. We bridge the gap between your digital agency, your platform vendors, your internal IT staff and your business stakeholders. We have been information architects for more than 20 years.

We understand business and marketing metrics and how to translate them into information infrastructure requirements. We understand business processes and how to streamline them with an efficient information management design.

We understand governance and how to ensure data integrity over the full information lifecycle. And we know how to build a context-aware information architecture that is adaptable to meet business challenges that are present today or anticipated in the future.

We help the world's leading brands leverage their information into a strategic asset. And we translate business objectives into a precise information architecture that streamlines your digital workspace and efficiently fuels your digital commerce engine.

## CONTEXT-AWARE INFORMATION ARCHITECTURE



### CUSTOMER COMMENTS



"Our IT stack was state-of-the-art but our taxonomy and product data hadn't been properly managed"



"The value that Earley brought was visible from the beginning"



"Helping us to arrive at a consensus and path forward was invaluable"



"Great assessment of business. Helped build a compelling business case"



"You have earned the right to ask for more business and you have achieved trusted business advisor status"



# Diverse Industry Experience

EIS has diverse experience in industries ranging from retail and consumer products to financial services and insurance, from manufacturing to energy and utilities, from life sciences to non-profit and public sector organizations. A representative client list is below. We have helped some of the most recognized names in these industries realize their vision for digital transformation.

Let's talk about your vision ... then let's realize that vision, together.





---

## **About Earley Information Science**

Earley Information Science (EIS) helps organizations harness the value of one of their most important assets – information.

We improve enterprise information agility to drive digital commerce innovation, increase revenue, and enhance customer experience with a strong enterprise information architecture and management foundation. EIS helps make information more findable, valuable and useable — thereby helping organizations improve operational efficiency and effectiveness. EIS has over 20 years of experience in working with Fortune 1000 organizations globally across many industries, including manufacturing, retail, financial services, healthcare, life sciences, the public sector, and professional services.

PO Box 292, Carlisle, MA 01741  
P: 781-444-0287  
[www.earley.com](http://www.earley.com)