THE RELEVANCE OF DATA UNIFICATION
In present times, digital transformation is altering the value of data exponentially. However, not many are familiar with the various changes in the way data is stored, processed and managed.

Over the years, data processing has witnessed many developments. To put such a transformation into perspective – long gone are the days of legacy databases that have now been replaced by cloud databases. Modern technology has impacted various data integration challenges such as high latency, outdated information and limited expertise during this transition.

While the digital landscape has advanced rapidly – accidentally or purposefully – siloed data has continued to exist till date. Data-driven decision makers will be the winners of the upcoming decade no doubt, however, fragmented and siloed data will continue to be the elephant in the room impacting the quality of key business decisions.

**FRAGMENTED DATA**

It is live data that is broken and stored across various locations on a single data base. This mainly occurs due to external fragmentation.

**DATA SILOS**

Siloed data refers to the isolated data group in a company’s repository. When processes are separated and streamlined to improve focus and efficiency, the information flow is broken naturally leading to data silos.

80% of companies report high or moderate degrees of data silos.

*Big Data Insights and Opportunities, CompTIA*

47% indicated that data silos are hurting their digital customer experience initiatives.

*Simpler Media’s 2019 State of Digital Experience Report*
PROBLEMS OF DATA SILOS AND INCONSISTENT DATA

Expensive data governance

- Banks are a great example for understanding data issues. The legacy databases and traditional ways of handling data are making data processing more complicated and painful. According to Simon Paris, Global Head of a leading banking company, “Managing data takes up 7-10% of a bank’s operating income – it’s feeding the beast in the basement.”

- Owing to the absence of a central data storage system, people end up creating multiple copies of the same data. This not only leads to the creation of duplicate and inconsistent data, but over time it also generates large quantities of redundant data. All this results in unavoidable data challenges which in turn makes data governance an expensive undertaking for businesses.

“Data is an elusive goal for most companies because it is treated as a one-time event. No matter how well they do, the data begins to decay immediately.

From "The Many Different Path of Data Quality"
- by Bill Swanton, Gartner

"$1,000,000 lost per MINUTE in the U.S. due to poor quality data.
- Data Warehousing Institute"

Deters effective decision-making, resulting in revenue losses

- Isolated data grows obsolete over a course of time. Not only does it create glaring redundancies, it also hinders the process of collecting valuable and real-time insights which are critical for making sound business decisions. All this results in revenue losses as quick and informed decision-making is the baseline for gaining competitive advantage in the complex and rapidly changing business environment.
Companies that have identified significant costs from poor data: 85%
Companies that have delayed and/or cancelled new IT systems due to poor data: 50%
Companies that are confident about their data quality: 33%
Companies that are confident about the data that is given to them by external sources: 15%

40% of benefits targeted in annual capital budget are never realized because of poor data.
- Gartner

---

**Data security & legal penalties**

- When it comes to data breach, laws today are getting stricter and stricter.
  According to Forbes, "Equifax Inc. has agreed to pay at least $575 million, and potentially up to $700 million, as part of a global settlement with the Federal Trade Commission, the Consumer Financial Protection Bureau (CFPB), and 50 U.S. states and territories, which alleged that the credit reporting company’s failure to take reasonable steps to secure its network led to a data breach in 2017 that affected approximately 147 million people."

With regulations such as the European Union’s “General Data Protection Reregulation” (GDPR), data breach has the potential to turn into an unprecedented nightmare for companies.

- Inconsistent and siloed data causes workflow gaps making it difficult to identify potential data threats and leading to expensive data risks spontaneously. Subduing fragmented and siloed data can help map data patterns, foresee security threats and strengthen data security.

---

**Increasing number of data breaches (entities in the US)**

Survey results from "The Costs of Poor data Quality" by Gartner
DATA UNIFICATION

In simple terms, data unification refers to the grouping of scattered and unstructured data from multiple systems and implementing data cleansing, transformation, classification, deduplication, and schema integration to deliver unified and accurate data.

Besides enabling the centralized storage of accurate data, data unification also makes it plausible to produce real-time insights to drive better business results and address quality related issues in practical terms.

For a long time, businesses have been under the false impression that data unification was just an IT problem. It couldn’t be farther from the truth.

The proliferation of data fused with business process optimization has time and again underscored the glaring obviousness of data quality undermining product launches, customer service and even regulatory compliances.

There is also the common perception that data unification is a pressing problem only for big corporates – again, a largely flawed notion. Companies are inter-dependent for their data management processes. While the big companies outsource to the mid-sized companies, the smaller ones depend on the large/mid-sized companies for their data needs. It’s a rather relentless vicious circle.

Thus, data unification has been identified as one of the most severe challenges faced in the data management space.

Data management - Traditional vs Modern

The use of modern methods to achieve data unification is quite effective as the modern data management approach combines machine learning and human expertise with agile methodologies to accomplish data unification. However, the traditional data management approach comprises only ETL and MDM which is time consuming and requires complex rule systems to achieve data unification. Besides, it is expensive to build and maintain these systems.
WHY IS DATA UNIFICATION RELEVANT?

- **Improved data consistency**
  Helps in establishing standardized and consistent processes across the organization with more consistent data

- **End-to-End visibility**
  Delivers a 360-degree analysis and insights to improve organizational alignment and transparency

- **Better performance**
  Helps improve performance with faster data analysis and simplified API management

- **Simplified data access for successful master data management**
  Reduces data complexities and empowers secured data access. The ability to read and understand data seamlessly across multiple systems and applications helps in implementing successful master data management

- **Customized data security**
  Enables Master Data Management technologies to prioritize and resolve data quality issues in a reactive way

- **Integrated business processes and workflow**
  Leveraging the benefits of data unification and master data management can help industries streamline processes and tackle challenges promptly. It also helps amplify collaborative capabilities and attributes of data stewardship processes

EMERGING TRENDS IN DATA SPACE THAT DEMAND DATA UNIFICATION

- **Augmented data management**
  Although augmented data management aims to reduce manual labor and achieve more automation, the same can only be as effective as one’s data governance rules. Thus, the need for quality increases exponentially, making data unification essential to provide data quality, consistency and integrity along with reduced data breach risks to be able to ensure augmented data management adequately.

- **Blockchain**
  Blockchain is likely to create more data silos as it is employed for transactional data and is also replacing traditional apps. Additionally, moving blockchain node processes to the cloud did not prove to be a solution to the problem. Consequently, data unification will become a necessity to manage master and reference data efficiently and reduce data silos.

www.sganalytics.com
Although data unification aims to achieve optimum business value by enabling smarter and faster decisions, it can be like boiling an ocean if an appropriate unification strategy and operating models are not set in place. A few pointers to keep in mind before initiating the data unification program in an enterprise are as follows:

- Inform all key stakeholders about the initiation of the data unification process
- Awareness and alignment with all the key stakeholders are essential to achieve data unification successfully
- Engage constantly with key partners during implementation
- Study and map your enterprise data’s journey to develop fitting data dictionaries, glossaries, and catalogs
- Understand the interaction of data and process flow across different functions of the organization
- Embrace technology advancements such as Machine learning and AI to ensure secured databases with meaningful data
- Validate your current technology dependencies, so that the creation of data unification does not undermine the existing data flow
- Invest in data governance and stewardship to educate colleagues about the necessity and benefits of data unification
- Ensure adherence to all regulatory norms security and risk compliance should be taken care of in case of personally identifiable information (PII)

### Persistent memory technology

Since database management systems (DBMS) use in-memory database structures, memory size has become a great concern with rapid and abundant data growth. This has shifted businesses’ focus on persistent memory technology to achieve large capacity and consistency, as well as avoid reloading or caching of data into memory. Here, data unification is inherent with persistent memory technology to enable efficient computing, fraud detection and cyber threat analysis, and web-scale personalization.

### Credible analytics & continuous intelligence

Data unification facilitates clean and correct data for credible analytics and continuous intelligence to attain real-time insights for business development and problem-solving. Additionally, it helps accelerate speed to value, speed to resolution, and speed to discipline in order to enhance digital business value and keep pace with continuous innovation.

### KEY POINTS FOR ACHIEVING DATA UNIFICATION EFFECTIVELY

Although data unification aims to achieve optimum business value by enabling smarter and faster decisions, it can be like boiling an ocean if an appropriate unification strategy and operating models are not set in place. A few pointers to keep in mind before initiating the data unification program in an enterprise are as follows:

- Inform all key stakeholders about the initiation of the data unification process
- Awareness and alignment with all the key stakeholders are essential to achieve data unification successfully
- Engage constantly with key partners during implementation
- Study and map your enterprise data’s journey to develop fitting data dictionaries, glossaries, and catalogs
- Understand the interaction of data and process flow across different functions of the organization
- Embrace technology advancements such as Machine learning and AI to ensure secured databases with meaningful data
- Validate your current technology dependencies, so that the creation of data unification does not undermine the existing data flow
- Invest in data governance and stewardship to educate colleagues about the necessity and benefits of data unification
- Ensure adherence to all regulatory norms security and risk compliance should be taken care of in case of personally identifiable information (PII)
TAKING EVERYTHING INTO ACCOUNT

Ultimately, it is the quality of data that is the key to success in today’s data-driven business landscape. Achieving data unification will certainly make organizations stay on top of their game in terms of effective planning, deployment of right personnel, technology, stakeholder alignment, and flawless execution. Although it may be expensive to achieve seamless data unification and data governance, the presence of data silos and inaccurate data in an organization’s database may turn out to be even costlier.
About the Author

Jayaprakash Mallikarjuna
VP, Client Services

Passion for generating actionable insights from data is something that drives Jayaprakash. In his 17+ years of professional journey, his key focus has been to enhance customer experience and drive value for businesses. At SGA, he leads large data/platform management engagements. Prior to SGA, he spent over a decade at Thomson Reuters in the investment research space and then with a Sustainability research provider start-up. Being an ardent chess player and a runner helps him to strategize paths to the end-goals with steady speed.

Service Delivery Methodology

We are dedicated to delivering tailored solutions for our global clients. Our team of vastly experienced analysts is well versed in providing valuable insights to our clients. At SG Analytics, we have worked on hundreds of deals for international clients over the years that enable us to understand the client needs.

Sharing Insights

THE CEO SPEAK: Success Mantra of a Research & Analytics Firm

Click on the above titles to watch the videos

About SG Analytics

For over a decade, SG Analytics has been one of the leading global research & analytics firms with offices in USA, UK, Switzerland, and India, servicing scores of customers across the globe. We are the partner of choice for Fortune 500 companies across several sectors. We have been recognized as the Best Employer by the World HRD Congress in 2018.

For further information, please visit our website: sganalytics.com

Join the conversation

This document makes descriptive reference to trademarks that may be owned by others. The use of such trademarks herein is not an assertion of ownership of such trademarks by SG Analytics (SGA) and is not intended to represent or imply the existence of an association between LendIt and the lawful owners of such trademarks. Information regarding third-party products, services, and organizations was obtained from publicly available sources, and SGA cannot confirm the accuracy or reliability of such sources or information. Its inclusion does not imply an endorsement by or of any third party.

Copyright © 2020 SG Analytics Pvt. Ltd.