

Digital Transformation Operator Survey Report: The Impact on Revenue and Network Assurance



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Welcome to the telecoms.com Intelligence Digital Transformation survey report, produced in association with Openet.

Digital transformation continues to dominate the telecoms industry as one of 2017's single biggest trends. The term remains nebulous, and stakeholders across nearly every industry vertical market are gearing up for the next 12 to 18 months to bring era-defining change. Such change has been instigated by a constant necessity to keep up with the pace of technological development, coupled with a rapidly-emerging generation of tech-native millennials.

From retail, to finance, to pharmaceuticals, agriculture, consumer electronics, digital services and beyond, the world is attempting to keep up with a rapidly-diversifying consumer-base and society in general.

The telecoms industry, specifically, is at the forefront of this digital revolution; and so keeping ahead of the curve is of paramount importance.

Services will change; indeed, they already are. Where voice, SMS and data once ruled supreme, mere connectivity is no longer considered enough. That's not a surprise to anyone in the industry, as the industry seeks a paradigm shift towards the next generation of revenue-generating services. Will that be IoT? Or a more integrated approach to content delivery? Will virtual or augmented reality present a new and original opportunity for telcos? Forgive us for mentioning 5G in this context, it's not like it hasn't been hyped up enough at this point.

Perhaps of even greater consequence to the telecoms industry, beyond devising the underlying infrastructure required to even deliver these services in the first place, is the discussion around billing accuracy, revenue and network assurance in this new paradigm. Ensuring billing systems are up to the task of monitoring and appropriately charging for services rendered is arguably the most important consideration. With that in mind, we sought to gain attitudes from the operator

community on this and many other topics relating to the billing and revenue assurance side of digital transformation.

We interviewed 117 operator respondents from around the world by way of a 10 question survey.

Before we get into discussing the results, it will help set the scene if we laid out the audience profile, and explain why the following results are indicative of where the global telecoms industry is today.

The classification of an "operator" in this context is described in the following categories: Mobile Network Operator; Fixed Line Operator; Cable/Satellite Operator; Multiplay/Integrated Operator, or Service Provider.

Of the 117 operator respondents, the below breakdown shows that the majority of respondents came from MNOs, with service providers and multiplay operators representing a significant percentage. >

About Openet

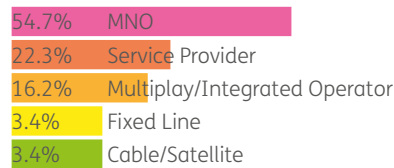
Openet provides the solutions and consulting services to enable service providers fast track their digital journeys. Our real-time solutions provide the digital platform for service providers to be more agile and innovative. This improves how they engage with their customers to drive new revenues and increase their share of their customers' digital spend.

Since its foundation in 1999, Openet has been at the forefront of telecoms software development and innovation. Its success is personified by the many long-term relationships it has fostered with the largest, most progressive, and demanding operators across the globe.

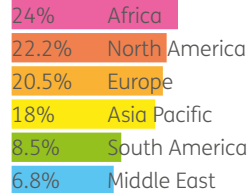
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Although, that said, it is becoming increasingly difficult to determine the boundary between the traditional operator segments. In the UK market, MNOs EE, O2 and Vodafone all offer alternative services, such as fixed broadband, television or IoT smart home offerings.

The breakdown of our audience is as follows:



Regionally, the audience profile saw a relatively even split across the globe, giving our survey a fair reflection of attitudes around the world.



Our first question most certainly reflects our earlier assertion that operators are already in the midst of a digital transformation of their customer-facing services. We began this survey by asking the audience what percentage of their company’s revenue they think will come from digital services in 2017.

This would include, for example, TV services, entertainment, IoT, healthcare and so on.

The responses we gained for this question suggests the audience is placing a hefty focus on digital services this year, with more than 30% of respondents indicating that more than 20%

of operator revenues will come through these channels. An additional 29% of respondents are slightly more tempered in their expectations, but still expect digital services to account for 10-20% of total revenue this year. [See Fig. 1](#)

While those numbers are fairly telling, it is still worth considering that nearly 40% of respondents, conversely, see digital services comprising less than 10% of total revenue. So while there are many operators leaning heavily on new forms of content or consumable services and perhaps over-relying on them to some extent, there’s still a very significant chunk of operators which deems alternative services their bread and butter. It will be interesting to see how responses to that question would appear a year from now.

There is, as discussed, a fair chunk of the audience that sees digital services being a major contributing factor towards the success of their business in 2017. So with such a significant proportion of money coming in through this channel, what does the audience consider to be the biggest challenge in protecting said revenue streams? Our next question sought to clarify just that.

The top priority, given a rating of ‘important’ or ‘very important’ by 91.2% of the audience, is real-time assurance. Effectively, this is the shoring up of revenues generated by real-time data streaming services - such as video on demand or live television streaming. With data consumption trends shifting towards an ever increasing amount of video streaming, it is rightly being treated as a top challenge by operators the world over.

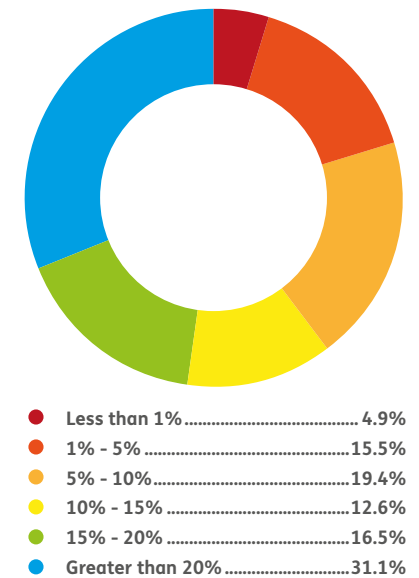
The second most-challenging element of revenue protection is more related to the individual network elements responsible for delivering data services to the end-user. 87.4% of the audience believe that ensuring revenue assurance processes for all transactions to reconcile 100% of usage data from network elements is of great importance to operator revenues.

Network infrastructure continues to increase in complexity, and while virtualization techniques seek to simplify infrastructure in the long-term, in the short term it only seems to add to an organised chaos at a network level. 83.5% of respondents believe the complexity of network virtualization is adding greater need to solve the challenge of dynamic data collection for assurance in this sense. Elsewhere, 86.3% of respondents reckon providing revenue assurance for partner offers, with regards to having multiple parties in the value chain, is a challenge of great significance. Finally, 74.8% of respondents see financial regulation and ensuring an audit trail for timeliness and completeness of usage for all transactions sits as a major challenge.

While these challenges represent a valid concern for what looks like a significant percentage of operators around the world; there appears to be a noticeable lack in complete assurance protection across 100% of transactions. In our next question, nearly two thirds of respondents either agreed or strongly agreed with a statement saying that their “existing revenue assurance systems only collect a sample of transactions, they do not collect and analyse all transactions. >

Figure 1

What percentage of your revenue do you think will come from digital services in 2017? (ie. TV, entertainment, IoT, healthcare, etc.).



In an age of extensive digital transformation and a relentless shift towards digital service consumption, it is important to consider how the margin for error may be affected for billing new services. We wanted to find out how this applies specifically in the cases of underbilling and overbilling, so we dressed them up as separate questions.

It would appear as though the audience has a fear of underbilling, with more than one in five respondents suggesting that underbilling might increase by more than 5%; which would account for a significant amount of revenue loss if this transpires to be the case. Conversely, more than 20% of respondents seem to think there will be either no change or less than a 0.5% increase in underbilling - indicating that opinion is fairly divided on this subject.

With overbilling, the audience seems unconcerned by an apparent risk of overbilling, with exactly 66% of respondents suggesting that overbilling will increase by a maximum of less than 1%. Less than one in five responses hint at a fear of more than 1% overbilling.

In the accompanying graphic you can see how the audience attitude towards underbilling or overbilling compare. [See Fig. 2&3](#)

In consideration of the last couple of points, a shift towards real-time usage collection and analysis is likely to become an integral part of the future revenue assurance model. In response to our question seeking to understand the current state of RA systems, the majority

of survey participants suggest existing systems perform the majority of collection and usage analysis after the fact, with 60.2% saying batch analysis is the current norm.

One in four respondents say the majority of existing revenue assurance systems conduct proceedings in real-time; while a cautious 13.6% said they were unsure.

Real-time analysis has the potential to positively impact the measurement of service usage being delivered by third-party partners; and so we wanted to understand how operators view various factors of assuring services from external providers.

Of paramount importance to the audience is having the ability to view all potential revenue leakage for all services in real-time and for the entire end-to-end process. 93.2% of the audience considered this to be important or very important. An additional 92.2% saw an immense importance placed on fraud prevention, arguing that service providers need to use revenue assurance data to coordinate with real-time fraud prevention

systems. Elsewhere, 86.4% placed importance on the following statement: “real-time revenue assurance is needed as service providers want to ensure that customers don’t purchase partner services that they have no ability to pay for.”

We previously discussed the notion of network virtualization as a means of reducing network expenditure (for both CAPEX and OPEX), but that in the meanwhile it could involve an additional layer of complexity - particularly when we consider the rise of new and previously unknown services like IoT. An impact on the network is inevitable, but how will revenue assurance be affected as a result of these emerging technologies?

The audience was asked to state their level of agreement with a variety of statements which indicate how today’s revenue assurance systems will be able to cope with future trends, and the results are below [See Table. A](#), suggesting a significant RA systems upgrade is going to be necessary in the near future. >

Table A

| Statement | Agreement rating |
|---|------------------|
| Most existing revenue assurance systems are designed for traditional telecoms networks. | 87.4% |
| Existing revenue assurance systems will be capable of managing complex usage data generated by future networks. | 40.8% |
| Most existing revenue assurance systems will struggle to collect all the relevant data in real-time from virtualized networks for all new services (e.g. IoT) | 77.7% |

Figure 2

Underbilling



- No change.....10.7%
- Less than 0.5%..... 9.7%
- 0.5% - 1%.....16.5%
- 1%- 3%17.5%
- 3% - 5%12.6%
- Greater than 5%.....21.4%
- Don't know11.6%

Figure 3

Overbilling



- No change.....15.5%
- 0.25 - 0.5%20.4%
- 0.5 - 0.75%13.6%
- 0.75- 1%16.5%
- Over 1%18.4%
- Don't know15.6%

We phrased the next question in a similar format to the previous, asking the audience to let us know the extent to which they agree with a variety of statements on service assurance data and how it relates to the customer experience.

It is little secret that an increasingly knowledgeable consumer base, coupled with a tighter regulatory environment which continues to favour the customer, means that operators need to be more customer focused than ever before. In a highly competitive digital world, in which the barrier to entry for alternative service providers is going down, the emphasis on customer experience is often the biggest factor in helping to minimise churn. The results to the next question suggest that operators only want to hear good news.

By that, we mean that the results infer positive network data is used as a yard-stick for overall customer experience, while negative network data is only used by networking teams, and not broader customer-facing teams. [See Table. B](#)

With all things considered, we used the penultimate question of the survey to ask the audience which approach to upgrading revenue and service assurance systems will be the most beneficial. This is one of the most fundamental questions operators need to address when considering how to futureproof and cater for the impact of digital transformation.

Unsurprisingly, given the scale of the task at hand, a relative minority of the audience thinks a rip and replace approach is the right way to go - just 16.5% vouched for this given the choice of three.

Responses to the second option suggests a customised approach to upgrading existing systems is favoured by just over one third of the audience. Meanwhile, nearly half of respondents believe the best way of upgrading is to implement an adjunct assurance system designed for digital services to run alongside legacy systems and phase out over time.

[See Fig. 4](#)

Conclusion

Times are changing in the telecoms industry, faster than they ever have; and a combination of dynamic new market entrants, evolving services, savvy consumers and stricter regulatory frameworks are putting operators under more pressure than they perhaps ever have.

A significant percentage of the audience believes existing revenue assurance systems are incapable of keeping up with the pace of change, and that further visibility, dynamism, agility and analytics capabilities are fundamental to the future success of operators as traditional communications service providers move towards becoming digital service providers.

While digital transformation seems inherently fraught with risk, particularly from a BSS angle, it is a necessary evolution. Evolve or die is, hopefully, not too drastic a conclusion to take. A statistic we didn't reveal earlier in the paper, because it seems to aptly summarise the current scenario operators find themselves in, is that more than 50% of respondents believe they will risk losing more than 3% of digital services revenue if they don't transform their approach to revenue and service assurance. We'll just leave that stat there. [See Fig. 5](#)

Figure 4

In order to ensure revenue and service assurance processes cater for the impact of digital transformation what do you think is the quickest and most cost effective way to update systems?



- Rip and replace old system with a new one16.5%
- Upgrade existing system with customised service changes34.0%
- Implement an adjunct assurance system designed for digital services to run alongside legacy system and phase out over time49.5%

Figure 5

How much of your existing digital services revenues do you think could be lost if existing revenue assurance systems aren't upgraded to cater for digital services, virtualised networks and real-time systems and processes?



- Less than 1% 2.9%
- 1-2% 8.7%
- 2-3%19.4%
- 3-4%11.7%
- 4-5%15.5%
- Greater than 5%.....23.3%
- Don't know18.5%

Table B

| Statement | Agreement rating |
|---|------------------|
| Most service providers don't have an end to end view of customer experience. | 85.4% |
| Most service providers measure all negative network experience / quality data and feed into an overall customer experience index. | 66.0% |
| In most service providers negative network data is used only by network teams to improve network coverage. | 73.8% |
| Positive network data is used to measure overall customer experience. | 76.7% |

Sponsor's Comment

When mobile telecoms services started in the mid-1980s one of the most critical systems to develop was billing. Then service providers noticed that they were leaking transactions (and money). As a result, Revenue Assurance was created to fix this leakage problem. However, this took a few years and Revenue Assurance didn't really become mainstream until the mid-1990s. There was a delay of several years where service providers may have had wide enough margins to live with revenue leakage. Those halcyon days are well and truly over.

The results from this survey show that, as the industry moves to roll out new digital services enabled by new real-time systems and virtualised networks, revenue assurance may need a re-set. With service providers anticipating more than 20% of their service revenue coming from digital services in 2017 it's important that any potential for revenue leakage are addressed now. The fact that the survey showed that service providers feel that more than 5% of digital services revenues could be lost unless existing revenue assurance systems are upgraded adds some financial incentive for this issue to be examined.

The rise of new real-time systems, virtualised networks and multiple parties in the value chain will impact revenue assurance systems. Couple this with faster roll out of new services – from entertainment to health care to security and other new services that service providers will be looking to for profit, then it's important that assurance systems are able to collect, measure and monitor all transactions, as they happen, to assure new digital services.

This survey shows that it's better to pro-actively address these issues now rather than wait for the digital services revenue leakage to go from a drip to a torrent.

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