

# Understanding beneficial ownership **data use**

Research on the use of beneficial ownership information and its implications for designing reforms

April 2025

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# Glossary

Assets	"[Items] of property owned by a person or company, regarded as having value and available to meet debts, commit- ments, or legacies". <sup>1</sup> While assets include company shares, this report will typically use the term to refer to all other assets, including tangible assets such as land and real estate, and intangible assets such as financial assets or govern- ment-issued licences.
Attributes	Characteristics associated with a particular subject (e.g. individuals, legal vehicles, or assets) that help to uniquely identify it. This information can be collected in data fields, and it can include both information that is specific but not necessarily unique to an individual (e.g. name, date of birth, or nationalities) and information that is unique (e.g. a national ID number).
Beneficial owner- ship (BO) data user or user	Any actor (for example, an individual or an organisation) that uses or could use BO information to answer questions that help achieve specific purposes, which broadly contribute to the policy objectives associated with BOT reforms. This research primarily focuses on end users of BO information, but also includes interviews with intermediary users such as commercial providers of services (e.g. data cleaning and aggregation) that form part of the BO data-use ecosystem.
BO data-use journey	The complete set of activities a user undertakes to answer one or more questions using BO information. Initial ques- tions may lead to additional lines of inquiry.
Entity resolution	The process of establishing whether multiple records about a subject (e.g. individuals, legal vehicles, or assets) are referring to the same subject or different subjects.
Identity verification	The process of determining to which real-world individuals or legal vehicles records correspond. Although this process is different from entity resolution, entity resolution can be achieved through identity verification.
Line of inquiry	The steps taken by a user to answer their question.
Relationship	A connection between two subjects. For example: <i>legal</i> ownership is a relationship between a legal vehicle or indi- vidual and another legal vehicle or other asset, whereas <i>beneficial</i> ownership is a relationship between an individual and a legal vehicle. Relationships between individuals, such as through marriage or family relations, can also be relevant to BO information.
Use type	The way in which BO information is used. Use types vary based on the characteristics of the questions data users are seeking to answer.
User needs	What users need to effectively use BO information. In a user-centred approach, user needs will inform what specific requirements can be developed to meet these needs.



### Summary

Measuring the impact of beneficial ownership transparency (BOT) reforms is an emerging area of research. This requires assessing whether the reforms are able to address users' needs and to ensure beneficial ownership (BO) information from central registers is effectively used. The policy objectives of BOT reforms are wide-ranging and can include ensuring the proper functioning of legal entities and arrangements – collectively known as legal vehicles – and preventing their abuse in enabling corruption, tax evasion, and money laundering.

To better understand how reforms can be best designed for impact, Open Ownership conducted primary qualitative research with a range of users of BO information, interviewing over thirty participants from a range of sectors and jurisdictions. The research leveraged Open Ownership's global network to gather user insights, understand the range of ways in which BO information can be used, and draw lessons for effective, user-centred implementation of BOT reforms. The intention was to explore how the use of BO information can inform access regimes and ensure these are in line with privacy and data protection laws – meaning that the infringement caused is necessary and proportional, and that users only have access to the information they need to achieve their purposes.

The research found that many experiences and needs are shared across different use types (that is, ways of using BO information). These were mostly expressed as challenges shared among the large majority of users. Currently, many users cannot access and process information in ways that allow them to answer their questions. Whether they work in law enforcement, for financial intelligence units (FIUs), tax authorities, procurement agencies, anti-corruption bodies, financial institutions, the media, academic institutions, or non-profit organisations, users require:

- Effective access to usable BO information.

This is often still a challenge, especially for data on foreign legal vehicles and individuals.

 Ways to easily retrieve relevant information by being able to flexibly process the data.

Limited options to process BO data and limited search functionalities on BO registers make it difficult, and in some cases impossible, to analyse the information in specific ways.

 Ways to understand relationships between subjects within and across information sources.

This requires sufficient information for users to be able to easily determine whether records about individuals, legal vehicles, and assets refer to the same or different subjects, and to accurately identify whether relationships between these subjects exist within and across datasets. The lack of common identifiers can mean this is often a very resource-intensive process. Data-service providers are critical intermediaries that address these barriers to effective BO data use, but can be unaffordable for some users.

### A minimum level of accuracy to be able to draw conclusions with confidence.

Users require up-to-date information and to be able to understand changes over time. Many users compare records with other information sources to check for discrepancies, which is also a common verification approach for registrars. For this, they need to be able to easily identify inaccurate or missing data which can indicate red flags. This is harder to do if accidental errors in registers' data are ubiquitous. Despite many similarities, the research identified a number of different needs in terms of how to access and process BO data. This is largely determined by the type of question the user seeks to answer. Whether individuals use BO information to help manage business risks, investigate tax evasion, or improve public procurement, the specific characteristics of the questions they ask constitute specific use types and user needs. These insights provide the foundation for a conceptual framework which identifies specific user needs based on the following elements:

The nature of the question users are seeking to answer.

For example, questions can be quantitative or qualitative in nature, which has implications for whether or not users may be able to answer their questions with pseudonymised data.

- The scale of processing required to answer the question. This relates to the number of subjects (e.g. individuals or legal vehicles) users are interested in.
  For example, analysis that involves the processing of large quantities of information requires ways to facilitate this. For example, this may require application programming interfaces (APIs) or access to the information in bulk.
- The scope of processing required to answer the question. This relates to the number and variety of connections or relationships between different subjects needed to be identified for users to reach their conclusion.

A small number of use types require a limited scope of data processing. The majority need to identify relationships between individuals, legal vehicles, and assets. This may mean information from a single BO register, multiple BO registers, or additional non-BO datasets is needed. The more extensive the scope of processing required, the greater the need for mechanisms to facilitate entity resolution – the process of establishing whether multiple records about individuals or legal vehicles are referring to the same or different subjects.

- The **frequency** of processing required to answer the question.

Users who need an up-to-date picture of BO information may require ways to process it on an ongoing basis. This may mean specific register features such as automated alerts, streaming APIs, or the ability to download up-to-date information in bulk are necessary. The research found that different use types can cut across different user profiles and groups. For example, researchers, tax investigators, and law enforcement officers can all use BO information in the same way, depending on the questions they are trying to answer. In addition, as initial queries may generate new, unforeseen questions and use types, predicting how information will be used and the associated needs can be difficult. Therefore, it does not seem practicable to associate specific use types with specific user profiles and groups in most cases. The findings warrant reframing the narrative around access to BO information from who [italicised] should have access, to include what [italicised] this access should look like in order to enable the effective use of BO information. The research suggests that a large group of users should be able to access the information as structured data and use this flexibly.

These findings generate recommendations to help address user needs across the widest range of use types. Many of these echo the Open Ownership Principles for effective beneficial ownership disclosure.<sup>2</sup> Policy makers and agencies implementing BOT reforms can reduce current obstacles, frictions, and resource costs of BO data use by:

- Providing access via well-designed APIs and bulk downloads of up-to-date information to enable use types that require processing data at scale, allow intermediary users to provide services that support end users, and enable information to be flexibly used.
- Expanding the search functionality of BO registers to enable users to find the information they seek in a targeted way. Basic search portals with limited functionality can satisfy some simple user questions, but are unlikely to enable a wider range of use types.
- Enabling users to establish whether multiple records about individuals (or legal vehicles) are referring to the same or different subjects in BO registers by using or assigning reliable identifiers, such as the Legal Entity Identifier (LEI) or register-specific persistent identifiers for individuals.
- Collecting a minimum amount of information necessary to enable various use types, and providing access to this as structured data with supporting documentation, possibly by using a recognised data standard, to allow the information to be readily processed, including to understand changes over time. This will also help ensure information is more interoperable and can be readily combined with other information sources.

- Verifying information at the point of submission of BO declarations to guarantee a baseline level of accuracy, such as preventing accidental errors. Capturing information in well-designed digital forms will also help prevent accidental errors and improve accuracy.
- Designing access provisions and data-use policies that allow all users that have a legitimate role to play in achieving impact, and ensuring they can access the information they need and use it in a flexible way. Some jurisdictions may need to put safeguards in place, but where these are excessive or poorly designed these can undermine the impact of BOT reforms.
- Adapting these findings to local contexts and adopting an agile, iterative, and user-centred approach.

### Introduction

The extent to which BOT reforms help achieve specific policy goals is dependent on BO information being used effectively. Therefore, it is critical for agencies that design and implement BOT reforms to understand the experiences of users of BO information from central registers, including their perspectives on what enables and hinders effective BO data use. These insights should shape the design, review, and iteration of BOT reforms to ensure they are and remain impactful.

Given that almost a decade has passed since the first jurisdictions started implementing BOT reforms, and an increasing number is following suit, more BO information is available now than ever before.<sup>3</sup> This has created more opportunities for different parties to use BO information and explore whether the reforms are starting to have their intended impact. At the same time, the past few years have seen discussions around BOT increasingly dominated by debates around who should have access to BO information. In particular, the November 2022 Court of Justice of the European Union (EU) judgement mandated the EU to balance transparency with privacy rights by interrogating and justifying for which parties access to BO information is both necessary and proportional to achieve the objective of anti-money laundering (AML).<sup>4</sup> This has contributed to attention being focused on *who* should have access to BO data rather than *what* this access should look like in order to enable the effective use of BO information. Access provisions in many jurisdictions have categorised users into government, obliged entities, and others. However, this division is unlikely to reflect how the information is actually used. For example, an FIU analyst may have more in common with an investigative journalist than with a government procurement officer in terms of how they use the information.

Different parties are involved in the implementation of BOT reforms, including policy makers setting objectives; agencies implementing these policies as well as building and administering the BO information systems; individuals complying with disclosure obligations on behalf of legal entities or arrangements; and individuals using BO information for various purposes such as to regulate competition or identify red flags for money laundering. While all these groups actively interact with BO information systems and can be broadly considered users, this research focuses on the last group. In this report, the term *users* refers to end users of BO information, both in and outside government. *Data use* refers to how BO information is used (see *Glossary*).

This report aims to contribute to the knowledge base of what factors lead to effective BOT reforms based on user perspectives. Drawing on interviews with data users, it provides a conceptual framework to understand how BO information is used and what users need to effectively process it. This also helps inform how BOT can be implemented while respecting privacy and data protection requirements by identifying the minimum amount of information and processing needed for different users to achieve their aims. This helps achieve the data protection principle of data minimisation.<sup>5</sup> With this understanding, the report encourages implementing jurisdictions to think beyond who should have access and think about what an evidence-based access regime could look like. This requires developing solutions that ensure users can access the information they need and process it in ways that contribute to achieving certain policy objectives.

In the following sections, this report includes details about its research methodology and findings. It highlights examples and insights from interviews, and concludes with recommendations for those implementing BOT reforms. It also highlights avenues for further research to advance the measurement and documentation of impact to help assess the effectiveness of BO registers in the future.

### Methodology

This research aims to document a variety of user experiences and map the ways BO information is used. It considers which factors enable and hinder the use of information, and how users' experiences can inform the design and implementation of effective BO policies and systems. The findings provide evidence to support user-centred BOT reforms.

#### **Research questions**

The research team explored five main questions:

- 1. What are the different types of BO data users, and what are their main differences and commonalities?
- 2. What does the information enable these users to accomplish?
- 3. What factors enable or hinder their effective use of this information?
- 4. Can users be grouped according to how they use the information, and can this inform the design of access provisions?
- 5. What are the implications of users' experiences for designing effective BOT reforms?

#### Assumptions

Answering these research questions tested the following assumptions:

- 1. There are different ways of using BO information, which may be associated with different user needs.
- 2. The ways in which different parties use BO information can help inform a typology of data use. This can provide the basis for a more useful way to group and categorise different users, and to design access provisions.

#### Sampling and limitations

The research used a combination of semi-structured interviews; insights from Open Ownership's experience providing technical assistance to agencies implementing BOT reforms; previous engagements with BO data users in a range of countries; and a rapid review of publicly available resources (see <u>Appendix 3</u>).

The research team identified user profiles based on the organisation's previous knowledge and experience. The sampling approach was designed to cover the breadth of identified user profiles across a variety of regions. It leveraged Open Ownership's existing network to identify research participants, using a snowball approach to identify additional participants and user profiles. The sample is not exhaustive, and the team was not able to secure interviews with all types of user profiles (e.g. prosecutors and industry regulators). Where possible, secondary research was used to complement the primary research, in particular for user profiles for which the team was not able to secure interviews.

It was easier to secure interviews with some profiles (e.g. investigative journalists and commercial service providers) than others (e.g. users from the AML-regulated private sector). Additionally, a number of representatives from tax authorities and trade associations were not able to openly share insights and accept interviews due to the sensitive nature of how they use the information.

Reflecting the progress in implementing BOT, most research participants were from regions with operational BO registers and more mature reforms (e.g. Africa; Europe and Central Asia). A number of research participants also work at the international level, offering insights from experience working across multiple jurisdictions. See <u>Appendix 2</u> for a full overview of research participants by profile as well as region of operation, along with other interview details. Throughout this report, research participants will be cited and referenced by their interview number, which can also be found in <u>Appendix 2</u>.

#### Data collection and analysis

Interview guides and note-taking templates were developed to answer each of the five main research questions (see <u>Appendix 1</u>). Interviews were conducted remotely between August 2023 and March 2024.

The data analysis comprised three main stages:

- Coding

The initial analysis involved coding interviews according to emerging themes using qualitative data-analysis software. A limited number of publications from the rapid documentation review were included in the initial analysis phase to address gaps in user profiles. The analysis helped identify a large number of common experiences and needs across various methods of using BO information, as well as some differences. However, the differences were not sufficient to immediately suggest how these could be categorised into separate profiles or types of use.

#### Synthesis

Building on the coded data, the research team carried out further analysis to develop user personas, refine the understanding of similarities and differences, and develop a conceptual framework.

#### Validation

The findings were validated both internally within Open Ownership and externally through:

- presenting emerging findings to agencies in charge of administering BO registers as well as BO data users from governments at events in Africa, Asia, and Latin America between March and November 2024;
- inviting a selection of research participants and subject-matter experts to review the published findings and to answer a survey.<sup>6</sup>

The research findings are presented in the next section.

### 2

## Research findings: Towards a framework to better understand the use of beneficial ownership information

Users of BO information have a wide range of purposes, ranging from identifying and managing risk as a business, to detecting conflicts of interest in public procurement. Each user tries to answer questions for a specific purpose, including, for example:

- identifying a specific individual suspected of illegally owning and enjoying the benefits of assets;
- identifying domestic tax residents who may be misusing legal vehicles to evade taxes;
- identifying links between politically exposed persons (PEPs) and companies that operate in strategic and sensitive sectors;
- providing due diligence of potential suppliers, corporate clients, or contract bidders;
- monitoring trends in ownership concentration to help understand and regulate competition;
- identifying indicators of red flags for money laundering and corruption risks.

The range of questions users seek to answer is indicative of the diversity in BO data use. Even when sharing a purpose, users seek to answer different questions. These questions and the information users start with determine how BO information is used.

The following two sections explore the commonalities and differences among users' experiences and needs in answering their questions. The last section distils implications for policy makers and agencies in charge of designing and administering BO registers.

#### Common user experiences and needs

The research identified a large number of commonalities among user needs associated with various use types. These common experiences validate many elements of the Open Ownership Principles.<sup>7</sup> These include:

- having effective access to usable information;
- retrieving relevant and usable information;
- understanding relationships between subjects within and across information sources;
- having a minimum level of accuracy to draw conclusions with confidence.

#### Having effective access to usable information

The use of BO information starts with the need to access it. However, a large proportion of users still face major challenges to accessing the data they require. Despite a significant increase in the number of jurisdictions implementing BOT reforms, there is still significant divergence between jurisdictions in terms of the availability and quality of information as well as modalities of access. The latter can sometimes mean information is not up to date, if accessible at all. These points were largely echoed by the research participants. For example, this participant working for a tax authority explained how direct access to information is beneficial for addressing tax evasion:

"The quicker you can get evidence, the better. Having direct access to BO information saves a lot of time. When you don't have direct access, as tax administrator, you would need to write to an individual or company or to the registrar and, legally, they have a week to provide the information. If they don't, we can send a first reminder. Then, a second. If they only provide partial information, they can also ask for more time to provide it completely. Only then comes enforcement. This process can easily take over three weeks."<sup>8</sup>

These issues are particularly pronounced when users try to access information from a different jurisdiction. The lack of availability of BO information for non-domestic legal vehicles remains a significant barrier for a majority of use types. An investigative journalist participant explained: "I mostly work on cases involving tax fraud and links to tax havens. All cases I worked on involved transnational links. You will always need to go to another country's register".<sup>9</sup> Yet, non-government users are often unable to access this information, and many heavily rely on open sources, such as the investigative data platform Aleph by the Organized Crime and Corruption Reporting Project (OCCRP), which gathers multiple types of information in one place.<sup>10</sup>

A number of research participants also mentioned challenges to accessing BO information on specific types of legal vehicles, such as trusts and other legal arrangements, both domestically and in other jurisdictions. Such legal vehicles are not always subject to registration requirements and can constitute blind spots in the networks of relationships between individuals, legal vehicles, and assets, or BO networks.<sup>11</sup> Where registration is required, there may be different access provisions which prevent effective use of the information. One research participant, who uses BO information to understand the ownership and control of land, explained: "This is where the trail goes dead".<sup>12</sup>

Finally, as will be illustrated throughout this report, in many cases, users can only access information and process data in ways that do not allow them to answer their questions. The research findings suggest that access regimes with tiered access based on a categorisation of users relating to their profession or sector risks glossing over similarities and differences between various use types.

While this categorisation can be useful to initially map user profiles expected to use BO information – as was also done for this research – and ensure the right individuals have access to BO information, the findings suggest that in most cases these access provisions do not respond to user needs.

#### **Retrieving relevant and usable information**

Irrespective of the purpose they are working towards, users may start their initial inquiry either with some specific real-world information (e.g. information about a customer, lists of sanctioned individuals, information about companies bidding for a public tender) – or with an initial set of criteria (e.g. nationality of beneficial owners or jurisdiction of incorporation).

The research found that a broad variety of criteria is used by research participants to query BO data. This suggested that potentially all attributes (i.e. data fields) pertaining to a subject (i.e. individual, legal vehicle, or asset) may be relevant to help users complete various inquiries along their journey. Examples of attributes deemed useful, as reported by research participants, included: day, month, and year of birth; email and residential address of individuals; country of residence of individuals; registered address of companies; nature and level of ownership interest; tax and identification numbers; IP address of declarant; individuals' nationality/ies; and PEP status of beneficial owners. Which specific attribute was deemed most useful in which case was highly context- and query-specific, and no particular attribute could be associated with specific use types or user profiles. Being able to search a register by the names of beneficial owners was seen as extremely useful in almost all cases.

A number of participants mentioned that limited **search functionalities** hindered their capacity to query BO registers using criteria that were relevant to their lines of inquiry. Some mentioned that they used bulk data or APIs as an alternative way to search BO registers more effectively or to enhance searches by connecting BO information directly to other datasets.<sup>13</sup> This suggests that improving register functionality and searchability can lead to better data minimisation. A data-service provider explained: "With an API, when you are doing an investigation, you can look up that one person or company and pull extra information about it".<sup>14</sup>

A large proportion of research participants also mentioned needing **historical data**. Information about change over time is crucial to help detect risks, as illustrated by the quotes from research participants below. For example, frequent changes, suspiciously timed changes, or changes from a declared beneficial owner to a family member may be useful red flags. Historical information is also necessary to monitor trends over time. Two research participants explained:

"If you get a lead, it's often based on what happened in the past. You often look at who used to own a company. You can look at changes to spot potential red flags. You can't have the full picture unless you see the history."<sup>15</sup>

"Historical changes are very important. For example, if you notice that a trust is created all of the sudden, after a person was sanctioned, it can raise a red flag."<sup>16</sup> This underscores the importance of ensuring that the BO information disclosed is **up to date** and periodically confirmed to be accurate, with the information clearly showing what changes were made, when, and why, to make it auditable to data users.<sup>17</sup> Up-to-date information was particularly appreciated as some other valuable sources of information such as data leaks only provide a snapshot in time.<sup>18</sup> Research participants also valued being notified of any changes in the information of a company of interest. This functionality is provided by some BO registers. Some commercial providers connect BO data to other sources of information, widening the range of red flags users can be alerted to (see, for example, Box 2).<sup>19</sup>

On a more basic level, users may not necessarily **know where to find the information** they are looking for from BO registers in multiple jurisdictions.<sup>20</sup> Where BO records are only accessible upon request, users may not know whether a register holds relevant information until the request is satisfied. Where BO information is directly accessible to users, both not knowing the language or which authority is responsible for the register were flagged as barriers by some users. As one research participant explained: "Sometimes I want to check the BO register of a specific jurisdiction, but as it is not in my own language, I may not always be sure of whether I'm looking at the official register or some private platforms that only summarise information held on official registers".<sup>21</sup>

Tools that help with signposting can be useful to address these barriers. Open Ownership recently tested this by developing a prototype single-search platform that used APIs of BO registers to signpost users to where they might find information on particular companies or individuals. After testing the prototype with a selected group of users, it found that such a tool could support users by helping them find information they did not know existed, and by saving time in retrieving information. However, it did not meet many other needs identified through this research.<sup>22</sup>

# Understanding relationships between subjects within and across information sources

In the large majority of cases, BO information is not used in isolation. It is one of many information sources that help users to answer their questions and be confident in their conclusions. **The process of establishing relationships between subjects in different sources** of BO information and other types of datasets (e.g. company and asset registers, as well as PEP and sanctions lists), often across multiple jurisdictions, **is at the core of the majority of use types** (see Box 5). Most user needs serve this practice, as illustrated by a research participant working for a commercial provider that seeks to enable its users to do this:

"We have developed mapping tools for clients like investigative journalists, data-service providers, law enforcement, and financial institutions and it's all about helping them combine one or more datasets to get insights. This is ubiquitous across the world ... Beneficial ownership data is key to connecting the dots between a client and company or legal person and other entities."<sup>23</sup>

This process requires entity resolution and ways to uniquely identify individuals and legal vehicles. **Entity resolution** is the process of establishing whether multiple records about a subject (e.g. individuals, legal vehicles, or assets) are referring to the same subject or to different subjects. **Identity verification** refers to the process of determining to which real-world individuals or legal vehicles these records correspond. Although these processes are different, entity resolution can be achieved *through* identity verification.

Entity resolution is practically always necessary when using multiple information sources (see Figure 2), and sometimes necessary within a single information source (see Figure 1), depending on the information provided. It usually involves comparing a number of data points or attributes of a subject in a record to see whether they match. As subjects may have identical or very similar attributes (e.g. names), additional attributes can provide confidence as to whether two records are referring to the same or different subjects. Some attributes (e.g. identifiers) provide more confidence for entity resolution than others. Generally, the greater the number of matching attributes, the higher the confidence in entity resolution. Registers provide varying amounts of information that can be used for this purpose, meaning it takes different levels of resources to conduct entity resolution (see Box 1). For example, some BO registers, such as Denmark's CVR, uniquely identify individuals using a register-specific identifier.

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#### Figure 1. Entity resolution within a single information source



In this example, a user may look up Company A in a BO register. The user sees that Company A is related to Persons A and B. The user subsequently sees that Person B also appears to have a relationship with Company B, which in turn is related to Person C. To conduct thorough due diligence on Company A, the user may need to resolve whether the Person B in the information declared by Company A refers to the same Person B in the information declared by Company B.



#### Figure 2. Identifying relationships and resolving entities across information sources

In this example, to perform due diligence checks on Company A and subjects related to it, the user needs to cross-check information in the Company register, BO register, Asset register and Sanctions list. The user checks information about Company A in the Company and BO registers and sees that Person B is listed as legal owner of Company A on the Company register and as beneficial owner of Company A on the BO register. To establish whether records about Person B in each register refers to the same or different individuals, the user checks if the attributes recorded about them in different registers have the same value. The user concludes that records about Person B in these two registers are referring to the same individual when enough or particular attributes about their records match. The user repeats the same process to cross-check records about Person C in the BO declarations of Companies A and C on the BO register, and on the Sanctions list. The user also checks the Asset Register and finds two records about Company A with slightly different spelling for Company A (A and A\*). To double-check whether these records may refer to the same or different Company A listed on the Company and BO register, the user repeats the same process and concludes that Company A on the Company register and Company A on the Asset register refer to the same company. However, as two of the attributes of Company A\* on the Asset register don't match with the attributes of Company A, the user concludes that Company A\* refers to a different company.

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## Box 1. Entity resolution in the United Kingdom's beneficial ownership register<sup>24</sup>

Monitoring and addressing risks linked to ownership concentration is a concern for competition regulators, such as the United Kingdom's (UK) Competition and Markets Authority (CMA). The CMA uses BO information from the UK's BO register to analyse the concentration of ownership in specific sectors once common ownership and control are taken into account.

However, the UK does not provide sufficient information to easily see whether records about individuals relate to the same or different individuals. The CMA reports: "The data available from [the UK BO register] does not contain unique identifiers for individuals or corporate entities that are recorded as [beneficial owners]. As a result, it is not straightforward to understand from the data whether one individual or entity holds control in multiple companies".<sup>25</sup>

As a result, the CMA has to rely on personal attributes (e.g. names, dates of birth, and nationalities) for entity resolution, which is resource consuming and less reliable.

#### **Reliable identifiers**

The use of reliable identifiers in different data sources enables entity resolution and identity verification. A reliable identifier is a number or reference code which is unique and stays the same over time.<sup>26</sup> Examples of reliable identifiers issued by authoritative government bodies to individuals include passport and national ID numbers, social security numbers, and tax identification numbers (TINs). For companies, examples include company registration or incorporation numbers, TINs, or LEIs.27 Some participants' insights point to the importance of trust in the agency that provides identifiers. For example, the financial industry includes a number of ISO standards which recommend specific identifiers. Industry actors have, for example, advocated for LEIs as a data requirement for standard ISO 20022 related to crossborder payments.<sup>28</sup> "Making LEI disclosure mandatory when it's available under ISO 20022 will be a big help in the sanctions world, as it is considered a trusted source", explained an expert from the sector.<sup>29</sup> However, these are currently still missing in many information sources (e.g. land registers and procurement data). A research participant studying indicators of corruption risks explains:

"Most procurement datasets don't have reliable company identifiers, or there is incomplete coverage so it's hard to match with BO datasets. This might be one of the main reasons BO data is not being used in procurement currently."<sup>30</sup>

#### Entity resolution for natural persons

Entity resolution for natural persons is particularly challenging due to the privacy-sensitive nature of reliable identifiers for individuals (e.g. national IDs and social security numbers). Many registers do not distinguish whether records about a subject refer to the same or different subjects, or provide sufficient information for users to easily do so with confidence, for instance, by providing register-specific identifiers (see Box 5). Commercial providers are trying to address this by using technological solutions to digitally verify the identities of companies and individuals.<sup>31</sup> The EU has been working on harmonised solutions, such as the European Digital Identity wallet.<sup>32</sup> However, users need alternatives while these solutions are still being developed.

When the same identifier is not used across multiple datasets, users require additional attributes to reach sufficient confidence to disambiguate records about natural persons (e.g. personal information such as full name, date of birth, nationality/ies, phone number, etc.). The more attributes that can be compared, the more confident the user can be in their conclusions. Often, these additional attributes are needed when there is a lack of reliable identifiers for individuals. One participant noted: "There are many John Smiths in the world. The more you can hone down (for example, through day of birth rather than only month and year of birth), the more helpful. Data processing and time to investigate is greatly reduced if you have this".33 Register-side entity resolution and publishing identifiers for individuals will lower barriers to data use. As a result, it may not be necessary to access and process as many different attributes for individuals. Because these identifiers are likely to be domestic or register-specific, additional attributes may still be necessary when using multiple information sources.

### Structured, standardised, and interoperable information

A number of research participants also reported facing challenges processing and analysing information from multiple sources due to the fact that these used different data formats. There is a need for better **structured** and more **standardised data**, as illustrated by this participant working in public procurement:

"Having much clearer standards on how names, dates of birth, etc. are structured, and on using identifiers, would make the process of name matching and linking a lot easier and more straightforward."<sup>34</sup>

When information sources are structured well as data and include reliable identifiers, the information is more **interoperable**. This makes it easier to use and enables the information to be more readily ingested into other systems, as illustrated by the use of commercial data services (see <u>Box 2</u>). The lack of standardisation in how information is structured can pose challenges to users trying to understand transnational BO networks, as explained by this European journalist who leads investigations on tax fraud:

"At the moment, one of the biggest barriers is the lack of harmonisation, transparency, and availability of BO information across different countries in Europe. The biggest need is greater cooperation between countries. Regional institutions such as the EU could support the development of centralised registers with common standards."<sup>35</sup>

The extent to which information from different sources is usable also depends on users' knowledge and resources. For example, a research participant working for a non-governmental organisation (NGO) explained the importance of data-analysis skills to use information from various datasets. He explained: "A lot of the information is still stored by PDFs and data scientists have to spend a lot of time doing things manually. This is especially resource intensive when going through big datasets that have millions of records. Entity matching between property datasets and company owners is a good example of that".<sup>36</sup> Many users rely on commercial datasets run by private providers to cross-check information (Box 2).

#### Intermediary data users

To address these challenges, many users rely on intermediaries, who play a key role in addressing barriers to data use (see Box 2). However, there are also practical barriers to accessing commercial datasets. For example, major banks that regularly conduct due diligence on hundreds of thousands of clients may have the capacity and financial resources to use and embed commercial solutions into their own systems. On the other hand, departments in smaller banks may not even have access to a company credit card to procure these services.<sup>37</sup> This may also apply to some government users. Research participants from civil society explained how non-profit organisations may not always be able to afford these services, although some do.<sup>38</sup> Government users also mentioned appreciating publicly accessible BO registers, which allow them free and direct access to information from other jurisdictions. Public access to structured information is therefore associated with efficiency gains, even for users whose right to access is secure. One research participant working in public procurement explained:

"Everything international is commercial. ... In terms of time and money saved going to each register and building integrations, it probably makes more sense to pay for a commercial service. ... But open source would create longer term savings for governments."<sup>39</sup>

# Box 2. The role of data intermediaries in filling current gaps to access and process beneficial ownership information

Data intermediaries provide data (e.g. combined, cleaned, and structured) and services (e.g. datause platforms and tailored tools) to help end users achieve their aims. They help overcome challenges in access to and usability of BO registers.<sup>40</sup> Data intermediaries are a crucial part of the data-use ecosystem. Their work often includes combining BO information from different jurisdictions and with other types of information. This often involves entity resolution and adding attributes to subjects (e.g. insolvency information for companies, adverse media information for individuals). Examples include commercial providers that clean and aggregate data from various data sources, including BO registers and providers of services like entity resolution, as well as non-profit organisations that create public tools which link and match BO information to other datasets.

The services provided by intermediaries also include providing historical BO information where these may not appear in a register or making information searchable by additional criteria. They are also used to overcome the cost of using information in different formats. Even when these are free, there is a cost to mapping a new format to make it readily usable in local systems. Commercial providers use and rely on information from government sources. They are, in turn, also used extensively by governments themselves. Some use commercial providers to retain anonymity in accessing information.

To provide the services that support end users with their use of BO information, data intermediaries have emphasised the importance of APIs and bulk data to integrate BO datasets into the services offered to end users.<sup>41</sup> One research participant explained: "My entire world is bulk data. Bulk data allows you to cross-reference data sources".42 Where information is accessed on the basis of legitimate interest, effective access procedures are required.43 Research participants also echoed how using unique identifiers across different datasets helps to collate data. When it comes to entity resolution, intermediaries mentioned that anything that can help them link records about subjects in different information sources facilitates their work. They also emphasised that the more attributes there are, the better entity resolution works.<sup>44</sup> One research participant, a data-service provider, explained:

"Our algorithm is entity-centric and it works like an investigator with a folio. The more data sources it can use, the more it can learn the attributes just like a person would. The entity-centric algorithm will make use of any attributes you give it. The more data you provide, the better it performs. If you've assigned something specific to your data, like company IDs, and you add a data source that already includes those IDs, that's great. But unfortunately, this is rarely the case."<sup>45</sup>

#### Application programming interfaces and bulk data

Using and combining multiple information sources - and resolving entities across these sources - can be difficult without appropriate access to APIs or bulk data. For example, in their analysis of real-estate ownership in France (see Box 3), Transparency International France and the Anti-Corruption Data Collective had to go through five million web pages, taking several weeks and using significant resources to connect BO and real-estate information. In their report, they explain that not being able to access data in bulk created "a significant barrier ... in monitoring the implementation of the beneficial ownership rules", and that "access to beneficial ownership information in an open data format - or even better, API access - allows key actors to more effectively use the data".46 This suggests that registers which only provide access through search portals, only allowing limited

flexibility in ways to search and process information, are likely to be less impactful than where information is structured and available in bulk or via APIs.<sup>47</sup>

#### Understanding full beneficial ownership networks

Tools that help understand full BO networks are extremely valuable to users, as one participant describes: "It is not only about the visualisation, it is also about having all the information together".48 A participant from a law enforcement agency explained: "Before the BO register, we would just use the company register to look at information on directors [and] shares, and try to work our way through complex corporate structures step by step. This was time consuming".<sup>49</sup> Other research participants have mentioned being particularly interested in the network and structures, rather than the individuals at the end of the chain. They mentioned using BO information as a means to this end where shareholder information was of poor quality or not available. A limited number of BO registers collect and share information on intermediaries and direct interests. Shareholder information is highly valued, but it is often not available or up to date.<sup>50</sup>

In addition, a number of use types involve trying to understand relationships between a large number of legal vehicles, individuals, and assets over time. As these networks can be difficult to comprehend, many users want tools that **visualise** these relationships. Structuring data in ways that can easily be turned into graph formats was therefore noted as a common user need.

### Having a minimum level of accuracy to draw conclusions with confidence

In many cases, using BO information includes verifying it by **cross-checking information from different data sources**, in a similar way that BO registrars verify information for accuracy. Information is used in verification much like it is with entity resolution: attributes about subjects in different sources of information are checked against each other. Rather than establishing whether they refer to the same subject, the aim is to verify whether any of the information is inaccurate. This process increases **confidence** in the conclusions drawn from the information, but also costs resources. Users verify BO information for a range of purposes, including:

 A statutory obligation to verify information using other information sources. This is often the case for users working for AML-regulated institutions and some government agencies.<sup>51</sup> A research participant from the financial sector explained what this process consists of for them. For new clients, they must ensure that the identities of an entity and the individuals associated with it are verified based on information and documents supporting the application. This includes the identity of the beneficial owners and the ways through which they exercise their ownership or control over the legal vehicle. They use multiple information sources to cross-check the information that is provided. The participant explained that BO information is sourced in three stages: first, it is collected by the bank; second, it is checked against information in the domestic BO register and registers in other jurisdictions; and third, BO information about any other subjects discovered in the network who were not identified in earlier stages is checked against information from other registers.<sup>52</sup>

- Research participants from law enforcement agencies explained that, in financial crime investigations, some information can serve as intelligence, but it does not satisfy the standard to be presented as evidence in court. They cross-check information from information sources including from BO registers, informal intelligence-sharing channels, banking information, and formal requests for information through mutual legal assistance to foreign authorities.<sup>53</sup>
- Mitigating reputational and legal risks. For example, research participants from the media mentioned how crucial it is to be highly confident that data-driven conclusions are corroborated by multiple sources, especially where it may involve allegations against powerful actors. One research participant explained: "Inaccurate data can cost you a lot as a journalist: it can lead you to prison".<sup>54</sup>
- NGOs doing research on extractive companies verify information against local knowledge to **detect false declarations** and hold extractive companies to account, for example, on whether a company operating in their area may be using a front person as its owner.<sup>55</sup>

The research found that although users verify the information, they do not necessarily require it to be perfectly accurate. Research participants from both the media and law enforcement pointed out the value of gaps, inaccuracies, and discrepancies in and between information found across several sources. An inaccuracy in one field was not necessarily seen to undermine the value of the BO declaration as a whole, and can serve as a red flag for further investigation and cross-checking with other information sources. One research participant, a Danish journalist, explained: "Data ... may not always be 100% correct but, when it is not, it still allows you to ask critical questions. ... It is a very important tool to fact check something or start an investigation."<sup>56</sup>

Furthermore, the obligation to disclose creates a legal liability for providing false information. A participant from law enforcement pointed out that the sanctions around providing inaccurate BO information also provide greater opportunities for law enforcement bodies to pursue action against the subjects of their investigations.<sup>57</sup>

While inaccurate or missing data can help raise red flags or further investigations, it is harder to do so if accidental errors are ubiquitous. One research participant explained: "If the wrong fields are used – for example, a company name is disclosed where it should be the owner - suddenly it becomes very difficult to understand the data and know if there is an actual owner".58 Another participant shared that: "Sometimes you come across missing data points, incomplete records on PEPs, or inconsistencies in how beneficial ownership information is updated across platforms. Involving CSOs [civil society organisations] helps ensure there is as an additional layer of verification, flagging discrepancies that might otherwise go unnoticed".59 Regardless of their rationale for verifying data, ultimately all BO data users require a **baseline level of accuracy** to feel some level of confidence in their conclusions. This includes ensuring that information is regularly updated.

#### Different use types and user needs

Although there are overwhelming similarities in user needs, some differences were identified in the research. To test the first assumption, the research team interrogated whether there were various ways of using BO information (use types) and explored whether user needs differed depending on the use type. This led to developing the following framework, which identifies different user needs based on the following core elements:

- whether the question the user is asking is qualitative or quantitative in **nature**;
- the scale of data processing required to answer the question, i.e. the number of subjects (e.g. individuals or legal vehicles) users are interested in;
- the scope of data processing required to answer the question, i.e. the number and variety of connections or relationships between different pieces of information required for users to reach their conclusion;
- the **frequency** of data processing required to answer the question.

#### Nature

A user's question can be quantitative or qualitative in nature.

- Quantitative questions: These queries look for numbers or patterns. The interest of users who address these questions is in quantifying something rather than identifying specific people or legal vehicles.
- Qualitative questions: These queries look at specific attributes of specific legal vehicles, individuals, or both. Therefore users will likely need to identify these specific vehicles and individuals.

### Box 3. Examples of use types with a question of quantitative nature

In 2023, Transparency International France and the Anti-Corruption Data Collective combined publicly available BO information in France with information from the real estate register to look into ownership of France's real estate sector. They found that nearly 71% of all company-owned titles were held by anonymously owned companies.<sup>60</sup> Prior to this, the NGO Reporters Without Borders and the French academic institution, the Laboratory for Interdisciplinary Evaluation of Public Policies, explored ownership concentration in the French and Spanish media sectors and published a report stating that over half of each sector was controlled by companies from the financial and insurance sectors, whose complex shareholding structures made it hard to identify the beneficial owners.

Users whose questions are of a **quantitative nature** are likely to be able to answer their question with **pseudonymised data** by using unique identifiers in place of companies' and individuals' names. For example, a user seeking to assess the proportion of legal entities whose declared beneficial owner is a legal minor will need to be able to access beneficial owners' dates of birth. Yet in this example, they would only need to process dates of birth without needing to identify individuals.

If policy makers and agencies in charge of administering BO registers make, at a minimum, a pseudonymised dataset available, this may enable certain types of data use. However, users with **qualitative queries** will likely not be able to fulfil their task without needing to process personally identifiable information. This could happen when, for example, a user wants to conduct due diligence on a legal entity as a potential supplier, or when a user is trying to investigate a specific individual or legal vehicle suspected of criminal or fraudulent activities.

#### Scale

A user's question will determine the scale of information required to be processed in order to answer it – that is, the potential **number of subjects of interest** in the information processed to answer the question. The information users start with often influences this.

- Large-scale: Users may (i) start with a large amount of information (e.g. lists of entities or individuals), or (ii) need to identify relationships or patterns across an entire BO register. Most users with quantitative questions looking for patterns mainly require large-scale processing. However, qualitative questions may also require large-scale processing. Generally, large-scale processing means that processing the data manually would become a critical barrier to the user being able to answer their question. To conduct large-scale analyses requires ways to easily process large quantities of data. This makes the use of APIs and bulk-data access particularly important to enable these use types (see Box 4).
- Small-scale: Users operating on this scale are often, but not exclusively, addressing qualitative questions. They will most likely be interested in a small number of specific entities or individuals and their attributes, and are often able to process data record by record without it causing an undue burden or affecting their ability to answer their question.

### Box 4. Examples and insights from users with experience of large-scale data processing

Researchers from the Central European University studied whether BO data could be used for largescale risk assessment in public procurement as a quantitative query. This involved analysing procurement and BO datasets for six jurisdictions. Their analysis validated jurisdiction-specific indicators of corruption and money laundering in BO data in relation to public procurement.<sup>61</sup> In addition to highlighting the need for structured data with historical records of changes, the researchers have also emphasised the importance of bulk data and, ideally, APIs to enable this type of analysis.<sup>62</sup>

Users across law enforcement, tax authorities, and civil society conduct large-scale qualitative analyses aimed at identifying and monitoring risks. Two representatives from a law enforcement agency and a tax authority from Europe and Africa explained: "We ingest bulk data from Companies House into our own data holdings. That helps more proactive analysis and creates opportunities for investigation. In terms of data exploitation capability, you can query information about a large set of corporations and identify linkages that are not immediately apparent."<sup>63</sup>

"Dealing with specific people who would do anything to avoid paying taxes and need to be investigated is different from looking for trends and identifying certain sectors and profiles that are high risk. ... For trends and profiling of taxpayers, we need to be able to detect patterns of things that are suspicious. For example, if a self-declaration always says 'null' or includes changes in legal and beneficial ownership."<sup>64</sup>

Being able to query a whole dataset flexibly using an API supports this. For example, one research participant explained that it can be useful to be able to find information on every company with a director from a specific nationality.<sup>65</sup> A participant from a tax authority echoed this, explaining that the search engines they use internally within their agency enable them to set up rules to support risk assessment and identify taxpayers who fit a certain profile. They explained: "For example, you can ask to see anything that involves change in shareholding or that includes a null declaration of revenue. Having something similar with BO information would allow adding more triggers and make your risk identification process richer".<sup>66</sup>

Another research participant working for an FIU mentioned API availability as a key factor facilitating their work, including through the domestic BO register. They mentioned a long list of other government agencies and information sources the FIU was connected to, including customs, national identity, road safety and traffic, immigration, the tax authority, the central bank, the security and exchange commission, as well as a number of regulatory organisations, such as the agency supervising the real-estate sector.<sup>67</sup> The founder of a software company that provides services to support anti-financial crime actors further explained: "There is a lot of value in integrating bulk data. When you enrich your own data with third-party data, then you can compute risk scores and detect alerts across the entire dataset".68

#### Scope

The scope of data processing refers to the **number and variety of connections** a user needs to identify in a line of inquiry. This can range from using BO information from a single BO register, to trying to identify connections between subjects across multiple data sources. The type of information users start their data-use journey with also influences this.

- Queries may be limited in scope and only require BO information from one BO register to answer their question. This may include looking at relationships between a limited number of different individuals, or between different companies. A limited scope can make data processing relatively simple. However, the research found that this only represents a small number of use types.
- In extensive queries, users need to identify relationships between multiple subjects. This can happen either within a single BO register or across BO registers, and can involve additional datasets (e.g. public contracts, PEPs lists, etc.), and other information sources (e.g. companies' websites, media sources, etc.). The research found that this represents the majority of cases.

On this **spectrum**, users who require extensive data processing have a greater need for mechanisms to facilitate the process of identifying connections between subjects (Box 5). This makes investment in mechanisms to support entity resolution and identity verification particularly important to enable these use types.

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## Box 5. Examples and insights from use types with different scopes of data processing

A tenant may want to identify the beneficial owners of a company that owns their apartment. In the United States of America, limited liability companies with anonymous owners are associated with housing disinvestment, poor housing conditions, and causing delays in tenants accessing funds through government schemes.<sup>69</sup> This is a relatively straightforward query that is limited in scope. The user may only identify one or a handful of relationships between their building owner and the individuals behind it.

A user interested in the level of compliance with legal BO disclosure obligations may ask *How many companies have not disclosed any beneficial owners*?<sup>70</sup> This is a quantitative query that requires large-scale processing, but is still limited in scope.

By contrast, in a major case of alleged corruption and stolen assets, Nigerian law enforcement agencies and the FIU used a variety of information sources, including the company register, the Crime Records Information Management System, open-source intelligence, reports from financial institutions, information from their own database, and exchange of information channels with FIUs in several other jurisdictions, to map a network of individuals and legal vehicles and trace USD 1.7 billion of missing funds.<sup>71</sup> This required a very extensive scope of identifying relationships between subjects and across information sources.

#### Frequency

Users can require processing information either on a single or a recurring or ongoing basis:

- In the case of one-off processing, users only need to answer their questions at a specific point in time.
- Recurrent or ongoing processing means a user needs to process information multiple times or on an ongoing basis in order to answer their question. For example, generating an up-to-date, real-time picture of risk will require processing – and in some cases ingesting – BO data on an ongoing basis (see <u>Box 6</u>). Depending on the scale of the query, this may not be feasible without register features, such as **automated alerts**, **streaming APIs**, or access to **up-to-date information in bulk**.

### Box 6. Examples of use types working on an ongoing basis

Data journalists and researchers from Colombia, Mongolia, and Nigeria combined various public information sources and developed analysis tools for accountability and oversight of the extractive sector. For example, the Mongolia Data Club combined data on legal and beneficial ownership, procurement, and other sources into a digital platform aimed at better understanding the activities and connections of suppliers of state-owned enterprises in the mining sector.<sup>72</sup> Journalists and researchers used their training and tools to explore various questions, such as interrogating the allocation of coal transportation permits from Mongolia to China.<sup>73</sup> Journalists also explored corporate ownership of candidates in national elections to provide public oversight and shed light on any potential conflicts of interests.<sup>74</sup>

In Nigeria, Directorio Legislativo partnered with BudgIT to build the Joining the Dots platform, which combines BO information, PEPs lists, and mining licensing information to monitor links between politicians and mining licences and automatically raise red flags on a continuous basis.<sup>75</sup>

To facilitate sustainable public oversight, the tools developed by Mongolia Data Club and Directorio Legislativo require regular or ongoing updates of the information sourced from various public platforms. Directorio Legislativo aimed to update their platform every six months, but internal capacity constraints and the unavailability of a streaming API has made this difficult. Constraints were also due to the absence of better and more standardised data across different sources.

For smaller-scale queries that require monitoring information over a period of time, automated alerts have been a useful way of supporting users in keeping up to date with any changes. For example, in Denmark, users can subscribe to email notifications to be informed of any change in a specific company's ownership and control. This functionality is highly valued by research participants working in business monitoring and financial crime investigation.<sup>76</sup>

# Use types, user profiles, and data-use journeys

While the research identified differences between use types, the needs they generate often overlap. In addition, user needs are not tied to specific professions. Specific sets of needs are highly dependent on the particular question a user is seeking to answer and questions can evolve along users' journeys. Questions can cut across user profiles, meaning BO information can be used in the same way by different profiles of users. For example, users from a competition regulator, an NGO, an academic institution, a newspaper, and a law enforcement agency may all conduct large-scale processing to identify trends and to detect and mitigate risk. On the other hand, users from the media, customer-due-diligence teams in banks, NGOs, and tax and anti-corruption authorities may process BO information on a smaller scale to answer qualitative questions focusing on specific individuals or companies. Therefore, it is important to think beyond professions to better understand data use. Multiple users can form part of a single journey. For example, law enforcement officers have repeatedly highlighted the crucial role of civil society actors in meeting their objectives. "We get many referrals from journalists and civil society organisations. It happens a lot. They are a great source of information. They may uncover offending we were not previously aware of" explains a research participant.77

While the section above takes a user's question as the point of analysis, the research also found many examples of users asking a series of questions at different points in time. This research participant doing investigative work for a civil society organisation, explained:

"Sometimes when you are asset tracing, you hear about a person so you go looking for them in the data specifically, whereas other times you may be going through a whole database and look for suspicious things. We [call this] pole fishing and trawler fishing."<sup>78</sup>

A similar point was mentioned by a research participant working for a tax authority, who explained that activities in their office could range from auditing specific people suspected of tax evasion, to identifying patterns and indicators of risk (see <u>Box 4</u>).

There is a large variety of questions users can seek to address and **a small change in the question can significantly change user needs**. Two questions may appear similar and yet create slightly different sets of needs in order to answer them (Box 6).

For example, the needs of a user asking What is the degree of ownership concentration in Denmark? would differ if they changed their question to What is the degree of ownership concentration in the Danish firms that have received public contracts? In the first question, the user would require ways of processing a large quantity of information as well as unique identifiers for individuals, but would not necessarily need multiple information sources. In the second question, the user would need to join records about companies to those in procurement data, requiring the same identifier to be used in both. In both of these questions, pseudonymised information would suffice. These queries may generate additional questions, such as What are the characteristics of companies where there is a high degree of ownership concentration? or Which politicians are involved in these companies? In the latter question, users would be interested in specific individuals and would not be able to answer the question with pseudonymised data. For example, when a journalist explored ownership concentration in Armenian media, they looked at Armenian television companies and were interested in identifying specific, powerful individuals with significant influence over the media landscape - in this case, they would need data that was not pseudonymised.<sup>79</sup>

As **initial queries may generate additional, unforeseen questions associated with a new set of needs**, which may be different from those users started with, data use can be seen as a **multi-stage journey** comprising multiple **lines of inquiry**. This may also take users back and forth between different questions and data sources, and makes BO data use journeys – and, therefore, associated user needs – difficult to predict (see Box 7).

#### Box 7. A multi-stage journey of beneficial ownership data use



The first line of inquiry requires large-scale processing. The user may be generating statistics regarding PEPs involvement in extractive companies (quantitative), or identifying specific companies and PEPs to carry out further research on (qualitative). At this stage, they need to match individuals from a BO register to a PEPs list.

Having identified several hundreds of PEPs listed as beneficial owners of extractive companies on the BO registers, the user wants to see if any of these companies were awarded a mining licence and whether there were any conflicts of interest.<sup>80</sup> They will have to combine the BO information with information on mining licences. The time and effort this will take will depend on whether both information sources use a common identifier to, for example, establish that records relating to Company A listed in the BO register and records relating to Company A in the mining licences register are referring to the same entity.

Having identified red flags for potential conflicts of interest in the extractive sector, the user in this example wants to expand their analysis and check for any similar risks in other sectors (lines of inquiry C and D). In practice, a user will almost never only need to access and process data in a single way. This suggests that, contrary to the second assumption of the research, defining categories of data users may not be necessary or helpful for making decisions about the content or structure of BO information. Developing a comprehensive view of aggregated user needs – beyond users' professions – and seeking to address them may be more likely to inform access provisions that enable effective data use.

The majority of BO data users require flexibility to access and process data in ways that enable various use types. A limited amount of use types will be possible with more restrictive access and use provisions.

# Research outcomes and avenues for future research

In summary, the research found that:

- There are different ways of using BO information (that is, use types) which cause specific user needs, as per the first assumption. The combination of the elements presented in this report (nature, scale, scope, and frequency) helps identify characteristics of users' questions as well as determine use types and associated user needs to answer these questions.
- However, use types cut across different user profiles, confirming that categorising user needs solely based on user profiles is not useful to make decisions about access regimes. Additionally, data use is often a multistage journey involving multiple use types. Based on the variety and unpredictability of these journeys, users require flexibility to access and process data in ways that enable various use types. Therefore, and contrary to the second assumption, rather than developing a typology of use types as a basis for access, it is likely to be more impactful to build on the breadth of user needs outlined in this research to inform decisions about access.

These findings can inform the design and implementation of BOT reforms that enable the widest range of use types, and therefore may be more likely to lead to effective use and impact.

To date, the debate around **access** has primarily focused on whether registers should be publicly accessible or not, but this is a false dichotomy.<sup>81</sup> The research findings suggest that the narrative around access to BO information should be reframed by not just talking about "access to BO data for *whom*" but **thinking through "access and processing of BO data to enable what**". This involves looking at the use types that are most likely to advance policy goals and the needs associated with these. By tying the processing of information to minimum needs and purpose, access provisions will be more in line with data-protection requirements.

Recognising that the majority of BO data users need a high degree of flexibility in how to access and process the data, this research also invites further work to develop recommendations on how to design access regimes that allow users to have more flexibility. Can this degree of flexibility be accommodated within contexts that allow public access to BO information? In the UK, this appears to be the case, but it is unlikely to be the case everywhere. For other contexts, safeguards may need to be put in place with respect to privacy and data protection to allow for flexible access and use, taking care that these safeguards do not unnecessarily prevent effective use. Jurisdictions should explore whether layered access systems can be designed on the basis of degrees of flexibility in how the information can be processed (e.g. APIs, searching by a range of criteria) in addition to the amount of information that can be accessed. If access on the basis of legitimate interest can be implemented well and provides highquality, structured data with a wide range of attributes in bulk or via an API, it is possible that this may lead to more impact than where users have access to a public portal with limited search functionality. How this balance should be struck merits further research, with careful consideration of access provisions, data use, and impact.

To do this, Open Ownership will translate the user needs identified in this research to specific data features to help inform the design of the systems that collect, store, and share BO information. This will also allow implementers building beneficial ownership registries to assess whether their register enables data users to answer their questions, and thus contribute to policy goals.

Another key issue is how to address the challenges associated with accessing and processing BO information from multiple jurisdictions, including for law enforcement agencies, for example. The role of international and regional data-sharing agreements as well as other potential solutions merits further exploration.

This research has raised a number of questions which provide avenues for potential future research. For example:

 Data intermediaries are currently solving both basic usability issues and providing advanced functionalities and tools to allow more advanced analyses. They fulfil a critical role in the BO data-use ecosystem. This raises important questions on the technical capacities and cost effectiveness for governments developing their own data-use tools. These questions are also relevant for the **development of APIs**, which many respondents flagged as a key feature to support effective data use. How can registrars with lower technical and financial capacity effectively address user needs? It also raises questions on whether the **cost of commercial providers** may lead to inequalities in data use. Given their central role in enabling end users to use data, it also raises questions regarding access and data-processing provision for intermediary users. This calls for further research on the potential role of **public-private partnerships** in advancing BO data use.

- BO data use typically involves understanding relationships between subjects across different information sources and jurisdictions. As this is currently difficult for many research participants, many value platforms that centralise information from various sources and help make ownership networks understandable. Currently, asset registers usually do not contain sufficient information to easily establish whether records in those registers refer to the same subject as records in BO registers. This could mandate defining a common set of minimum information to be collected by domestic asset registers.<sup>82</sup> It is also worth exploring how shareholder information can be used as a more reliable source of information to improve understanding of ownership networks, lower compliance burdens, and verify BO declarations.
- Finally, this research lays the basis for starting to systematically and proactively measure how various policy and systems design decisions influence the effectiveness of data use and ultimately the impact of BOT reforms. More work is needed to define a set of indicators to support this measurement exercise.

### **Implications for reforms**

This section summarises reflections on how policy makers and the agencies in charge of implementing BOT reforms can meet the widest range of user needs identified in this research. It also reflects on the need to continue collecting evidence on the impact of BOT reforms by testing these research findings through user research at the domestic level.

#### Recommendations

#### Reducing obstacles to BO data use

BO data users currently face a number of challenges to effectively use BO information. Policy makers and agencies implementing BOT reforms should invest in reducing current obstacles, frictions, and resource costs of BO data use. These include considerations to:

- Provide well-designed APIs and up-to-date bulk downloads to enable large-scale processing, and to allow intermediary users to provide critical services to end users, including governments. To offset the cost of these features, registers can explore charging commercial users for access and use. Streaming APIs can be particularly useful to enable large-scale analysis on an ongoing or recurring basis. Automated alerts in BO registers can also support other use types that require monitoring changes over time.
- Expand the search functionality of BO registers to enable users to find the information they need. More extensive search functionalities can sometimes remove the need for APIs or bulk data. Basic public search portals with limited ways to process BO information can satisfy some user questions, but are unlikely to enable a wide range of use types that can lead to impact.
- Structure data in a well-defined way.<sup>83</sup> Capturing data that is well structured means it is predictable and easier to use. This also provides a basis to represent and understand change over time.

- Verify information at the point of submission of a BO declaration. As all BO data users require a baseline level of data accuracy to have some level of confidence in reaching their conclusion, setting up measures to support the elimination of errors and inconsistencies at the point of submission is key to supporting BO data use. Collecting information in well-designed digital forms also helps prevent accidental errors. This should be a priority for investment in any verification regime. More advanced verification mechanisms can be considered and should be informed by data use practices.
- Ensure effective mechanisms are in place to support entity resolution by using or assigning reliable identifiers for legal vehicles and individuals. Register-level identifiers are helpful to uniquely identify individuals in a single dataset, and can decrease the need for access to additional attributes and personal data. When users need to combine information across multiple data sources, especially across jurisdictions, additional attributes are still required.
- Foster interoperability across BO registers and with other data sources at domestic, regional, and international level. Some of the recommendations above help improve interoperability, including those related to structuring information, verification, and entity resolution. The following should also be considered:
  - Investing in standardising data. Using a standardised way to structure data across multiple datasets lowers the resources required to join information sources.<sup>84</sup>
  - Improving inter-agency coordination and ensure the use of common identifiers in different information sources, such as the LEI, developed by the Global Legal Entity Identifier Foundation (GLEIF).

- Improving inter-governmental cooperation on these topics, including exploring privacy-sensitive solutions to uniquely identify individuals at a transnational level. For example, the EU's European Digital Identity.
- Design access provisions that allow users who have a role in achieving intended policy goals to effectively process BO information.
  - This should include data-service providers who currently play a key role in the BO data-use ecosystem and are likely to continue doing so.
  - Allow relevant users to flexibly use the information they need with necessary safeguards. Excessive or poorly designed safeguards can negatively affect the impact of BOT reforms. In addition, providing access to a public portal with limited searchability will satisfy most simple queries.
  - Improve inter-governmental cooperation to develop legal and technical frameworks for accessing information across borders.
- Include all relevant legal vehicles within the scope of disclosure requirements.

Many of these aspects are covered in Open Ownership's resources and guidance.<sup>85</sup>

#### Investing in user-centred policy design

Agencies implementing BOT reforms should invest in user research and contextualise the findings of this research to their contexts, as well as document and share this process. To achieve this, increased and sustained engagement with users at various points of the implementation process is essential, through:

- dedicating appropriate resources for ongoing user research;
- adopting an agile approach to implementation by listening to users' feedback and learning from practice to make iterative improvements;
- monitoring and measuring data use, including by intermediary users;
- documenting user experiences to inform improvements to reforms.

User research can be conducted at any stage of implementation (see Figure 3). Whether BO information is already available to data users or not, agencies in charge of implementing BOT reforms can and should conduct some degree of user research.<sup>86</sup>



#### Figure 3. User research at different stages of implementation

### Conclusion

The impact of BOT reforms is dependent on individuals being able to use the information in the specific ways they need. Therefore, users' insights are crucial to guiding the implementation of effective BOT reforms.

This research has explored how BO information is used, shedding light on current factors supporting and hindering reform effectiveness. The research found many commonalities in user needs. There was some divergence in how different users need to access and process BO data depending on their questions, but these different needs could not be uniquely ascribed to certain user profiles or roles. As initial queries may lead users to additional, unforeseen questions associated with a new set of needs, the total set of a user's requirements is difficult to predict. The research concludes that in order to enable the widest diversity of use types, it is important to provide flexibility in ways to access and process BO data to a large group of data users.

Currently, many users cannot access information and process it in ways that allow them to answer their questions. The findings warrant shifting the debate about access from *who* should have access to include *what* this access should look like in order to enable the effective use of BO information. A user-centred approach to designing access regimes can enable effective data use while ensuring the infringement on privacy is proportionate and necessary to achieving specific aims. This report has also provided a set of recommendations that can guide implementing jurisdictions to take concrete steps towards more user-centred and effective reforms, and ultimately measurable impact.

### 2

# Appendices

#### Appendix 1

#### Interview guides

Note: This simplified version of the research's interview guides does not include the detailed prompt questions aimed to support lead interviewers to rephrase questions or ask follow-up clarifying questions. Questions were adapted to the profile of different interviewees.

#### Introduction and consent

- Introduction to the research project
- Consent for note-taking, recording, and publication of quotes
- Brief introduction of interview leads, note-takers, and participants

#### Interview questions

- 1. Can you please start by telling us more about your role, the main functions of your team/department, and the wider organisation?
- 2. How do you normally access BO information (both on legal vehicles registered in your jurisdiction and on foreign legal vehicles)?
- 3. Could you please tell us more about how you use BO information as part of your functions? Could you please describe the process?
- 4. Can you please explain specifically what BO information enables you to do?
- 5. Can you please think of a specific time when using BO information made a real difference in your work or in the world? Can you talk us through that example?
- 6. Can you describe the steps you take to find the BO information you need, and explain how you analyse it? What about the information or the way you access it makes it easier for you to follow these steps?
- 7. Which specific information or fields found in BO information do you need most in your work (e.g. nationalities, dates of birth, phone numbers, identifiers, full ownership chain, etc.)?
- 8. In your experience, what have been the biggest barriers to usability of BO data? What are the impacts of these barriers?

#### Conclusion

- 9. We have come to the end of the interview. Is there anything you would like to add or ask?
- 10. Are there other departments or other types of actors that are using BO information in your jurisdiction that you think we may be interested in speaking to? If so, would you be willing to provide an introduction?

#### Appendix 2

### Overview of research participants

#### Table 1. Interviews with research participants

Note: All interviews were conducted either in person or virtually via email or video call between August 2023 and March 2024.

Country	Region	Profile	Name of research participant	Affiliated organisation	Job title	Interview date	Interview number
Kenya	Africa	Civil society: investi- gative journalist	Purity Mukami	Organized Crime and Corruption Reporting Project (OCCRP)	Journalist	18 Oct 2023	#001
Nigeria	Africa	Civil society: investi- gative journalist	Joshua Olufemi	Dataphyte	Founder	8 Nov 2023	#002
Anonymous	Africa	Government: tax authority	Anonymous	Anonymous	Anonymous	20 Nov 2023	#003
Anonymous	Africa	Government: FIU	Anonymous	Anonymous	Anonymous	15 Nov 2023	#004
Slovak Republic	Europe and Central Asia	Civil society: researcher/academic	Daniel Zigo	Faculty of Law, Comenius University Bratislava	Assistant professor	16 Nov 2023	#005
Mauritius	Africa	Government: BO registrar	Prabha Chinien <sup>87</sup>	Corporate and Business Registration Department	Registrar of Companies	24 Nov 2023	#006
Kenya	Africa	Government: anti-cor- ruption agency	Joel Khisa Nyongesa	Ethics and Anti-Corruption Commission	Investigating Officer and Procurement Specialist	26 Oct 2023	#007
Anonymous	East Asia and the Pacific	Government: anti-cor- ruption agency	Anonymous	Anonymous	Anonymous	30 Aug 2023	#008
Anonymous	East Asia and the Pacific	Government: law enforcement agency	Anonymous	Anonymous	Anonymous	30 Aug 2023	#009
Indonesia	East Asia and the Pacific	International: civil society	Timer Manurung	Auriga	Chair	31 Oct 2023	#010
Philippines	East Asia and the Pacific	Government: tax authority	Maria Rosario (Charo) Bernardo	Consultant for Open Ownership/ Bureau of Internal Revenue	Consultant	26 Oct 2023	#011
France	Europe and Central Asia	Private sector: BO data-service provider	Jean Villedieu	Linkurious	Co-founder	25 Oct 2023	#012
Estonia	Europe and Central Asia	Private sector: end user (e.g. company using for due diligence)	Siiri Grabbi	Coop Pank AS	Sanctions/ Countering the Financing of Terrorism (CFT) Officer	25 Oct 2023	#013
Denmark	Europe and Central Asia	Civil society: investi- gative journalist	Johan Christensen	Børsen	Head of Investigative Unit	27 Sep 2023	#014

Country	Region	Profile	Name of research participant	Affiliated organisation	Job title	Interview date	Interview number
Denmark	Europe and Central Asia	Private sector: end user (e.g. company using for due diligence)	Simon Bay	Danish Association of Chartered Estate Agents	Real Estate Consultant, Legal and Brokerage Department	17 Oct 2023	#015
Denmark	Europe and Central Asia	Private sector: BO data-service provider	Henrik Kristian Christensen	BiQ	Marketing Manager	11 Sep 2023	#016
Denmark	Europe and Central Asia	Private sector: end user (e.g. company using for due diligence)	Anonymous	Finance and Leasing	Anonymous	11 Sep 2023	#017
Denmark	Europe and Central Asia	Civil society: investi- gative journalist	Andreas Munk	Ekstra Bladet	Investigative Journalist	11 Sep 2023	#018
Anonymous	Europe and Central Asia	Government: public procurement authority	Anonymous	Anonymous	Anonymous	12 Oct 2023	#019
United Kingdom	Europe and Central Asia	Private sector: BO data-service provider	Steve Lamb	Kyckr	Chief Operating Officer	26 Oct 2023	#020
United Kingdom	Europe and Central Asia	Government: law enforcement agency	Celestino Calabrese	National Crime Agency	Deputy Head of Illicit Finance Threat	9 Nov 2023	#021
United Kingdom	Europe and Central Asia	International: civil society	Anna Powell-Smith	Centre for Public Data	Director	1 Nov 2023	#022
United Kingdom	Europe and Central Asia	International: civil society	Ben Cowdock	Transparency International UK	Senior Investigation Lead	16 Nov 2023	#023
International	International	Civil society: researcher/academic	Mihály Fazekas, Antoninia Volkotrub, and Irene Tello Arista	Central European University, Government Transparency Institute; Anti- Corruption Action Center; Action4Justice and Central European University	Associate Professor; Financial Analyst; Co-Chair and PhD researcher	1 Dec 2023	#024
International	International	Civil society: investi- gative journalist	Karina Shedrofsky	OCCRP	Head of Research	6 Nov 2023	#025
International	International	Private sector: end user (e.g. company using for due diligence)	George Voloshin	Association of Certified Anti-Money Laundering Specialists (ACAMS)	Global Expert, Anti-Financial Crime	25 Oct 2023	#026
International	International	Private sector: BO data-service provider	Elisar Nurmagambetov	Black Ice AI	Co-founder	9 Nov 2023	#027
United Kingdom	Europe and Central Asia	Government: law enforcement agency	Anonymous	National Crime Agency	Law Enforcement Official	15 Nov 2023	#028

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Country	Region	Profile	Name of research participant	Affiliated organisation	Job title	Interview date	Interview number
International	International	International: civil society	Friedrich Lindenberg	OpenSanctions	Founder	11 Oct 2023	#029
Colombia	Latin America and the Caribbean	Government: tax authority	Anonymous	Anonymous	Anonymous	22 Aug 2023	#030
Argentina	Latin America and the Caribbean	Government: tax authority	Verónica Grondona	Administración Federal de Ingresos Públicos (AFIP)	Advisor (former Director of International Fiscalisation)	25 Oct 2023	#031
Paraguay	Latin America and the Caribbean	Civil society: researcher/academic	Juan Pane	Centro de Desarrollo Sostenible (CDS)	Executive Director	19 Oct 2023	#032
International	International	International: civil society	Juan Krahl	Directorio Legislativo	Program Coordinator, Citizens and Government Institutions	20 Dec 2024	#033 <sup>88</sup>
United States of America	North America	Private sector: BO data-service provider	Brian Macy	Senzing	Director of Product Development and Operations	18 Oct 2023	#034
United States of America	North America	Civil society: investi- gative journalist	Michelle Kendler-Kretsch	The Sentry	Investigations Manager	25 Oct 2023	#035
Denmark	Europe and Central Asia	Civil society: investi- gative journalist	Kevin Grønnemann	Børsen	Journalist	9 Sep 2023	#036
Anonymous	Europe and Central Asia	Government: tax authority	Anonymous	Anonymous	Anonymous	25 Mar 2024	#037

# Table 2. Overview of research participantsby profile

Sector	Profile	Number of inter- views conducted	
Government	FIU	1	
	Tax authority	5	
	Anti-corruption agency	2	
	Law enforcement agency	3	
	Procurement authority	1	
	BO registrar	1	
Civic sector	Investigative journalist	7	
	Academic researcher	3	
	Civil society organisation	4	
Private sector	Service provider	5	
	End user (e.g. company using for due diligence)	3	
Other	International expert	2	
Total		37	

# Table 3. Overview of research participantsby region of operation

Region of research participants	Number of inter- views conducted
Africa	7
East Asia and the Pacific	4
Europe and Central Asia	14
Latin America and the Caribbean	3
North America	2
International	7
Total	37

Note: Some interviews included more than one interviewees but are counted as one research participant.

### **~**

#### Appendix 3

#### Rapid review of relevant publicly available resources

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- 87 Another contact, Preeya Raghoonundun from the Integrity Reporting Services Agency, was also proposed by the Mauritius authorities for this interview but unfortunately could not attend. We are grateful to Prabha Chinien, Registrar of Companies, who provided insights based on interactions with data users.
- 88 This informal interview was conducted via email and followed up on user experiences reported by Directorio Legislativo as part of Open Ownership's support to the Joining the Dots project. This is outlined in a (privately published) report: Directorio Legislativo, *Joining the Dots with Politically Exposed Persons (PEPs) in Nigeria, Narrative Report* (Directorio Legislativo, 2023).

#### Author

Julie Rialet with contributions from Alanna Markle Tymon Kiepe

#### Editor

Cara Marks

#### Reviewer

Anton Moiseienko, Senior Lecturer in Law, Australian National University

#### Acknowledgements

This report is the result of qualitative research conducted by Open Ownership in 2023 and 2024. This work would not have been possible without the openness of research participants to share their experience using beneficial ownership information across a range of jurisdictions. While the individual contributions are too numerous to mention, Open Ownership expresses its gratitude to all those who volunteered their time to participate in the interviews, and to colleagues and partners who contributed to enrich the analysis.

#### Covers

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#### Design

**Convincible Media** 

**Suggested citation** Julie Rialet, *Understanding beneficial ownership data use* (Open Ownership, 2025), https://www.openownership.org/en/publications/understanding-beneficial-ownership-data-use.

Published by

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