Multi-speed data and analytics

How organizations can make better decisions with Rapid Insights Lab and Data-led Transformation

accenture

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Data has always been central to running a business

You can't run a business if you don't understand how it's working, or where it's going. And for that you need data that powers timely and relevant insights. For as long as organizations have been able to capture and record information about their operations, their sales, their suppliers, and their customers, they've looked to derive insights from that data to make their businesses run better.

In fact, learning from data has been a fundamental part of human civilization for centuries. Think of some of the earliest numeric systems, which originated when Sumerian and Arabic societies sought more sophisticated ways to understand the world around them. From tracking harvests to recording taxes to building monumental structures, these early data analysts understood the value of optimizing the present and predicting the future by learning from the past.

It's different today of course. Rapidly advancing technology has enabled enterprises to move from paper records to mainframes to data warehouses. And then to enterprise data lakes and ultimately set themselves up for artificial intelligence on cloud.

As the latest generation of AI capabilities on the cloud comes of age, the pace of investment is increasing dramatically. But while CEOs recognize data and AI is key to survival, they struggle to balance institutionalizing capabilities enterprise-wide with the ability to embed insights rapidly at the point of decision and realize value at scale.

In our experience, those select few companies that have taken a "multi-speed" approach are able to get the best of both worlds: data and AI are truly institutionalized as an enterprise asset AND they continually use data and AI across every part of the business.

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Data and analytics today: top-down or bottom-up?

In recent years, we've seen two principal data and analytics approaches emerge: top-down and bottom-up. A top-down approach to analytics is one that "institutionalizes" a company's vision through a comprehensive long-term strategy, and can be slower to implement, whereas a bottom-up approach to analytics comes from a business or team who needs immediate analytics requirements, faster. However, both come with benefits and downsides:

Top-down for organization-wide coordination and economies of scale

A top-down approach is where the CEO and the C-suite commit to an organization-wide vision for data and analytics and to "institutionalizing" that vision through a comprehensive long-term strategy. It's characterized by:

- A data and analytics operating model aligned with the overall business model, with clear lines of accountability, defined decision rights and governance, and the appropriate leaders in place to deliver results. In fact, in a recent study conducted by MIT and Accenture, we found that the top skills required for CDOs to deliver on their data and analytics vision are to be a change agent and evangelist to the rest of the business.
- Investments in data and analytics literacy across the organization—including ways to promote and incentivize a data-driven data culture through business adoption programs that engage employees and ingrain analytics across business practices and in decision making.
- Enterprise-wide prioritization and supporting processes to enable data and analytics as a strategic asset and create a "single version of the truth" for the whole business. This contrasts with more siloed or functional approaches where each data and analytics owner views the data and/or analytics models as "theirs" rather than belonging to the broader enterprise.

Top-down approaches also typically use cloud platforms to rearchitect data and provide access to innovative services from leading cloud providers. This means more sophisticated algorithms can be created—particularly those derived from machine learning—enabling new kinds of insights.

In top-down approaches, leaders make a commitment to establish an enterprise capability to scale. 78% of CDOs told us that their most critical responsibilities are to drive business growth and value creation. This is often done through a "Data and AI Factory" that is set up to run in a product-based delivery model. The Factory develops, industrializes, and maintains analytics products which cut across traditional functional lines.

For example, a decision engine product may seek to optimize customer experience across both personal and non-personal customer touchpoints. The advantage of a top-down approach is that it enables enterprise-wide decisions based on common data assets, can help attract and retain top-tier talent, and provides a truly leading-edge architecture.

However, the sheer scale of many organization-wide analytics transformations means they can take months if not years to bear fruit. Additionally, if not managed well, these programs can become excessively bureaucratic, or lose focus if not tied to specific outcomes and performance indicators. This often results in a delayed ability to give business-users the insights they need.

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Bottom-up for organic agility and speed-to-insights

A bottom-up approach to analytics is, in contrast, much more organic and can lead to more sustained innovation. Here, business units or individual teams build or buy their own point solutions to meet their immediate analytics requirements. Because they're created at the point of need, these enable each part of the business to do what it takes to make better decisions and/or deliver a better experience for customers, which leads to more sustained innovation:

- Finance teams may leverage analytics simulations to predict the financial outcomes of a strategic investment or acquisition.
- Sales teams may use contextual customer data and sophisticated analytics to target the appropriate customers with the appropriate approach or offers.
- Operations teams use analytics to optimize areas like manufacturing cycle times, asset maintenance, warehousing, delivery and logistics, and working capital management.

A bottom-up approach typically allows analytic insights to be more tightly integrated within business processes. It provides greater flexibility to focus on the specific needs of functional areas and business units. And it means the organization can hire and develop talent with domain-specific knowledge.

However, while this can be highly effective at solving a short-term need, it typically ends up costing more money and consuming more time overall. This is primarily due to a lack of organization-wide coordination and top-down coordination, which creates a fragmented and siloed data and analytics landscape.

In the worst cases, this may lead to discrepancies in data and reporting, limited data-sharing, "tribal" knowledge locked away in particular teams, poor data governance, a constrained ability to build up data-science fluency, and point solutions that don't scale well. Pockets of talent can end up operating without a sense of how they fit into a coherent plan, and opportunities for transformational data-led innovation go unrealized.

What's more, without a strategic scope or organization-wide opportunities for professional development, talented data scientists can get stuck doing basic reporting or data-cleansing if not managed properly, which makes it much harder to retain the best talent.

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Finding the balance: operating at multi-speed

What's needed is a balanced multi-speed approach—one that charts a path between top-down strategy and bottom-up agility, enabling the business to make the best use of both. In our experience, several companies have achieved this balance by taking a new approach to deliver rapid "as-a-service" insights to the whole business – ensuring alignment to business priorities across the organization.

This new approach—which often takes the form of a centralized **Rapid Insights Lab** (RIL)—comprises a team of data and analytics experts who provide a "white glove" data and insights service to prove out new ideas rapidly on demand. The beauty of the RIL model is that it bridges the top-down and bottom-up approaches, offering strategic data and analytics outcomes that would be much more difficult for business units on their own—with a speed of delivery that's usually unachievable through a top-down transformation.

We call this operating at multi-speed. And the impact can be transformational. With a critical mass of expertise in the RIL, innovative insights from complex data science can be generated far faster—often in just a few days. With a more responsive capability, the business can get new analytics outcomes in a form that it can actually use. That's invaluable in promoting data literacy and a strong data culture—and ensuring more business decisions are taken with the support of the data, not in the absence of it.

A RIL can also play a vital role in testing out concepts and de-risking a broader analytics transformation. With the freedom to experiment and fail fast, the RIL's experts can tease out issues in a long-term investment program that otherwise looks good on paper, potentially saving the business millions of dollars.

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CASE STUDY:

Building a Rapid Insights Lab for a global pharma leader

One company in a highly regulated industry was faced with a range of data and analytics challenges. Requests for data insights were taking too long to action, and responses were proving too complicated to be useful. What's more, proposed data investments were too large and too slow to show results. As expected, the business began to lose confidence in its data and analytics function.

To change the narrative, the company decided to build a dedicated RIL—a global team of business domain SMEs, data engineers, data scientists and visualization experts. This team had a strategic mission to both disrupt and innovate with artificial intelligence and help with the everyday data and analytics issues that no-one else in the business had time to solve.

The results were staggering. Insights that once took weeks or months were now being solved in hours or days. Over 500 important new insights were generated in the first year of operation alone, including innovations enabled by natural language processing and machine learning*:

- Deploying classification algorithms to identify sites at risk of underperformance and then generating actionable insights.
- Providing near-real-time updates of study patient recruitment, combining data from multiple sources and tracking KPIs daily.
- Helping identify two adverse events for a product that had been on the market for many years.

Overall, the RIL has improved safety surveillance and signal detection across the company, while also enabling rapid "what if" analysis. It's helped the data and analytics function transform itself from a reactive isolated organization into a proactive growth-focused partner to the business. And it has helped change the hearts and minds of people throughout the organization on the power and importance of data and analytics insights.

**Disclaimer - Results are general estimates based on Accenture's experience and may vary*

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Where does a Rapid Insights Lab fit into the broader data and analytics operating model?

To enable the most value from an RIL, it's important to define its place in the broader data and analytics operating model. This starts with defining a clear mission statement—typically to augment (not replace) analytics product development, DataOps, MLOps and PlatformOps teams by enabling hyper-fast responsiveness to new analytics needs.

Getting the balance right in this model requires a clearly defined service catalog that articulates what the RIL does and does not do. While services can vary from organization to organization, in our experience working with leading global clients, we typically see the following included as RIL services:

- Analytics needs that require new technologies or new data sources
- Testing business hypotheses that require turning an idea into a prototype
- Decision support and solution framing
- Rapid data curation and preparation for business use

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How to get started with multi-speed data & analytics

There are several important factors to consider:

1 **Assess your current maturity.**

Begin with a clear-eyed analysis of your data and analytics capabilities, and whether your business sets the pace or lags behind data innovation in your industry. Companies with highly mature capabilities may leverage the RIL mainly for experimentation or "moonshot" ideas, while less mature organizations may integrate it as a key part of the product development lifecycle.

2 **Decide what you want the RIL to handle.**

To make the most of the RIL's expertise, it's important to ensure that it's working on problems and opportunities well suited to its capabilities. That might involve using data science to prove or disprove particular business hypotheses, experimenting with new analytics technology in advance of a business investment, or some other service. It's critical to establish and adhere to a clear service catalog rather than attempting to focus on each request from the business. This ensures the RIL delivers the value without overlapping services provided by other data and analytics functions.

3 **Get the appropriate mix of expertise.**

The Accenture + MIT CDO survey showed that getting the right talent is the top inhibitor of data led transformation.
A balance of technical and business domain skills are critical to success. That will typically include some or all of the following: data-domain experts, data engineers, data scientists, visualization experts, machine-learning engineers, scrum masters or product managers, business analytics and subject matter experts. It will also be important to consider how this talent can continuously upskill and keep pace with technological advances.

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4 **Enable flexible working.**

To respond quickly to business needs, the RIL should be able to scale up and down its operations according to what's in its pipeline of projects. It may also need to bring in additional skills, since not every engagement will have the same requirements. Working with an external ally, either permanently or just to get the RIL up and running, can be an effective way of doing this.

5 **Get the appropriate technology in place.**

While it may make sense to start with the basics and keep it simple, the RIL will eventually need a delivery platform or workbench to enable rapid prototyping and spin up new features on demand. Many RIL teams work in a sandbox environment for testing solutions before they are deployed within the organization's data architecture.

6 **Think agile.**

It will be essential to establish agile ways of working for the RIL, including the use of an agile methodology such as SAFe, XP, or Kanban. Projects should emphasize speed and reusability, with the RIL able to make decisions about trade-offs between the two. Clearly-defined processes for prioritizing and assigning business requests should also be established, with the understanding that not every request can be actioned immediately.

7 **Keep the focus on "rapid."**

If the RIL is to retain its value longer term, it's important to let it stay true to its original mission. So, look to create an operating model that allows it to "transfer out" proven prototypes to product development teams for scaling up or development into broader transformation programs.

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Cloud First? Do you need to be on the cloud to operate at multi-speed?

Cloud is an essential part of managing data as strategic capital.

When your data is on the cloud, you can understand customers better, strengthen competitiveness, act faster to capture new business opportunities, and fuel a data-led transformation of the business. Cloud delivers scale, agility, real-time data, and access to the most advanced machine learning and analytics tools in the market.

The important point about multi-speed analytics is that you don't need to be fully on the cloud to start seeing the benefits. In most cases, a RIL can be established within the existing technology estate, however immature it is. If the business chooses to work with an external ally in setting up the RIL, there may also be "plug and play" platforms or tools that can be stood up quickly. The data and analytics experts in the RIL can then get to work on wins for the business while also complementing a broader cloud-based data transformation.

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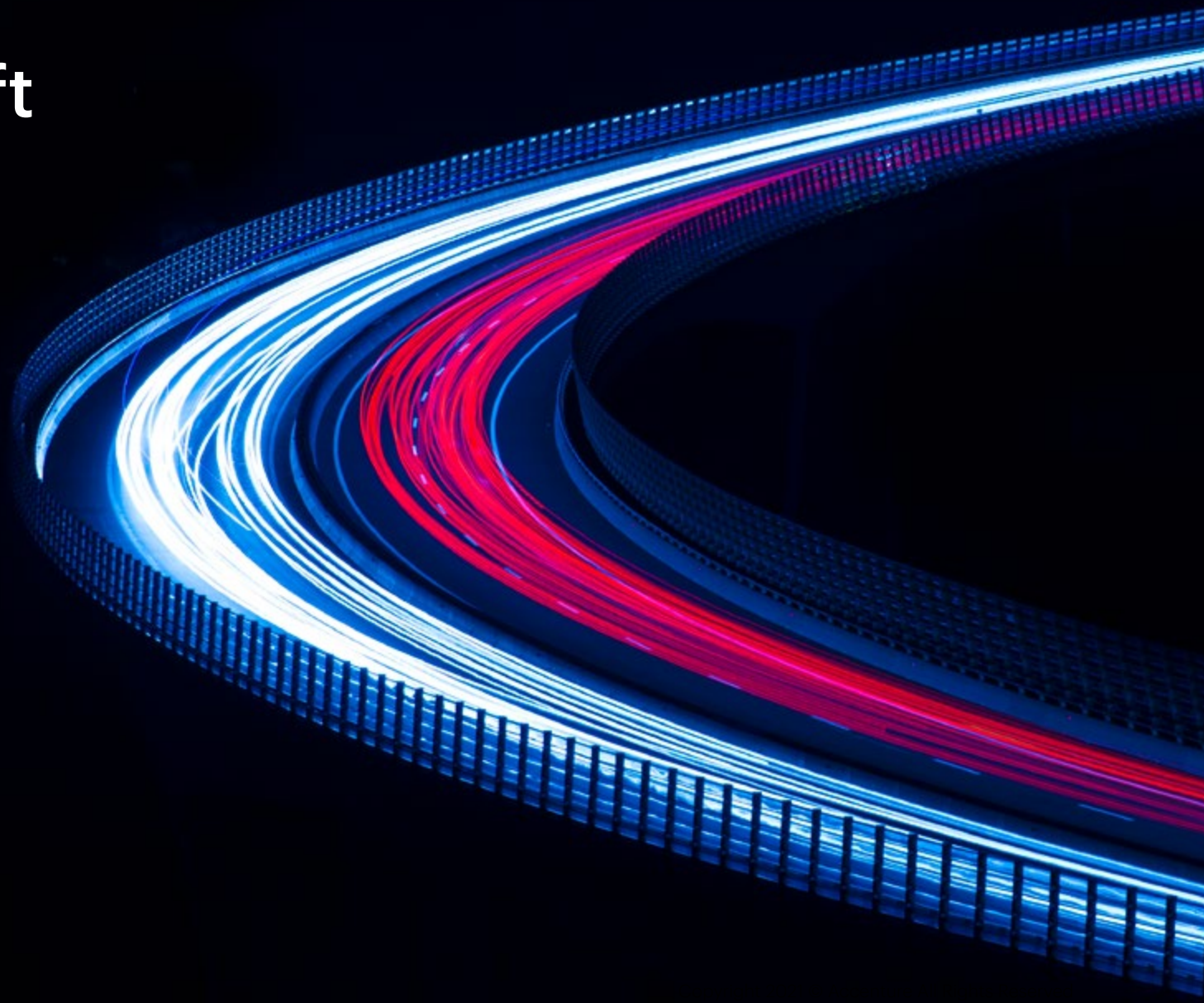
Conclusion: time to shift gears to multi-speed

Despite decades of investment, many companies still struggle to realize the data and analytics outcomes they hope for. The solution? A balanced multi-speed approach to data-led transformation that includes a RIL to create a bridge between a long-term strategic transformation and tactical point solutions.

This is a proven approach that may delivers differentiated results. In fact, it's a "must do" for organizations looking to keep pace with the ever-increasing demands of the business and its customers. And it's a critical enabler for aligning behind a common vision for data, helps increasing organizational speed and agility, and providing consistently impactful and innovative insights.

By operating at multi-speed, an organization can drive innovation through analytics—and make better, and faster decisions with its data. The best of both worlds.



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