

# Enterprise Data Clarity: Taming the Data Monster

## Executive Summary

Organizations invest large amounts of money on data initiatives. When embarking on a data consolidation exercise or a master data management project, companies channel effort and time in the hope of achieving intended objectives and envisaged ROI. A look into real-world case studies reveals that there is a fair share of successful and unsuccessful projects. For example, a leading pharma company gained USD \$6 Million in operating costs by investing USD \$1 Million in metadata management. Another U.S.-based company lost close to USD \$31M due to a failed regulatory reporting solution implementation.

A deeper analysis reveals a common underlying thread that links failure and success scenarios, and that is “clarity of data.”

## Enterprise Data Clarity Defined

Real-world implementations such as the ones described above expose the difference between crossing the chasm and plunging into the abyss when initiating enterprise-wide data initiatives. That difference -- think of it as the bridging factor -- is information leveragability.

Moreover, an understanding of the overarching compliance and regulatory requirements faced

by organizations today shows that a powerful data framework can bring about the firm foundation that drives enterprise-wide compliance in the most efficient way.

With this holistic view of compliance, along with key data initiatives, we have set the stage to define the concept of Enterprise Data Clarity (EDC).

Enterprise Data Clarity is a scientific approach to continuously improving the health of enterprise-wide data. This concept renews the focus on data quality by going beyond commonly adopted approaches and taking it further, into a structured synthesis of components that builds a strong base for maintaining high-quality data at granular levels.

The EDC approach is based on four components that directly translate as EDC maturity levels I through IV (see Figure 1). The components are divided into two categories: Foundational and Transformational.

- **Foundational components:** A core set of essential components, including Data Quality, Data Integration and Metadata Management.
- **Transformational component:** A next-generation component that adds the complete structure to the foundational components, called Enterprise Information Management.



## The EDC Approach

Foundational Components > EDC Maturity Levels I-III	
Data Quality	High level of data accuracy and integrity to enable meaningful data analysis
Data Integration	Enable single, accurate and common view of information
Metadata Management	Access and view of all data across the enterprise in the business context
Transformational Components > EDC Maturity Levels IV	
Enterprise Information Management	Integrate and maintain standardized enterprise information

Figure 1

EDC starts with building a data quality structure around systems. This infuses the first level of clarity across the enterprise. Data integration comes into play once the quality of data has been tackled. Typically, every enterprise will have data flowing from one system to others. In many cases, organizations adopt unstructured, system-specific data integration techniques, leading to reduced clarity of the transported data and "multiple versions of the truth." EDC resolves this and brings in a second level of clarity.

The third component of EDC establishes definitions around data. Metadata management is instrumental in creating the required level of transparency around the structures that house the data, thereby taking data clarity to the next level.

The transformational and final component of EDC transforms data into information and shapes clarity through data uniformity.

All EDC components are required to be built in this incrementally architected manner. "Incremental" refers to the development of EDC components sequentially, so that the organization is able to assimilate them with ease. "Architected" emphasizes the long-term goal of leveraging all the EDC components under the Enterprise Data Clarity framework.

### Measuring EDC

Traditional data quality metrics are not seasoned enough to represent the health of data at granular levels. We consider data health a primary necessity to EDC, and in accordance, we measure an aggregate of key data health indicators that best reveals the cause and trigger of bad data. Based on repeated experiments on data, we name five important and representative measures as "data clarity themes."

1. Data Survival: Availability of data
2. Data Significance: Completeness and uniqueness of data
3. Data Timeliness: Data availability at a required or specified time
4. Data Legitimacy: Accuracy and validity of data
5. Data Uniformity: Data consistency and reliability

Data clarity themes applied across business themes -- which may be identified as systems, business processes and subject areas -- produce the EDC measure calculated by the EDC Maturity Index (EMI). EMI determines the extent of adherence to EDC maturity levels.

EMI, at any point in time, represents the health of data in a business and defines EDC through a model that is scientific, repeatable, measurable

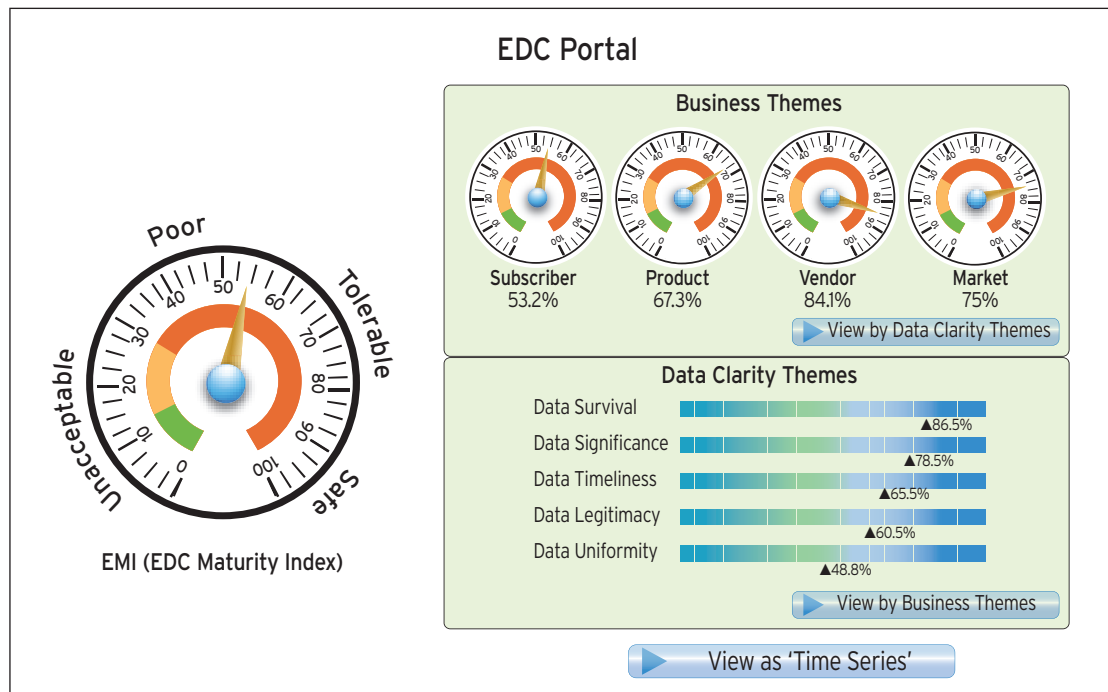


Figure 2

and adequate. The EDC Maturity Index model is based on a proprietary algorithm that statistically aggregates the measurement scores of the data themes against each of the business themes.

The EDC Portal for dashboards is deployed to obtain a complete handle on monitoring the health of organizational-level data. The portal leverages the EDC Maturity Index model and enables users to slice and dice data elements across the business and data clarity themes (see Figure 2). Root cause analysis and early removal of erroneous data can, therefore, be effectively managed.

The EDC Portal supports data health analysis by determining EDC adherence scores and also generates a snapshot of quality through a data "Fit for Function" scorecard. An EDC governance process of measure-monitor-manage is sustained through this portal.

### The Main Benefit: EDC-Driven Compliance

EDC serves as the foundation for organizations to undertake their journey toward compliance. Key enablers of compliance are adequacy, completeness, transparency and security of data. A robust framework like EDC acts as the gateway for organizations to effectively meet

regulatory and compliance requirements.

EDC directly maps to compliance themes in the following ways:

- **Data adequacy** can be achieved through data quality and data integration.
- **Data completeness** can be ensured through data quality, data integration and enterprise information management.
- **Data transparency** can be achieved through metadata management.
- **Data security** can be ensured through enterprise information management.

EDC can seamlessly integrate key data initiatives under a single umbrella, and this componentization helps to successfully enable compliance.

### Other Key Benefits

EDC's critical success factors are grouped under 3P (People, Process and Platform) streams. The 1st P (People) sets the organizational alignment. The business community defines data clarity rules, and the technology organization supports them by building and enforcing these rules. The 2nd P (Process) demands adherence to key processes such as standards in meta-model definition, governance and business alignment

## Achieving Clarity Through the Four Components of EDC

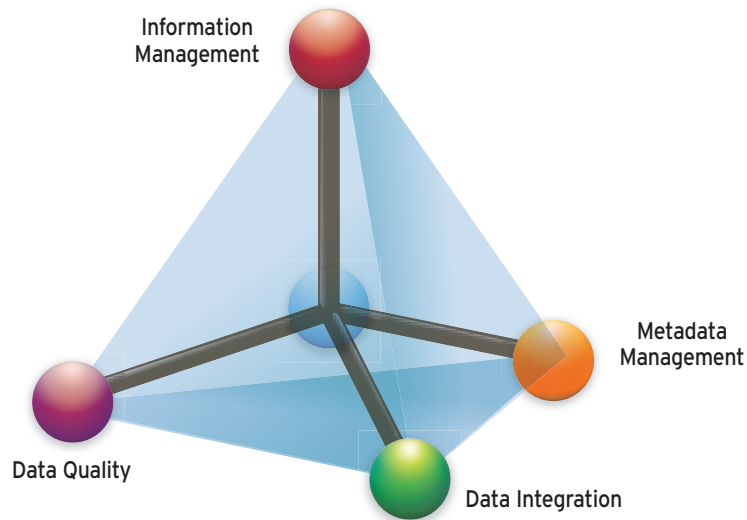


Figure 3

with operational streamlining. The 3rd P (Platform) identifies technology prerequisites integral to this framework as best-of-breed data warehouse/business intelligence (DW&BI) tools and the EDC portal.

EDC thus promises an important change to organizational structure through “business owned/technology executed” alignment, ensuring that the business and IT jointly deliver data quality.

EDC will also usher in a cultural shift. Corporate transparency, a key prerogative for compliance

requirements, is a clear benefit. Data traceability creates a higher level of transparency into corporate occurrences.

With EDC, business users can make decisions with increased confidence, using available data. This surge in confidence levels is based on the extent of visibility and transparency into data elements that are brought in. An increase in business confidence in turn leads to diminished information myopia across the organization, through reinforced data intimacy.

### About the Author

*Veera Narayanaswamy is Senior Vice President and Global Practice Head for DWBI & PM and Oracle Solutions Practice at Cognizant Technology Solutions. He is a technology thought leader, innovator and futurist, with over 20 years of experience in the software industry. His propensity for combining the practical experiences of his career with scientific technology theory has inspired comparisons with the founders in the DW & BI technology space.*

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\* As of December 31, 2009

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### World Headquarters

500 Frank W. Burr Blvd.  
Teaneck, NJ 07666 USA  
Phone: +1 201 801 0233  
Fax: +1 201 801 0243  
Toll Free: +1 888 937 3277  
Email: [inquiry@cognizant.com](mailto:inquiry@cognizant.com)

### European Headquarters

Haymarket House  
28-29 Haymarket  
London SW1Y 4SP UK  
Phone: +44 (0) 20 7321 4888  
Fax: +44 (0) 20 7321 4890  
Email: [infouk@cognizant.com](mailto:infouk@cognizant.com)

### India Operations Headquarters

#5/535, Old Mahabalipuram Road  
Okkiyam Pettai, Thoraiipakkam  
Chennai, 600 096 India  
Phone: +91 (0) 44 4209 6000  
Fax: +91 (0) 44 4209 6060  
Email: [inquiryindia@cognizant.com](mailto:inquiryindia@cognizant.com)