DATA, DATA, EVERYWHERE: HOW CAN IT BE MONETIZED?

Deriving insights from petabytes of information assets cannot happen in a silo. The data boundaries created by legacy technologies must be brought down, in order to create a boundaryless enterprise where data flows freely and can be easily harnessed to get a complete and a granular view of the business.
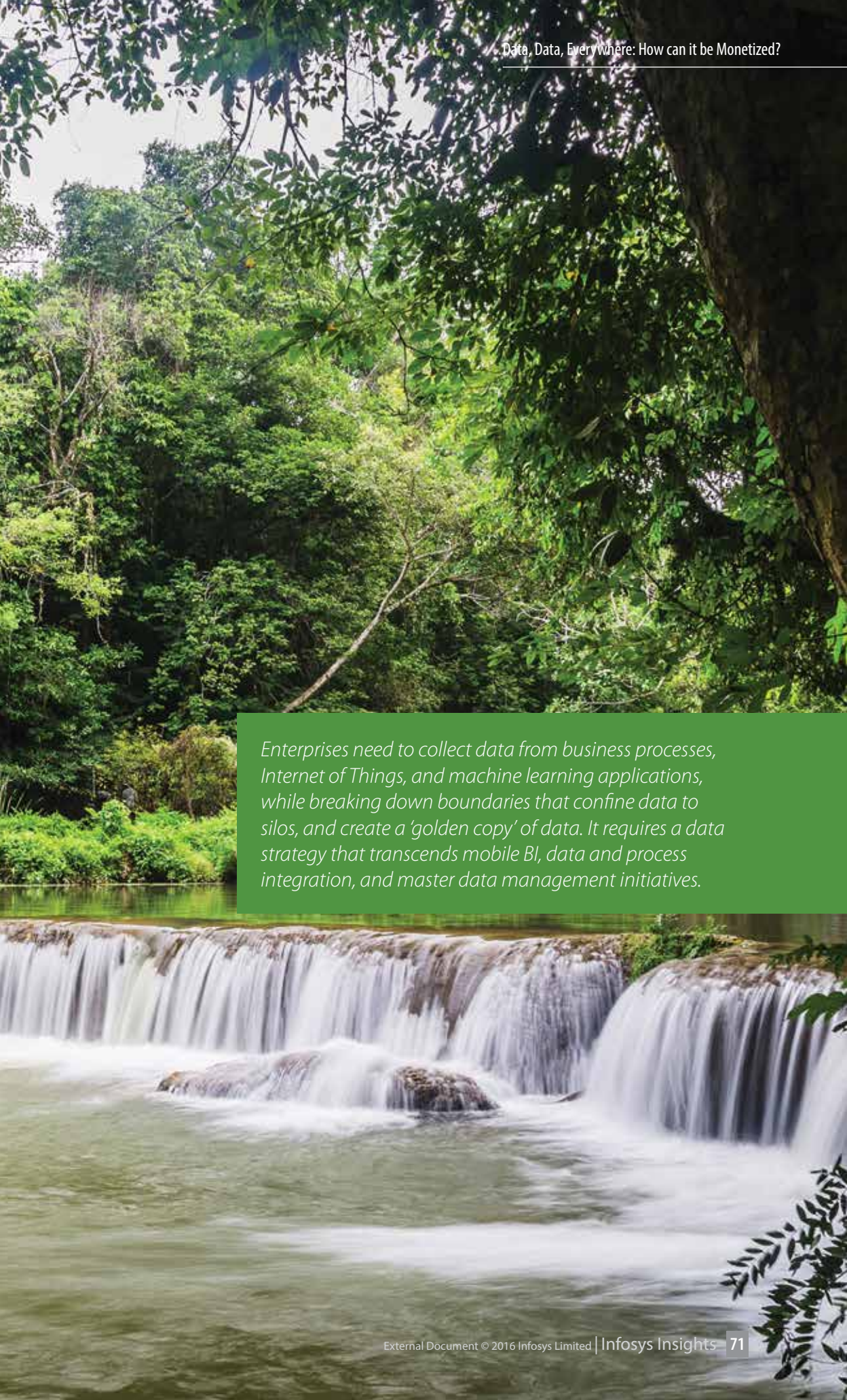
Walmart, the global retail major, processes one million customer transactions every hour. Akamai Technologies, a leading content delivery network, analyzes 75 million events every day for targeted online advertising. These examples barely scratch the surface. Predictions are even more staggering: IDC anticipates 450 billion online business transactions daily, by 2020!

Digital technologies have transformed the data ecosystem, through the quantum and depth of data, the producers and consumers of data, and most important, the intrinsic value of data. Every business captures and analyzes diverse data streams – transactions, supply chain, operations, products, market dynamics, social sentiments, and customer data that includes their demographic profile, location, preferences, and behavior.

The existence of petabytes of information assets raises pertinent questions that enterprises need to address: How can stakeholders access quality data, on demand? What is the monetary value of the available

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data assets? Can data streams be monetized in terms of customer loyalty, cost efficiency, revenue growth, risk mitigation, regulatory compliance, renewed operations, and/or new products and services?

Robust data strategies that ensure on-the-go data access, real-time data sharing, 360-degree view of customers and operations, and predictive insights can help enterprises monetize data. However, traditional database management systems, business intelligence (BI) tools, and analytical engines do not allow enterprises to capitalize on the compounding effect of big data, cloud computing, mobility, and social media. The primary challenge is: data boundaries.

Bring down the walls

A hierarchical organization structure and functional boundaries create silos that prevent seamless communication as well as collaborative decision-making. In turn, it results in flagging productivity and subpar operations. On the other hand, in a boundaryless enterprise – one without vertical or horizontal barriers, as

envisaged by Jack Welch, the erstwhile CEO of General Electric in 1990 – internal and external stakeholders collaborate, making the enterprise more and more efficient, responsive, and resilient.

Similarly, a prerequisite for data monetization is the elimination of data boundaries. The free flow of data can be inhibited by boundaries created by diverse factors – physical location, IT infrastructure, business processes, application portfolios, enterprise policies, and industry practices. Moreover, the separation of transactional and analytical workloads via operational data stores, data warehouses, and data marts affects data quality.

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MONETIZE DATA

WHAT	HOW	WHY
▸ Real-time data managed by technologies such as SAP HANA, NoSQL, MongoDB, and Cassandra	▸ Identify usable data	▸ Solve business problems in real-time
▸ Structured data managed by Teradata, Netezza, etc.	▸ Integrate and manage multiple data sources	▸ Predict challenges and outcomes well in advance
▸ Unstructured data managed using technologies such as Hadoop	▸ Deploy advanced analytics models	▸ Capitalize on business opportunities
	▸ Transform into a progressive enterprise to use data and analytics effectively	

Data-oriented enterprises discover value quickly and better manage information. In addition, accurate analysis enables enterprises to glean business insights. A boundaryless data platform is the backbone of such data enterprises. It serves as a unified data and analytics stack to monetize large volumes of complex data from diverse streams.

Keep it simple and make it scalable

A boundaryless data platform breaks down

system, technology, process, deployment, and organizational barriers, and integrates the data chain – from creation to consumption. The platform, whether hosted on-premise or on the cloud, streamlines information management by simplifying the discovery of information assets, personalizing data, facilitating collaboration, and ensuring secure access.

Boundaryless data platforms support a consumption-driven approach, as well as the application of information semantics, to boost

usability across all types of data, including master, transaction, machine-generated, social, and connected enterprises data. The platform incorporates a data lake to manage raw, enriched, and analytics data.

A data lake is the building block of boundaryless IT architecture. Metadata-driven data lakes capture and store unlimited amounts of structured and unstructured raw data, irrespective of the format, source, or schema. It enables seamless interoperability between domains and applications with a business-centric semantic model. Data enriched using a data grid is stored in the 'enriched zone' and is used to build analytical models. Analytical reports are ploughed back into the data lake.

The data grid addresses the challenge of boundaries at the portfolio and enterprise level with a secure semantic integration engine. It leverages virtual / federated / ETL technologies to connect heterogeneous data sources and convert raw data into meaningful information. Information assets connected to the grid by the metadata-driven semantic engine help business users search diverse data assets easily and consume contextual data.

The boundaryless data platform adopts master data management (MDM) practices to create a comprehensive view of critical data domains such as customers, products, suppliers, and employees. The 'golden copy' of consumption-ready data can be referenced for all business transactions. MDM allows application of appropriate business taxonomies for data domain elements, thus eliminating data inconsistency, duplication, and redundancy. In addition, MDM enhances the accuracy and reliability of data, and improves data ingestion.

Gain rich insights

A boundaryless data platform renders the concept of 'internal,' 'external,' or

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'functional' data obsolete. It automates data operations for smooth interoperability. All stakeholders can mine relevant data for near real-time decision-making. Visualization tools to analyze data from any perspective empowers users across functions, including finance, supply chain, sales, marketing, and customer service, to use common data sets for developing unconventional solutions to business problems.

A unified data platform transforms the enterprise through self-service analytics. Business users can interpret data accurately, explore relationships between different entities across the data landscape, and uncover correlations as well as hidden patterns between seemingly unrelated data streams. Users can query interdisciplinary data, gain a nuanced view of the business, and generate actionable insights. Outcomes can be predicted accurately before the enterprise invests time and money.

Boundaryless data platforms maximize data harvested by the enterprise. This helps financial service managers create customer micro-segments, and consumer packaged goods companies predict demand for a product across marketing channels. Oil and gas companies can use the boundaryless data platform to optimize their maintenance schedule. Unified data platforms help retailers improve markdown planning and enable airline carriers to adopt a dynamic pricing strategy for passengers as well as cargo.

Every industry benefits from seamless data flow and predictive analytics. Rolls Royce uses data and high-performance computing across design, manufacturing, and after-sales support for its jet engines. Telstra uses customer data to prevent customer churn as well as network data to address or preempt network dysfunction. Avis harvests several data sources, such as rental history, service issues, demographics, corporate affiliation, customer feedback, and social media

references, to undertake a valuation and assess the profile of customers.

Boundaryless data flow empowers companies to monetize data residing beyond their enterprise as well as the industry. Retailers and banks use customer location and activity data gathered by communication services providers for contextual offers and targeted promotions. Weather aggregators help shipping companies make sense of meteorological data and better manage voyages and operations. The GPS navigation system in 'smart' cars predicts feasible routes based on dynamic traffic conditions.

In summary, analytics should be at the heart of the enterprise fabric. While quality data is essential to solve daily issues, analytical tools that capitalize on boundaryless data flow provide panoramic and granular views of the business. The ability to see the hidden and predict the unknown, improves productivity, spurs decision-making, and determines the business trajectory.

About the Author

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Satish has been with Infosys for over two decades. In his current role, he is responsible for the Data Analytics practice at Infosys. Prior to this, he has played various delivery leadership roles across the manufacturing, healthcare, life sciences, financial services, and retail verticals. He is the recipient of multiple Infosys Excellence Awards, for his contribution to service delivery and nurturing some of the key client relationships.

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