

DATA COMMERCIALISATION: WHERE TO START

IDEATING AND PRIORITISING SUCCESSFUL ANALYTICS USE CASES



EXECUTIVE SUMMARY

In our recent joint paper with Lloyds Banking Group, *Data Commercialisation: How to Capitalise on Your Greatest Asset*, we outlined how to define and pursue data commercialisation strategies and examined what data marketplaces might look like in the future.

This paper focuses on the first strategic step of data commercialisation – ideation and prioritisation of use cases.

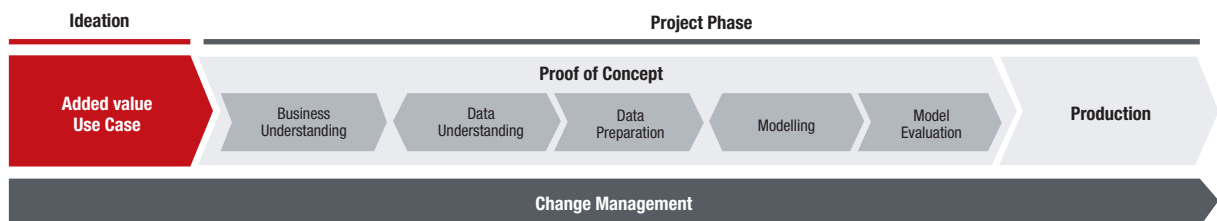
As of today, no organisation is fully mature in all aspects of a data ecosystem. For this reason, we recommend starting the data commercialisation journey internally by launching one or

a few pilots of analytics use cases (UC) before engaging in the industrialisation phase.

It is common knowledge that many advanced analytics proofs of concepts (PoC) do not reach the industrialisation phase. Most of these unsuccessful attempts could have been avoided with a thorough ideation and selection process.

To reduce the rate of failure, we suggest organisations first focus on ideation, where they can select use cases with real added value and a high probability of success.

ANALYTICS PROJECT LIFECYCLE



INTRODUCTION: DATA IS AN ASSET AND SHOULD BE EXPLOITED AS SUCH

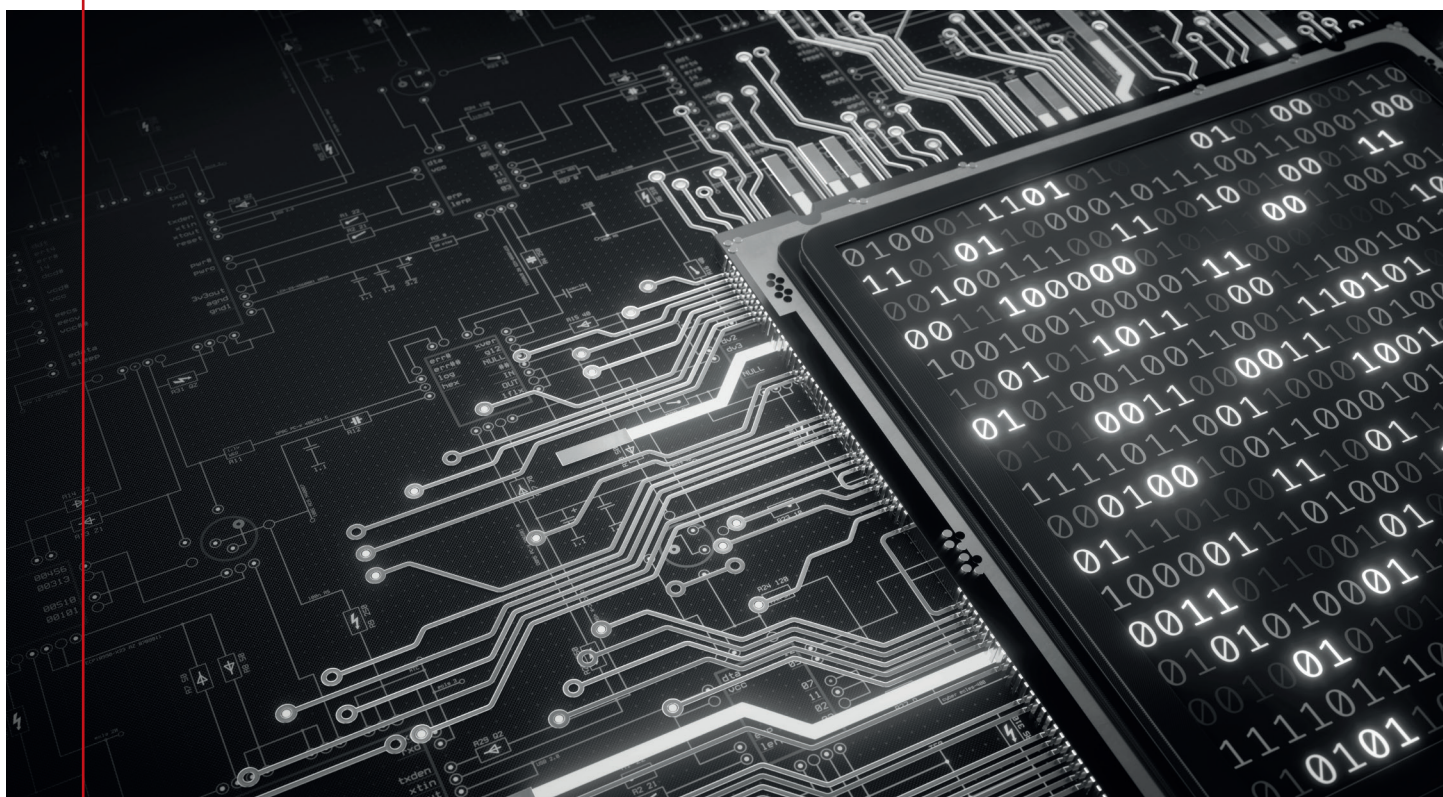
Data has always been present, but the recent information revolution has made it possible to capture and store it on a massive scale. Thanks to infrastructure developments and continuous advances in technology, data has become a commodity which can be exchanged, transformed and analysed. It continues to fuel the world's most successful companies.

Many technology firms, for example, while far from being the only data-intensive players, have accelerated growth based on the use of data, standing as a prime example for all data-intensive industries, including banking.

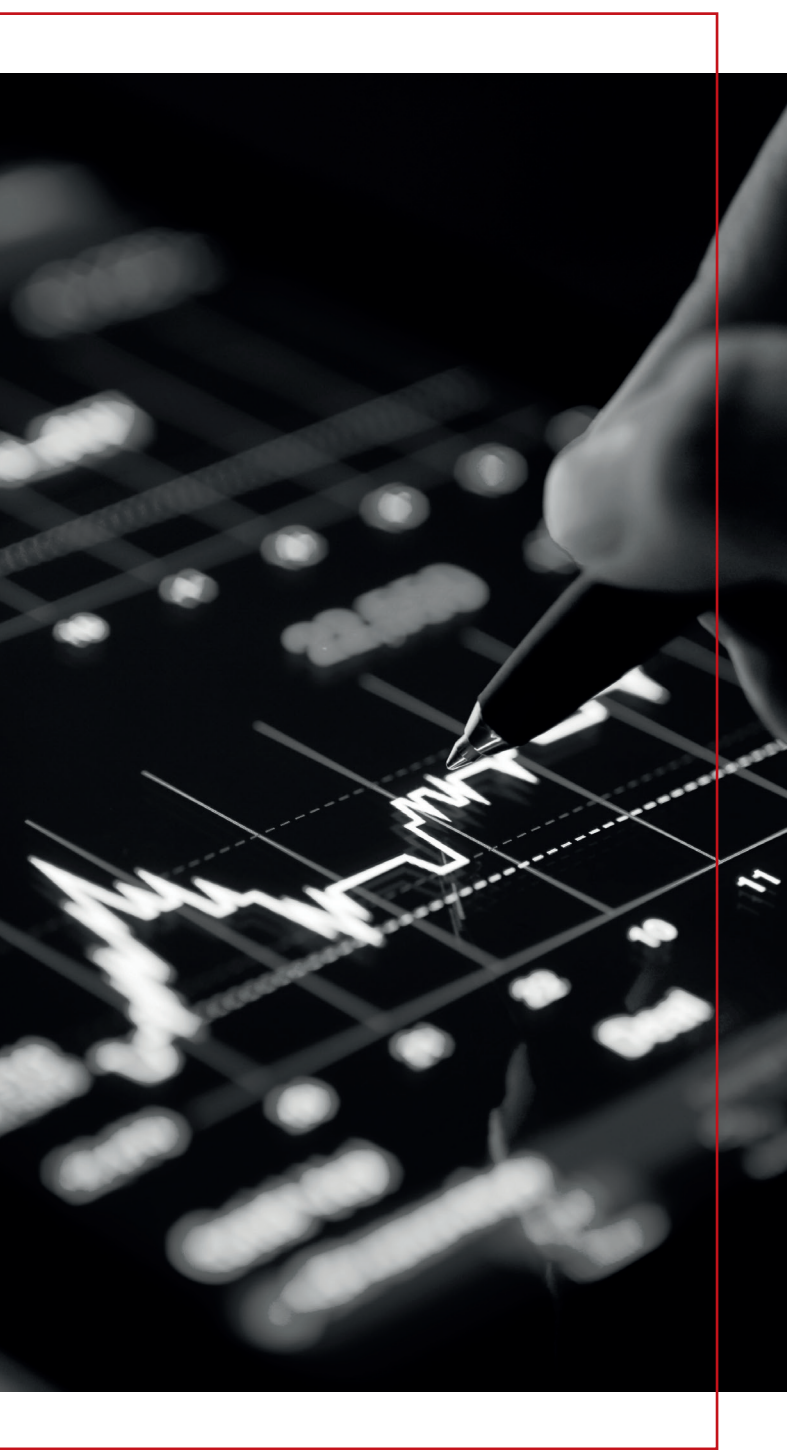
Banks need to start harvesting the power of data by implementing effective strategies to exploit it. Transforming how data is used,

from analysing the past to predicting the future and developing new ways of working, is now essential for all organisations. Not only will this ensure compliance with data-related regulations such as GDPR, PSD2 and Open Banking, but also reduce costs, create new business opportunities and enhance profitability.

Achieving these objectives requires a continuous investment in data, robust infrastructure and governance, improving data quality and developing data analytics initiatives. Based on our framework, banks can enter the era of data commercialisation which will bring value to their businesses.



DATA COMMERCIALISATION – A BRIEF DEFINITION



Data commercialisation (also known as data monetisation) is a strategy to create financial benefits by leveraging data owned or developed by an organisation.

Data commercialisation is still in its infancy. Today, most firms focus their data efforts on how to manage, optimise and store data, primarily for compliance purposes. Data commercialisation goes beyond the analysis and insights produced today, transforming data into an asset which brings value by:

- Addressing specific needs
- Deriving future economic benefits
- Being exchanged, sold or purchased

There are two main types of data commercialisation:

- Internal commercialisation focuses on using data to create business insights that can improve decision-making, generate new opportunities (such as creation of products or expansion to new markets), enhance customer experience and drive improvements to operational processes. Imagine the power of being able to mine corporate international shipping inventories data and to proactively offer an appropriate product, such as trade financing, at the right time and place and with customised terms.
- External commercialisation uses data assets in an organisation to create data products or insight reports that can be sold to third parties or combined with third-party datasets (to be shared or sold as an alternative revenue stream). An example of this could be the sale of insights to corporate clients on how Brexit has impacted trade between various countries and industries and how that may affect a company's business model.

DATA ECOSYSTEM IN A BANK

The power of data within banks is built upon a combination of many capabilities that together form a data ecosystem. Organisations need to understand this network and exploit the synergies between its various components to realise full business value.

It is important to note that data analytics comes last in the data ecosystem, and the results of data science projects depend greatly on data quality and the extent to which data has been documented.

OUR VIEW OF A BANK'S DATA ECOSYSTEM



- 1 Defining key roles and responsibilities in governing data to reduce operational, financial, market, regulatory and reputational risks
- 2 Improving transparency by evidencing the end to end data flows across various data objects
- 3 Providing a measurable view of current data integrity and assessing future trends in data quality
- 4 Defining how business processes, people and teams interlink with the data lineage across the bank
- 5 Defining how data architecture and system architecture facilitates data management across the bank
- 6 Defining key functional concepts on how data is structured and categorised within the bank including logical data modelling
- 7 Defining key data elements across the bank and establishing standards in terms of data definition
- 8 Generating insight from data either retrospective or predictive

WHERE TO START WITH DATA COMMERCIALISATION INITIATIVES

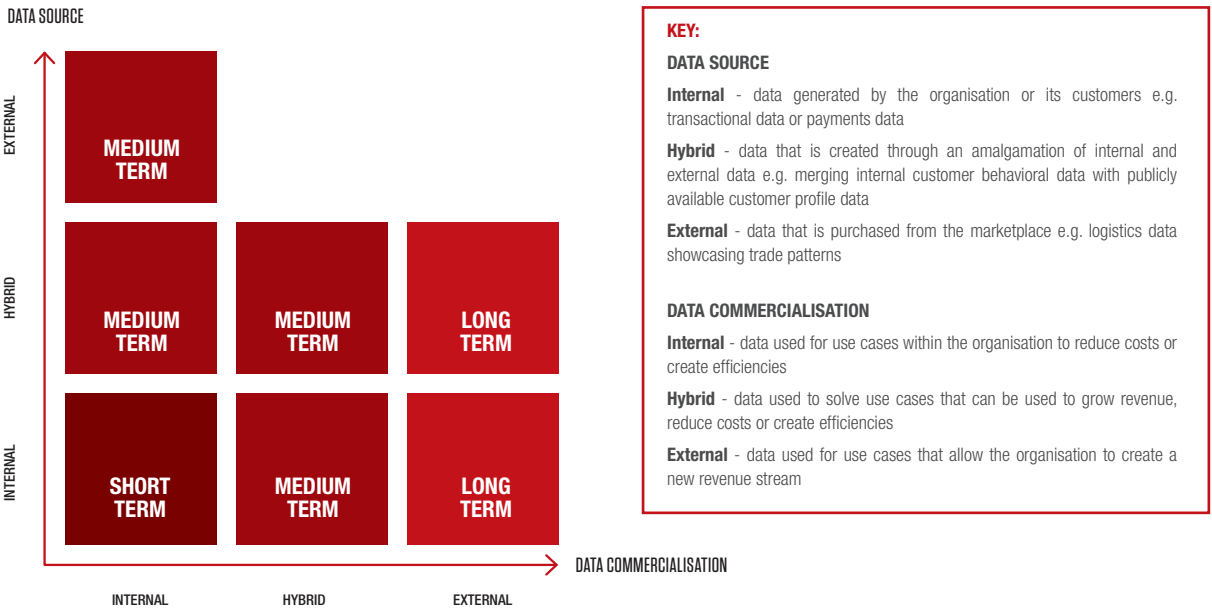
Data commercialisation needs to be embedded within an organisation's wider data strategy and target operating model. Once data commercialisation objectives are defined, use cases can be selected depending on the timeframe and information available (see the use case matrix below).

In the immediate term, we recommend focusing on commercialising data internally, using only internal data sources - to enable firms to test and learn quickly – and with data that is easily accessible

and understood. These use cases will typically focus on improving internal efficiencies, e.g. using payments transaction data to identify concentration of payment repairs and then putting in place automated remedial actions, so payments can be processed straight through (i.e., STP).

Once the organisation is familiar with data commercialisation, it can begin combining internal and external data sources.

DATA COMMERCIALISATION USE CASE MATRIX



ANALYTICS USE CASE IDEATION METHODOLOGY

First and foremost, use cases should always come from a business need, rather than from a solution. Also, while the sponsoring business unit's insights are crucial for ideation, other stakeholders such as the Data Office, IT, Legal & Compliance, must also be consulted.

To help our clients build added-value analytics use cases, we have developed a seven-step methodology described in the following sections.

1. ONBOARD BUSINESS STAKEHOLDERS

The objective of the first step is to provide a conceptual framework and prepare ideation, to ensure buy-in from the business.

Provide a conceptual framework

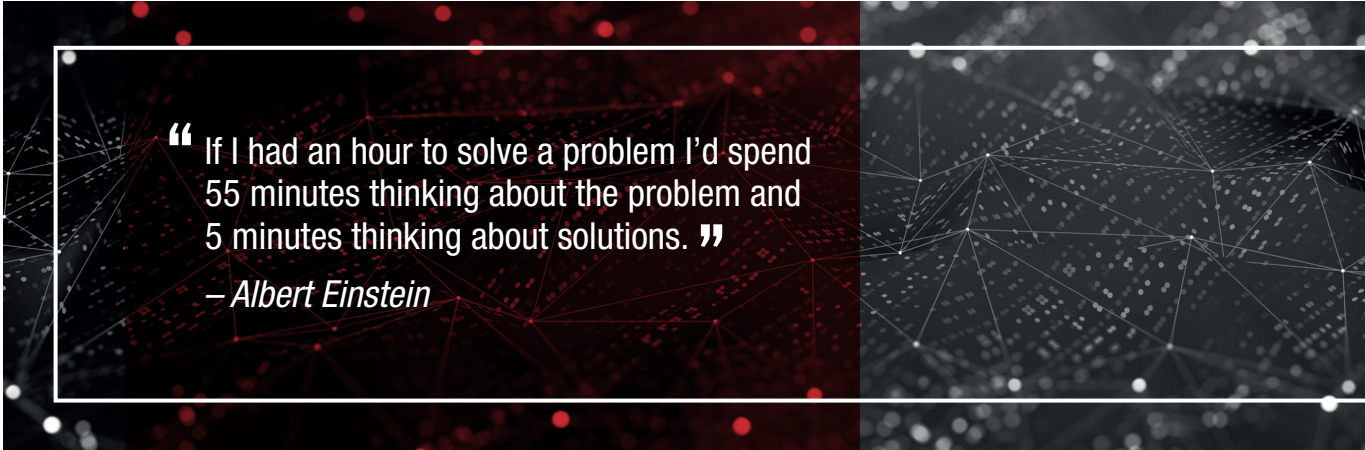
Stakeholders should have the same level of understanding of the context and objectives, to ensure that all can participate in subsequent activities. Thus, the first session should present information about:

- The data ecosystem - capabilities, data roles and governance, current data initiatives within the organisation, examples of successful credentials in the financial industry, current and future data trends
- Data commercialisation concept - internal vs external, key reasons and benefits for the organisation to engage (revenue generation, cost reduction, customer retention, fraud protection)

Prepare ideation

This step involves a series of workshops and begins by raising awareness of the value that can be added through the exploitation of data. Ideation phase is closely linked to business problem statement and we recommend focusing on practical cases that involve general (non-financial services) business processes, for example:

- Customer retention
- Operational efficiency
- Business monitoring
- Data protection



“ If I had an hour to solve a problem I'd spend 55 minutes thinking about the problem and 5 minutes thinking about solutions. ”
– *Albert Einstein*

2. IDEATE WITH BUSINESS MANAGERS AND TEAMS

This step aims to generate as many analytics use cases as possible.

Create mixed teams

Workshops should involve business experts from many areas and of diverse professional profiles. This will include business stakeholders as well as data scientists and data engineers.

Conduct a hybrid brainstorm

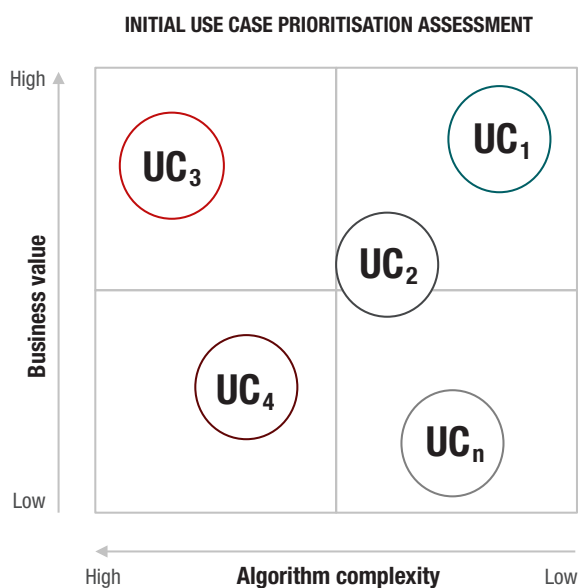
This is a creative exercise, which means 'go for quantity and worry about quality later.' We suggest running individual ideation sessions first before moving to group exercises to generate more and better ideas.

The facilitator prompts participants to think about which tasks they find most time-consuming, repetitive or unpleasant, and what they would like to analyse better, diagnose, predict or commercialise. Each idea is captured in the form of a use case card.

3. PRIORITISE USE CASES

To prioritise use cases, we propose a two-dimension chart indicating:

1. Use case business value (y-axis)
2. Use case proof of concept engineering complexity (x-axis)



The y-axis values (business value) are based on the ideas and feedback gathered from the business during the first two steps. The values along the x-axis (algorithm complexity) are determined by the project team analytics translator, who assesses the gap between real-world problems to be solved and techniques available to data scientists.

Generally, priority UCs are those with the most business value and the least complexity.

4. OBSERVE OPERATIONAL PROCESSES VIA GROUND SESSIONS

For each use case that will seem promising (high business value), the project team will observe operational processes via ground sessions with use case's solution end users.

The objective of these ground sessions will be to give body to the uses cases through understanding related operational processes; and to delineate topics to be addressed with IT teams, Data Office, and Legal & Compliance. To prepare these ground sessions, specific hypotheses will be formulated in order to be tested with end-users.

During these ground sessions, the project team will focus on:

- Understanding detailed processes and data ecosystem (apprehending data inputs, outputs and tools currently used)
- Confronting the team hypothesis with the facts on the ground
- Generating questions to address with IT, Data Office, Legal and Compliance

5. ASSESS FEASIBILITY THROUGH INTERVIEWS WITH IT, DATA OFFICE, LEGAL & COMPLIANCE

To assess the feasibility of use cases, the project team must consult stakeholders from IT, the Data Office and Legal & Compliance on topics such as resources, infrastructure, tools availability, regulation and ethics.

Data Office

This may seem trivial, but without data, data analytics is impossible. Interviews with the Data Office will provide a view on available internal or external data, as well as analytics resources that may be onboarded for potential projects.

IT

Core elements of analytics projects rely on IT. This includes provision of an adequate data ecosystem and adoption of tools, techniques and integration technology.

Infrastructure limitations may be a showstopper for some use cases. For example, some UCs will need data that is not available in a relational format or cannot be analysed using traditional methodologies. This requires new approaches to handling large volumes of different types of data (e.g. NoSQL DBMS for distributed storage and Apache Spark for distributed computing).

Legal & Compliance

In an increasingly demanding regulatory environment, all data analytics projects need to be aligned with regulatory and compliance requirements, particularly those involving personal data or artificial intelligence (AI).

Data is subject to many levels of regulation depending on its location. For example, data rules in the European Union, United States and China are not aligned. This can lead to conflicts in global organisations. In addition, data privacy is a major issue through GDPR in Europe.

AI regulation, compliance and ethics are hot topics on the management and government agendas, but as of today, there is no institutional framework on artificial intelligence. Developments in this space will need to be closely monitored.

6. RULE OUT UNSUITABLE USE CASES

At this stage, advanced analytics experts step in. These experts are an essential part of ideation project teams, as analytics use cases often require implementation of highly complex algorithms. It is important to mobilise specialists who can separate the hype around new technologies from genuine capabilities and provide a realistic view of limitations. Use cases relying on overambitious AI / new technologies should be discarded.

Taking into account all materials and feedback gathered, the project team can now assess the feasibility of each use case and put aside those which cannot be considered in the short term. (This may not be the case in the future due to changing regulations and fast evolving technologies).

The figure below is an example of reasons for ruling out use cases. It represents the main causes for rejection and shows the list of use cases that have been ruled out with the rejection categories and the number of rejected use cases by category.



LIST OF USE CASES RULED OUT

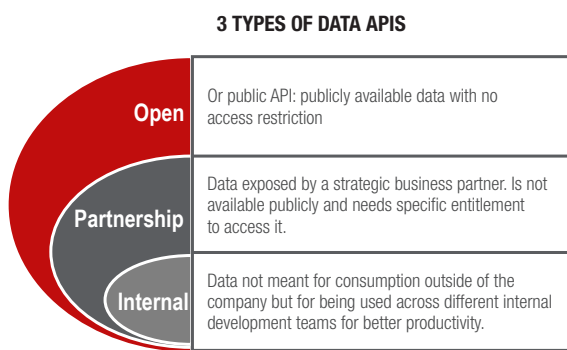
- Use case 5
- Use case 6
- Use case 7
- Use case 8
- Use case 9
- Use case 10
- Use case 11
- Use case 12
- Use case 13
- Use case 14
- Use case 15

7. SELECT AND PRESENT VIABLE USE CASES

The remaining use cases are potential candidates to be presented to the project sponsor. To help visualise this presentation, we have created a benchmarking tool based on criteria such as cost, algorithmic complexity, industrialisation difficulty and ROI (return on investment).

Cost

This criterion is based on the interviews with the business teams, Data Office and IT and takes into account internal and external resources requirements, and, potentially hardware, software or data acquired from partners (as one of the three available data sources, see figure below).



Algorithmic complexity

Algorithmic or conception complexity refers to various aspects, such as complexity of the models that will be used, complexity due to the combination of models or complexity arising from the fact that techniques required to solve a given problem may not be well-established.

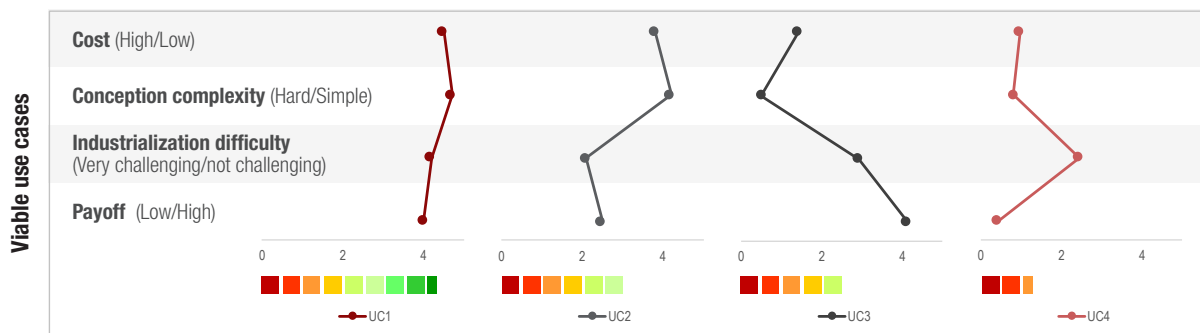
Industrialisation complexity

Once the firm begins producing analytics-powered insights, they will need to be integrated into the business to realise the full benefits promised by the business case. This involves process redesign to incorporate analytics insights into the workflow (data engineering). In some cases, this will be best achieved through automation, while in others it will require getting the right data insights into the hands of the right people. In either case, optimising the human-machine interaction is critical.

ROI

Firms also need to consider future profitability if a pilot use case is industrialised and the solution is deployed on a wider scale.

CONCLUSIVE USE CASE PRIORITISATION ASSESSMENT



How to read the graph:

The use cases to be prioritised are the ones with the highest score (or greenest score) i.e. the ones with most dots on the right side of the scale. In this case UC1 would be prioritised.

THIS IS JUST THE BEGINNING...

Ideation is the first step of the data commercialisation journey. Once use cases have been selected, institutions will need to build the proof of concept, test it, and then manage industrialisation and change. Successful completion of internal data commercialisation projects will enable firms to move towards external commercialisation which will bring new revenue streams and competitive advantage.

RELATED READING

[Data Commercialisation: How to capitalise on your greatest asset](#) – a joint paper by Capco and Lloyds Banking Group.

CONTACTS:

Julien Blanchet

Partner
julien.blanchet@capco.com

Jérôme Lecussan

Executive Director
jerome.lecussan@capco.com

Aurélie Lustenberger

Principal Consultant
aurelie.lustenberger@capco.com

Oksana Biens

Senior Consultant
oksana.biens@capco.com

AUTHORS:

Aurélie Lustenberger

Principal Consultant

Oksana Biens

Senior Consultant

Gaëlle Laboureux

Managing Principal

Morgan Davidson

Senior Consultant

Christophe Duchemin

Senior Consultant

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