The organizational six steps of the data analysis process

Ask, prepare, process, analyze, share, and act. These six steps apply to any data analysis. Continue reading to learn how a team of people analysts used these six steps to answer a business question.

An organization was experiencing a high turnover rate among new hires. Many employees left the company before the end of their first year on the job. The analysts used the data analysis process to answer the following question: how can the organization improve the retention rate for new employees?

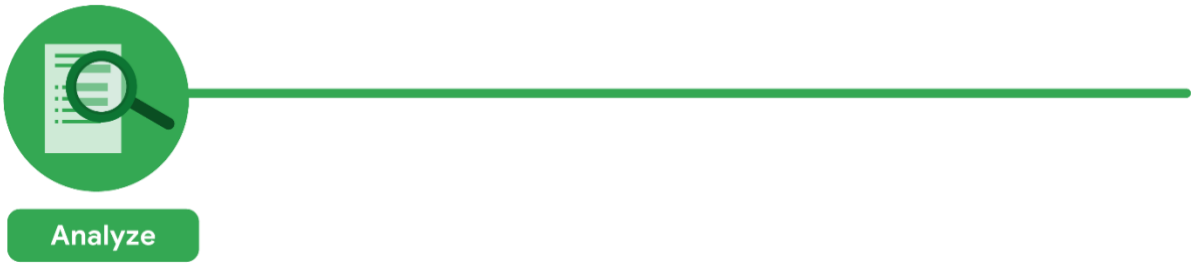
Let's break down what this team did, step-by-step.

First up, the analysts in our example needed to define what the project would look like and what would qualify as a successful result. So, to determine these things, they **asked** effective questions and collaborated with leaders and managers who were interested in the outcome of their people analysis.

It all started with solid **preparation**. The group built a timeline of three months and decided how they wanted to relay their progress to interested parties. Also during this step, the analysts identified what data they needed to achieve the successful result they identified in the previous step - in this case, the analysts chose to gather the data from a survey of new employees. They

identified specific questions to ask about employee satisfaction with different business processes, such as hiring, onboarding, and compensation. Rules were established for who would have access to the data collected, what specific information would be gathered, and how best to present the data visually. The analysts brainstormed possible project- and data-related issues and how to avoid them.

The group sent the survey out. Great analysts know how to respect both their data and the people who provide it. Since employees provided the data, it was important to make sure all employees gave their consent to participate. The data analysts also made sure employees understood how their data would be **collected, stored, managed, and protected**. In order to maintain confidentiality and protect and store the data effectively, access was restricted to a limited number of analysts. Collecting and using data ethically is one of the responsibilities of a data analyst. Then the data was cleaned up to make sure it was complete, correct, and relevant, and uploaded to an internal data warehouse for an additional layer of security.

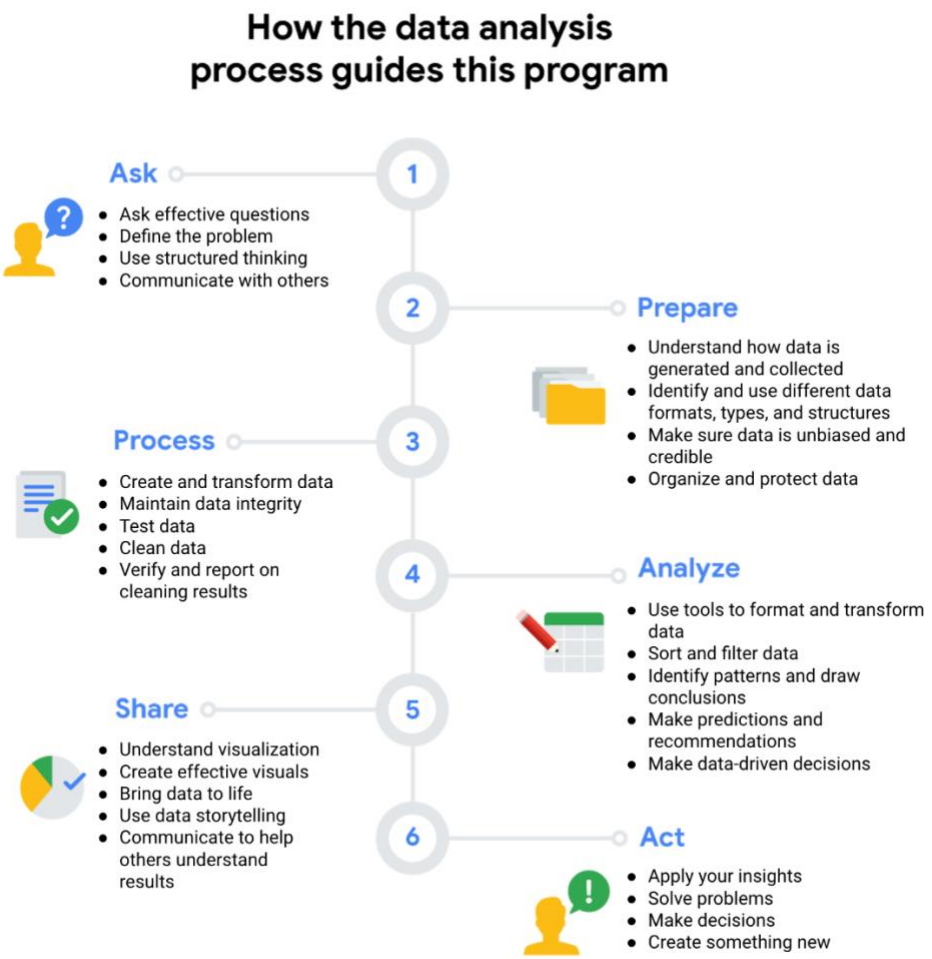


Then, the analysts did what they do best: analyze! From the completed surveys, the data analysts would **discover** that a new employee's experience with the hiring process was a key indicator of overall job satisfaction. The analysts found that employees who experienced an efficient and transparent hiring process were most likely to remain with the company. Employees who experienced a long and complicated hiring process were most likely to leave the company. The

group knew it was important to **document** exactly what they found in the analysis, no matter what the results. To do otherwise would decrease trust in the survey process and reduce their ability to collect truthful data from employees in the future.

Just as they made sure the data was carefully protected, the analysts were also careful **sharing the report**. For example, in order for a manager to receive the survey report, a minimum number of their team members had to have participated in the survey. The group presented the results to leaders first to make sure they had the full picture, then asked them to deliver the results to their teams. This gave leaders an opportunity to **communicate the results** with the right context and have productive team conversations about next steps.

The last stage of the process for the team of analysts was to work with leaders within their company and decide how best to **implement changes and take actions** based on the findings. The analysts recommended standardizing the hiring processs for all new hires based on the most efficient and transparent hiring practices. A year later, the same survey was distributed to employees. Analysts anticipated that a comparison between the two sets of results would indicate that the action plan worked. Turns out, the changes improved the retention rate for new employees and the actions taken by leaders were successful!



Data ecosystem

The data ecosystem is a group of elements that interact with one another on order to produce, manage, store, organize, analyze and share data. The element includes hardware, software and the people who used them.

Analytical skills

Qualities and characteristics associated with solving problems using facts. The 5 essential points for data analytical skills:

1. Curiosity
2. Understanding context (context is the condition in which something exists or happens)

3. Having technical mindset (a technical mind set is the ability to break things down into smaller steps and work with them in an orderly and logical way)
4. Data design (how you organize information)
5. Data strategy (the management of people, processes and tools used in data analysis)

Analytical thinking

Identifying and defining any problem then solving it using data in an organized and step – by – step matter.

Key aspects of Analytical thinking:

1. Visualization (the graphical representation of information)
2. Strategy (being strategic when interacting with huge amount of data to stay focused on solving problem)
3. Problem orientation (identifying, describe and solve problems)
4. Correlation (identifying relationship among two or more data)
5. Big picture and detailed oriented thinking (an overall and detailed looking at the entire analysis and analyze the specifics terms sophisticatedly)

Some questions influence analytical thinking

- ✓ **What is the ROOT cause of the problem?** – root cause is the reason why a problem actually happened. To identify the root cause, we generally follow the five "why". Using a simple example that the price of the rice increases in the market. Why the price arises? = markets lack for having enough rice to supply. Why do not market supply the substantial amount? = the production of rice significantly downs. Why do not farmers produce enough rice? = they cannot bear the production cost. Why the production cost increases? = because an unexpected rise in the price of utilizers. Thus, the root cause that why the price of the rice increases in the market is an unexpected rise in the price of utilizers.
- ✓ **Where are the gaps in our process?** – gap analysis is the method for examining how a process works currently in order to get where you want to be in the future.
- ✓ **What do we not consider before?** – thinking about what information or procedure might be missing from the process.

- ✓ **What are we going to learn from?** – indicates the successful result the should be derived from the analysis.

Data life cycle

- Plan - What plans and decisions do you need to make? What data do you need to answer your question?
- Capture - Where does your data come from? How will you get it?
- Manage - How will you store your data? What should it be used for, and how do you keep this data secure and protected?
- Analyze - How will the company analyze the data? What tools should they use?
- Archive - What should they do with their data when it gets old? How do they know when it's time?
- Destroy - Should they ever dispose of any data? If so, when and how?