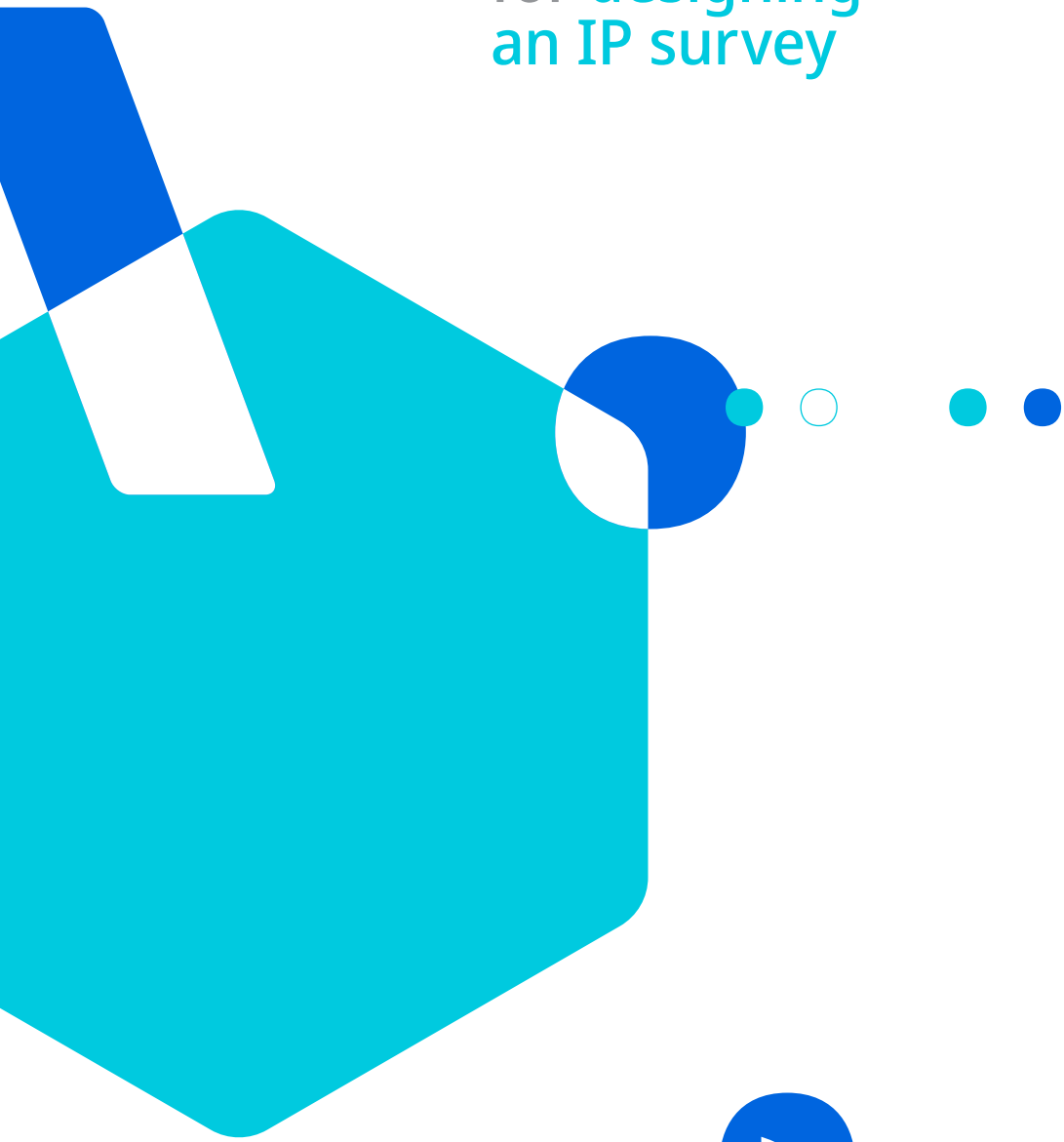
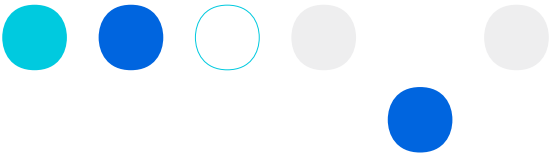
# Guidelines for designing an IP survey



WIPO

# Why carry out an IP survey?

A survey can be useful for understanding factors behind and beyond aggregated statistics. Surveys based on intellectual property (IP) can therefore be a valuable tool in guiding innovation and IP policies. This short guide outlines best practices for designing IP-related surveys, with the aim of promoting their adoption by governments and researchers keen to understand the economic behavior of stakeholders in the IP system and design policies to assist its development.



# Roadmap for designing an IP survey

## A Planning the survey

Start by having a clear picture of your final output and the main research question(s) you need to answer.

## B Designing the survey

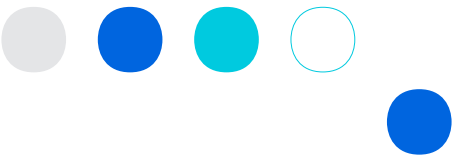
Using descriptive statistical analysis, analyze your target population to better understand it, and use this analysis to help you design the survey.

## C Collecting the data

Draft a step-by-step plan for the survey implementation and data collection stage, based on a timeline.

## D Checking and analyzing the data

Assess, analyze and validate the accuracy of the data you have collected.



roadmap

## A Planning the survey

Think about the final output first. This is the most important step, and it will help you plan for the later stages: design, validity checking and collecting.

To understand the output, consider the following:

- What is the purpose of the survey?
- What is the main research question(s)?
- Surveys can take a long time and use a lot of resources. Is carrying out a survey really the best way to answer the research question?
- Depending on your research question(s), you might need to understand both users and non-users of the IP system. Who are the target respondents of the survey? The target respondent may differ dependent on country, type of company or institution. For example, IP user surveys can be targeted at:
  - applicants (individuals, companies, universities, etc.)
  - applications (patents, industrial designs, etc.)
  - inventors/creators/designers, etc.

**Smart tip**
When dealing with multiple applicants/inventors/designers per application, use only the first applicant for the sake of simplicity.

- What is the ideal survey method for your research question(s)? For example:
  - Panel – a sequence of data points collected at intervals, suitable for tracking changes over time.
  - Cross-sectional – data collected by observing many subjects (such as individuals, firms, territories or regions) at one point or over a longer period.
  - Mixed design – integration of quantitative and qualitative data within a single investigation.

  The method you choose will affect the data you can collect, as well as the resources and time required.

- What is the best time frame for the survey, based on your survey method?
  - For example, patent applications filed between 2017 and 2019.

  Choosing a very recent time frame may mean certain data is not ready to be recorded. However, a more historical time frame could result in inaccurate recall by the respondents.

- What is the best collection (distribution) method for your target respondents?
  - For example, online, email, post, face-to-face, etc.

  Identify whether you have sufficient contact information for the target respondents, such as email, phone number or postal address. Contact methods differ in their use of resources and their response rate.

- Determine the ideal timeline for each stage of the survey and set clear milestones. Rushing through the stages can be risky, but a long collection and analysis process can mean survey results become irrelevant. Allow enough time for each stage, with some contingency. You might need to send reminders, for example.

- Determine the ideal final output. For example:
  - dataset for researchers
  - report for policymakers.

- Have contingency plans in place. For example:
  - second-best respondents
  - second-best distribution method.

**Smart tip**
Different infrastructure and cultural preferences will impact the success rate of the survey. Identify the best collection methods for your local setting.

## B Designing the survey

**Sample design**

- Conduct a descriptive statistical analysis of your target population to understand its nuances and demographics, using unit-record information (a comprehensive collection of data relating to individuals). This will help you to identify the ideal respondents and potential biases in the results.

- If the target population is too large to survey in its entirety, you will need to survey a representative sample. This is a subset of a population that accurately reflects the characteristics of the larger group.
  - For example, a population of 1,000 (300 non-residents and 700 residents) could generate a representative sample of 200 (60 non-residents and 140 residents).

- It might be difficult to achieve, but aim for a sample that mimics the consistency and diversity of the larger population.

- There are several potential barriers to achieving a representative sample. In this case, be transparent about the limitations of your sampling procedure. An unrepresentative sample will result in biased results and, ultimately, biased conclusions.

**Questionnaire design**

- Provide clear definitions of IP instruments and any other technical terms upfront.
  - Define terms such as “patent,” “filing date,” etc.
- Design the questionnaire according to the research question(s) and the descriptive statistical analysis.
- Include questions that will allow you to validate the results (e.g., non-response bias).
- Ensure the language you use is clear and consistent.
- Arrange your questions logically.
- Group questions by topic.
- Start with the most important questions and topics.
- Within each topic, start with general questions and gradually make them more specific.
- Organize the survey in such a way that the respondent is not required to recall earlier questions.
- Avoid lengthy questionnaires as it reduces the response rate.

**Question wording**

Although it is impossible to ensure that each question means exactly the same thing to all the respondents, aim to minimize misunderstanding as follows:

- Be simple, coherent and concrete.
- Avoid abstract, general and ambiguous questions.
- Avoid asking for more than one piece of information in a single question.
- Minimize biases by avoiding:
  - leading questions
  - socially desirable responses
  - jargon and name-dropping.
- Allow for all possible responses, but ensure they are mutually exclusive.
- Allow for rated responses where necessary.
  - For example, the Likert scale with five to seven possible responses.

**Pre-testing**

- Pre-testing the questionnaire on both experts and non-experts is crucial to help you understand sources of confusion in the text of the questions and choices, and eliminate redundancy and typos.

- Pre-test the questionnaire on experts to get technical feedback.
  - For example, target respondents, IP experts, examiners.

- Pre-test the questionnaire on non-experts to get feedback about its clarity and ease of use.

- Conduct interviews with the pre-test respondents to get their feedback.
  - For example, ask them about the length of the questionnaire, the clarity of the questions and their thought process to reach an answer.

- Revise and update the questionnaire based on the feedback you receive.

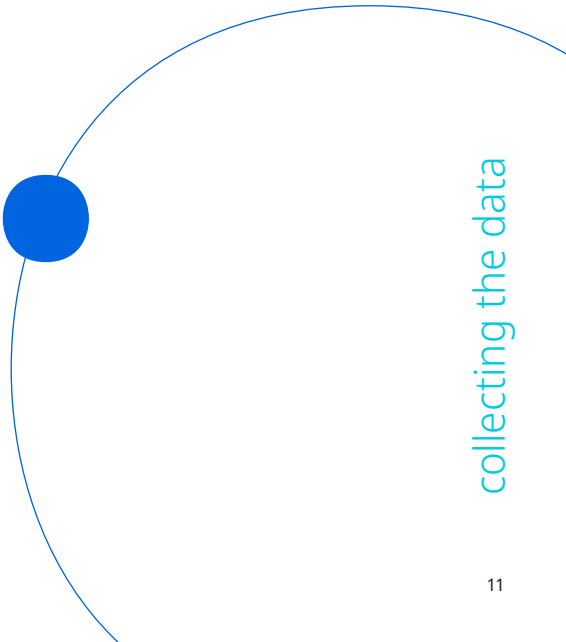
- Allow enough time for multiple rounds of revisions.

## C Collecting the data

- Draft a step-by-step process for implementation, and set a timeline.
- Have the necessary contingency plans in place. For example, identify potential alternative (second-best) respondents.
  - e.g. CEO, the designer, etc.
- Have a strategy for reassuring respondents about anonymity and confidentiality.
- Draft a cover letter:
  - stating the purpose of the survey
  - including endorsements from authorities and institutions
  - guaranteeing the anonymity and confidentiality of the data.
- Prepare a centralized and harmonized data recording strategy to minimize the potential for human error.
- Train the researchers in the field to maintain a univocal approach and minimize biases.

collecting the data

- Pre-test the data recording strategy to ensure it works.
- Distribute the questionnaire with an accompanying cover letter.
- Send out reminders and follow-ups according to the agreed timeline and milestones.
- At each stage, keep track of the response rate and potential biases.
- Identify segments of your population with a low response rate and mobilize contingency plans to minimize any potential biases.
  - For example, consider alternative respondents, or change the collection method.
- Document any change of strategy due to unforeseen problems.
- Record and collect the data.



## D Checking and analyzing the data

- Assess whether the collected data accurately represents the target sample and larger population.
- If necessary, treat and clean the recorded data to make a dataset that is compatible with statistical software:
  - Remove any duplicates.
  - Remove empty or incomplete questionnaires (e.g., based on a threshold).
- Calculate the response rate.
- Conduct a descriptive statistical analysis on the collected data.
- There is often a delay in publication of IP applications. When analyzing the data, factor this in.
  - For example, it takes about 18 months for patents to be made public.
- Compare the results with the general population statistics.
- Identify biases (over- or under-sampling) in certain categories. For example, disproportionate sample of a:
  - year
  - technological class (IPC code)
  - geographical location, etc.
- Consider drafting a report based on deeper descriptive statistics and/or econometric analysis and the potential policy implications.
- Be transparent about the survey limitations, biases, challenges and lessons learned.

checking the data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