



Take Reporting & Dashboard Transformation to the Next Level of the Digital Age



Introduction

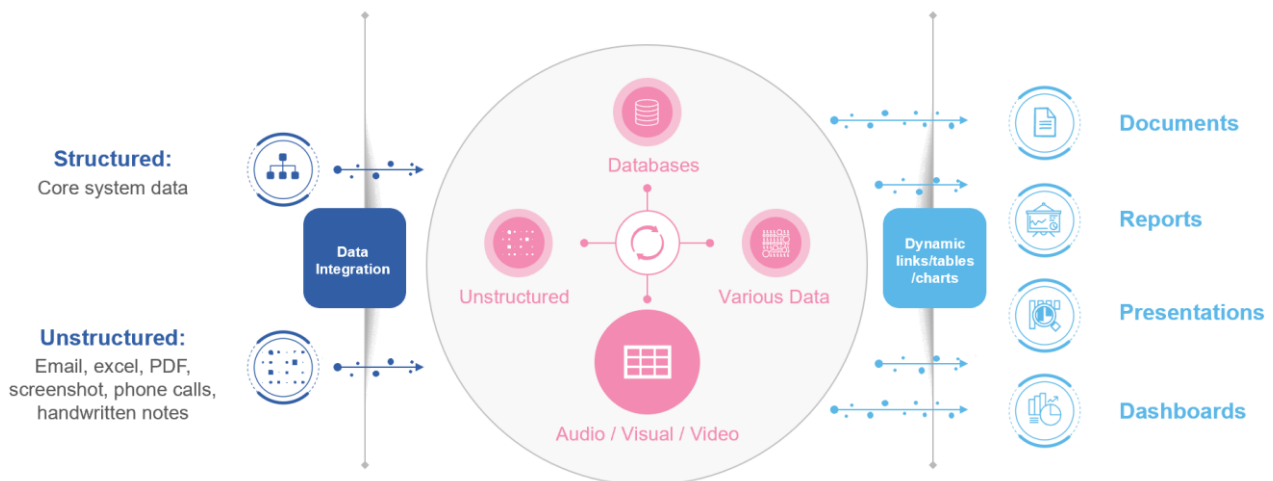
The process of information dissemination has become real-time and on-demand, resulting in a rapidly shrinking of decision window for executives. Technology is transforming businesses, particularly in the area of data and reporting. Today, many financial service organizations struggle to keep up with the volume of insights and analyses provided by internal and external stakeholders.

Business teams have access to more data than ever before. To harness the power of that data and create value-driven reporting and dashboards, organizations need to use the latest advances in technology. With recent changes made to the International Financial Reporting Standards (IFRS), the US Generally Accepted Accounting Principles (GAAP), GDPR, and other regulatory reporting have resulted in quite a few more requirements being introduced. Some of these new requirements include an increased frequency of required calculations, revisions to financial statement presentations, and an increase in financial statement disclosures. The need to implement these kinds of changes within short timeframes has caused outdated background technologies and processes to outlive their optimal architecture.

There are many new real-time reporting and dashboard tools available such as streaming data, API & Web Services, Microservices, Micro Messaging systems, Real-time AI driven KPIs etc. Technology can enable business teams to focus on value-driven reporting and dashboards. Despite these new offerings, organizations still struggle to implement modern tools due to enterprise systems' constraints and lack of talent.

To support digital transformation, decision-makers should:

- 1. Upgrade workforce skills:** to successfully implement these changes, businesses must focus on improving their workforce's technical skills in digital literacy by investing in skills such as real-time streaming, advanced data analytics, cloud, data science, etc. Soft skills in creativity, continuous learning, critical thinking, collaboration, flexibility, and adaptability will also be vital for a successful digital transformation.
- 2. Ensure tools enable transformation:** Big Data and Cloud Technologies enable organizations to efficiently store substantial structured, unstructured, and semi-structured data at optimal costs. Organizations need to implement new technology stacks in streaming data, messaging, microservices, APIs, self-service tools and others. The way that data can flow in an organization as shown below.

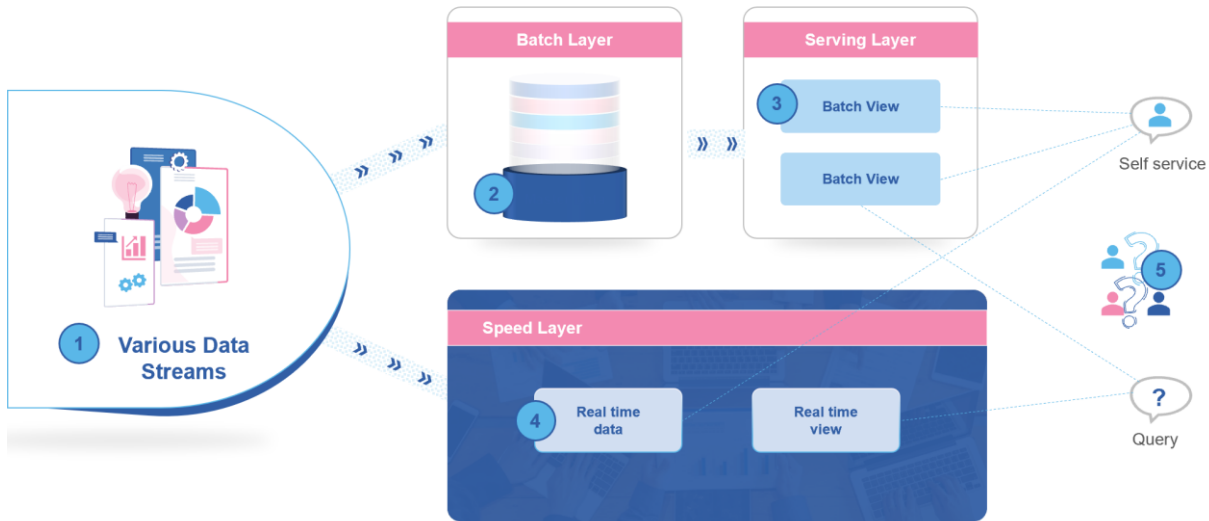


- 3. Fulfill process needs for transformation:** a scalable strategy with proper processes capable of handling constant changes in expectations and requirements can produce high-quality reporting and deliver sustainable and meaningful cost and time-savings. Applying a worthy process framework as part of a transformation can have a multiplier effect throughout the organization since related processes and efficiency are also improved. We can separate and execute various reporting & dashboard process into three sequential phases: gather, organize/process, and consume/visualize as per business needs.
- 4. Promote data-driven decision making (AI):** organizations need to have broad corporate support for data-driven decision making by leveraging AI to identify underlying patterns in data and machine learning (ML) to predict scenarios and improve outcomes. While business leaders focus on turning data into insights, they also have to perform a difficult balancing act: driving innovation in how they use data without compromising standards and undermining trust.
- 5. Implement automation:** the most agile business and reporting teams use robotic process automation (RPA), a rules-based technology used to automate high-volume processes, to drive new levels of efficiency. They are also exploring the next frontier in automation – intelligent process automation that combines RPA with AI, such as machine learning. Automation is crucial for giving busy teams the bandwidth to develop data insights that create transparency and trust. Automation can improve efficiency but can't fix a broken process. That's why, before you consider implementing automation into your processes, you should ensure that leading practices and process capabilities are sound. Then, identify the right opportunities to simplify, accelerate, or re-design your processes when applying effective automation tactics for high-impact return.
- 6. Observe architectural changes in reporting and digital dashboard transformation:** new architectures such as Lambda will enable organizations to take advantage of new technologies like real-time data exchanges, API Services, Microservices, Big Data, AI, Cloud technology solutions, Blockchain, Self-

service capabilities etc. to create reports and dashboards. This enables fast-data-driven decision making based on fast

changing business environment and other factors affecting the bottom-line.

Lambda Architecture



1. All **data** entering the system is dispatched to both the batch layer and the speed layer for processing.
2. The **batch layer** has two functions: (a) managing the master datasets (an immutable, append-only set of raw data), and (b) to pre-compute of the batch views.
3. The **serving layer** indexes the batch views so that they can be queried in low-latency and ad-hoc way.
4. The **speed layer** compensates for the high latency of updates to the serving layer and deals with recent data.
5. Any incoming **query** can be answered by merging results from batch views and real-time views.

The decision-making executives will benefit from team members that possess capabilities beyond traditional finance and accounting skills including strategic awareness of new technologies such as AI and knowledge in disciplines such as data science and advanced statistics. As a result, leading business functions are auditing their teams' existing capabilities to understand where the gaps are. This should include both the "hard" skills required to utilize new technologies and data and "soft" interpersonal and strategic skills.

The combination of tools and diverse data allows business teams to work collaboratively with external vendors more closely, and deal with upcoming challenges easier. Research states that managed services arrangements will be critical to meeting strategic priorities, with access to technology skills being a key driver for this approach. However, driving a new approach can be difficult due to entrenched cultures and resistance to change that act as speed bumps on the road to progress. To overcome this resistance and accelerate the changes that are expected in the workforce, organizations should become more creative about the people, tools and skills they need, and to approach hiring, talent development and resourcing more innovatively.

Technology driving reporting transformation:

Just in Time Reporting:

As new Business Intelligence (BI) tools become increasingly available, the previous rigid data transformation and reporting processes have become redundant for some analyses. The introduction of "just-in-time reporting" allows native data to be utilized in a growing number of circumstances and use cases. Adopting this more flexible BI approach can help organizations achieve broader adoption and faster decision-making with considerable results from their systems.

Real-time Reporting/Data

Exchange/Servicing:

Real-time reporting is a business intelligence practice that consists of gathering up-to-the-minute data and relaying it to users as it happens. Information is presented and delivered to managers for quick decisions when under heavy time constraints.

With the development of high-performance technologies and advanced communication channels, internal and external business affairs are moving faster than ever. With real-time reporting, the entire company is aware of changes up-to-the-minute about how the company performs in key areas and can make quick decisions that are communicated to internal or external teams.

Self-service Reporting:

Self-service financial reporting shifts the burden from IT, and a manager's abilities, to business users that enable interactive reporting systems allowing for deep dives into the data. By providing a self-service mechanism to business leaders, an organization's employees are empowered to make optimal decisions based on real, timely, and up-to-date data. Because reports can be called up as needed, the information to guide a decision can occur during a leader's workflow, instead of interrupting it as they wait around for critical reports. With the right tools, information can be layered with data from across the organization, making insights from the

data easily accessible. Self-service will enable users the power to explore new data patterns apart from existing canned reports.

Real-time Dashboarding:

Real-time dashboards automatically show the latest data sets and KPIs. Implementing a real-time dashboard may be a priority for some business strategists looking at some of the KPIs and data pointers near real-time. Thus, it can be a powerful tool for some of the decision-making teams for tracking daily and hourly performance metrics.

Streaming Analytics:

Streaming analytics offers comprehensive, real-time anomaly detection mechanisms that help banks, financial institutions or any organizations safeguard themselves from fraudulent activities. With streaming analytics, businesses can easily convert their domain knowledge regarding fraudulent behaviour to create business rules and Machine Learning (ML) to quickly detect unknown abnormal behaviour. Banks can also use scoring functions to reduce the number of false alarms being raised. ML enables computers to learn behavioural and other patterns on their own by referring to large amounts of previous and incoming data without being explicitly programmed. Various reinforced learning and other algorithms will help a computer to program model 'normal' behaviour by looking at past transactions' trends. This helps organizations identify transactions that differ from normal behaviour such as new types of fraud, AML, or other risks.

API/Web Services-driven Reporting and Dashboards:

Some of the reports and dashboards may require regular and updated data from internal and external business customers, which can be exchanged with API services, Web Services, or microservices etc. Then, this data can be automatically represented in places such as reports, dashboards, self service areas, or any needed areas.

AI/Data Engineering KPIs for Reporting and Dashboarding:

Instead of manually making correlations and taking investigations and analysis through multiple business KPIs and dashboards, business analysts can rely on AI analytics to probe deeper into the data and correlate simultaneous anomalies that reveal critical insights into operations. An automated AI analytics solution maps out the relationships between all your metrics, regardless of the

amount. Unlike traditional BI tools, AI analytics lets you remedy urgent problems and capture opportunities sooner by detecting crucial business incidents and identifying the cause, AI analytics solutions use the latest breakthroughs from ML and Data Science to give customers actionable insights in real-time, something they could not achieve from their static dashboard-based business intelligence, bringing valuable business opportunities and insights to the surface.

Above all, creativity, innovation, and corporate commitment will be vital for enabling digital transformation. New technologies & tools give organizations the golden opportunity to use data value-driven reporting and dashboards. However, they must be prepared to evolve and innovate if they are to achieve that goal. To leverage the power of new technologies, corporate leaders have to maintain the balance between improving existing reporting teams and recruiting for in-demand capabilities mentioned above. They also need to establish a continuous, dynamic approach to learning since, in the digital world, skillsets have a shorter shelf-life. It's important to recognize that digital transformation is not a finite process but a continuum.

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