

CONTENTS

Analyst Mentions

Recent Awards

Introduction Monetizing CX: The Next FrontierHow to Leverage Data Analytics Across the Entire CSP Organization: **Industry View** A TM Forum Report Featured Article - Retrospect Expert Speak - Why Data Monetization is a "must have"— Ronald Van Loon - Al Cannot be Merely Deployed — Greg Armstrong Customer Story - Powering Personalized Retail Engagement For increasing Sales in Cameroon with the MobiLytix™ Platform Why Defining a Clear Customer Experience (CX) Strategy Ought to be a Priority for Companies Today — Amit Sanyal, Comviva
 What the Global Data Explosion Implies for Investment in Technologies such as 3G, 4G, et all — P, Balaji, Vodafone Idea Videos **Upcoming Events Making Headlines**

INTRODUCTION

Data-driven strategies is, without a doubt, a key priority for every communications player today. Herein lies the catch, though. A successful data monetization strategy isn't without its fair share of challenges. Here's how-while every player is engaged in chalking out strategies to unearth new revenue streams (based on data monetization), the fact is that success cannot be achieved without taking a long, hard look at existing processes. Simply put, as per industry experts, "know" the data available. Structure and analyze the data to gain actionable insights. Develop a sound strategy to leverage this data to the fullest. Know how (much) the data can be "pushed" to achieve the best results. This is, of course, merely the tip of the iceberg. Data monetization and all facets entailed can get tricky. One thing's for sure, though, the race to implement a "data-first" strategy shows no sign of abating.

INDUSTRY VIEW

Monetizing CX:

The Next Frontier F-BOOK

Over the last two years, customer experience has gained ground as a significant component of any organization's overall strategy. Nonetheless, challenges remain. Organizations have been hesitant to transform CX design and incorporate the latest technologies in a bid to generate value. This can be attributed to a myriad of factors, all more pressing than the last. \odot \odot This e-book addresses the following:

Key Trends in CX and What They Imply

5 Best Practices to Rewire CX for Value Generation

Exploring Pragmatic Use Cases for Monetizing CX

Implementing Al in CX Design

The Way Forward: Focus on a Closed-Loop Feedback Model

Access the full e-book here

How to Leverage Data Analytics Across the Entire CSP Organization:

A TM Forum Report



The value of data to communications service providers (CSPs) is not in question. What is unclear, however, is whether they are capable of leveraging it across the entire organization. Indeed, operators have been trying to come to grips with big data and data analytics for the last decade, and lack of a cohesive strategy is arguably the biggest obstacle to them becoming digital service providers (DSPs).

This report addresses the following challenges:

Which CSP executives are leading data strategies

The types of data operators collect and generate – and which are most valuable

Where CSPs store data and how it's accessed

What data lakes are and why they're challenging to manage

How effectively CSPs are using data

What are the biggest barriers are to leveraging data

Why data models are important but challenging

Why a strategy for data governance is necessary

How CSPs can leverage network and operations data

How CSPs can use data to improve customer experience

How Axiata is aligning its data strategy across operating companies

Access the full Report here



FEATURED ARTICLE

193920A TARETROSPECT

TECHNOLOGY TRENDS
THAT CAME TO THE
FORE IN 2019 (AND
THOSE THAT DIDN'T
QUITE MAKE THE CUT)

2019 was, without a doubt, an eventful year for the global communications space. There were, of course, a fair share of hits and misses, which, experts say, made the game more interesting.

Going forward, this momentum is expected to continue and unearth many new twists and turns. Key technology influencers share their views on the hits and misses this year and the surprises 2020 is likely to bring. Excerpts...



SIMON COCKING

Chief Editor Irish Tech News and Senior Advisor, Swyft Network at SWYFT Network

Trends Likely to Make Headlines in 2020

Blockchain related technologies, that are allied with the Internet of Things (IoT) sensors are likely to come to the fore. A fall in prices of these technologies is expected, to enable more insights, faster.

The time is now for **climate-related initiatives**, **renewables and smart and green technologies**. We have no plan(et) B, so we have to make big changes now, in 2020 before it is too late.

Privacy, Facebook / Cambridge Analytica and Google, have showed us that people are right to be distrustful of big multinationals to be trusted to manage our data and act in our best interests. Because of this, they will be under much more scrutiny, deservedly so, in 2020.

Technologies that didn't make the cut in 2019

The world got stung by the **crypto downturn** in 2018, so 2019 was always going to be a period of wariness, recovery and reassessing what is, and is not a good idea.

Renewables grew well in 2019, but there was still scope for more to have happened, in more places, more quickly. Here's hoping for 2020.





RONALD VAN LOON

Global Top 10 Artificial Intelligence and the Internet of Things Influencer

Trends Likely to Make Headlines in 2020

In 2020, the global communications sector is going to be increasingly impacted by **artificial intelligence** (AI). This will be witnessed across network optimization, sales, marketing, and services. Automation and personalization at scale via AI enabled chatbots are enhancing the customer experience and offering always-accessible sales and service support. This is in addition to product development, and AI driven networks that can perform self-optimization and analysis and help create new networks.

Data monetization will be a key driver for digital innovation. This, in turn, will enable multiple new opportunities. These include; deriving value from both structured and unstructured data, better meet emerging market needs, and generate new revenue streams. Telco companies need to implement a multi-pronged strategy. This ought to be for sourcing credible and relevant data and adopting user-friendly tools and techniques to

extract actionable insights from data. Equally important is using AI and machine learning to structure data and prepare it for analysis to uncover crucial insights, such as market trends and correlations.

Technologies that didn't make the cut in 2019

Real Al applications didn't make the cut yet at scale in 2019, but scaling past pilots and into operational capabilities at scale will happen in 2020. Also in the coming year, the global communications sector is going to be increasingly impacted by Al across network optimization, sales, marketing, and services. Automation and personalization at scale via Al enabled chatbots are enhancing the customer experience and offering always-accessible sales and service support in addition to product development, and Al driven networks can perform self-optimization and analysis and help create new networks.



MARK NEWMAN

Chief Analyst, TM Forum

Trends Likely to Make Headlines in 2020

Looking at the telecoms operator business more broadly, we are seeing a **shift in focus towards the business-to-business (B2B) market to leverage the potential of 5G**. But, not all communication service providers will be successful here. Those that are, essentially, consumer-focused, will need to have a very clear, specific focus to differentiate themselves from those operators which have a long-established presence in the B2B market.

Technologies that didn't make the cut in 2019

In 2019, we saw a further fragmentation of the strategies that communication service providers are pursuing to drive new growth. In Western Europe and North America, these players continued their expansion into the TV market. They see themselves as natural providers of a range of access (fixed, mobile) and services bundles (TV, over-the-top (OTT) video etc). Across developing markets, the focus is very much on mobile and a focus on how to drive revenues from the mobile devices. Mobile payments continue to be a strong focus here.



DANIEL STEEVES

Chief Executive Officer, Steeves Solutions, Germany and Nigeria

Trends Likely to Make Headlines in 2020

AI: On-going advances in AI will surely see 2020 eclipsing Orwell's 1984, compliments of the Chinese Social Credit System. Facial recognition applied to behavioural surveillance delivering a reward (and penalty) based system considering everything – about everybody – from illegal parking to unpaid bills and from honking your horn in traffic through to how often you visit your parents. Ranging upwards to a 150 cameras per 1,000 people ratio in several major Chinese municipalities but don't forget London, England, which at 68 cameras per 1,000 people, exceeds Beijing.

Cryptocurrency: 2020 could provide a significant shake-out or clean-up of a large swathe of "unnecessary" and unsuccessful altcoins. But, at the same time, the German announcement enabling crypto trading and acceptance by licensed banks will surely change perspectives. Watch the space for copycats with improved or weakened responses – and expect some limitations as to which the

specifics of which cryptocurrencies those banks will trade in. In any case, this is a game-changing move from the mainstream or Central Bank side of things which seems to bode well for the industry in general.

Technologies that didn't make the cut in 2019

Lack of the Impact of Blockchain and crypto: In 2019, this has been far less positive that it should have been. This is a result of (a preponderance of) failed projects and concepts, combined with the higher-than-average ratio of scams which have reduced acceptance and increased cross-sector and cross-market scepticism.

I stand behind blockchain (not necessarily cryptocurrency) as evolutionary to real data management. However, I must admit that 90 per cent of the businesses seeking my advisory services are not worth the time it takes to review their business models.

And I remain disappointed that the disruption that ICOs, etc might have caused to the world of the venture capitalist has been, so far, more a

bump in the road than the required step-change.

Lack of Impact of Fintech to Consumers:

A combination of bank-provided services via the web and applications and far too many 'me too' offerings has further muddied the value consumers might extract from Fintech. If it weren't for the fact that so much of the Fintech that I see is just taking the same road well-travelled by the banks with a focus on profit over value. This is other than the unicorns, of course, which seem to wear billion dollar losses as badges of honour.

The main proof of the lack of value from the sector is that my answer to the following question remains, "not a clue", after ten years of being asked my opinion on what the next generation of financial services will look like.

Lack of Impact of Attempts at "Digital Transformation"

As a specialist in shaping transformation and growth plans to suit new markets and enable rapid scaling, I have come across the following recurring errors this past year (and many many years before). The typical root cause is inexperienced internal "expertise":

- Transforming an organisation that was not yet organised
- Lack of clear and quantifiable goals, roadmap, targets which transformation is meant to deliver
- Focusing on technology rather than requirements
- Strategic planning by operational resources
- Planning change for today rather than for tomorrow





DR MAHESH UPPAL

Director, Com First (India)

Trends Likely to Make Headlines in 2020

I believe the most dramatic trend is the **speed** with which the market for communications infrastructure is consolidating and how competition has reduced in that space. Another emerging trend is the systematic reduction in use of circuit switched PSTN calls.

Technologies that didn't make the cut in 2019

There was **too much discussion about 5G**, especially by Indian government officials. It seems deployment is probably two years away.



EXPERT SPEAK

Why Data Monetization is a "must have" for Operators today



RONALD VAN LOON

Global Top 10 AI & IoT Influencer

A growing number of operators and organizations in today's world are tilted towards the use of data-driven strategies. Data is the key to success for organizations today and operators have come to realize this of late. As part of this realization, operators are also looking for ways to generate money from the data they have. While data monetization is still at a relatively nascent stage, the process is deemed to have a huge and lasting impact on the industry verticals.

With data playing an important role in generating analytics and signaling growth, every company at some stage of time would become a data company through indirect or direct approaches. The presence of data inside your organization can be useful for you in this hour, as it would help propel your customer service strategies.

Data monetization is said by industry experts to be linked with digital innovation. Both digital innovation and data monetization go hand in hand, and success in one can only be experienced through success in the other.

While data monetization is pretty much present across the board, the telecom market is said to be the biggest beneficiary. Some of the latest findings made in this regard through a recent research indicate:

The total global revenue being generated by Telecom API will reach a massive \$319.6 billion by 2023.

Both the North American and Western European markets are the biggest regional markets for DaaS.

Telecom API revenue related to Edge Computing will go over \$395 million by 2023 within North America alone.

The structured data market is currently greater than the unstructured data market, but the latter can overtake the former anytime.



Data monetization is important for the telecom industry because of how it can lead the push into the dynamism of the future. Data mone-tization can help stop the dwindling overall profitability of businesses while answering customer demands for agility. Customers expect better performance and convergence, and data monetization can provide exactly that.

Operators can keep up with the competition through data monetization methods aimed towards getting them the success they want. Telecom operators already generate a massive amount of data, which is extremely valuable to them and other organizations present outside the telco industry. As the telecom industry faces the stagnation in revenues from core processes, it is vital for them to understand the opportunities at hand here and go for the success that can be achieved through these methods.

Challenges in Data Monetization

While data monetization does offer a lot of data driven growth, there are also some intricacies that should be discussed in detail here. There are some challenges currently prevalent in data monetization, which can cause a halt in the unparalleled growth that telecom companies have currently achieved and want to achieve over time.

Telecom companies are in a rat race of sorts to figure out just how their business model can be adjusted to incorporate new avenues focused on data monetization. All the opportunities for revenue and growth can only be achieved if organizations realize the challenges in their current processes and how they can be overcome.

Some of the challenges of implementing a data monetization model in your telecom operations include:

Conceptual Understanding

Organizations cannot start working on data monetization without a conceptual understanding of the data they have. The enterprise data present with most telecom organizations is currently in its raw form and hasn't been structured the way most operators would like.

To make this data workable, operators would have to develop a conceptual understanding of all that comes within it. The data needs to be structured and analyzed to increase the value that is currently associated with it. It is really amazing how small adjustments to your data can increase the value that it brings to your organization.

Structuring the Data

The data when analyzed needs to be structured so that it can help find out the trends currently circulating in the market. The data in its raw

shape is nothing but a bunch of nonsensical figures and stats. Once you structure the data and put it through a machine learning algorithm then you would be able to understand just how the data points towards certain trends in the market correlate. These trends can be carefully studied by you to make the kind of analysis that you want here.

Developing the Right Strategy

Once you realize the value of data it is necessary that you develop and work on the best strategy for sourcing data that is both reliable and relevant. For your data to be considered adequate and authentic it is necessary for it to be trustworthy. The data can only be considered reliable when it is sourced through the right means.

User Friendly Tools

Lack of user friendly tools and techniques for analyzing and collecting data can come and harm you in the long run. If you want to work on your data for extracting actionable insights, you should make sure that the tools and techniques you have are user friendly and easy for your employees to comprehend.

Legalities

Mastering the legalities is another hassle that some organizations will have to face. There are numerous regulations coming pertaining to the use of consumer data and telecoms would want to remain at the right side of the law for avoiding any legal repercussions.



Strategies to monetize Data

Some of the strategies to monetize data for telecoms include:

Understand What Competitors are **Doing**

This might sound too basic, but before you start working on your data monetization strategy, you should understand just what exactly your competitors are doing. An understanding of what your competitors are doing can act as a benchmark here.

Analytics Technology

To analyze and work on data the right way, you need the perfect analytics technology as well. We believe that such a technology can help you significantly improve the results you get.

Have a Specialist Team

There are risks to big data that only specialists can gauge and manage. If you want your big data endeavors to succeed, you want specialists all over your team. Gartner has predicted that on 50 per cent of chief analytics officers will have successfully created a narrative that links financial objectives to business intelligence and analytics initiatives and investments by 2020."



First steps to take

The first steps you take will determine the overall success you achieve. These steps should be to:



Determine a Big Data Platform

For any of your data to be monetized, you should first ensure that it is available on a big data platform. Operators should look to harness data for driving their decision making skills.

Make Sure Data is Appropriate for Outside Use

The data must be structured and legalized to be fit for external outside use. The relevant regulations should be adhered to, as any legal repercussion can cost you a lot.

Meet a Real Market Need

To monetize data, operators should be motivated to meet a real market need present within the market currently. They should know just how the market would use their data in the time to come.

Data monetization presents a unique opportunity for telecom operators to diversify their revenue streams. It might not transform the fortunes of all telecom companies, but it is worth pursuing because of the bright future that it has. With telecom operators facing stagnancy in revenue generation, data monetization is a must for them now.

EXPERT SPEAK

Al Cannot be Merely Deployed. There are Larger Implications.



GREG ARMSTRONG

Chief Marketing & Strategy Officer, Consumer Value Solutions, Comviva



Artificial Intelligence (AI) is certainly a popular buzzword in the industry today and according to surveys by TM Forum, many have now "deployed" AI and are looking to scale. But deploying AI means different things and it depends on the strategy adopted by the organisation for implementing AI.

For some, a proof-of-concept (POC) has been successfully executed and a model has been created that uses machine learning (ML) algorithms. For example, in the context of telecom customer value management (CVM), this is often around churn or decay prediction,

Along with the technology challenges associated with scaling for AI, there are larger implications for the "people" and "processes" that go along with it.

and the date and value of the next recharge.

For others, it means the technical capability has been put in place to build, evaluate and execute ML-driven models across multiple use cases – our own AI at Scale platform is a case in point. It can be used for building, evaluating and running in production both CVM and non-CVM models.

Typically, the AI platform will sit on top an existing big data lake or incorporate a data fusion layer to capture data from multiple sources (covering realtime and batch, structured and unstructured data).

A fully functioning AI platform provides a graphic user interface (GUI) - based workbench for data scientists to rapidly build models using ML algorithms. It also supports the full lifecycle of model creation and execution; data ingestion, data exploration, feature engineering, model development and evaluation, and deployment and execution in production.



Therefore, a scaling strategy is required, that allows confidence to be built. For example, allowing the model to apply to a proportion of the base while the traditional business rules approach is applied to the remainder. When positive results are seen, then the proportion of the base that receives offers based on the model can be increased.



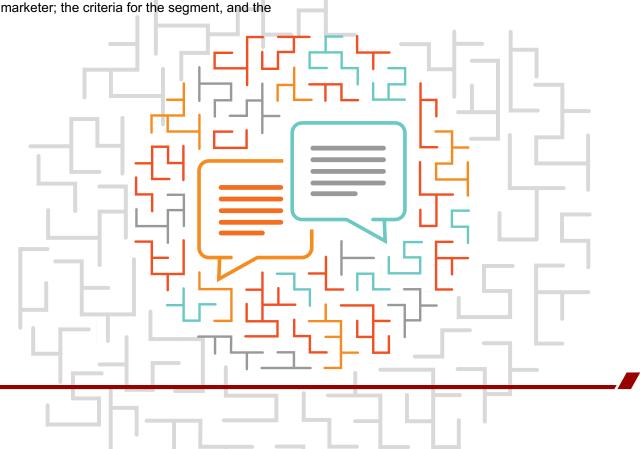
But, along with the technology challenges associated with scaling for AI, there are larger implications for the "people" and "processes" that go along with it. Often, our clients will point out that one of the biggest challenges they face is the hiring and retention of key talent in data science. Understandable, really, as data scientists are in a "hot" market. This is why companies will often turn to partners to assist.

In fact, this people-centric factor is not only limited to the data science team. In the context of CVM, marketers need to adapt. It is one thing to be designing and implementing campaigns that are based on business rules created by a marketer; the criteria for the segment, and the

offer to make to that segment. It is quite a different thing to be prepared to leave this to a "black box" solution. This is exactly what a ML model is. It is next to impossible with a ML-driven model to determine exactly why a particular offer is made to a particular customer.

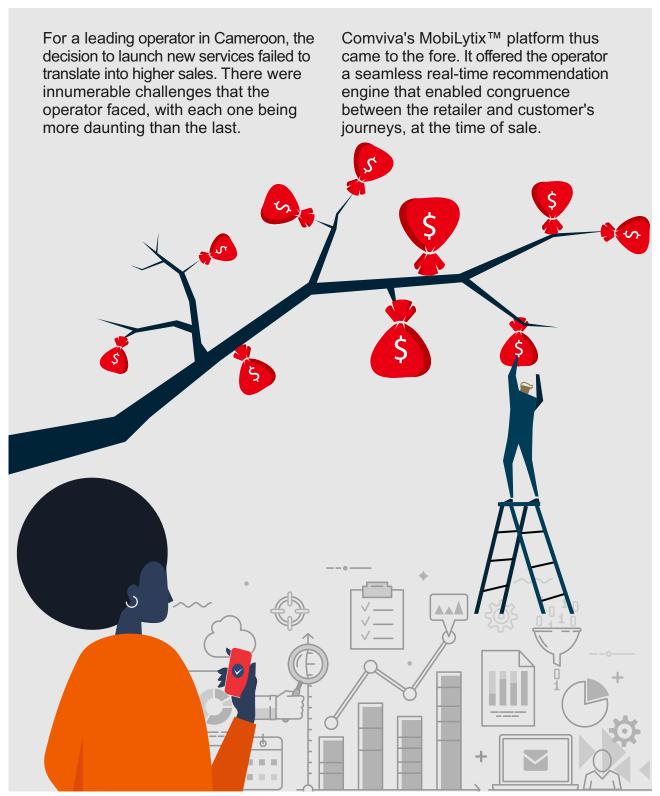
An ancillary consequence of this is that the robustness of the methodology for measuring performance is critical. There must be confidence that when an improved result is seen, it is trusted. This is why effort is required to ensure the universal control group (UCG) is highly representative of the base. Performance is measured as the difference between the UCG and the universal target group.

The "process" side is also extremely critical. This covers the governance and practices in place to ensure data integrity is maintained, and that data is updated when expected. Critically, it also covers those processes associated with putting a new model into production. This DevOps side is particularly challenging for many organisations because there are new practices to be developed. A ML driven model is not constant. By its very nature it changes while in production, which is very different from what we see as "normal" software deployment. In fact, this is so different that the TM Forum has a Catalyst stream in progress for "AlOps" to develop frameworks for supporting the operations of Al. Engage with this Catalyst programme to keep abreast with the thinking as it develops. And perhaps become a contributor.



CUSTOMER STORY

Powering Personalized Retail Engagement For Increasing Sales in Cameroon with the MobiLytix™ Platform



Access the full case study here

VIDEOS



Why Defining a Clear Customer Experience (CX) Strategy Ought to be a Priority for Companies Today

Amit Sanyal

Senior Vice President and Chief Operating Officer, Consumer Value Solutions Comviva



What the Global Data Explosion Implies for Investment in Technologies such as 3G, 4G, et all

P. Balaji

Chief Regulatory and Corporate Affairs officer, Vodafone Idea



MAKING HEADLINES

AsiaHawala and Comviva scoop two awards at the Telecoms World Award 2019

AsiaHawala and Comviva have jointly won two awards at the prestigious Telecoms World Award 2019. AsiaHawala mobile money service was declared winner in the 'Best Emerging Market Initiative' and 'Digital Transformation Award- Vendor' categories. more>>

Cassava Smartech and Comviva win Aite Group's Digital Wallet Innovation Award for EcoCash

Aite Group, a global research and advisory firm, has recognized Cassava Smartech and Comviva as the winners of the 2019 Digital Wallet Innovation Award for EcoCash in the 'Market Adoption' category. more>>

ANALYST MENTIONS

Comviva among key players in Forrester's Now Tech report on Channel Onboarding



Comviva's Partner Management solution recognized among top 10 vendors globally by Constellation Research

Comviva mentioned as a key technology provider in four Hype Cycle reports by Gartner

Forrester's Now Tech report helps markets understand the value they can expect from a Channel Onboarding solution provider and to select vendors based on size and functionality. Comviva has been listed in the Large vendors category alongside some of the key players in the market.

Being one of the leading technology providers in the world, Comviva has been highlighted in four Hype Cycle reports by Gartner under Dynamic Discounting and Digital Wallet categories

Partnership and Alliance
Relationship Management
(PARM) software allows
vendors to manage
partnerships, alliances and
indirect channels throughout
the customer process.
Constellation evaluates over
30 solutions in this market
and finalizes a list of top 10
solutions in this market,

which includes Comviva.

RECENT AWARDS



About Comviva

Comviva is the global leader of mobile solutions catering to The Business of Tomorrows. The company is a subsidiary of Tech Mahindra and a part of the \$21 billion Mahindra Group. Its extensive portfolio of solutions spans digital financial services, customer value management, messaging and broadband solution and digital lifestyle services. It enables service providers to enhance customer experience, rationalize costs and accelerate revenue growth. Comviva's solutions are deployed by over 130 mobile service providers and financial institutions in over 95 countries and enrich the lives of over two billion people to deliver a better future.

For more information, please visit www.comviva.com

Regd. Office

Capital Cyberscape, Sector 59,Golf Course Extension Road, Gurugram – 122102, Harvana, India

South Africa Office

P.O. Box 37324 Overport 4067, South Africa Tel: +27 31 268 9800 Fax: +27 31 209 9573

UAE Office

Tel: +971 43 687808 Fax: +971 43 687809 Office No. 1401/1408/1409 14th Floor, Al Shatha Tower Dubai Media City Dubai, UAE

UK Office

Level 2, Cyberhouse
Molly Millars Lane, Wokingham
Berkshire RG41 2PX,
United Kingdom
Tel: +44 118 989 0144
Fax: +44 118 979 3800

LATAM Office

Av. Corrientes 880 Piso 11 C1043AAV - Buenos Aires Argentina Tel: +54 11 37248000

All trade marks, trade names, symbols, images, and contents etc. used in this document are the proprietary information of Comviva Technologies Limited. Unauthorized copying and distribution is prohibited. ©2019 Comviva Technologies Limited. All Rights Reserved.

