How to Increase Business Performance Using MDM with an Embedded Analytics Platform (EAP)

Embedded analytics are important for a variety of reasons related to optimizing business performance within a master data management (MDM) context:

- Customized dashboards that provide data accessibility
- Easy collaboration through instant insights
- A competitive edge through better decision making
- Rapid response to market insights and trends
- More efficient business processes

An embedded analytics platform (EAP) can help make data actionable, enabling the identification of deep insights through data mining and machine learning and by visualizing trends and results via user-friendly interfaces and executive dashboards.

Data is everywhere. Embedded analytics enables users to extract business value from it. The inclusion of an EAP makes it instantly accessible to everyone with access to your MDM system.

Types of data analytics

Applying embedded analytics requires a certain level of digital maturity and master data governance because you need clean and trustworthy data in order to perform meaningful analysis.

Having a well-structured MDM solution that supports clean, updated and connected data is the foundation upon which you can apply analytics to reap new insights and drive fact-based, business building decisions.

Analytics aims to prepare conclusions and provide information regarding what to do next. It builds upon the established single source of truth accommodated by a connected system architecture and clear data governance policies.

The result of your analysis should enable you to make a recommendation. To be able to gain the real benefits of clean and organized data, you need to project your collected data into the future to either predict what is going to happen or tell you what to do.

There are four types of analytics:

- **Descriptive analytics**: shows what happened (e.g., how much a certain office has sold)
- **Diagnostic analytics**: shows why it happened (e.g., that the office had an increase because of a new product line)
- **Predictive analytics**: tells what will happen (e.g., next year's sales will increase because more offices ordered the new product line)
- **Prescriptive analytics**: advises you what to do (e.g., which products to sell based on trends)

These four types of analytics suggest a progression where prescriptive analytics holds the most value and descriptive the least. Yet, this assumption has some reservations. As a rule, you want to know both what has happened and what will happen, which is exactly what descriptive and predictive analytics provide.

Regardless of how advanced your setup is, you depend on trustworthy data sources and the right integration points whether you conclude from raw data yourself or you get system assisted recommendations.

The master data foundation

Master data governance is absolutely critical because it encompasses the most essential data for the organization such as product and customer attributes.

But to get deeper insights about performance or trends, you need to build context around your master data that includes additional layers and types of data.

Organizations have access to enormous volumes of data and can potentially connect hundreds of data points that provide unexpected insights, detect patterns and create new sources of revenue.

Adding data about user and customer trends, equipment runtime, location access or supply chain movements can provide new aspects of business information when combined with, and governed by, master data.

Using MDM to create a structured and connected data warehouse or Digital Business Hub is perfect for bulk operations with millions of records. Choosing a solution with embedded analytics can add targeted actions to your initiative.

Examples of master data domains and attributes

PRODUCT DATA	CUSTOMER DATA	SUPPLIER DATA	LOCATION DATA	ASSET DATA	EMPLOYEE DATA
Categories	Names	Contracts	Stores	Buildings	Names and contacts
SKUs	Addresses	Performance	Offices	Storage capability	Departments
Attributes	History	Pricelists	Hours/options	Vehicles	Locations
Descriptions	Preferences	Locations	Employees	Tools	Certificates
Variants	Credits		Suppliers	Digital assets	
Metadata	Loyalty		Assortments		
Images			Customers		

Blended data is key to complete insight

In addition to your cleansed and organized master data, pools of raw data reside in business systems, self-service applications, digital clickstreams and social media. You may also get IoT data from external sources such as sensors, cameras or web services.

These data pools contain information that can be used to optimize business processes, focus sales strategies and deliver important insights if filtered and organized properly and matched against the relevant master data.

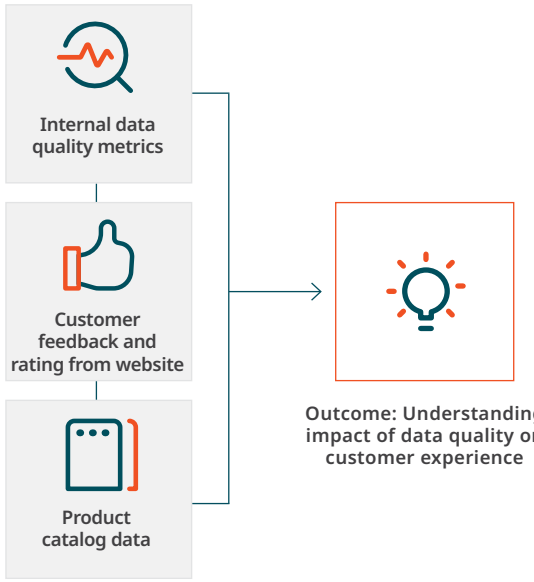
The ability to blend master data is essential to drawing a full picture to gain complete insight.

With blended data, you can deliver customized information for specific purposes such as predicting customer behavior, equipment performance or competitor initiatives.

Examples and use cases of combining and analyzing blended data include:

- **Customer preferences and purchase patterns** combined with location data can influence your targeted marketing and on-time personalized offerings
- **Asset and production data** combined with equipment runtime and workload can help optimize workflows and predict maintenance time
- **Data related to buildings and vehicles** combined with meter data and use frequency can help with energy and water optimization

Blending different types of data into new insights



Blending three types of data can provide customized data for specific purposes and targeted actions.

Usability and visualization

The rendering of data and the capability to act on it are equally important to the quality of the data.

Proper integration during implementation and usability are key points if you want to empower data stewards and end users to build their own dashboards and pull together customized views.

The complete overview depends on the integration of the right data points and an easy to use interface. What's more, if the analytics engine isn't both fast and intuitive, it will not enable you to extract the full value.

For these reasons, relevant data should be presented directly on users' screens without having to switch between systems and interfaces.

The EAP engine should also enable low-code options for users to assemble widgets and meaningful dashboards. If you need a data scientist to do this or to build integrations and filter and sort data to move it into the system, you will waste precious time and resources.

Developing a culture of data-driven decision making supported by user-friendly analytics tools such as EAP will improve both responsiveness and competitiveness of the organization.

Embedded analytics adds value to MDM

Just as master data management empowers organizations to extract added value from data across the enterprise, embedded analytics empowers them to maximize the value of MDM.

When evaluating solutions for your needs, look for seamless EAP powered by an engine from a leader in the embedded analytics and BI (business intelligence) space. The right solution will enable you to empower data stewards and end users alike to make faster, more informed decisions leading to better business outcomes.

To learn more about how master data management with embedded analtyics can empower your business to succeed, visit **stibosystems.com/eap**.