CSPs are removing data silos to facilitate the implementation of AI solutions

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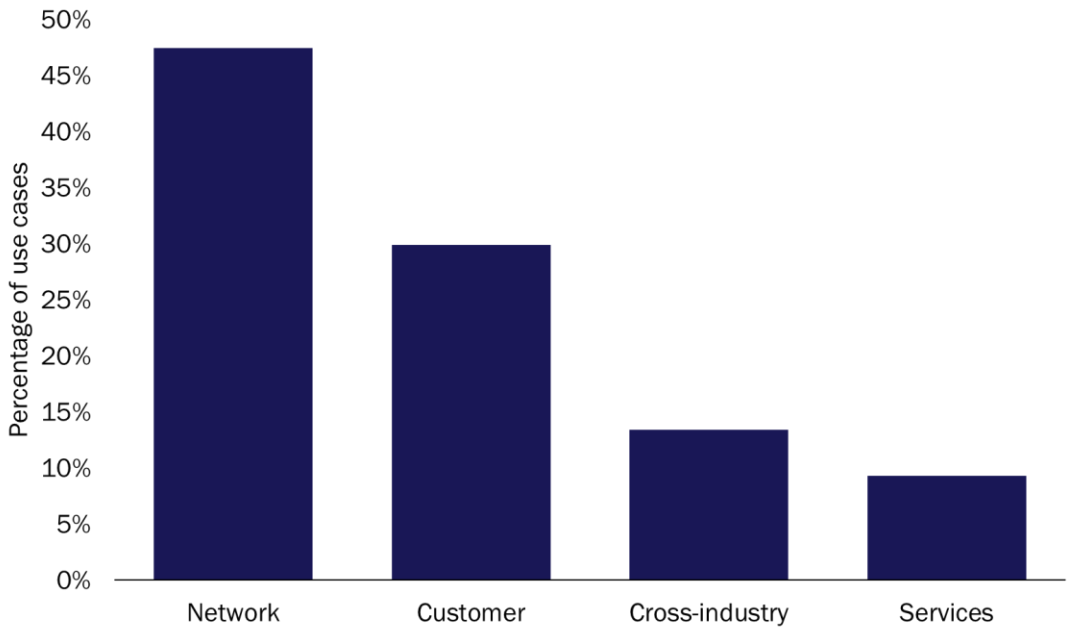
CSPs are adopting new AI use cases, but access to data remains a challenge

Communications service providers (CSPs) are making progress with their AI implementations. However, they must treat removing data silos between and within large teams (such as the network team) as mission critical in order to drive impactful outcomes from these implementations.

CSPs' early use of AI has been focused on network and customer operations (as shown in Figure 1). However, Analysys Mason's *Communications service provider data and AI/analytics activity tracker* shows that CSPs are starting to use their growing AI capabilities in other areas such as data, procurement and supply chain management. For example, BT and Verizon have implemented an AI-based spend management system and an AI-based supply chain inventory system, respectively. Processes within these areas (that do not yet use AI) tend to be inefficient, thereby affecting CSPs' bottom line and their ability to improve customers' experiences.

Figure 1: Breakdown of CSPs' AI use cases by area, worldwide, December 2021



Source: Analysys Mason, 2022

We observe that CSPs' AI implementations are typically executed in silos; they address specific departmental issues and use data that is only accessible within these domains. As such, these implementations are affected by limited data access. For example, targeted marketing use cases rely on customer data, while AI tools within the

network domain target specific functions such as AI-based RAN optimisation or network planning or operations.

The power of AI is maximised when tools are used to analyse disparate, cross-departmental data sets to yield meaningful insights. Siloed data therefore makes it challenging to make the most of AI. Storing data in silos also increases the time taken to generate insights. For example, Verizon's Chief Data Officer and Senior Vice President, Linda Avery, reported, at Digital Transformation World, that data scientists spend around 70% of their time accessing and preparing data for analysis.

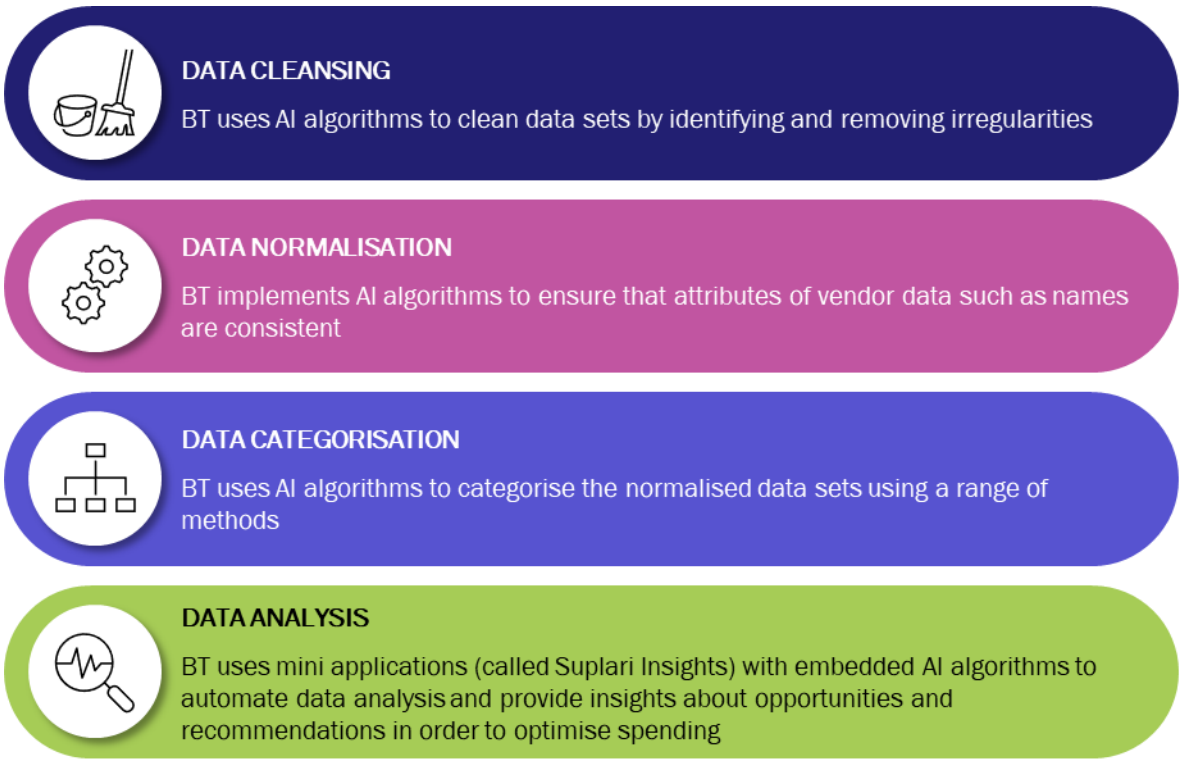
CSPs and their vendor partners therefore need to find constructive ways to de-silo their operations, consolidate their data and enable company-wide access. This is not a trivial objective; data generally currently resides in multiple formats and must be processed and categorised consistently across the organisation. This process should be flexible in order to allow for changes to the data structure as business processes change.

BT has demonstrated how to use AI to improve access to siloed data

CSP procurement data serves the needs of multiple departments including the supply chain management, finance, sales and account management teams. However, accessing procurement data takes time because it resides in multiple data sources in a range of departments including in enterprise resource planning (ERP) tools, invoices and contracts. CSPs also rely on manual processes to collate, cleanse, normalise and analyse data from data sources, thereby resulting in increased cost, exposure to errors and delays in making credible decisions.

BT wanted to overhaul its corporate-wide procurement strategy to reduce spending and improve efficiency by giving employees immediate access to complete and accurate procurement data and insights. This approach aligns with the CSP's belief in having open and shared data that is accessible by all parts of the business in order to drive innovation. BT invested in an AI-based solution from Suplari (Spend Intelligent Cloud) and used it to address the use cases outlined in Figure 2.

Figure 2: Use cases addressed by BT's AI-based procurement solution



Source: Analysys Mason, 2022

Suplari's Spend Intelligent Cloud improves cross-organisational access to clean data and associated insights related to business spending. Its data consolidation functions use AI to automatically cleanse and unify data into a single data model and standardise the connections across data sets. The solution also uses AI technologies for data analysis to yield insights that are relevant to multiple parts of the organisation.

BT's procurement team has reported benefits from using Suplari's solution including a reduction in the time taken to access procurement data and the generation of insights regarding opportunities to reduce spending. Other business teams that use the system (such as the finance, sourcing, sales and account management teams) also have immediate access to procurement data, which can be used to address their business issues. For example, BT Global's account teams are using data and insights from the Suplari system to track customer spending and assess contract profitability, and BT has been able to reduce its overall IT support costs because procurement data is now centrally accessible. It has created a standalone procurement company, BT Sourced, to simplify processes between its suppliers and internal stakeholders. Microsoft recently acquired Suplari to address enterprises' needs to reduce procurement costs and tighten budgets in the wake of the COVID-19 pandemic. Microsoft can therefore use BT as a use case to illustrate the utility of Suplari to other operators that are aiming to achieve similar objectives.

CSPs must tackle data silos to be ready for innovation

The BT case study illustrates the advantages of removing silos and consolidating data assets into a unified data platform supported by a unified data model. Not only do such processes provide employees and partners with access to data (provided that the correct access policies are created and applied), but they can also enable CSPs to develop robust AI models in order to unearth previously unknown relationships in company data. These insights can be used to create new services and enable operational efficiencies.

These benefits are also applicable to functions used by specific CSP teams, such as the network team. For example, removing data silos and making data accessible to all network departments is a critical part of using AI to manage and monetise 5G. 3GPP and the Open RAN Alliance are defining standards for data and AI/analytics capabilities for the NWDAF and RIC, respectively. However, both the NWDAF and the RIC must be run as platforms supported by a unified data environment with core, access (fixed and mobile) and transport data for 5G, as well as data from other legacy environments. 5G networks will continue to co-exist with legacy networks, so management and monetisation should be driven by a consolidated data environment upon which robust AI models can be developed.

Achieving this unified data environment will be challenging, especially as CSPs move data to the cloud. CSPs should take a holistic approach to transformation projects and ensure that they support the creation of unified data environment with unified data model. They will also need to engage with vendors that provide open solutions (to ease data transfer) and support a broad ecosystem of partner solutions.