Telco of the Future

Telco of the Future is Digital, Hyper-Scalable and Customizable for a Single Customer

Best-in-class, convergent telcos are driven by data, analytics, and deployment models that revolve around the customer. The telco of the future will expand on this by utilizing an intelligent data analytics platform with end-to-end data orchestration at hyperscale. This type of platform provides C-level executives with a smart, unified, value-focused solution that delivers results via analytics at scale.

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CTOs benefit from next-generation network planning and roll out that's planned and optimized by customer value and experience, rather than density and utilization. This also lays the groundwork for decommissioning older, expensive, less efficient technology while repurposing valuable spectrum.

CFOs are able to close the books daily for EBITDA and EPS reporting, and they also gain the ability to predict future customer profitability via world-class forecasting and operations. CMOs can leverage self-service marketing and personalization across all product and service channels. CIOs achieve great efficiencies gains, while also focusing on a cloud first strategy and agile, hybrid execution.

CEOs will see double digit Net Promotor Score (NPS) improvements while making large gains in time to market and time to value like they have never seen before. The value of the business will also increase based on business improvements that drive completely different multiples of earnings and revenue.

To achieve these groundbreaking capabilities, telcos of the future will need to manage and optimize their data to drive success across their businesses and deliver analytics at scale in production. And they'll need the right platform to make full use of all their data, including the ability to connect, integrate, and analyze billions or trillions of records each day from all areas of the business to get maximum insights (see Figure 1).
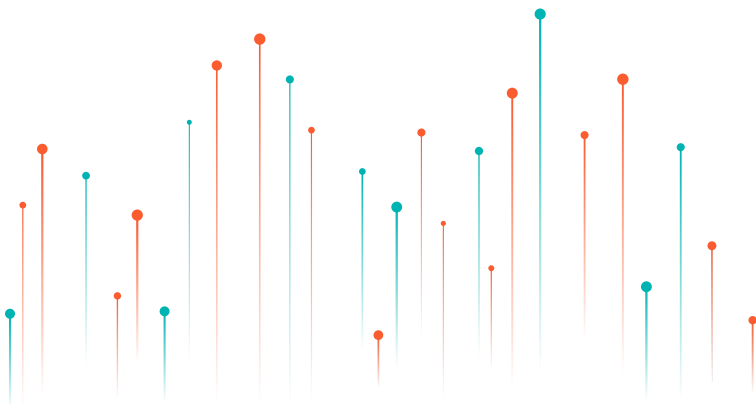
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Figure 1: Enabling the Shift From Traditional to Futuristic

Traditional Mobile Only Operator NPS –10 +20	Best-in-Class Convergent Operator NPS +50	Future Digital Operator NPS 70+
Segment of many	Segment of few	Segment of one
Descriptive analytics focus	Predictive analytics focus	Prescriptive analytics focus
Millions of interactions per month	Billions of interactions per month	Trillions of interactions per month
100s of models, mostly running in batch	1,000s of mixed models, running batch and on the fly	1,000,000s of models, mostly running in real time
1,000s of named users	1,000s of active users; 10,000+ total users	1,000,000s of users
1,000s of queries per day	1,000,000s of queries per day	100,000,000+ queries per day
Response time: seconds	Response time: 1 second	Response time: sub-second
Partially integrated data	Mostly integrated data	Fully integrated data
No data management strategy, benchmarking or roadmap	Data management strategy in place, benchmarked, executing roadmap	Best-in-class data management strategy; setting new benchmarks
Data management owned by IT; seen as liability or cost	Data management owned by the business, supported by IT	Data management and exploitation is the strategic differentiator
A BICC/CoE is planned or relatively immature	A mature CoE and CDO is planned or exists	Data is one of the most valuable assets of the business
Siloed data stores provide minimal insight, occasional data-driven decisions	Most decisions and processes are becoming data driven	Everyone uses advanced analytics to support all decisions and processes
Market cap typically valued at 1-2 times revenue	Market cap valuations at 2-3 times revenue	Market cap valuations at 4-5 times revenue

Data Analytics Orchestration

Data orchestration automates processes to convert data into results.
World-class telcos rely on an orchestrated analytic and data foundation that includes:

- Network data that's rapidly ingested, removing latency and increasing quality
- Maximum agility and cloud flexibility to scale and store data
- New discovery capabilities to get new results from data
- Analytics for model scoring and inference
- High availably and scalability for serving analytics
- Automation built across all processes
- Operational application integration, monitoring, and debugging
- Model management, tracking and high performance
- Provence of data, model fairness and user privacy

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Telcos of the Future Will Increasingly Look More Like a Tech Company

Ironically, as telcos capture more customer-specific data on an annual basis than Google and Facebook, telcos see only a fraction of their market capitalization. One reason is the industry's underestimation of the value of its customer data. A fundamental difference between telcos and digital native companies is the way they monetize data.

Digital native companies treat data as a strategic asset that enables growth, different operation models, and decision-making processes. In many tech companies, data is the only corporate asset they own, and its uniqueness is at the heart of their business model.

Technology companies see data as the core of their operations. Everyone in the organization understands the value data brings, has direct access to it, and has been trained how to use it for commercial advantage. That's why the telco of the future must act like a tech company by collecting, configuring, coordinating, and managing all of the data across the entire enterprise, then integrating it together at a scale that has never been seen before. These data native telcos will look like a tech company in terms of both business models and data models.

To get there, the ultra-competitive telecom industry must continually transform to capture, engage, and retain customers. Traditional approaches will no longer work. Telcos need to make an intelligent shift from a siloed and fragmented data landscape to an integrated customer view that focuses on providing real-time analytics and answers that drive action.

Processes need to be managed with end-to-end automation and become 100 percent data-driven. This includes data preparation and management, making decisions based on data, and taking actions based on those decisions. This orchestration capability spans many systems, functions, and varying types of enterprise-wide data. It requires a modern platform that provides data management and analytics at hyperscale.

The platform must be able to deliver multidimensional scalability across eight core dimensions:

- Data volume
- Query concurrency
- Query complexity
- Schema sophistication
- Query data volume
- Query response time
- Data latency
- Mixed workload

Multidimensional scalability provides the advanced capabilities required to run millions of productionized models, on trillions of interactions, every second of every day. They must run at a granular customer, product, and monetary level. Data native telcos can do this with the Teradata Vantage™ data analytics platform, which also offers the key ability to hyperscale to support the business models and larger, more complex data sets of the future. The platform allows telcos to perform analytics and use data-centric applications where the data reside.

With the right data analytics platform, telcos can reap new benefits and drive outcomes to position themselves for success now and into the future. Data and analytics can fully automate and integrate core business functions to optimize costs for all services and interactions. Predictive analytics, for example, can anticipate and control customer contacts across trillions of contextual interactions each month. This gives telcos the ability to customize offerings for a single individual, personalize pricing, and reach world-class revenue and profitability levels.

New Levels of Automation Drive Results and Savings

Customers increasingly expect simple, intuitive, and mobile-first experiences. They also want the ability to have their requests handled digitally. In response, leading telcos are moving toward digitalization and automation.
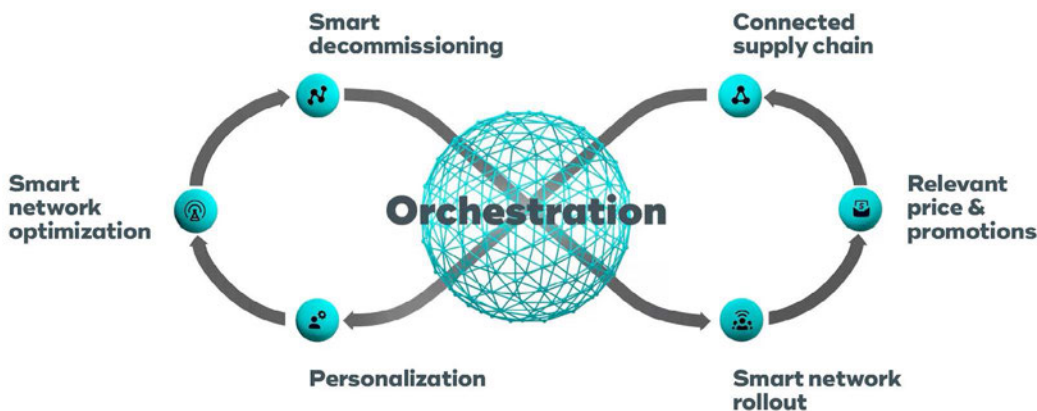
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Figure 2: End-to-End Solutions Instead of Individual Use Cases

While many operators are lagging, today's top performers have 70 percent to 80 percent end-to-end automation, according to McKinsey and Company. A target of 80 percent to 90 percent of service requests fulfilled digitally is realistic, the company says. Self-serving artificial intelligence (AI) with predictive and preventative capabilities can take automation to new levels, with little or no human intervention required.

Evolving to zero-touch, digital service delivery is possible by overhauling and modernizing a telco's technology backbone. This entails changing everything from product development to revenue and cost attribution. Many telcos are discovering the potential of robotics and process automation at scale across back-office functions.

Cost savings for core areas could reach 40 percent to 60 percent for some telcos, according to McKinsey. Telcos can further benefit from software-defined, self-healing networks. Network planning, building, operations, and maintenance can be mostly driven by analytics.

## A Business Built Around the Concept of a Segment of One

Today's customers expect companies to know them and understand their needs on a personal level. Advanced analytics, such as machine learning, give telcos that capability. The analytics enable individuals to be targeted based on user preferences and behaviors, allowing companies to create personalized experiences across all touchpoints. But it's not just marketing and customer operations that require this

view. It's also fundamental to the return on investment of new technologies such as 5G and how finance needs to calculate customer profitability and run predictive models.

Advanced analytics are the driving force behind transforming from a traditional telco to a telco of the future. They're what empower companies to go from millions of interactions per month, thousands of queries per day, and segments of many customers using descriptive analytics to trillions of interactions per month, over 100 million queries per day, and a segment of one using prescriptive analytics.

Marketing to individuals requires trillions of interactions across millions of customer models. It also requires breaking down barriers to access and ingrate all digital and network data at an individual customer level. The data delivers insights across the entire business at a "segment of one" level. All functions are connected by data and analytics.

Teradata enables a granular, segment of one approach to all enterprise analytics. All data across the telco can be normalized so it's integrated and operationalized at scale. This view of the data enables analytics that power the roll out of the next generation of fixed and mobile networks at a segment of one level while dramatically improving the personalization and experience across all touchpoints and channels (see Figure 2). When executed correctly, the improvements in customer experience drive high-impact financial results and double-digit NPS increases.

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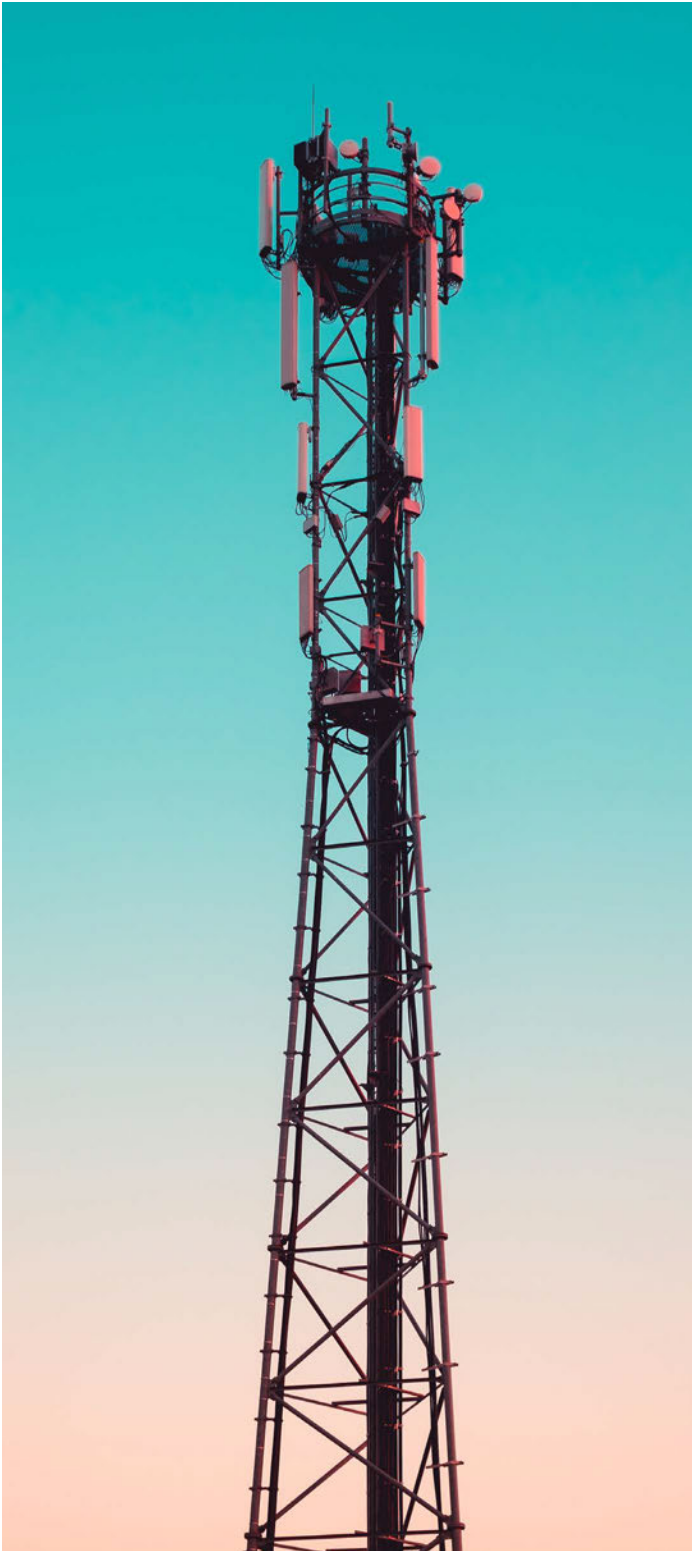
Boosting Net Promotor Scores Boosts Revenues

Forrester's CX Index™ research[1] demonstrates that companies can drive $4.74 in incremental revenue per 1 percent improvements in customer experience, per 1 million customers, each year. This adds up to $388 million in additional revenue.

Best-in-class, convergent Telcos are characterized by being prepared and coordinated across channels, are helpful with customer issues, and offer competitive pricing. These telcos experience occasional issues with connectivity and dropped calls. Digital channels are integrated and simple, but effective to navigate.

By contrast, the telco of the future offers frictionless channels, uses analytics to proactively fix issues, and resolves issues the first time. Products and services are perceived to offer the best value for the money, with a network that's optimized by customer value. Digital interactions are seamless, have sophisticated capabilities, and engage customers through their preferred channels. This results in a higher NPS.

Drive 5-Star Experiences from 5G Networks

Today's 5G networks and data analytics technologies are key enablers for the telco of the future. Telcos that deliver five-star customer experiences from ultra-fast 5G networks while customizing plans at an individual level can improve customer satisfaction, leading to a higher NPS.

The 5G rollout has changed the landscape for telcos by delivering next-generation customer experiences. However, as telcos know, the industry is all about what's next. Telcos that integrate all of their data, tear down silos, unify efforts, and align the entire business will be ready for what's next and be able to seize emerging opportunities.

Telcos already have the data they need to decide their futures and create the products and services customers

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1 How Customer Experience Drives Business Growth, 2019, Forrester Research, Inc., December 13, 2019.

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Teradata Solutions Enable Telco Successes

Customers want what's new, including 5G services, personalized experiences, and zero-touch delivery. Teradata helps the world's largest, most successful telcos use their greatest asset—their data—to become a self-perpetuating, demand-meeting machine. Teradata solutions enabled:

vodafone

Vodafone Germany to acquire millions of new customers. The first network operator in German to usher in the 5G era, it's now leading the way in digitizing through real-time data exchanges and intelligent networks. Vodafone is striving to connect 350 million people to Gigabit networks by 2025 to build a better future.

verizon

Verizon to make data-driven decisions. The nation's largest network provider relies on advanced analytics to stay relevant to consumers and identify new sources of revenue. Data and analytics help Verizon offer a reliable network, ensure customer satisfaction, and develop products and services consumers want.

stc

Saudi Telecom to use the Internet of Things to connect customers to a more reliable network. The company has seen 40 percent take rates on personalized campaigns, scaling to more than 50,000 campaigns per month. It's using artificial intelligence and machine learning to connect with customers in highly personalized ways.

want. The telco of the future will use its greatest asset—data—to build and optimize other assets. This requires getting the most value from their data, which is where many telcos fall short. A survey by TM Forum asked how effectively they are leveraging data on a scale of one to 100. The average was only 53, with 20 percent rating their effectiveness below 30.

A data analytics platform can use the data to deliver new capabilities for benchmarking, integrating applications, driving desired outcomes, and more. This gives telcos the tools and answers to be first to market with new products and services, and minimize churn. A modern platform can perform analytics across all data, at hyperscale, in the cloud or on-premise, putting telcos in the best position to grab more market share and increase profitability.

About Teradata

Teradata is the cloud data analytics platform company, built for a hybrid multi-cloud reality, solving the world's most complex data challenges at scale. We help businesses unlock value by turning data into their greatest asset. See how at **Teradata.com**.

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