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Do you have a future-proof data strategy?

Answer these four questions

Expertise in data analytics is a key part of the business world today. At the same time, the skills that enable data analytics are constantly changing as disruptive trends evolve and change.

When people first started talking about how specific Industry 4.0 technologies would transform industrial operations, artificial intelligence (AI) wasn't even on the list. Today machine learning (ML) is a key part of predictive analytics, process control, capacity planning, anomaly detection, and many other critical capabilities.

How do you know if your data strategy can adjust to ever-advancing technologies and changing business needs? Ask yourself these four questions:

1. Are the operations team's goals clearly defined and aligned to business strategy?

Business priorities should inform data priorities that have specific, quantitative goals. These priorities should drive the planning, execution, and adjustment of any data strategy over time.

Before committing to a data-driven goal or project, document clear strategic objectives and expected outcomes. If a business goal is to lower operational costs and maintain current pricing in a competitive market, data project goals would look like "Reduce scrap rates by 20%" or "Increase throughput by 10%." These are clearly defined and easily measurable goals.

Culture is another aspect of strategic alignment. For companies focused on tradition, conventional practices and safety, the data strategy should align with that culture and only adopt widely proven practices. If the company is driven by innovation and disruption, it is more likely to embrace an early-adopter approach to data technology and iterative data strategies.

In addition to efficiency goals, data strategy also supports strategic growth goals, such as expanding a service portfolio or improving product quality. The eight value drivers for Industry 4.0 as defined by McKinsey provides a good reference for industrial companies:

Where to drive value with data

1. Service/after-sales
2. Resources/processes
3. Asset utilization
4. Labor
5. Inventories
6. Quality
7. Supply/demand matching
8. Faster time-to-market

Source: McKinsey

2. Are the technical skills in place to execute the data strategy?

Developers and systems administrators work with data specialists, but they generally don't have the training for advanced data-related work such as building ML models. Before embarking on a data-driven transformation, an enterprise will need to train existing employees, hire for new positions, or partner with a provider that can fill the roles.

These roles – such as data analyst or data scientist – are challenging and expensive to fill given market demand. Many organizations opt instead for a partner-supported approach. This option ensures scalability as requests for new data initiatives grow or a data strategy is rolled out across new geographies, sites, teams, etc.

End-users also need to be ready for data-driven change, and their skill level should be incorporated in any data strategy in development. Important questions for this assessment are: Are users prepared to use the new capability? Are they willing to adopt this change and see the value? Does this solution address specific needs expressed by end-users and advance our strategic goals for end-users?

The answers to these questions will guide the rollout of new capabilities and inform how much training and education to plan for.

3. Is the technology system in place to support the data strategy?

This question has a few aspects. First, a common question is, "Is it better to use a proven solution or one with the newest or latest technology?" The company culture will guide the level of risk and innovation to target, and will help to identify which vendors fit in best with the company culture. Working with the internal team and other vendor partners is essential for data strategy success. If there is a mismatch in working styles, risk tolerance, and other attributes, projects can take longer than planned and won't run as smoothly.

Scalability is another important consideration. Having scalable technology systems for data engineering ensures that data services can scale as demand grows as capabilities evolve and become more powerful. Look for an open architecture with seamless accessibility that is proven in your industry. This will reduce the risk of outgrowing systems with evolving needs.

Ensure there is adequate computing power allocated for the project. Many advanced data solutions need significantly more horsepower than traditional analytics solutions. Using a cloud service provides adequate storage and computing power. Secured servers or on-premises servers are also an option for critical operations, provided storage needs are met.

4. Are relevant processes already using current best practices?

This is an important question because it can delay optimal benefits from investments in data strategy.

The entire operation doesn't have to be in tip-top shape before using advanced analytical tools. Rather, limit pilot or early data initiatives to areas and processes that are already operating at high efficiency because:

A. If a process, team, or department is not running efficiently, focus on streamlining operations using more traditional tools first. Using sophisticated technology data tools to solve basic challenges can be a waste of resources and time.

B. If a bigger problem is discovered during a data project, it's common that the project will refocus on the bigger problem. This can derail data strategy, delay project timelines, and diminish needed support. It's best to minimize surprises with a clear analysis of current operations.

Aim for success out of the gate

Rushing into a transformational data strategy without the right foundation can limit the resulting benefits, even though sophisticated data tools are becoming available for operations roles. Use these four questions above to give your current data strategy a checkup or plan your next step to a more advanced strategy. Taking time to get things right first will help projects run on time and deliver the expected results.

The PI System™ is an enterprise platform for your operations data that can help advance your data strategy. It enables you to collect, analyze, visualize, and share large amounts of high-fidelity, time-series data from multiple sources to people and systems across all operations. It offers a framework to help you contextualize information and make better business decisions, and make any new data strategy more successful.

For more information about data strategy, please visit:
aveva.com/en/products/pi-system

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