Informatica

White Paper

Turning Data into a Telecom's Secret Weapon

Data strategies to increase agility, boost revenue, and contain costs

About Informatica

At Informatica (NYSE: INFA), we believe data is the soul of business transformation. That's why we help you transform it from simply binary information to extraordinary innovation with our Informatica Intelligent Data Management Cloud™. Powered by AI, it's the only cloud dedicated to managing data of any type, pattern, complexity, or workload across any location — all on a single platform. Whether you're driving next-gen analytics, delivering perfectly timed customer experiences, or ensuring governance and privacy, you can always know your data is accurate, your insights are actionable, and your possibilities are limitless. Informatica. Cloud First. Data Always™.

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Many organizations would consider telecommunications firms lucky when it comes to data. Unlike some other industries, they have lots of it. The practices of collecting, storing, and analyzing data have been embedded deeply into telecoms' daily operational processes for decades. For example, a telecom with 8 million prepaid mobile subscribers generates 30 million call data records every day, which adds up to 11 billion records annually.[1] If it is also providing postpaid and fixed lines services, then the company has even greater volumes and varieties of data at its disposal.

Telecom Data Snapshot

Common telecom data sources:	Common insights gathered:
> Product usage	> Number of subscribers
> Network performance	> Geographical spread of subscribers
> Call performance	> Socio-economic environment
> Billing/Revenue	> Types of services (landline, mobile, data)
> Customer Information	> Plans used
> Device information	> Category of calls (network, international, roaming)
> Call center/Point-of-sale	> Types of devices (budget phone, smartphones, tablets, etc.)
> Campaign performance	
> Social media data	

Figure 1. Common data sources and information that telecoms can use to improve relationships[2]

Yet few telecoms are using this data to full advantage. To do so, they need to make sense of all their data. They also need to spot trends and respond to them in as close to real-time as possible. And they need to monetize the data they collect in ways that are secure, compliant, private, and that respect sovereignty.

What is needed to accomplish this? Automated data management and data governance, artificial intelligence (AI) and analytics tools to address their current data challenges—which are, after all, critical business challenges as well. In short: they need an intelligent data management platform that finally allows them to fully leverage all the rich data they possess.

[1] https://www.ttec.com/articles/numbers-three-big-data-opportunities-telecoms
[2] https://www.ttec.com/articles/numbers-three-big-data-opportunities-telecoms

The global telecom services market reached $1.7 trillion in 2020 and is expected to expand at a compound annual growth rate (CAGR) of 5.4% through 2028. Burgeoning spending on 5G is one of the key factors driving this growth. The still-expanding mobile market, ever-increasing demand for high-speed data connectivity, and consumer hunger for value-added managed services are also fueling market expansion.[5]

Another key component driving growth is that telecoms are expanding their operations into the entertainment and media space, competing directly (and quite well) with established cable providers.

Why Data Lies at the Heart of Telecom Challenges

Telecom operators are feeling good these days. Even though 44% of them were negatively impacted by COVID-19, 77% of respondents to Telecom.com's annual industry survey say they have a positive outlook for next year. Advancing technology is driving much of this optimism. Almost seven in 10 telecoms have either already deployed a virtualised 5G core or will do so in the next 12 months, and video-based applications will continue to drive demand for broadband into the foreseeable future.[3]

According to a recent industry report, private connectivity bandwidth will increase five times over by 2023, and telecoms will see a 50% CAGR, powered by greater demand from enterprises to close digital gaps at the edge, and to support initiatives like 5G and AI.[4]

But there also exists a digital divide, according to KPMG. Digital "leaders"—telecoms that report being "very" or "extremely" effective at using digital technologies—come out ahead on a number of key metrics: customer trust, customer experience, and employee experience, among others.[6] (See Figure 2.)

Digital Leaders are respondents who report being "very" or "extremely" effective at using digital technologies to advance their business strategy

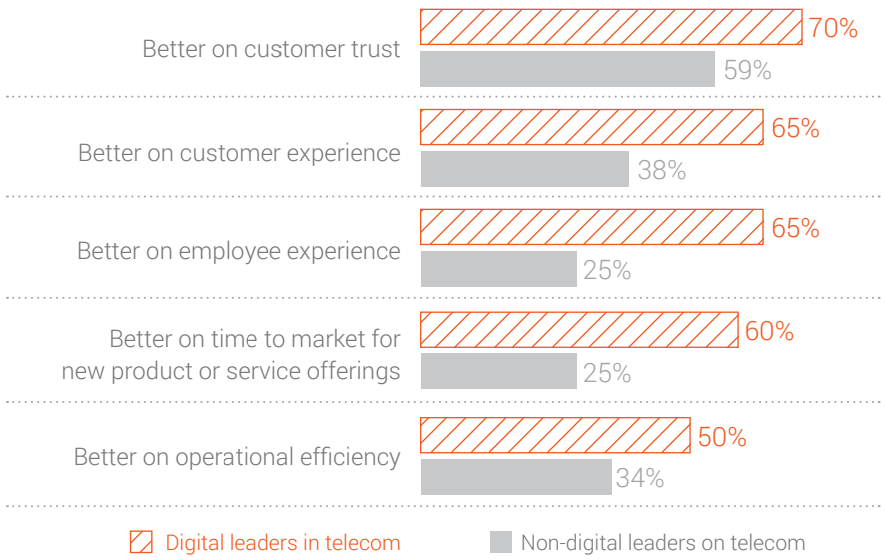

Figure 2: Digitally mature telecoms report significantly better performance on key customer metrics.

Source: 2020 Harvey Nash/KPMG CIO Survey, KPMG International

[3] https://www.f5.com/c/emea-2020/asset/telecoms-annual-industry-survey?utm_medium=cpc&utmsource=google&utm]campaign=emea-sp_secur&utm_content=rp-textad&gclid=CjwKCAjw2vOLBhBPEiwAjEeK9n4KUiAr09IOG_5aIGDmpql8vqCoqrO332GrWml2A078me3FdwKQxoCoxoQAvD_BwE

[4] https://www.equinix.com/gxi-report?ls=Public%2520Relations&lsd=20q4_cross-vertical_digital-edge+index-vol4__pr-equinix_Equinix-run_press-release__us-en_AMER_GXI-Press-Release_awareness&utm_campaign=us-en__press-release_GXI-Press-Release_pr-equinix_awareness&utm_source=&utm_medium=press-release&utm_content=digital-edge+index-vol4_GXI-Vol4

[5] https://www.grandviewresearch.com/industry-analysis/global-telecom-services-market

[6] https://assets.kpmg/content/dam/kpmg/xx/pdf/2021/01/2020-cio-survey-telecommunications-industry-insights.pdf

And what "digital technologies" implies really comes down to one thing: having the right tools to make the most of data. Leading telecom organizations are on their way with this. A healthy 51% of them say they already consider data to be a commodity on its own, according to the survey results shown in Figure 3.[7]

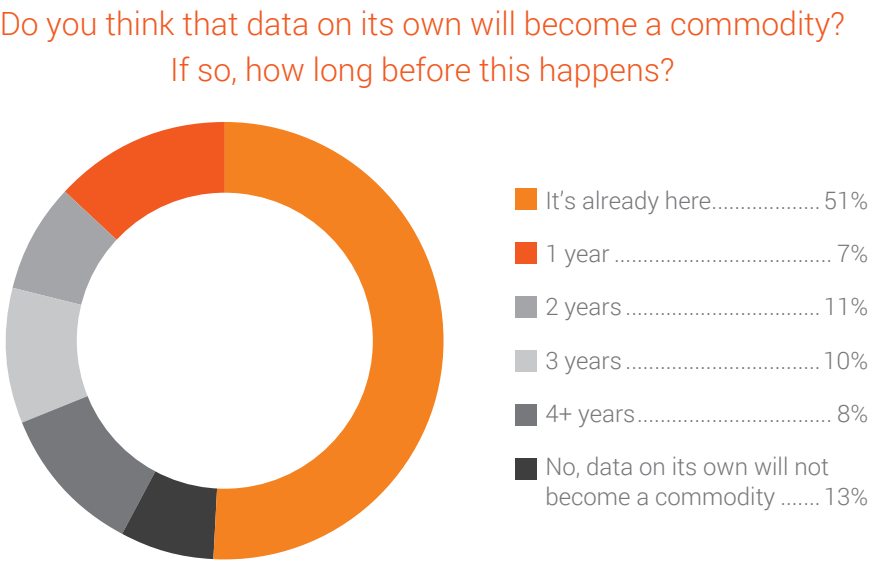

Figure 3. A majority of leading telecoms view data as a commodity.

But there are numerous data-related business challenges that are holding many other telecoms back. Chief among them: customer churn and retention, the shift to 5G, increased M&A activity, and competition from media companies and other industries.

Minimize Customer Churn

High customer churn remains a significant hurdle to profitability. Based on a churn rate of approximately 2% for top-performing telecoms, it's estimated that, on average, carriers lose $65 million per month from churn.[8] Much of this is due to the acquisition cost of new customers. To reduce customer churn, telecoms need to achieve four goals:

- Improve customer service
- Bill more efficiently and accurately
- Fix service problems
- Introduce (or re-introduce) real loyalty programs to drive retention

Each of these cases can be helped by moving to an AI-powered cloud-based data management platform that provides a complete and integrated view of all data related to any individual customer. Otherwise, data silos and the lack of integration and governance can skew business metrics that marketers depend on.

[7] https://www.f5.com/c/emea-2020/asset/telecoms-annual-industry-survey
[8] https://wp.nyu.edu/adityakapoor/2017/02/17/churn-in-the-telecom-industry-identifying-customers-likely-to-churn-and-how-to-retain-them/

Marketing campaigns then miss their mark because there is no way to know whether the campaigns are accurately targeting the right people or organizations at the right time with the right message. Lack of hyper-personalization leads to generic campaigns, which don't address the needs of a specific customer or consumer.

To help mitigate customer churn and keep customers engaged, telecoms need an authoritative source for master and reference data that can connect data of any type and manage billions of records across all data sources. By resolving data issues and identifying relationships using advanced machine learning (ML) algorithms, organizations can stave off many of the issues that are the source of customers' discontent.

Improve Customer Service

Most telecoms face an uphill path when it comes to customer service. The American Customer Satisfaction Index, which measures overall customer satisfaction by industry, ranked the telecom sector ninth out of 10 industries assessed.[9]

What's the best way telecoms can improve customer service? Organizations can use their data more effectively by:

- **Getting more personal:** Telecoms need to collect and analyze data to gain highly personalized insights into customer experience, engagement, and pain points. Without these insights, they will struggle to differentiate themselves and maintain market share in a highly competitive landscape. Getting to the bottom of why telecom customers are so apt to churn can help companies make targeted decisions aimed at keeping the ones they want to keep.

- **Eliminating operational and data silos:** Too many telecoms have structured their IT environments in a way that creates operational silos—for marketing, for provisioning, for customer support. This complexity means they often purchase solutions by project or program, with the result that an organization may have multiple technology providers to meet the same requirement, such as data integration.

[9] https://www.theacsi.org/acsi-benchmarks/benchmarks-by-sector

This is an expensive and time-consuming approach that leads to data silos. The resulting fragmented data makes it difficult to get 360-degree views of customers, and to operate effectively in areas such as customer service, customer support, and marketing planning, and execution. All of this contributes to customer churn.

- **Moving to the cloud:** Most telecoms currently depend on on-premises legacy systems and data platforms and core applications that are often stove-piped. But these increase the cost of running their businesses and hamper their agility to address and react to fast-changing market conditions. Telecoms also face rising demand for new online and mobile customer experiences and a growing need to scale and support real-time interactions.

To overcome these challenges and respond faster to customer requirements and industry shifts, organizations are strategically moving applications and services to the cloud. To do so effectively, they need an automated data management platform that minimizes the complexity of data and application integration, eases resource constraints, and optimizes costs.

Bill More Efficiently and Accurately

Telecom bills can be challenging for customers to decode. Indeed, poor billing is often cited as one of the key reasons that customers churn, which comes down, again, to data. Sometimes, each line item of the bill comes from a different system. If the customer and billing data are not aligned, errors result. Not only does this cause inferior customer experiences, but it also takes time, effort, and money to resolve issues.

To remedy this, telecoms are moving to more modern and more flexible contracts, such as fixed charging plans—one price each for calls, data, and texting. But this requires integrating their data and simplifying their billing processes and bill presentations. Only then will billing be more accurate, and expenses and churn minimized.

Fix Service Problems

Network and service outages are a serious problem for telecoms. Lost revenue, unhappy customers, and the cost of repair drive up the financial damage. Unplanned outages are worse, of course. But planned outages can be just as disruptive.

By using AI to analyze the data coming in from their platforms, systems, internet of things (IoT) devices, and other sensors and software or network events, telecoms can develop predictive and prescriptive maintenance models that tell them when an outage is imminent. This helps them schedule planned outages for maintenance at times when it will minimize customer impact and limit financial liabilities.

In the mobile world there's the problem of no—or substandard—coverage in rural areas around the globe. Urban locales are often covered only by mobile-broadband networks. Worldwide, about 72% of households in urban areas enjoy this, which is significantly more than in rural areas (38%), according to "Measuring Digital Development: Facts and Figures 2020," a report by the International Telecommunication Union.[10]

[10] https://www.itu.int/en/ITU-D/Statistics/Pages/facts/default.aspx

Integrating internal and external data sources and then applying sophisticated analysis techniques enables an organization to understand potential service delivery options using current and future infrastructure. This way, they can determine how best to deliver required capabilities at an optimal price point. With smarter data management solutions in place, telecoms can accelerate rollout of coverage in hard-to-reach areas.

Introduce (or Re-introduce) Real Loyalty Programs

A key driver of churn is the ease of switching telecoms. Anytime someone offers a slightly better mobile plan or a free phone, subscribers can switch in just minutes. A loyalty program that promises real benefits if you stay would make the decision to switch much harder.

Understanding a telecom's most valuable customers, including where they are and what their rewards should be, is a fairly simple exercise if the appropriate data management capabilities are in place—namely having a customer 360 master data management environment that tracks all customer interactions over time, complemented by advanced customer sentiment analysis. However, institutionalizing loyalty programs is not just a matter of building customer masters and integrating customer data. It also involves serious internal political and business strategy considerations and decisions around the value of such programs (especially if no other telecom is offering one).

Shifting to 5G

5G is finally being rolled out—albeit unevenly—across the planet. Telecoms are competing fiercely to be the first to offer 5G connectivity and related services within their markets. The costs are high, but so are the potential advantages. 5G promises faster connections, more reliable data streaming, more data-driven application services, and a plethora of other capabilities.

But the move to a new network technology brings challenges as well as opportunities. Telecom operations are under the gun to make more applications and services available to run on 5G, and because customers will be shopping around before they choose a 5G provider, such firms must make sure they fulfill the promises of transform, transmission, and reception between customers and the core network.

Plus, there is a lot of skepticism to be overcome. When asked to select the most overhyped technologies, 39% of all respondents to a recent survey named 5G.[11] Much more complex than previous generations of wireless technologies, 5G networks come with high operating and maintenance costs.

Still, there is a lot of optimism. In a recent study by Deloitte, a full 86% of surveyed networking executives said that 5G will transform their organizations within three years, and 79% say the same about their entire industry.[12]

According to Deloitte, to reap the full promise of advanced wireless technologies like 5G, telecoms need to do more than just provide the communications network—it's essential that they bring together all the required capabilities as well.[13] This means integrating edge computing capabilities with a variety of IoT devices. And it means paying attention to data.

Telecoms are currently using data to enable the use of AI, ML, virtualization (NFV), and software-defined networking (SDN). But poorly governed data can affect an organization's ability to take advantage of these technologies. Telecoms can enable the implementation of these technologies and ensure trusted AI with integrated data and AI model governance by establishing an analytics governance framework.

To gain advantages such as faster time to deployment, self-healing for improved uptime, and new revenue-generating opportunities, telecoms must ensure that efficient and dynamic data management systems and data governance are in place. This will also enable telecoms to deliver greater agility, lower operating costs, and improve both troubleshooting and network uptime.

Optimizing M&A and Countering Increased Competition

Telecom mergers and acquisitions (M&A) are on the rise. Deal value had increased 17% as of August 2021, according to Bain & Co. The telecom industry generated $115 billion in deal value during the first three quarters of 2021.[14]

Data comes into play here as well. The hard work of rationalizing, migrating, consolidating, and integrating systems and data from different companies can be time consuming and expensive. Corporate functions—including finance, legal, billing, operations, and risk management groups—must have access to the right data to avoid disrupting day-to-day operations. Sales and marketing organizations need to quickly identify who their customers and prospects are to support cross-sell opportunities while avoiding problems that could affect their ability to service existing relationships.

Additionally, other industries are moving into the telecom space as telecoms are moving into other industries. Active market players are facing increased competition, especially from media and technology players. In fact, more than nine in 10 telecoms (90.2%) saw increased competition as a major risk, according to a recent survey.[15]

[11] https://www.f5.com/c/emea-2020/asset/telecoms-annual-industry-survey
[12] https://www2.deloitte.com/us/en/pages/technology-media-and-telecommunications/articles/media-and-entertainment-industry-outlook-trends.html
[13] https://www2.deloitte.com/us/en/pages/technology-media-and-telecommunications/articles/telecommunications-industry-outlook.html
[14] https://www.bain.com/insights/telecom-m-and-a-here-are-the-latest-deal-trends-worldwide-interactive/
[15] https://www.bain.com/insights/telecom-m-and-a-here-are-the-latest-deal-trends-worldwide-interactive/

"Adding mobile telephony to our existing energy business brought many challenges from a data perspective. We needed to bring all our customer information together in one place and eliminate duplicate data between the power and mobile business units."

— Stig Rune Utstrand, Manager of Data Analytics, Fjordkraft

Competition is particularly felt in the Americas, where 100% of companies surveyed identify increased competition as a risk, compared to 84% who said the same in 2018. Pressure from outside telecom operators, such as over-the-top (OTT) services, is also increasing.

The Benefits of Deploying an Intelligent Data Management Cloud

Leading data management platforms that include data management, integration, data governance, and AI and analytics capabilities can help address the above challenges, and more. They deliver a number of benefits, such as the capability to:

- Minimize data fragmentation to reduce time-to-market or time-to-delivery
- Optimize the flow of trusted data around an organization to contain costs
- Hyper-personalize customer experiences to help increase revenue
- Ensure data protection and privacy to help reduce risk
- Expand data literacy to help support transformation

Minimize Data Fragmentation to Reduce Time to Market

Leading data management platforms deliver the capabilities telecoms need to eliminate data silos, integrate data and applications, ensure data governance and compliance, scan and index metadata, provide detailed data lineage, and ensure data quality. With these capabilities, telecoms can know what data they have, where it comes from, what it means, why they have it, what they can do with it, and what opportunities there are to monetize it.

This can be particularly helpful with M&A, such as when Norwegian provider Fjordkraft acquired Skymobil's mobile customer portfolio in 2021.[16]

[16] https://newsnreleases.com/2021/08/25/fjordkraft-acquires-skymobils-mobile-customer-portfolio/

"Data is key to us. It's vital that we have visibility into the bids and a consolidated view. We needed a single Salesforce dashboard for bids, and effectively went from a two-week manual process to a daily automated feed, which was a significant change, and the feedback has been tremendous."

– Chris Hammond, Project Director, BT Business

By creating a single view of the customer from across fragmented sources to support day-to-day business functions—including sales, marketing, customer support, finance, risk management, and compliance—telecoms can enable data management and data governance. These help to accelerate post-M&A data migration, integration, and governance, and better equip organizations to meet security requirements.

Optimize the Flow of Trusted Data to Contain Costs

Intelligent data management can help ensure a flow of trusted data that helps contain costs, especially when automation is used to replace repetitive employee activities with automated tasks, freeing human workers to focus on higher-value activities.

Automated data management can help human workers make sense of the ever-increasing amounts of data that telecoms possess by processing huge volumes of data faster than human workers can, allowing such workers to take decisive action in less time—that is, make better decisions more quickly and with more confidence.

Hyper-personalize Experiences to Help Increase Revenue

With an intelligent data management platform, telecoms can use data insights and master data management to gain 360-degree views of customers to offer truly hyper-personalized experiences.

As customer and product data volumes grow, telecom companies must be empowered to quickly identify trends, patterns, and events across large volumes of data for faster and more informed decision-making. Providing an accurate and complete view of the services and products that each customer owns will lead to a greater understanding of what offerings will interest them.

This allows telecoms to grow revenue and decrease costs by making it easy to collect and access customer data via a single, unique view of each customer. It will also allow them to quickly offer relevant products and services for upsell and cross-sell. This can help build customer loyalty and increase revenue, while improving retention and reducing churn.

Ensure Data Protection and Privacy to Help Reduce Risk

Proper data handling and risk management policies can help guard against the inadvertent release of personally identifiable information (PII) and shield customer privacy while supporting a range of data privacy requirements and regulations.

And it's essential that the intelligent data management platform can do this for both the primary telecom organization as well as any partners or interconnected third parties. This means that a truly enterprise data governance and privacy solution must be able to be used on-premises or in the cloud, to allow companies to govern data holistically and stay compliant with global regulations, fuel customer engagement initiatives and quality data, and thoroughly protect that data.

"By introducing the 360-degree view of our customers and providing clean, trusted data in near real-time, Informatica is helping KPN raise the bar in terms of customer satisfaction, target customers with compelling cross-sell and up-sell opportunities, and reduce marketing and sales time to market."

— Thomas Reichel, Senior IT Architect, KPN

Expand Data Literacy to Support Transformation

Finally, data literacy can be enhanced by an enterprise data management platform. Telecoms need their staff to have a consistent understanding of data and data management practices, and to share the same language and terminology about data and metadata across diverse departments and organizational structures. Having a holistic data governance solution enables telecoms to establish and reinforce a company culture of data knowledge, understanding, use, respect, and literacy.

Conclusion

As telecoms—both carriers and service providers—continue to adopt advanced technologies such as 5G, AI, ML, virtualization, and software-defined networking, they are hoping to reap benefits such as faster time to deployment, self-healing for improved uptime, and new revenue-generating opportunities. But to succeed, they need an intelligent data management platform that supports their data journey.

Informatica® helps telecoms leverage data as a strategic asset. With trusted, governed, relevant, and accessible data, telecoms can plan and optimize for 5G, ensure customer satisfaction, leverage data ecosystem partnerships, and manage global regulatory compliance. Over the past 25 years, Informatica has helped more than 9,500 customers unleash the power of their data.

The Informatica Intelligent Data Management Cloud™ is the industry's most complete and modular enterprise data solution, built on a microservices architecture to help telecoms unleash the power and value of all data across on-premises, hybrid, and multi-cloud environments—ensuring data is trusted, protected, governed, accessible, timely, relevant, and actionable.

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