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The Data Readiness Index: Maximizing AI Value Across Telecommunications

Introduction

For telecommunications operators, the increasing complexity of network infrastructure, the global rollout of 5G, and the explosion of connected devices have dramatically increased both the volume and velocity of data. At the same time, AI is emerging as a critical enabler of intelligent networks, predictive operations, and enhanced customer experiences.

AI is central to how telecommunications providers optimize network performance and unlock new revenue streams. From automating network operations to enabling real-time personalization, the opportunities are significant.

However, realizing this potential requires taking a foundational approach to AI development and deployment by focusing on data readiness.

To uncover what data readiness really entails, Cloudera released The Data Readiness Index 2026, surveying IT leaders across industries, including telecommunications. Of those telecommunications respondents, a majority (90%) said infrastructure performance had hindered operational initiatives at least somewhat.

This tension between ambition and execution raises an important question: What is the true state of data readiness in telecommunications today?

Building AI-Ready Networks: Progress and Promise

Telecommunications providers manage incredibly complex data environments. Network telemetry, Call Detail Records (CDRs), billing systems, IoT data, and service logs all contribute to massive volumes of structured and unstructured data.

As telcos accelerate AI adoption, many are increasing investments in cloud infrastructure to support scalability and advanced analytics. In fact, Cloudera's survey found that 73% of telecommunications organizations plan to increase cloud spending by a significant or moderate amount in the near term.

Cloud environments provide flexibility and processing power, but they are not a silver bullet. To achieve real efficiencies and make progress on network automation, AI must be embedded directly in the network, which requires hybrid deployment capabilities.

To do that effectively, organizations must be able to access and unify data across their entire ecosystem. Encouragingly, 89% of telecommunications respondents said they have complete visibility into where all of their organization's data resides.

Another 89% reported that their data sources are fully or mostly well-connected across systems and environments. This level of connectivity is critical in telecom, where real-time decision-making in scenarios such as rerouting network traffic or detecting service anomalies depends on integrating multiple data streams seamlessly.

78%

of telcos said their data architecture supports both structured and unstructured data.

> **"For telcos, visibility into data and control over how it is accessed and used are critical to driving meaningful outcomes."**
>
> **ATHUL PRASAD**

94%

of telcos are very willing to adopt new governance frameworks to improve data readiness.

> **"AI outcomes are only as strong as the data behind them. Without full access to enterprise data, even the most advanced models will fall short of delivering real business value."**
>
> **ATHUL PRASAD**

Lingering Barriers: Access, Performance, and Governance Gaps

Despite strong confidence in their data environments, telcos continue to face persistent operational challenges.

Sixty percent of respondents reported that operational initiatives are always or often obstructed by infrastructure performance issues, while an additional 30% said this happens sometimes. These disruptions can directly impact service quality, customer satisfaction, and, ultimately, revenue.

More notably, 60% of telecommunications organizations said their data-driven initiatives are hindered by their inability to access 100% of the data needed across environments. This presents a clear contradiction: if most organizations claim high visibility and connectivity, why does data access remain such a significant barrier?

On the surface, high levels of reported visibility and connectivity suggest that telcos have built a strong foundation for data-driven success. However, these metrics often reflect perceived capability rather than consistent, real-world execution. The disconnect between what organizations believe is possible and what they can reliably deliver is where the true challenge of data readiness begins.

Another key factor is data governance. While telcos manage vast and complex datasets, governance frameworks often lag behind. Nearly one-quarter of respondents (22%) indicated that data quality issues have led to poor return on investment for AI and analytics initiatives.

Only 33% of telecommunications organizations reported that all of their data is fully governed. Another 24% said that almost all of their data is governed, indicating gaps that can undermine trust in data.

In an industry where real-time accuracy is essential for network optimization, fraud detection, and customer engagement, even small data quality inconsistencies can have outsized consequences.

Aligning Leadership Around Data and AI Strategy

Data readiness is as much an organizational challenge as it is a technical one. Success depends on clear ownership, cross-functional alignment, and leadership commitment.

Among telcos, 91% said their organization has a clearly defined data strategy aligned with broader business objectives, and 50% indicated this is extremely true. This alignment is essential to ensure that data initiatives directly support goals such as network modernization, customer retention, and new service innovation.

Confidence in leadership is also high. Almost all respondents (93%) stated that senior leadership understands and prioritizes the data infrastructure required to enable AI at scale. And when it comes to accountability, responsibility tends to be concentrated. The majority of telecommunications organizations (66%) place primary ownership with the CIO or CTO. This is followed by the Chief Data Officer (13%) and Chief AI Officer (15%).

Centralized ownership can help streamline decision-making and create clear accountability across the organization. In financial services, where data spans risk, compliance, IT, operations, and customer experience, many organizations are aligned in both their strategic approach and who is responsible for executing it. With clearly defined roles and a shared understanding of priorities, organizations are better positioned to translate strategy into action and drive meaningful outcomes from their data initiatives.

Turning Data Readiness into Competitive Advantage

AI has the potential to redefine productivity by enabling autonomous systems and unlocking entirely new business models, leading to strong optimism about the road ahead. Over the next two to three years, 92% of telecommunications organizations believe their current data infrastructure can support their strategic priorities.

However, optimism alone will not deliver results. To fully realize the value of AI, telcos must address the foundational gaps in data accessibility, governance, and operational performance. This means moving beyond fragmented systems and toward unified, trusted data ecosystems that can support real-time intelligence at scale.

In telecommunications, where speed, reliability, and customer experience are everything, data readiness is the defining factor of competitive advantage to enabling AI at scale.

Explore what it takes to achieve data readiness in telecommunications and speak with an expert to get started.

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Cloudera is the only hybrid data and AI platform company that large organizations trust to bring AI to their data anywhere it lives. Unlike other providers, Cloudera delivers a consistent cloud experience that converges public clouds, on-prem data centers, and the edge, leveraging a proven open-source foundation. As the pioneer in big data, Cloudera empowers businesses to apply AI and assert control over 100% of their data, in all forms, improving security, governance, and real-time and predictive insights. The world's largest brands across all industries rely on Cloudera to transform decision-making and ultimately boost bottom lines, safeguard against threats, and save lives.

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