



Report

**How communications service
providers can harness the wealth of
their data for competitive
advantage**

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1. Executive summary

Most communications service providers (CSPs) understand that they need to improve their ability to capitalize upon the data that they have at their disposal. Over-the-top (OTT) providers have shown how to monetize data, but only a few leading CSPs are generating significant revenue from selling their data. The case for monetization is growing because CSPs' margins are under pressure. Data privacy regulation, the lack of appropriate technology deployed by CSPs along with their difficulty in retaining skilled staff add to the challenges of offering new services. Furthermore, CSPs need to develop new marketing and sales skills and organisational structures to support the new services. These challenges can be addressed through the help of vendors and partners that have the experiences, technology and skills to support CSPs.

Many organisations are using their data to create valuable business insights. The phrase 'data monetization' has become a general way of describing two different activities.

- **External monetization.** The use of data to create profiles of people or entities that can be sold to partners for advertising and market insights. Data monetization platforms (DMP) hold data and make insights available for these use cases.
- **Internal monetization.** The use of customer and other types of data to optimise internal processes for personalising customer interactions, optimising operational processes, and using capital assets and resources. Insights are made available through embedding them in applications, through analytics tools/platforms or by providing insights through APIs.

Analysys Mason conducted a survey of 60 CSPs worldwide in January 2019 to understand how CSPs are approaching the opportunities that monetising their data has to offer and the challenges that they face.

Advanced CSPs understand the opportunity that data monetization has to offer but are prioritising internal monetization – 65% of them in our survey are actively working on internal use cases, while only 44% are actively working on external monetization use cases.

The challenges to implement data monetization for internal and external use cases are similar, for example 20% of respondents cited the lack of skilled data scientists as a challenge when considering internal and external data monetization use cases. However, external monetization has additional challenges – 32% of respondents to our survey asserted that regulatory considerations were a significant challenge for external monetization use cases.

CSPs understand that in order to differentiate themselves from competitors they must continue to innovate by supporting new services and optimise their current operations. The use of analytics tools to support them in this quest is critical in providing accurate and timely data-driven decisions. Our survey identified the Chief Marketing Officer as the organisational head of data monetization – 36% of respondents confirmed this, while only 21% of respondents identified the Chief Information Officer as the person in charge of data monetization initiatives.

Marketing departments in CSPs are the most active in the use of customer data and are increasingly supported by cloud-based services to address common issues of staff lacking key skills and fragmented data stores. In fact, 61% of the survey were using cloud-based services for data storage or analytics tools.

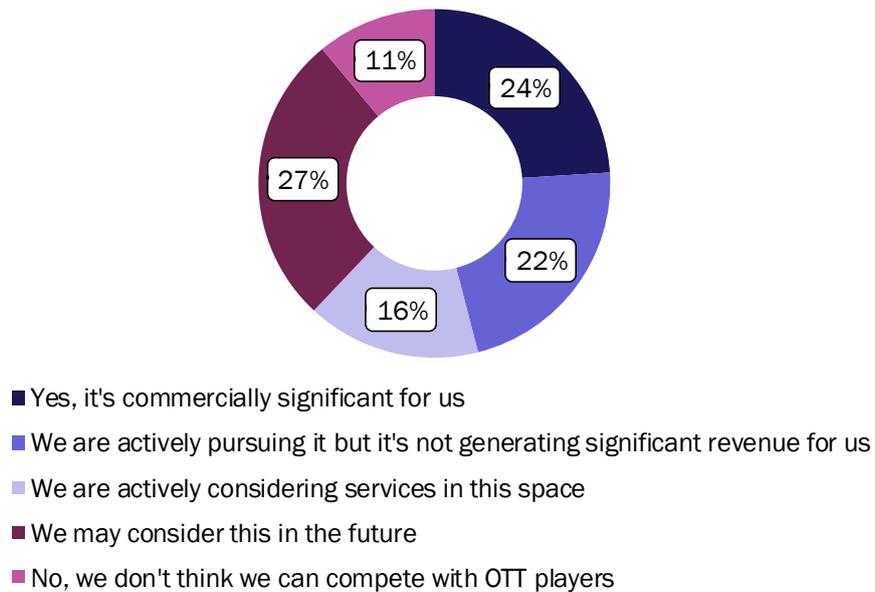
This document provides analysis based on Analysys Mason’s survey and assesses the opportunities and challenges that CSPs face when considering using customer and other types of data to generate new revenue streams.

2. Data monetization – the opportunity

2.1 External data monetization

Many telecoms CSPs have been looking at external data monetization having seen the growth that is possible with new business models championed by OTT players such as Facebook and Google. The analysis of our survey revealed that 24% of CSPs claimed that they had already achieved significant commercial advantage from external data monetization (see Figure 2.1). A further 22% were active, but had not yet achieved significant commercial advantage from doing so, and a further 16% were actively considering the opportunity.

Figure 2.1: CSP attitudes to external data monetization, worldwide¹

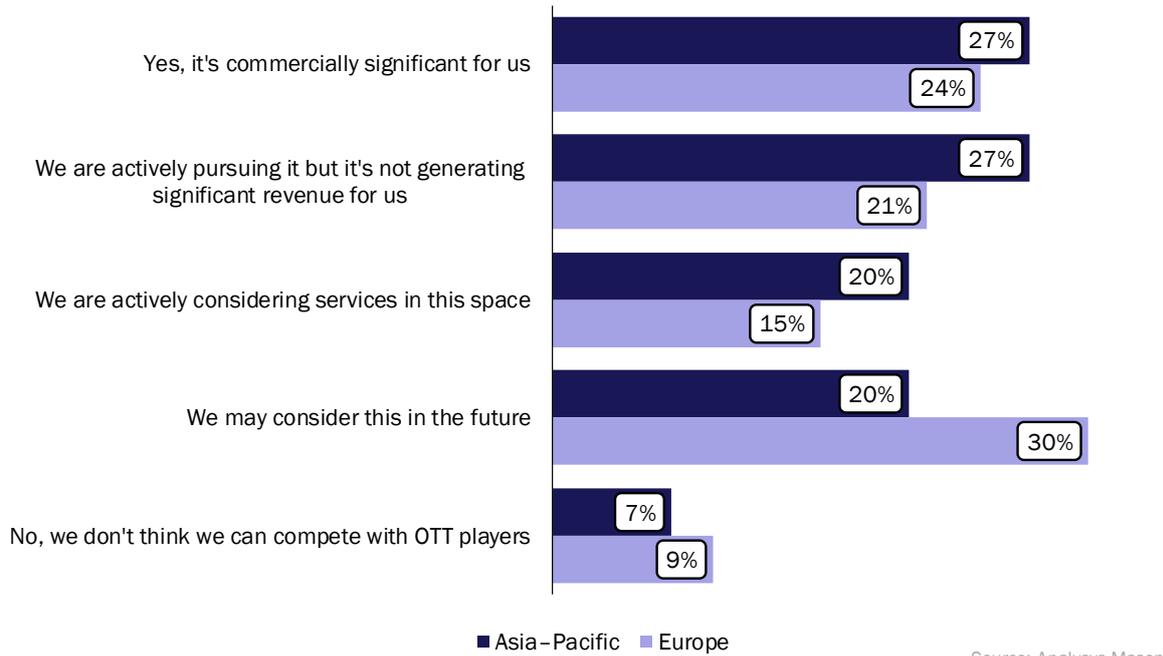


Source: Analysys Mason

¹ Question: “Do you consider external data monetization as an opportunity that CSPs must address?”

The response was not the same in all geographical regions. In the Asia–Pacific (APAC) region, 27% of respondents were generating significant revenue from external data monetization services, 27% were actively pursuing them and 20% were considering them, which is a 74% response rate for active projects (see Figure 2.2). This may reflect the lighter regulation in APAC markets as compared to Europe or North America and the need to find new revenue streams in markets where margins are being challenged by low-cost services and strong competition.

Figure 2.2: CSP attitudes to external data monetization, Asia-Pacific and Europe¹

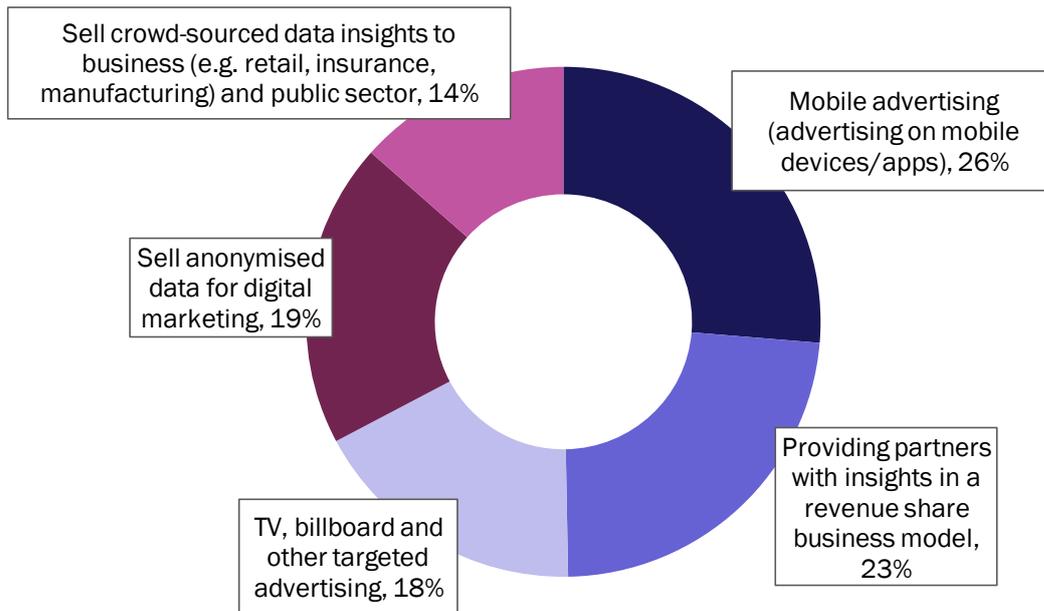


¹ Question: "Do you consider external data monetisation as an opportunity that CSPs must address?"

Data privacy was quoted as the most significant hurdle for CSPs when rolling out external monetization services, the next most significant was the organisation’s ability to shift from selling communication-based services to selling the new types of services. Technical inhibitors, including a lack of technical skills and the cost of implementing new services, were identified as being significantly more challenging than the potential competition from established providers.

Mobile advertising was cited as being CSPs’ biggest opportunity for generating revenue from external monetization. Mobile advertising and the opportunity to enter into partnerships with external data monetization providers accounted for nearly 50% of the survey’s responses about where CSPs perceived that the most-significant new opportunities for data monetization lay.

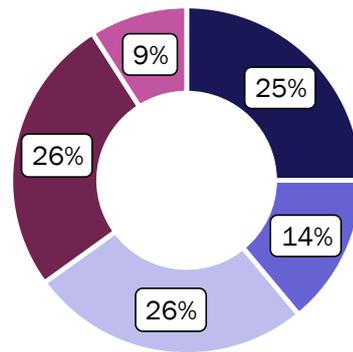
Figure 2.3: Biggest opportunities offered by external monetization for CSPs¹



¹ Question: "What do you see as the biggest new opportunities for data monetization?"

CSPs regard mobile advertising as their biggest external data monetization opportunity and this finding was supported by their responses to making data available through a data management platform (DMP). A DMP is used to collate and manage data for internal and external data digital marketing. A DMP helps operators that want to support real-time bidding for external data monetization via online advertising, but also provides user profiles, 360-degree customer views and user categorization for internal uses cases.

Our survey suggested that many CSPs are using DMPs – almost 40% of respondents are already using a DMP and a further 26% considering using one (see Figure 2.4). In addition, 26% were interested in implementing a DMP but felt that they lacked the knowledge to do so.

Figure 2.4: Using a data management platform for digital advertising¹

- We are already doing this with our own DMP
- We are already doing this with a third-party DMP
- We are in the process of doing this
- We would like to do it but do not know where to start
- We will not do it

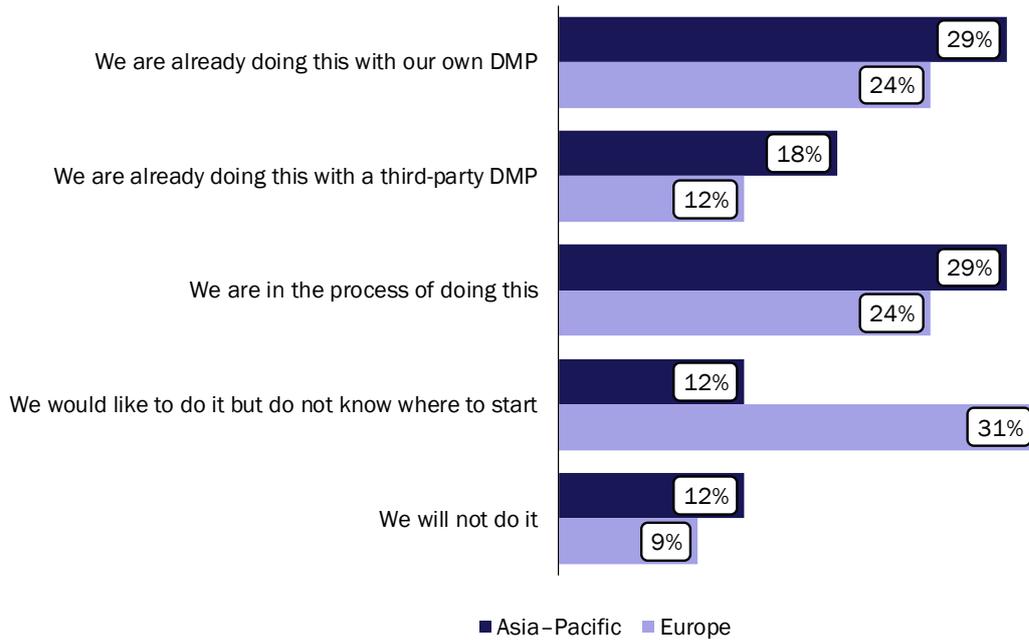
Source: Analysys Mason

¹ Question: "How do you feel about anonymising your data and making it available through a data management platform (DMP) to digital advertisers? (Tick one)"

The take-up of DMPs was more significant in APAC than in other regions. More than 80% of responses indicated that CSPs in APAC were using a DMP or were in the process of implementing one, compared to the average of 65% of responses for the whole survey. This reflects the more advanced state of data monetization in APAC.

The response of European CSPs was similar to the average of all respondents, but European CSPs were less committed than those in APAC – a high percentage of those in Europe reported that they would like to do it but had not started to look into it (see Figure 2.5).

Figure 2.5: CSP attitudes to using data management platforms, Asia-Pacific and Europe



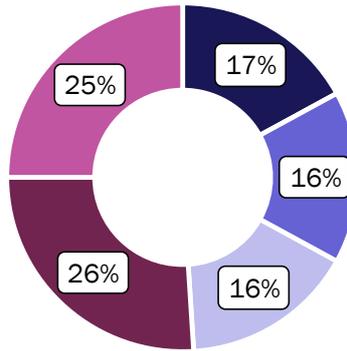
Source: Analysys Mason

¹ Question: “How do you feel about anonymising your data and making it available through a data management platform (DMP) to digital advertisers? (Tick one)”

Creating value by partnering with organisations that can provide customer insights to support or improve their targeting of customer offers or their ability to develop better propositions is a key area for CSPs. This was only slightly behind mobile advertising as an area that CSPs thought they should focus on, according to our survey (see Figure 2.6).

CSPs’ partner ecosystems can support more-flexible business models, not just in terms of providing insights. These business models might include revenue-share opportunities that enable revenue growth based on partner revenue, not just from selling data insights or online advertising revenue.

Figure 2.6: CSPs' attitudes towards supporting partner ecosystems with insights¹



- Yes, we generate insights for partners where we have revenue share or finders fee
- Yes, we provide limited partners with some insights on purely a finder's fee or advertising basis
- We are actively looking at establishing a group of partners to create revenue-share models
- We could consider partnering to share revenue, but have no active plans
- No, we are not actively looking at this at present

Source: Analysys Mason

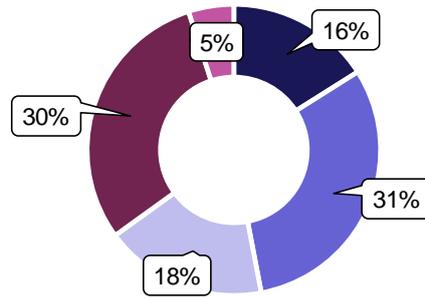
¹ Question: "Do you support partners by providing insights and profiling customers on their behalf? (Tick one)"

2.2 Internal data monetization

The use of data analytics to gain insights into internal processes addresses the key concerns that CSPs have in terms of being able to provide better customer experience, reduce costs and differentiate service offerings.

Internal data monetization is a more significant opportunity than external data monetization and CSPs are more advanced in their activities around the internal approach with 65% of respondents having active projects. The most significant uses were to provide support for resolving network issues, differentiating current service offerings through personalization, and for gaining efficiencies. Less significant use cases included fraud management and optimization of network design.

Figure 2.7: CSPs' use of data to provide personalised interaction¹

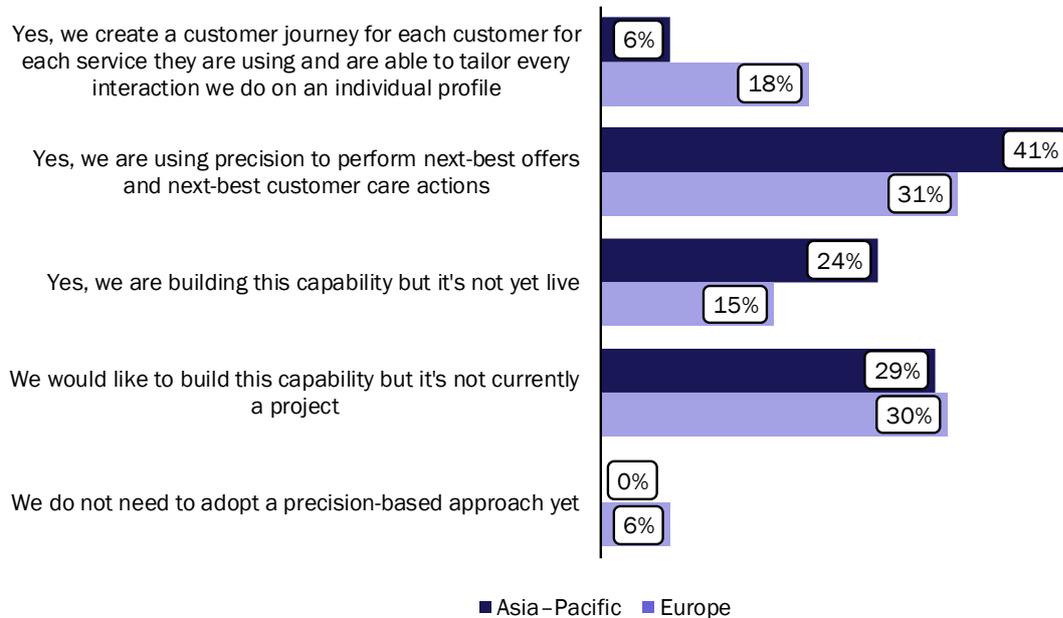


- Yes, we create a customer journey for each customer for each service they are using and are able to tailor every interaction we do on an individual profile
- Yes, we are using precision to perform next-best offers and next-best customer care actions
- Yes, we are building this capability but it's not yet live
- We would like to build this capability but it's not currently a project
- We do not need to adopt a precision-based approach yet

¹ Question: "Do you use data insights to provide personalised interaction?"

CSPs in APAC and Europe were different in terms of their use of analytics for customer journey mapping – the relatively high proportion of postpaid customers is reducing the need to track customer journeys in APAC.

Figure 2.8: CSPs' use of analytics for personalising interactions with customers, Asia-Pacific and Europe¹



Source: Analysys Mason

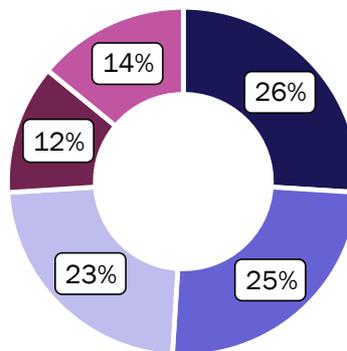
¹ Question: "Do you use data insights to provide personalised interaction? (Tick one)"

In terms of future internal data monetization projects, CSPs identified three key areas.

- The improvement of services by proactively detecting service-related issues. This goes beyond current user experience functions into preventative measures.
- The need for improved efficiencies using data-driven decisions to create more-effective processes.
- Improvements to current offers by being able to segment customers at the micro level and being able to personalise offers.

Fraud and revenue erosion-based issues along with network optimisation were identified as other areas of interest for the future. European CSPs were less interested in network optimisation and design than the average.

Figure 2.9: Areas that CSPs plan to use internal data monetization for¹



- Improve services with proactive detection and resolution of network issues
- Drive efficiency in operations and cut costs
- Differentiate current offers and services with personalised customer experiences
- Fight fraud and revenue erosion
- Optimise network design and planning

Source: Analysys Mason

¹ Question: "Where do you see the biggest value for internal use of data insights for the future? (Rank top 3)"

3. Data monetization – the challenges

Many of the challenges are well understood by the CSPs that we interviewed in the survey. The challenges for external and internal data monetization are different. The key challenges for external data monetization are related to regulation, marketing and selling.

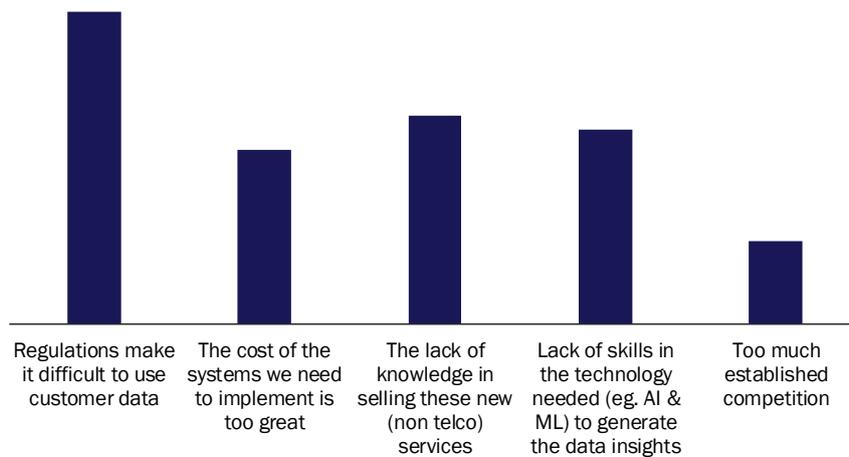
3.1 External data monetization

The survey suggested that 44% of respondents were actively deploying external data monetization services but only just over half of these were generating significant revenue for their services and more than a third of CSPs

are not considering external monetization services at all. The demand for these new services is not as advanced as other service offerings that CSPs sell and lack of demand is a key issue.

Regulation is a significant issue, particularly within Europe where nearly 40% of respondents identified it as the most significant hurdle to overcome. Beyond regulation, the lack of knowledge in selling external monetization services also features as a major concern. Direct competition with other services such as Google, were not cited as a major concern. This would suggest that CSPs are able to sufficiently differentiate themselves from current offerings when they have overcome the other inhibitors such as cost and lack of technical skills in deploying the systems to support the service.

Figure 3.1: Inhibitors of external data monetisation¹



¹ Question: “What do you see as the major hurdles in external monetisation of customer data?”

The ability to support a data monetization primarily for advertising is supported using a DMP. Over 60% of the CSPs in our survey did not use a DMP for data anonymisation and only 25% have deployed this in-house. In APAC, a more mature market for mobile advertising, the use of DMPs was just under 50%, suggesting that DMPs are supporting more-mature mobile advertising propositions and that other regions should consider this as part of their solutions.

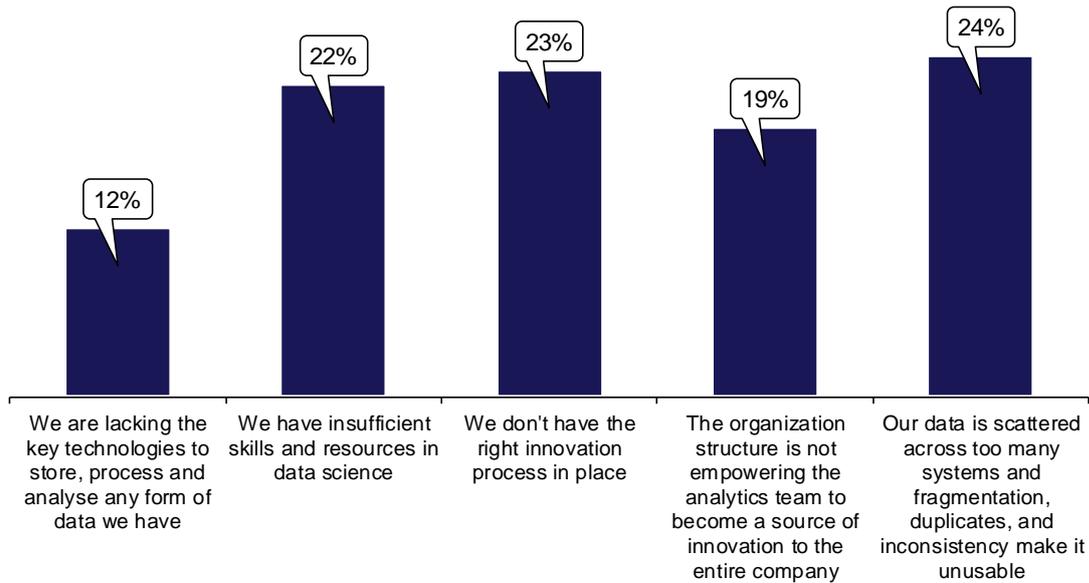
3.2 Internal data monetization

Internal data monetization challenges have some similarities to those of external data monetization in that the lack of skills is an issue. The biggest issue was that data is fragmented. This factor was identified as a more significant issue in APAC, where external data monetization is potentially more advanced. Other challenges are around the ability to implement and create innovative processes. CSPs over many decades have incrementally built levels of automation to support different processes, which over time have become complex. As a result, processes are hard to change, including the ability to use innovative data-driven algorithms for automation, cost reductions or becoming more precise.

Getting meaningful data insights requires good-quality and complete data sets to support each use case. Having multiple data sources that duplicate data or are inaccurate and cannot provide data in a timely way is the biggest

challenge for CSPs. This challenge was identified in our survey as the single largest hurdle to overcome for internal data monetization. Surprisingly, the technology to consolidate data has been available for some time, but sharing data at an enterprise level is often a challenge. Typically, a data preparation phase of a project will take up to a third of the project time, before modelling, the development of insights and the implementation of actions associated with them.

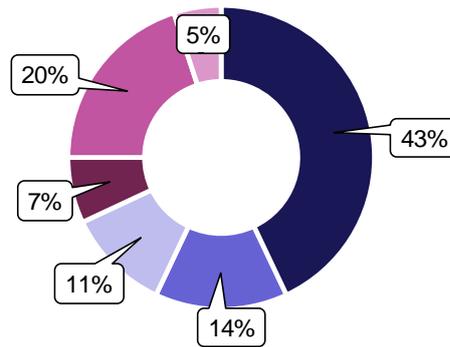
Figure 3.2: Factors that inhibit CSPs from generating valuable insights from their data¹



¹ Question: "What do you see as the major hurdles in generating valuable insights out of your data?(Rank top 3)"

Cloud-based approaches are still being hampered by concerns over security and other technical issues, but 43% of CSPs are using cloud-based technology for both big data storage and analytics-based solutions. Many CSPs have their own big data platforms, but in mature markets CSPs are increasingly adopting public cloud infrastructure. Major analytics tools vendors are providing cloud-based solutions with either SaaS access to their tools or IaaS services included. Analytics apps, where pre-formed hosted analytics functions are exposed for use within applications and solutions through APIs or embedded functions, are increasingly becoming available. Overcoming the challenges of security, performance and regulations that demand localisation of data will stimulate the take-up of cloud-based services.

Figure 3.3: CSPs' opinions on the use of cloud, big data and analytics tools for data monetization¹



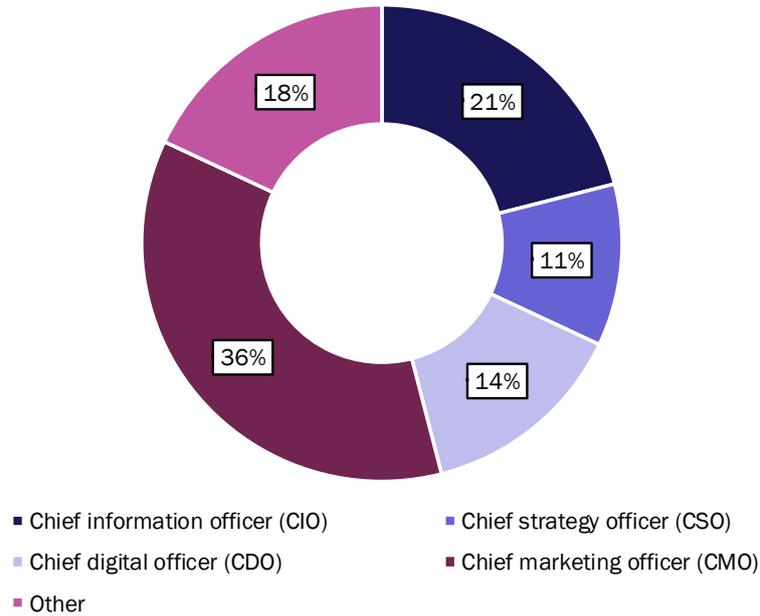
- We are already using cloud for big data and analytics
- We plan to use cloud for analytics or big data
- We are already using cloud only for big data
- We are already using cloud only for analytics
- We would like to if it can satisfy our technical and security requirements
- We cannot do that because of internal policies and security concerns

¹ Question: "How do you feel about using cloud technologies Big data storage or analytics tools?(Tick one)"

Most respondents suggested that the chief marketing officer (CMO) was the owner of data monetization in their organisation. Marketing functions have traditionally been heavy users of analytics and data to provide better customer experiences. Improvements to understanding the customer are aimed at retaining and growing customer revenue, but marketing functions cover only part of the functions in a CSP.

Within mobile-only operators, 45% of respondents suggested that the CMO owned data monetization, but the chief digital officer (CDO) was ranked at almost the same level as the CMO in APAC.

Figure 3.4: Responsibility for data monetization within CSPs, by job role¹



¹ Question: "Who owns data monetization in your organisation? (tick one)"

4. Observations and recommendations

4.1 Observations

External data monetization

Over 62% of operators in the survey were actively pursuing external data monetization strategies. This significant number suggest that CSPs believe that they have the potential to grow their business and offer services that OTT players are currently offering. Analysys Mason estimates that the value of the online market is more than USD200 billion worldwide and that more than USD70 billion of that is potentially addressable by CSPs.

External data monetization is more advanced within the APAC region where data privacy is less of a hurdle than it is in other regions. More CSPs in APAC have implemented and are implementing external data monetization strategies than in other regions. Our survey confirmed this – a relatively small number of respondents in APAC stated that they were not actively looking to support partners in selling customer insights.

Nearly 40% of respondent were already using a DMP, and a further 26% were in the process of implementing one, supporting CSPs’ rapid shift to implementing new monetization services.

The challenges that CSPs face in selling and supporting external monetization services are around regulation and the lack of knowledge. CSPs have fewer concerns about the established competition that is already prevalent in the market.

Internal data monetization

Internal use cases are heavily orientated towards those that are customer-facing and help to provide better customer services, drive more efficient operations and differentiate customer offers. There were few differences across the regions – CSPs in APAC followed the same trends as those in other regions but placed more emphasis on network design and planning. APAC operators are providing less personalisation for their customer interaction. This may reflect the large percentage of prepaid accounts and greater emphasis on mobile over fixed services compared to Europe and North America.

The major challenges included the fragmentation of data from multiple systems across the enterprises. Lack of skilled staff at CSPs and their lack of innovation processes to encourage innovation were also identified as hurdles in generating valuable insights for internal use. These are established challenges that have been with CSPs for years, but new technology with the support of vendors and partners can help to resolve these issues.

4.2 Recommendations

- The technical challenges and those related to a lack of skills are addressable by CSPs through partnerships with technology vendors. New technologies that help to automate the discovery of insights and provide monetization capabilities such as the deployment of a DMP significantly reduce the technology challenge. In embracing new tools, technology and solutions, CSPs can overcome the need to employ expensive data scientists and other related staff but can use partners to help support them with the launching of new services.
- CSPs must define their own technology ecosystems – these may be based on a single vendor, or multiple vendors, open-source or in-house developed technologies. Each approach has its advantages and depends on the CSP's abilities. Having a consolidated view of data, common tools and supporting data infrastructure is the foundation on which internal and external data insights can be delivered.
- CSPs should use cloud-based delivery for new technical needs when deploying new monetization services or capabilities. This allows for experimentation and trials without significant capex. The ability to trial at scale without affecting current systems is essential for ensuring that established operations experience minimal disruption.
- OTT players have established that the market for external data monetization services (such as digital advertising) is significant. CSPs should carefully consider how they can enter the market.

About the author



Justin van der Lande (Principal Analyst) leads Analysys Mason's *AI and Analytics* research programme, which is part of Analysys Mason's Telecoms Software and Networks research stream. He specialises in business intelligence and analytics tools, which are used in all telecoms business processes and systems. In addition, Justin provides technical expertise for Analysys Mason in consultancy and bespoke large-scale custom research projects. He has more than 20 years' experience in the communications industry in software development, marketing and research. He has held senior positions at NCR/AT&T, Micromuse (IBM), Granite Systems (Telcordia) and at the TM Forum. Justin holds a BSc in Management Science and Computer Studies from the University of Wales.

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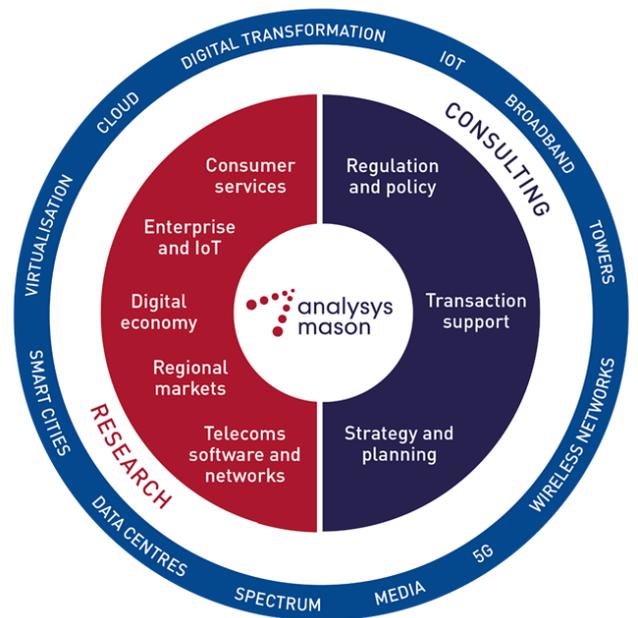
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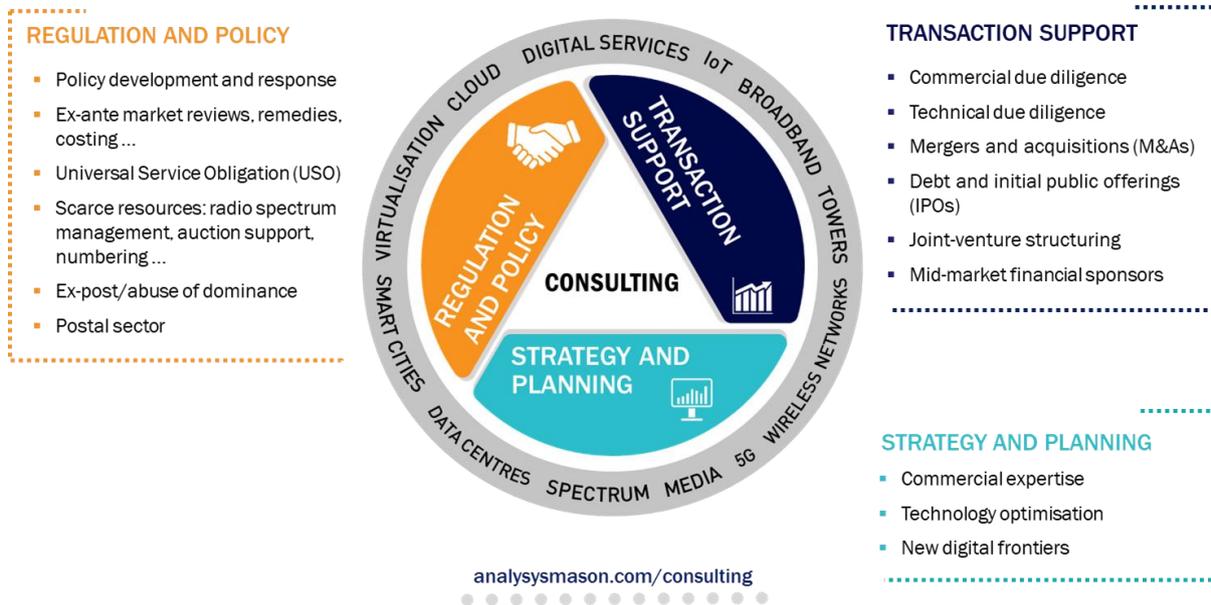
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