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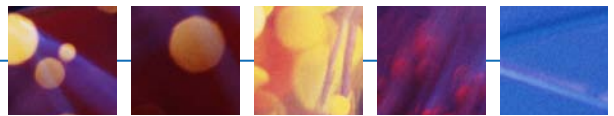
Global Revenue Assurance Survey

Taking Revenue Assurance to the Next Level

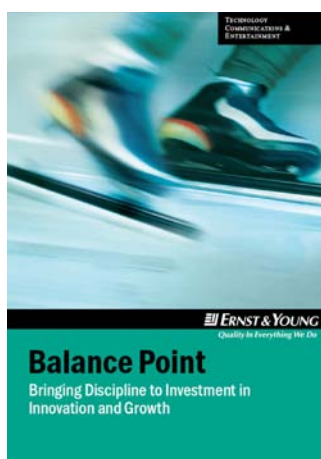
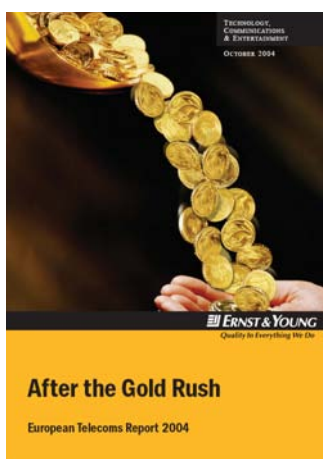
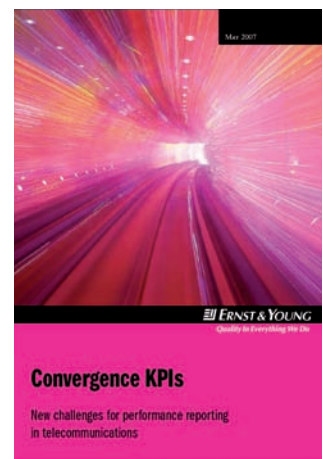
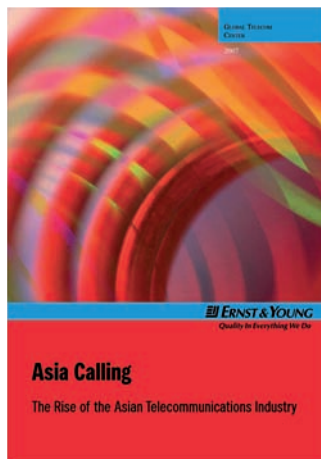
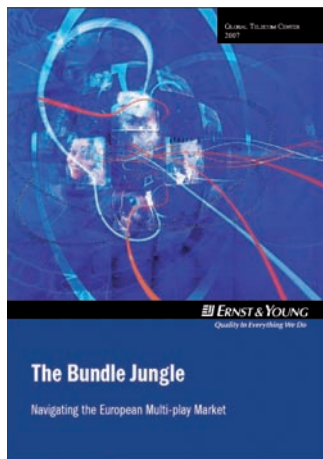
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Previous Reports by Ernst & Young's Global Telecommunications Center



Foreword

Welcome to the *Ernst & Young Global Revenue Assurance Survey: Taking Revenue Assurance to the Next Level*. This is the latest in an ongoing series of major studies and benchmarking studies conducted by Ernst & Young to monitor and evaluate the evolving views of business leaders across the global telecommunications industry.

As economic pressures continue to mount, many telecommunications operators are moving to a value-based business model, which measures success in terms of margins and profitability rather than subscriber numbers or traffic volume. Pressure like this keeps Revenue Assurance ('RA'), with its focus on ensuring that all services provided are accurately, timely and completely billed and cashed, at the forefront of risk and financial management.

The practice of Revenue Assurance is evolving and maturing, from a largely reactive focus on minimizing revenue leakage and fraud, to a much more proactive discipline. A key consideration is applying lessons learned to the design and launch of new products and services, as well as the skills developed in assuring revenue to cost reduction, and profitability enhancement initiatives.

Ernst & Young Global Revenue Assurance Survey aims to assess the current level of maturity of the industry in terms of strategy, organization, processes and tools, and to highlight the key drivers to take Revenue Assurance to the next level.

The findings are based on in-depth interviews with Revenue Assurance managers and leaders across a balanced set of 64 operators worldwide including fixed, mobile, and cable operators. The survey comprised a balanced mix of large international groups, with a wide range of services on one hand, and dynamic regional or local players on the other.

We hope you find this report informative and thought-provoking. We would like to thank once again all participants who have given their time to help produce it.

Vincent de La Bachelerie

Global Telecommunications Leader
Ernst & Young

Olivier Lemaire

Global Revenue Assurance Leader
Ernst & Young



About This Report

Below is the list of some interviewed companies:

AR Telecom

Bharti Airtel Ltd

Base

Belgacom

Bell Canada

Cable & Wireless

Cable & Wireless International

Cosmote

Deutsche Telekom AG

Elion Ettevõtte AS

EMT AS

Golden Telecom

Hutchison “3” Telecommunications Australia

Impsat/Global Crossing

MediTelecom

Mobistar

MTC Vodafone

OJSC Vimpelcom

Orascom

Orange UK

PT Indosat

PT Multimedia

Qwest

Rom Telecom S.A.

SingTel Opus

Sonaecom

Telecom New Zealand Ltd

Telefonica S.A.

Telenor Serbia

Telus

Tigo Tanzania

TMN

Turkcell

Vodafone Australia Pty Ltd

Vodafone – Panafon Greece

Vodafone New Zealand

Wind Hellas

27 respondents have preferred to remain anonymous.

Key Findings

Sophisticated service offerings, multiple call rates and data processing over many platforms add layers of complexity. Opening up of markets to competition, triggering pressures on pricing and more demanding customers require operators to re-think their pricing strategy and develop integrated and bundled services. New technologies facilitate the development of new-generation services and offerings, which results in a more complex and diverse revenue cycle, favoring the development of bundled and converged offerings. Finally, emerging models, such as content models, outsourcing of network and non-core activities, are in constant evolution.

In this challenging environment, Revenue Assurance executives have targets to contribute additional revenue through leakage avoidance as well as becoming key contributors to company governance and control environment. So, ensuring the Revenue Assurance function continues to evolve and adapt to changing business requirements is a must. As operators strive to become 'best in class', there is a relentless drive to improve Revenue Assurance maturity across strategy, organization and people, scope of activities (processes), and the use of tools.

Against this background, our *Global Revenue Assurance Survey* focuses on the three main aspects of Revenue Assurance: **Strategy, Organization, and Processes and Tools.**

The key findings of our study include:

- Operators are continuing to focus on core billing and rating activities, which means that adopting an holistic end-to-end approach to Revenue Assurance remains a significant challenge.
- While Revenue Assurance strategy is key for many operators, it still needs to be better integrated into their overall risk management framework.
- Revenue Assurance often remains a local function for international operators, creating opportunities for headquarters to initiate better coordination and synergies for companies across the group.
- In many operators, embedding Revenue Assurance activities into the operating process would improve RA's efficiency and effectiveness.
- Most Revenue Assurance functions still focus on revenue leakage. Instead, they should also seek to identify and drive further cost management initiatives.
- The performance of Revenue Assurance is usually measured using basic Key Performance Indicators ('KPIs'). Based on our experience, we would suggest that a more effective approach is to use a balanced scorecard and wider benchmarking to measure Revenue Assurance's efficiency and effectiveness.
- Most Revenue Assurance functions could increase their efficiency and effectiveness by automating certain activities using industry-specific tools and software.

"In today's increasingly competitive telecom industry, Revenue Assurance is a key strategic enabler for telcos to maximise their bottom line."

Telecom Operator, Western Europe

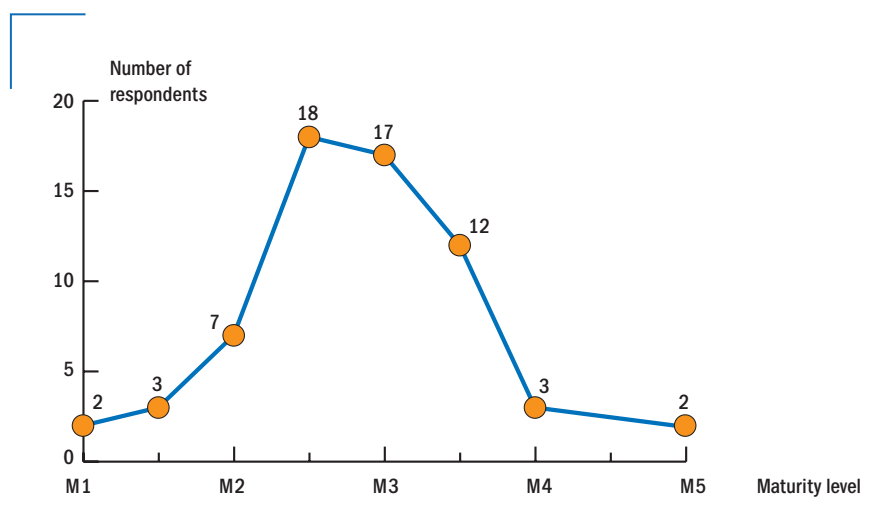


The Revenue Assurance Maturity Level

We have built a ‘Maturity Model’ to pinpoint the industry’s current positioning and highlight future challenges as operators move along the maturity curve. This Model forms the basis for the findings and recommendations in the *Revenue Assurance Global Survey*.

	Maturity Level 1 Early	Maturity Level 2 Recurring	Maturity Level 3 Established	Maturity Level 4 Administered	Maturity Level 5 Optimized
Strategy	<ul style="list-style-type: none"> No formalized strategy and limited RA influence. 	<ul style="list-style-type: none"> No formalized strategy, but some RA successes. 	<ul style="list-style-type: none"> Formalized strategy and influence at executive level. 	<ul style="list-style-type: none"> Formalized strategy with strategic papers and elements of group integration. 	<ul style="list-style-type: none"> Strategy is risk-based, includes costs reduction parameters, and is integrated within the group.
Organization	<ul style="list-style-type: none"> Undefined RA structure. Limited to isolated and personal initiatives. Small team not focusing exclusively on RA activities. 	<ul style="list-style-type: none"> Early formalization of the RA function, but with low influence. Skillset in development. 	<ul style="list-style-type: none"> Defined and recognizable team focusing on RA activities. Availability of multidisciplinary skills. Training on an ad hoc basis. 	<ul style="list-style-type: none"> RA activities are spread into the organization and monitored by the RA team. RA staff have key technical skills and subject matter expertise. Training budgets are available. 	<ul style="list-style-type: none"> RA primarily undertakes a monitoring and advisory role. RA staff also have accounting and auditing skills. Formal training and skills optimization plans are in place.
Processes and tools	<ul style="list-style-type: none"> Reactive and instinct-based RA activities. Only basic RA tasks. Substantial manual effort and end-user computing tools only. 	<ul style="list-style-type: none"> Basic revenue leakage-related tasks performed. Automation remains fragmented. 	<ul style="list-style-type: none"> Major RA processes covered. Some automated RA processes. 	<ul style="list-style-type: none"> All revenue leakage and fraud processes are covered. Tools are widely available. 	<ul style="list-style-type: none"> All RA processes are covered. Optimized automation of RA tasks.

To establish the maturity level of each organization, the respondents’ answers have been scored against each component of the Maturity Model (Strategy, Organization, and Processes and Tools). The final rating is a combination of the operators’ own self-assessments from the survey questionnaire, with a comparative analysis ranking respondents versus the maturity model. The chart below shows the distribution of the respondents’ positioning against the various maturity levels.



Source: Ernst & Young Global Revenue Assurance Survey

The Revenue Assurance Strategy

When building a Revenue Assurance strategy, it is important to look at the medium- to long-term vision as well as the shorter-term objectives. Mature Revenue Assurance cannot be delivered overnight. Therefore a roadmap will need to be identified for the future development of the organization, and strategic objectives will need to be prioritized.

Embedding a risk-based approach into the overall enterprise risk management framework

Although nearly all of the respondents to our study claim to have a dedicated Revenue Assurance strategy, this is not often formalized in writing. Indeed, 17% of participants do not have any form of written strategy, while 61% only have Revenue Assurance specific policies and procedures in documented form.

Equally significantly, 21% of the operators' Revenue Assurance strategies are still neither risk-based nor integrated within the company-wide risk management framework.

This situation is underlined by the relatively low degree of involvement that the Risk & Compliance function has in Revenue Assurance: only 28% of the Revenue Assurance functions in our survey have a continuous relationship with Risk & Compliance. Going forward, this lack of organizational integration remains a challenge as operators seek to advance to a better risk-based Revenue Assurance strategy.

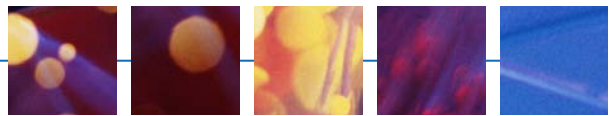
Driving cost reduction and profitability enhancement initiative

There can be no doubt that the prevention, detection, reduction, and monitoring of revenue leakage are the core objectives of Revenue Assurance. All participants in the study put these aims forward as their main goal. Given the intensifying pressure to comply with regulatory requirements (such as Sarbanes-Oxley), compliance is the second most frequently cited objective for Revenue Assurance, mentioned by 36% of the respondents. Fraud management is the third most important objective, for 24% of the participants, especially in Africa, Asia and the Americas.



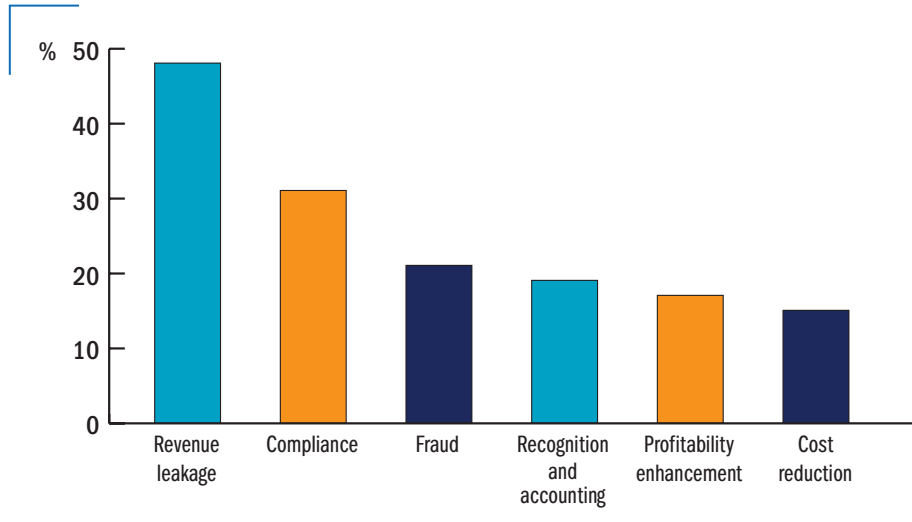
“Revenue Assurance should be embedded in the enterprise risk management of every telco.”

Mobile Operator, Emerging Markets



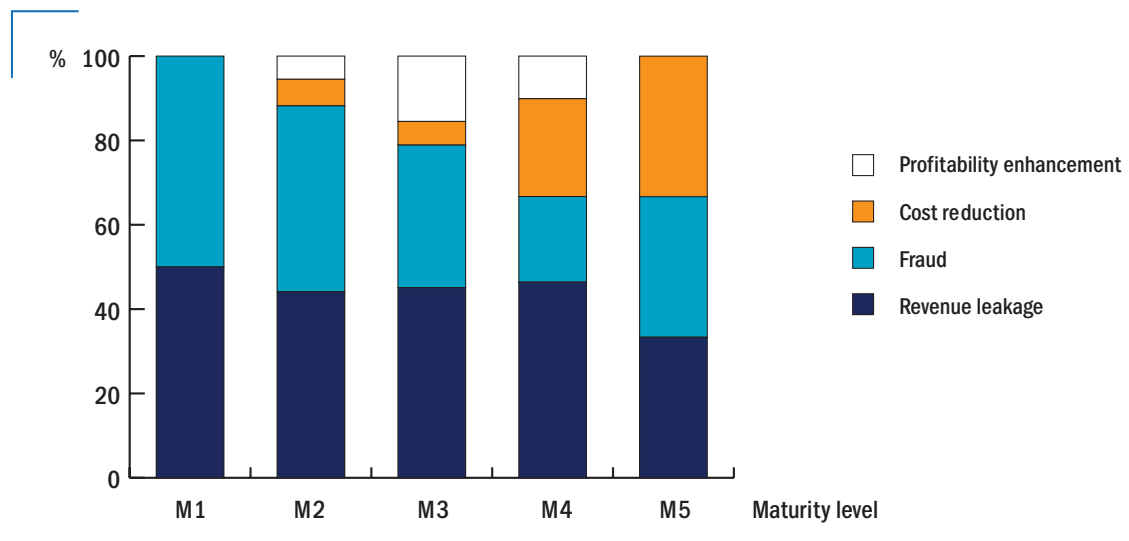
Only a small proportion of operators focus on cost assurance. Traditional Revenue Assurance techniques of validating interconnect and roaming costs are widespread, but few Revenue Assurance functions have extended their activities into cost-efficiency drivers. Participants highlighted the difficulty of defining the scope of cost reduction initiatives as a potential problem.

Revenue Assurance Strategic Objectives



Source: Ernst & Young Global Revenue Assurance Survey

Cost reduction and profitability enhancement initiatives are still not widely undertaken by Revenue Assurance. Less than 20% of the participants associate Revenue Assurance with these activities, mainly based in Europe and in North America.



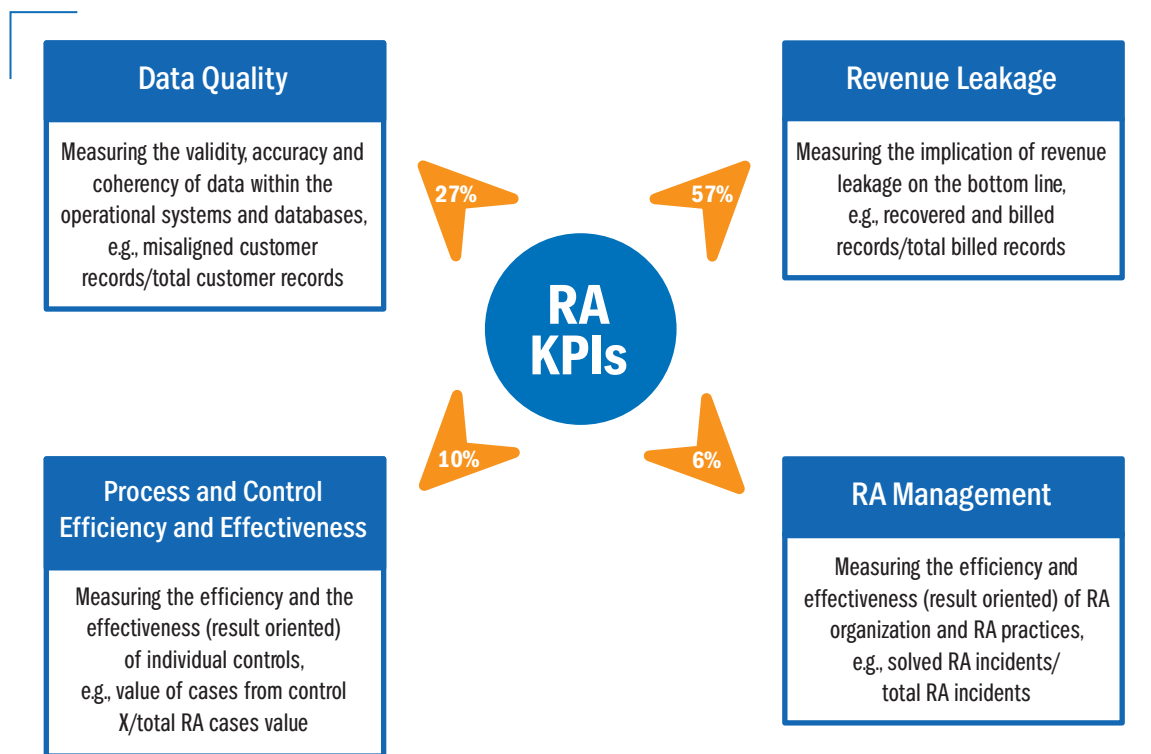
Source: Ernst & Young Global Revenue Assurance Survey

In its early stages, Revenue Assurance tends to focus on revenue leakage and fraud. As it becomes more mature, Revenue Assurance gets increasingly involved in cost reduction matters.

Measuring performance through a complete balanced scorecard

The use of KPIs is widespread amongst participants, however, most operators only focus on the traditional core metrics of all kinds of data record ('XDR') leakage, rating and billing errors. Only a few operators currently adopt a more balanced set of measures covering aspects such as Revenue Leakage, Data Quality, Revenue Assurance Management, and Control Efficiency & Effectiveness. The KPI's selected should be aligned to the Revenue Assurance strategy.

Average balanced mix of KPIs utilized



Source: Ernst & Young Global Telecommunication Revenue Assurance Survey

“1% revenue leakage over one billion of revenue is still 10 million.”

Wireline operator, Western Europe



The Revenue Assurance Organization

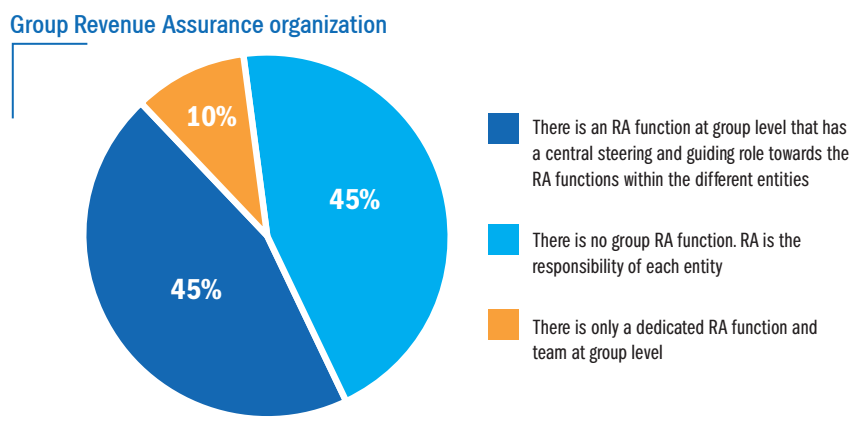
Many operators are still struggling with questions like these:

- Where should the Revenue Assurance function sit within the organization?
- Should there be a virtual or a centralized team?
- How many people should there be within the Revenue Assurance organization?
- What should the relationship be between Revenue Assurance and functions such as Fraud, Internal Audit, Risk Management, Finance, Billing, and Customer Relationship Management?
- What should the organizational structure look like?
- What type of roles and skills should there be in the team?
- How can we build cultural awareness by linking Revenue Assurance's performance to wider group targets?
- What should be the structure of a group Revenue Assurance function?

Unfortunately there is no one-size-fits-all answer to these questions. The specific objectives set for the Revenue Assurance function, together with the unique characteristics of the organization as a whole, will determine the appropriate structure. The nature of the Revenue Assurance organization will be influenced by many factors, including the size of the organization together with its existing structure, risk culture, group structure, degree of executive sponsorship, and regulatory obligations.

Synergizing the Revenue Assurance function throughout group companies

Almost all companies have a Revenue Assurance function, but best practice group-wide organizational coordination is often lacking. In our study, 45% of the participants say there is no Revenue Assurance function at group level.



Source: Ernst & Young Global Revenue Assurance Survey

In our experience, the most effective group functions are those that create synergies across the group through initiatives such as the sharing of best practice, the procurement of Assurance tools, and the transfer of resource and knowledge, but which do not interfere much in day-to-day Revenue Assurance tasks.

A larger group function may establish an operational ‘Center of Excellence’ where technical analysis and development of tools are performed centrally. This approach may be combined with local secondment of subject matter experts and consultants to support the development of key Revenue Assurance tasks in the local operations.

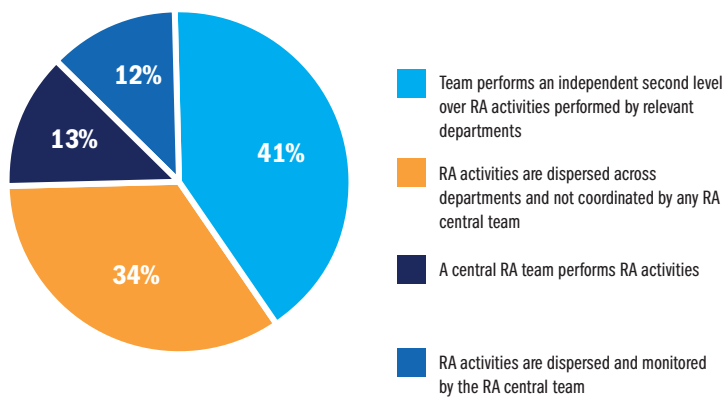
Embedding Revenue Assurance in the operating processes

There will always be a need for a centralized Revenue Assurance team that maintains an end-to-end view of all revenue processes, and sets out the process and policy guidelines to provide assurance over the revenue streams.

While this remains the case, our study shows that Revenue Assurance teams are increasingly pushing activities and responsibilities out to the business. Tasks such as the day-to-day operation of controls are devolved to specific business areas, with a smaller Revenue Assurance team coordinating and facilitating end-to-end assurance. Establishing a virtual team coordinated by the Revenue Assurance function can be an effective way to reduce the cost of Revenue Assurance activities.

It is interesting to note that 34% of respondents have dispersed Revenue Assurance activities out to the relevant departments without a central oversight, which poses the threat of inconsistencies and redundancies.

Local Revenue Assurance organization



Source: Ernst & Young Global Revenue Assurance Survey

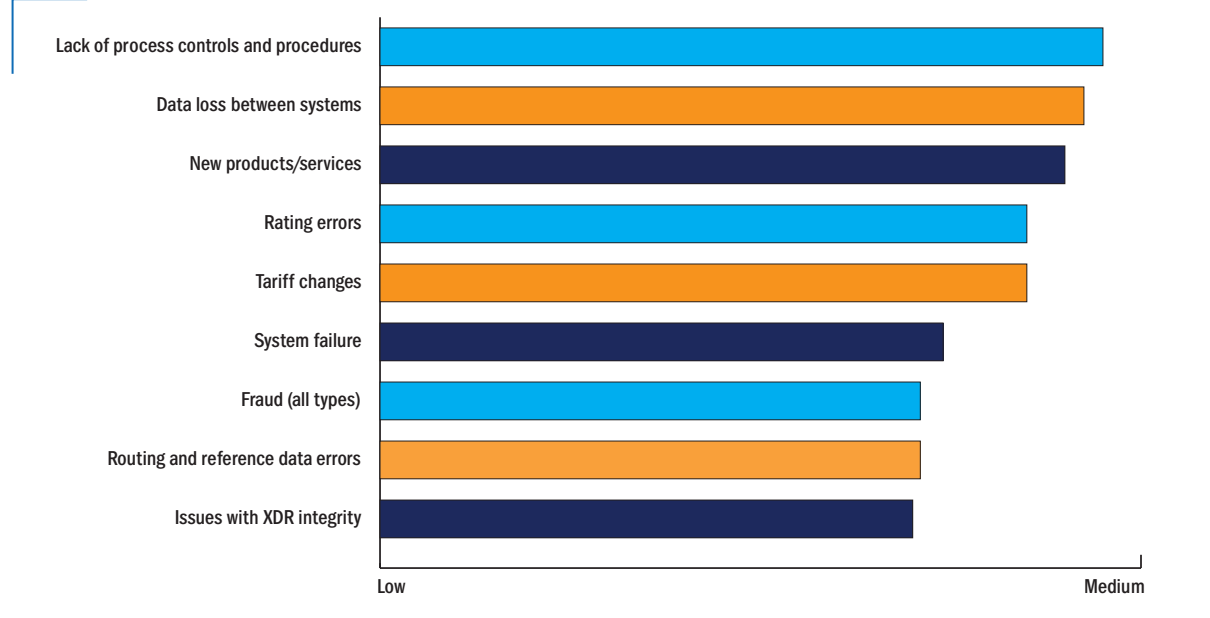


Revenue Assurance Processes and Tools

Sources of Revenue Leakage

Revenue leakage occurs mainly around the core Revenue Assurance processes. The survey respondents' key concerns in this context remain the absence of adequate controls and procedures and the loss of data in the revenue cycle. Data loss between systems and the implementation of new products and services are also important sources of leakage.

Sources of Revenue Leakage



Source: Ernst & Young Global Revenue Assurance Survey

Moving towards an holistic approach to Revenue Assurance and capturing more value from automated solutions

Processes: an holistic approach

In an ideal world, Revenue Assurance encompasses every step in the revenue process, all the way from the transaction to the accounting ledger. It integrates the Revenue Assurance process within the overall enterprise risk management of the company. It covers all revenue-related risks ranging from revenue leakage through to revenue recognition in the financial statements. And it manages people, processes, and technology in an integrated way to ensure maximum revenues and minimum costs.



Source: Ernst & Young Global Revenue Assurance Survey

The survey shows that few operators take an holistic, end-to-end approach to Revenue Assurance. This lack of an overall perspective presents challenges going forward, as Revenue Assurance functions seek to encompass every step in the revenue process from initial transaction to accounting in the general ledger.

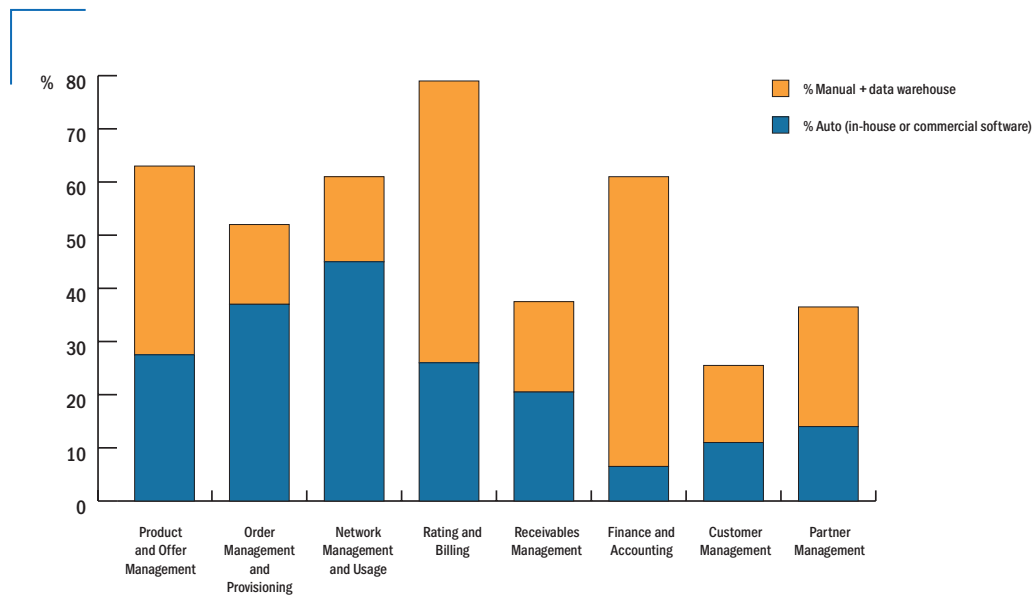
Furthermore, automating the Revenue Assurance functions has several positive impacts throughout the process, especially in the case of slowing or stagnant revenue growth, increased competition, and large volumes of data involved in the revenue cycles. It will also reduce losses and fraud to the lowest possible level and will bring down the cost of operating the Revenue Assurance function.

Operators still focus primarily on Rating and Billing activities

Rating and billing activities – especially rating correctness, rejection handling and leakage identification at the billing systems level – are core processes addressed by more than 80% of participants. Network management and usage activities – such as rejection handling and leakage identification at the network level, product and offer management (review of tariffs, finance and accounting, order management and provisioning) are only addressed by less than 60% of the participants. receivables, partner and customer management are in their early stages, and are addressed by less than 33% of participants. These low scores could also be indicating that the Revenue Assurance function is not involved in these activities.



Levels of consideration and controls automation of the major Revenue Assurance domains



Source: Ernst & Young Global Revenue Assurance Survey

Going through each step of the Revenue Assurance function, we have analyzed the responses made from the interviewees within the context of their own company and are connecting them with Ernst & Young's best practices.

Product and Offer Management

- Although the overall proportion of respondents undertaking control activities is relatively high, more than one-third have not yet implemented controls to validate the correctness of tariffs and discounts in their systems.
- Revenue Assurance activities for new services and products are corrective rather than preventive. This suggests that the industry has yet to reach an advanced level of maturity in addressing Revenue Assurance at the product development stages.

Order Management and Provisioning

- A systematic process for credit limit assessment has yet to become common practice. Surprisingly, only around 60% of the participants say they perform some sort of credit limit analysis for their post-paid products and services. As a result, many operators are facing considerable risks of bad debt and fraud. Using subscriber data in the billing system, Revenue Assurance software could verify that an appropriate credit limit is being applied.
- While 80% of participants are involved in reviewing service provisioning, only 50% automate this activity. This is a critical aspect of controlling revenue leakage, as it helps to detect services that are rendered and not billed. Given the complexity of these types of reconciliations, we believe that the industry should consider greater automation of this task.

Network Management and Usage

- Although most respondents say their organizations have switch-to-bill control activities in place, many add that this process does not always reconcile the complete switch-to-bill flow for all services, or that certain steps are not covered. Checking that all the records from registered traffic have been processed at each system level is key to full leakage control.
- Processes to analyze filtered XDRs and detect duplicated XDRs are still not widespread. As with switch-to-bill control activities, good results have been achieved through the analysis of rejected, filtered or duplicated XDRs. But here again, many interviewees say this activity is mainly related to the analysis of rejections, and does not include filtered or duplicated XDRs.

Rating and Billing

- Reviewing all XDRs to ensure they are rated is vital to the bottom line. Rating & Billing are the core activities in operators' overall revenue flow – yet 15% to 20% of the participants still do not have these Revenue Assurance activities in place.
- However, these activities have to be balanced with a focus on non-usage revenues, which are becoming key. More than 40% of the respondents have limited or no Revenue Assurance controls around non-usage, yet these revenues are becoming increasingly important as operators offer more subscription-based services.

Receivables Management

- Operators could benefit from making greater use of Credit & Collection Management tools. An invoicing review using specialized software can ensure that each invoice is consistent with the registered traffic. This also enables the detection of inconsistencies between: invoice data and invoice history, customer historical data and service, billing and usage (traffic) and non-usage data (fees).

Finance and Accounting

- Complex bundled and 'creative' offerings can lead to major challenges in accounting for revenue. Revenue is now subject to more intense scrutiny than ever before from investors, analysts and regulators. To create value, companies must demonstrate best practice accounting, and create confidence in their approach.
- However, the study shows that more than one-third of respondents do not perform a reconciliation between billing systems and accounting.

Customer Management

- This is the least covered domain (only one-third of participants have developed some Revenue Assurance activities in that area), although it offers preventive solutions to identify opportunities and issues, instead of fixing revenue and billing problems after they have been detected.
- Root cause analysis of complaints and churn can reduce churn and prevent costly compensation payments and retention programs, as well as fixing revenue and billing issues.

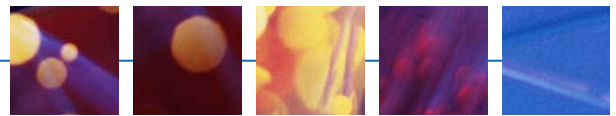
Partner Management

- As the overall value chain of telecommunications services becomes more complex, operators are finding they have to work with an increasing number of partners, being content providers, copyright owners, wholesalers, virtual operators, dealers, etc. Only a few operators have included partner management in the scope of their Revenue Assurance. Only 27% of participants have clear controls around dealer commissions and only 37% of operators have controls around content providers.



“NGN will bring a whole new range of services or service delivery, involvement of RA from the beginning will be crucial to understand the new risks, but also to identify new opportunities.”

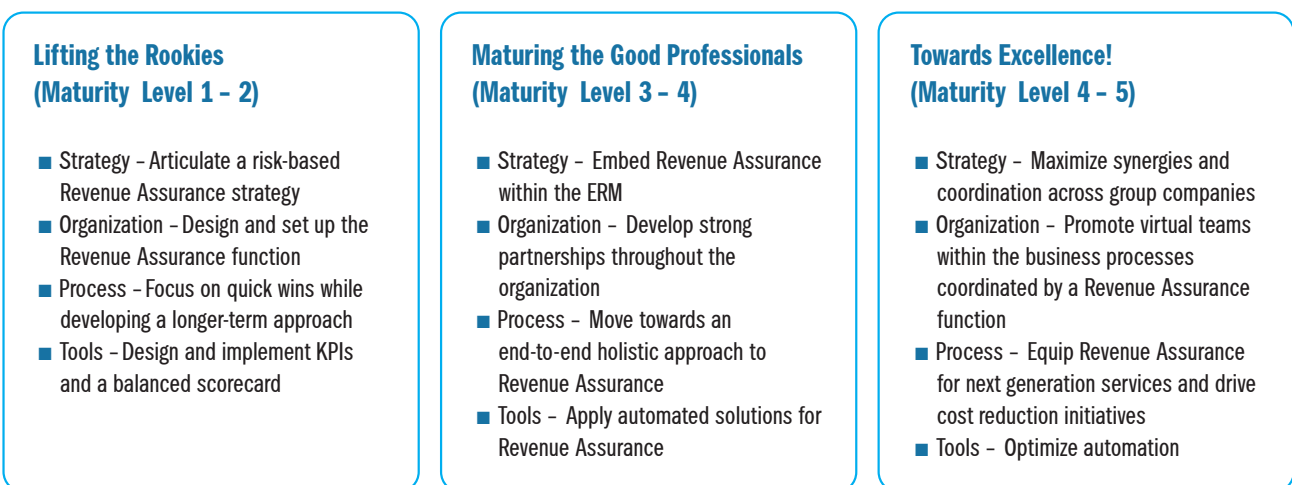
Mobile operator, Western Europe



Taking Revenue Assurance to the Next Level

How can operators move up the maturity curve?

Depending on their current stage of maturity, operators need to take a different set of actions to drive their Revenue Assurance up to the next level. These actions, which will need to cover the three key aspects of strategy, organization, and process and tools, are summarized in the accompanying chart.



Whatever their current position on the maturity curve, operators should bear five points of Ernst & Young's best practices in mind:

- Taking their current maturity into account, they should – where possible – embed their Revenue Assurance strategy and organization more deeply within the enterprise.
- Developing an end-to-end holistic approach to their revenue processes will minimize leakages and bring value to the entire organization.
- Using automated tools for certain Revenue Assurance activities will increase the function's overall efficiency.
- Demonstrating the value that Revenue Assurance activities bring through a balanced set of KPIs that are reviewed with senior management each month.
- Working with other departments such as Internal Audit and Fraud, as well as other Revenue Assurance teams (if part of a group) to drive best practice knowledge sharing and leverage efficiency synergies.

Focusing on those points would help operators move their Revenue Assurance up the maturity curve and increase the value RA brings to the business.



Notes

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Global Telecommunications Center

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