



Executive Briefing

TELCO DATA MONETISATION: WHAT'S IT WORTH?

It has been six years since telcos began introducing data and analytics products into their portfolio of enterprise services. This report assesses the potential value of data monetisation across 13 verticals, and by type of data analytics product.

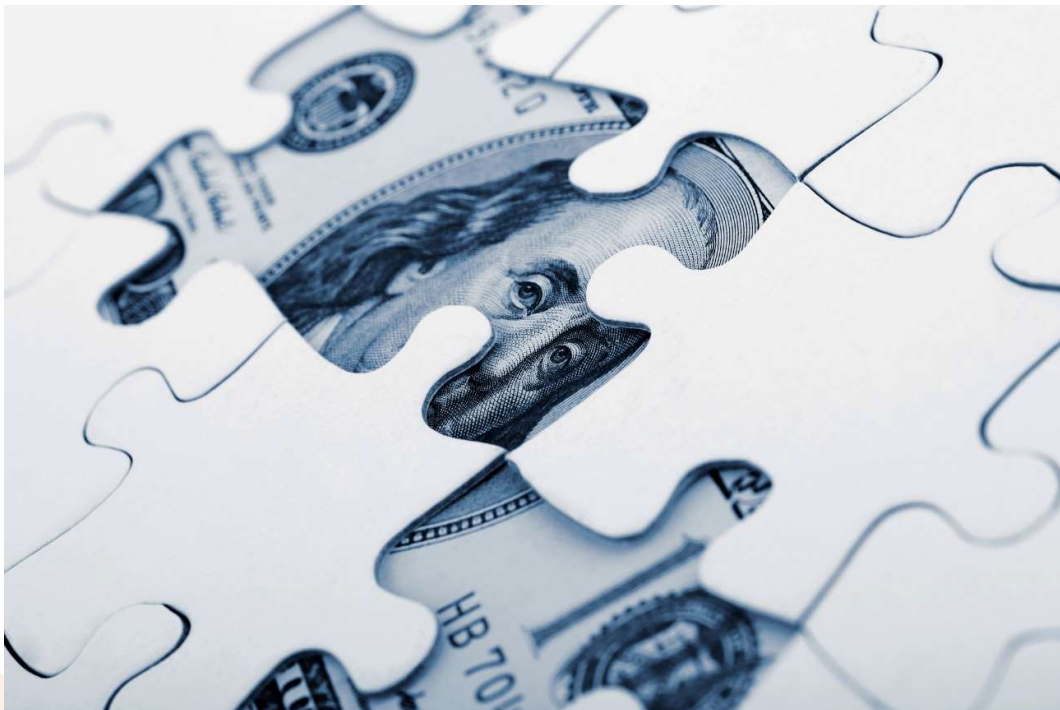


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Introduction

Monetisation of telco data has been an area of activity for the last six years. However, telcos' interest levels have varied over time due to the complexity of delivering and selling such a diverse range of products, as well as highly variable revenue opportunities depending on the vertical. Telcos' appetite to pursue data monetisation has also been heavily impacted by the fortunes of other new telco products, in particular IoT, owing to the link between many data/analytics products and IoT solutions.

This assesses the opportunity for telcos to monetise their data and provide associated data analytics products in two parts:

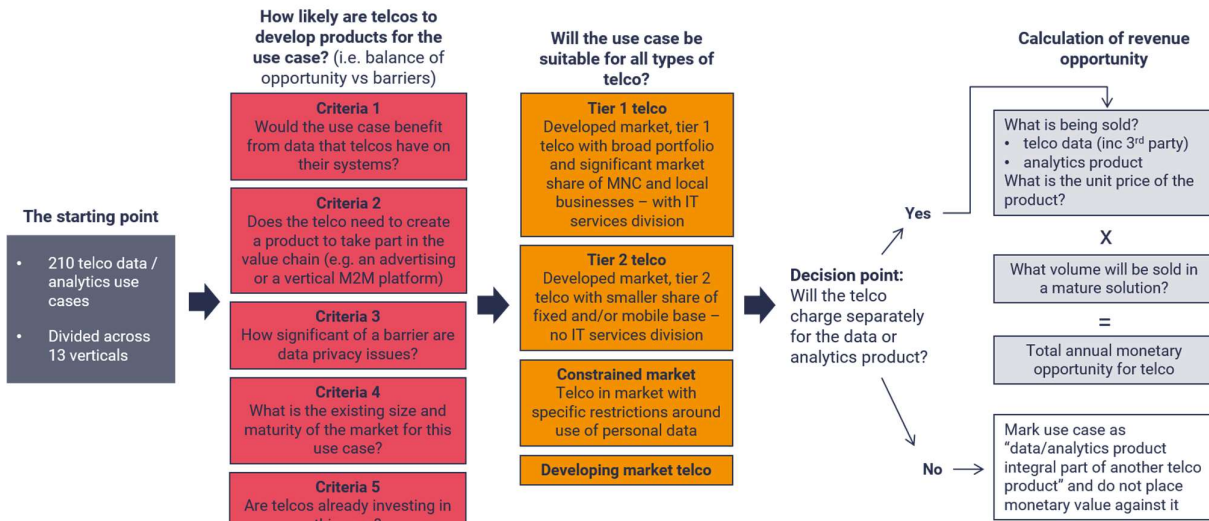
1. First, we look at the range of products and services a telco needs to create in order to deliver financial value.
2. Then, we explore the main use cases and actual financial value of telco data analytics products across 12 verticals, plus horizontal solutions that apply to multiple verticals.

Calculation methodology

The methodology used to model the financial value of telco data analytics is outlined in Figure 2 below.

- The starting point for this analysis is 210 data or data analytics use cases, spread across the 12 verticals and the horizontal solutions applicable to multiple verticals.
- We then assess how difficult it is for a telco to address each use case, based on pre-requisite supporting platforms and solutions, regulatory constraints, etc (shown in red). This evaluation enables us to assess how likely telcos are to develop products for each use case.
- Thirdly, we assess which types of telco are able to develop the use case (in yellow). For example, telcos in a market with particularly restrictive regulation around use of personal data are simply not able to create certain products.
- Finally, it is necessary to understand whether the data/analytics products created for a use case can be offered as an independent, standalone products, or more likely to be provided as a bolt-on service to another, pre-existing solution. This question is primarily pertinent in the IoT space where basic data/analytics are likely to be included in the price of the IoT service.
 - For products that we expect to be sold independently, we calculate the potential revenue based on estimated pricing for the type of data product, where known, and likely volumes that a telco will sell in a year.
 - For data analytics products closely linked to IoT, we attach no monetary value.

Figure 2: Calculating feasibility and value of telco data monetisation use cases



Source: STL Partners, Charlotte Patrick Consult

Viewing the data

Underlying the analysis in this report is a database tool including detailed assessment of each of the 210 data monetisation use cases we have identified, with numerical analysis and charting capabilities. We know many of our readers will be interested to explore the detailed data, and so have made it [available for download on our website](#) in the form of an Excel spreadsheet:

Figure 3: Full use case database and analysis available on our website

Vertical	Subvertical	Use Case	Detail	Location - Mobile Network	Location - Small Cell	IoT Device	2nd and 3rd Party Data	2. Customer Insights	3. Customer Movement Insights	3. and 5. Customer Mov Insights in Io*	4. Raw Data Feeds/ Triggers
Advertising/Market Research	Brand/media agency	Market research agencies	Provision of "wholesale" customer data to market research agencies for targeted and research purposes; can be aggregated customer data or data about customer's activity with different brands	Macro mobile network			Various data types can be included	Data platform	Customer movement insight		Customer insight/customer movement insight
Advertising/Market Research	Brand/media agency	Mobile marketing	Provision of mobile marketing campaign functionality. This will include aggregated, anonymized profiles from Telco data.	Macro mobile network			Various data types can be included	Mobile Marketing Platform			
Advertising/Market Research	Brand/media agency	Telco advertising platform	Provision of anonymized customer profiles to advertisers/media agencies, as part of Telco's own advertising platform	Macro mobile network			Various data types can be included	Advertising platform, DMP, DSP			
Advertising/Market Research	Brand/media agency	Video advertising	Addressable TV ad tech enables advertisers to selectively segment TV audiences and serve different ads or ad pods (groups of ads) within a common program or navigation screen. Segmentation can be created using data from the TV service and augmented with data from other services.								
Advertising/Market Research	Brand/media agency	Data provided to advertising data exchange	Provision of anonymized customer data to data exchange belonging to a third-party aggregator								Customer insight
Advertising/Market Research	Brand/media agency	Location-based marketing or advertising	Platform and services for creating/distributing location-based offers/coupons.	Macro mobile network	Small cell	Indoor tracking, beacons		Location-based advertising or marketing platform			
Advertising/Market Research	Brand/media agency	Location decisions for advertising/coupons	Information provided to help determine market segment size, what type of advertising or coupon distribution should be placed for users in a particular location or users historically visiting a particular location. Advertising can be dynamic (where advertisements are tailored to draw		Small cell	Indoor tracking, beacons		Customer insight			

Source: STL Partners

What is this market worth to telcos?

Overall, we estimate that if telcos developed mature data products for every use case, in every vertical, then they could generate annual revenues between US\$68mn and US\$376mn, depending on the type of telco and the regulatory environment.

This includes revenue from provision of data, all analytics, one-off reports, consultancy, data science projects and services. It does not include revenues from telcos acting as channel to market for products of vendors in the data/analytics space – for example, a telco making SAP HANA available to its IoT customers. It also does not include revenues from very broad data/analytics consultancy projects, for example, a telco working on a companywide transformation project.

Figure 4: Value of data monetisation products for telcos, split by type of telco

Vertical	Tier 1 telco	Tier 2 telco	Constrained market	Emerging market telco
Advertising/Market Research	\$195,090,000	\$0	\$195,090,000	\$123,510,000
All Verticals	\$41,100,000	\$30,600,000	\$36,200,000	\$18,700,000
Financial Services	\$27,850,000	\$5,700,000	\$27,850,000	\$4,500,000
Government	\$18,820,000	\$5,300,000	\$18,220,000	\$12,660,000
Transportation	\$18,620,000	\$0	\$200,000	\$5,400,000
Retail	\$14,600,000	\$5,400,000	\$12,000,000	\$9,600,000
Consumers	\$13,400,000	\$11,000,000	\$11,000,000	\$11,000,000
Utilities	\$12,000,000	\$1,000,000	\$9,800,000	\$10,800,000
Real Estate and Construction	\$11,520,000	\$720,000	\$11,520,000	\$11,520,000
Insurance	\$10,200,000	\$2,400,000	\$5,400,000	\$10,200,000
Healthcare	\$5,800,000	\$1,000,000	\$0	\$1,000,000
Telecom Media Technology	\$3,860,000	\$2,440,000	\$3,500,000	\$0
Agriculture	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000
Manufacturing	\$1,200,000	\$0	\$1,200,000	\$1,200,000
Education	\$0	\$0	\$0	\$0
Grand Total	\$376,560,000	\$68,060,000	\$334,480,000	\$222,590,000

Source: STL Partners, Charlotte Patrick Consult

The revenue figures above assume that the telco choose to go after all possible data/analytics opportunities in all verticals and that all products are fully mature. Realistically, no operator is likely to have the investment appetite and ability to develop data and analytics products for all verticals, and based on our research of the market, we estimate that it takes approximately five years to build up mature products, supported with rich platforms and experienced sales teams.

By assigning a likelihood score to each use case, as described in the calculation methodology above (see Figure 2), we have also broken up the total potential value into use cases where the balance between the opportunity and the barriers is favourable enough that more than 50% of telcos can successfully develop products, and those where we expect less than 50% of telcos will have the appetite to pursue the opportunity.

Figure 5: Value of data monetisation products that are worth pursuing for more than 50% of telcos

Vertical	Tier 1	Tier 2	Constrained Market	Emerging Market
Advertising/Market Research	\$ 88,000,000	\$ -	\$ 88,000,000	\$ 84,000,000
Agriculture	\$ 2,500,000	\$ 2,500,000	\$ 2,500,000	\$ 2,500,000
All Verticals	\$ 12,000,000	\$ 8,400,000	\$ 10,800,000	\$ 9,600,000
Consumers	\$ 11,000,000	\$ 11,000,000	\$ 11,000,000	\$ 11,000,000
Financial Services	\$ 14,100,000	\$ 1,200,000	\$ 14,100,000	\$ -
Government	\$ 13,560,000	\$ 4,000,000	\$ 13,560,000	\$ 7,400,000
Healthcare	\$ 4,600,000	\$ 1,000,000	\$ -	\$ 1,000,000
Insurance	\$ 6,100,000	\$ 1,900,000	\$ 4,900,000	\$ 6,100,000
Real Estate and Construction	\$ 11,520,000	\$ 720,000	\$ 11,520,000	\$ 11,520,000
Retail	\$ 8,800,000	\$ 1,200,000	\$ 7,800,000	\$ 6,000,000
Telecom Media Technology	\$ 2,800,000	\$ 2,400,000	\$ 2,800,000	\$ -
Transportation	\$ 18,420,000	\$ -	\$ 200,000	\$ 5,400,000
Utilities	\$ 5,000,000	\$ 1,000,000	\$ 5,000,000	\$ 5,000,000
Grand Total	\$ 198,400,000	\$ 35,320,000	\$ 172,180,000	\$ 149,520,000

Source: STL Partners, Charlotte Patrick Consult

There is often a marked difference in the potential opportunity, depending on the type of telco that is considering this market. The opportunities are more accessible for telcos:

- willing to accept relatively small revenue streams from data/analytics
- with a strong enterprise sales team
- using a focused strategy to drive business, including working with partners to understand and deliver to vertical requirements
- with significant involvement in the IoT market
- serving a statistically valid set of consumer mobile customers
- under less regulatory impediment.

The advertising vertical shows the biggest difference in revenues between the first table with all revenues and the second table with the more feasible revenues. This is due to the difficulty of market entry for many – especially smaller – telcos, discussed in Advertising and market research below.

Other major differences between the total opportunity for Tier 1 telcos and other types mostly relate either to restrictions on use of personally identifiable information (PII), the lack of a statistically valid mobile customer base for customer movement insight products, or from assumptions about products which might not be available in typical developing markets.

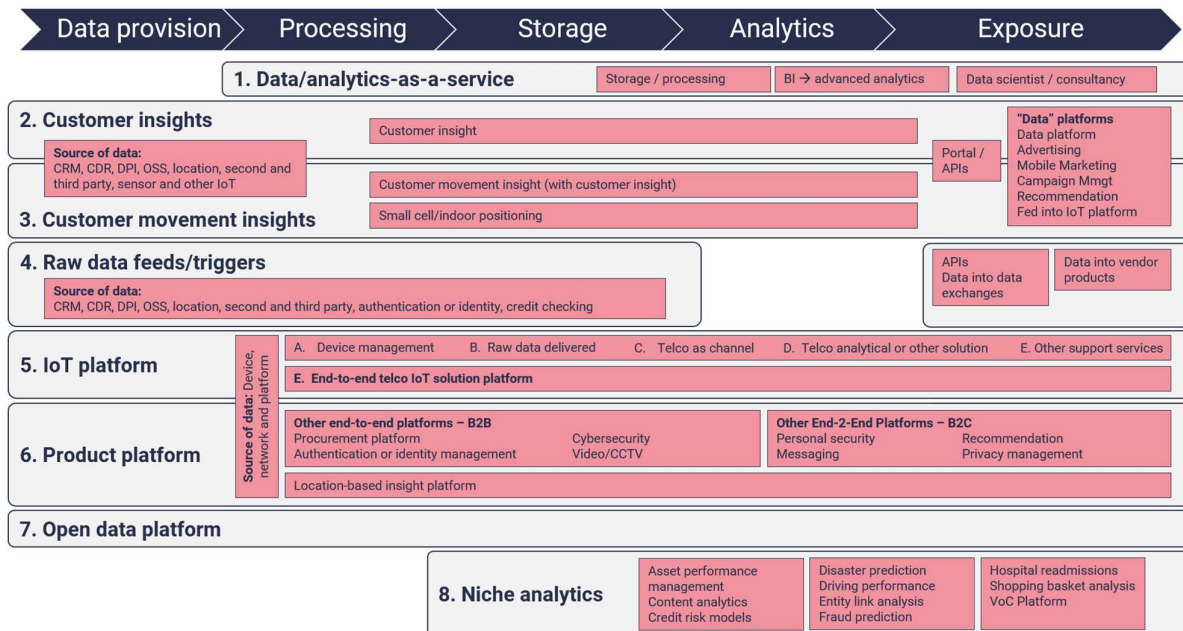
Creating products for data monetisation

This section looks at the range of products that a telco could create for its customers, including an overview of all products, as well as more detailed analysis of data products related to IoT and geolocation data.

Telco products for the ecosystem

Figure 6 below illustrates eight potential types of data/analytics product that a telco can create for its customers. The arrows across the top of the diagram indicate the stages for potential products across the data/analytics ecosystem, from raw data, to processing, storage of data, analytics/data science provided and then “exposure” products. “Exposure” products refer to any additional platforms or services which need to be provided in order to deliver the data/analytics to the end customer.

Figure 6: Eight product opportunities for telcos



Source: STL Partners, Charlotte Patrick Consult

1. **Data/analytics as a service:** The telco acts as a channel to market for larger data/analytics vendors. This provides the telco's customers with analytics and other capabilities from popular data/analytics platforms alongside other telco products.
 - Telcos have been acting as a channel to market for popular data/analytics platforms for some time – increasingly, as part of their IoT product sets. More recent initiatives include Deutsche Telekom's data intelligence hub. This brings a mix of open data and paid data sources; alongside the ability to use and/or purchase analytics and data science capabilities.
2. **Customer insights:** This capability provides aggregated and anonymised telco customer data via a portal or platform – for example, to advertisers. Products focus on datasets, such as demographics, to segment and understand customers.
 - The ability to monetise demographic or other customer data is dependent on the regulatory environment, a telco's appetite for risk, the behaviour of competitors and the cost of developing the necessary data platform, sales and consultancy capabilities. There remains potential for telcos in less restrictive regions to develop a data platform where customers can query anonymous data in real time. This would primarily be used for advertising or marketing use cases, but it could be bought into the IoT environment as well.
3. **Customer movement insights:** This capability provides aggregated and anonymised customer data, but in this case the data uses customers' location and context from mobile or small cell networks.
 - Customer movement insight offers the largest financial opportunity and the main competition comes from aggregators of app data such as Safe Graph, which has an increasing market share in large markets such as the US. There are a small number of specialist vendors who work with telcos providing revenue share on vertical specific use cases.
4. **Raw data feeds/triggers:** Sets of raw customer data are passed to an enterprise customer, or data about an individual customer is used to create triggers and then passed to an enterprise customer, for example as part of authentication process.
 - For reasons of risk, this is not a well-publicised telco product. Anecdotal evidence suggests that telco datasets do feed advertising data platforms, credit scoring and authentication use cases, but we believe that this provision is sporadic.
5. **IoT platform:** A telco's IoT product has a variety of data/analytics products that are sold separately or as part of the platform. See Data and analytics for IoT below for more detail.
6. **Product platform:** A telco may also have a variety of other product platforms that have data/analytics associated with them, for example, cyber security or CCTV.

- Success in this product category is dependent upon the success of a range of disparate enterprise solutions outside the IoT.
7. **Open data platform:** Participation in an open data platform, as part of an environment such as a smart city to enable a variety of entities to use the collected data.
- It is hard to get a clear picture of how many telcos submit data into open data platforms. However, they are important sources of data for telcos wishing to augment their own customer movement insight products for use cases within, particularly, smart cities. Therefore, as smart cities mature this may become a more important product category.
8. **Niche analytics:** Creation of a set of analytics or data science products for a specific use case without any accompanying sale of data or other products.
- A range of analytics products have been seen from those telcos with their own data science/consultancy capabilities. Provision tends to be related to the importance of the vertical to the telco and the creation of other products for a use case. A good example of this is Elisa's Smart Factory solution, covered in a previous [STL case study](#).

Data and analytics for IoT

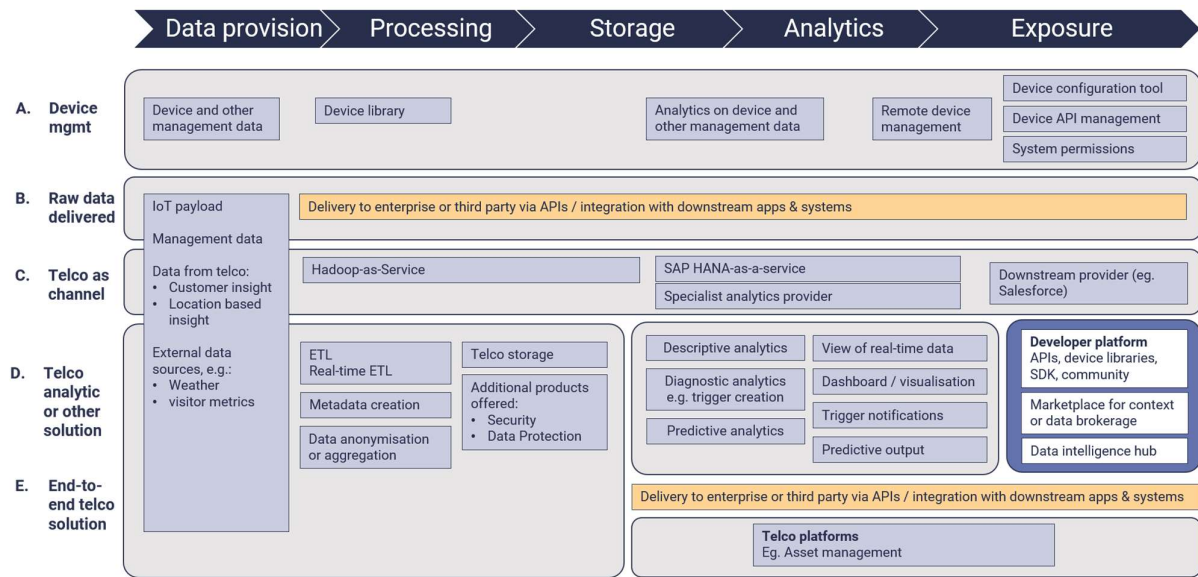
Figure 7 below illustrates the development of data and analytics products around telco IoT activities. The five rows labelled A to E are:

- A. **Device management:** This includes analytics that use network data from the management of the platform and devices, rather than payload data coming from the device itself. The analytics are used internally but can also be exposed to customers to enable them to manage their assets.
- B. **Raw data delivery:** Telcos pass the payload data from a customer's devices straight to the company or to a third party without processing or storing it.
- C. **Telco as channel:** The telco offers the storage and analytics products of other providers, such as SAP, Cloudera and Splunk.
- D. **Telco analytical or other solution:** Telcos can offer a range of services to their customers, including providing their own data to add further insight, processing data, or offering additional services, such as security as part of a storage product or creating bespoke analytical solutions.
- The final box in the row (coloured blue) illustrates the development of market places on top of the IoT platform, to expose the data and analytics/data science of other companies to the telco's customers, and enable the free use or trading of first-, second- or third-party payload data.
 - This could also include a developer platform, in which the payload data can be exposed to enable development of applications. These applications may aggregate data from a number

of customers, or they may layer external data onto existing datasets to enable new products and services.

- E. **End-to-end telco IoT solution platform:** Here, data and analytics offerings are an integral part of a complete telco product. For example, the telco offers asset management or cargo monitoring solutions that include data and analytics. The creator and ongoing provider of the data/analytics product might be the telco or a partner.

Figure 7: Data/analytics products related to telco IoT

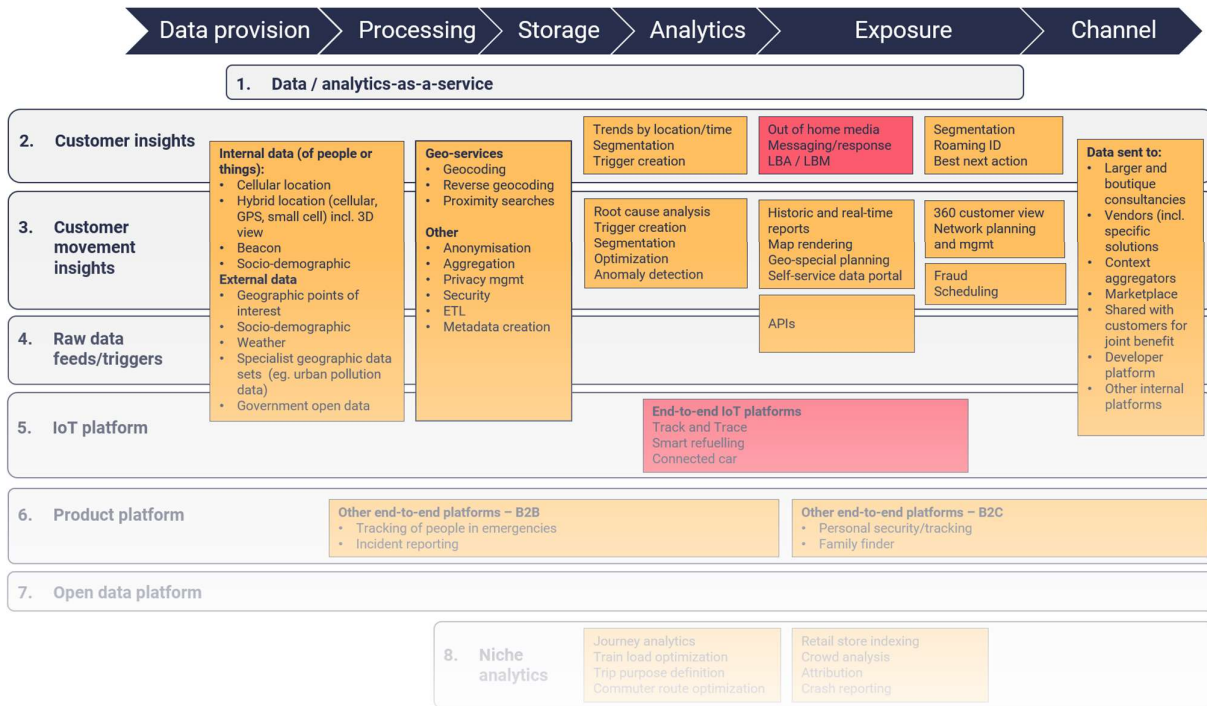


Source: STL Partners, Charlotte Patrick Consult

Use of location in data monetisation

The diagram in Figure 8 provides more detail of the requirements around a customer movement insight product. The items in red blocks specifically identify areas which use an individual’s location – many of these use cases do not present a problem to a telco. However, some, such as location-based advertising and marketing, are mostly avoided by telcos because of the privacy implications and less attractive margins.

Figure 8: Use of location in telco data monetisation products



Source: STL Partners, Charlotte Patrick Consult

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