

From Job Analysis to Job Description: How It Is Done

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This article demonstrates how to conduct a job analysis in detailed steps, with practical advice and examples. The utilized job analysis method is the task inventory, and the aim is to ultimately reach the final step of writing an informed job description. The paper also states the major benefits and limitations of this process.

Keywords

[human resource management, job analysis, job description, workflow analysis, job design](#)

The Job Analysis Process

Job analysis identifies tasks, roles, and responsibilities for each job within the organization, that is, the job requirements (Heneman et al., 2018). Afterward, the process detects the competencies, knowledge, skills, abilities, and additional characteristics that the incumbent needs to perform successfully at a given job (Anyakoha, 2019).

Job analysis is part of the broader process of workflow analysis (Wilson et al., 2012). In a workflow analysis, the organization is looked at as a process, where the

aim is to change inputs into outputs. Inputs are the various resources (e.g., financial, physical, and human resources), and outputs are the delivered products and services. If examined as a process, an organization consists of thousands of tasks, where some are simple and others are complex, and each task is related to the other. Each job is a set of tasks that are interdependent and require similar qualifications. Jobs can be designed to be simple, that is, including few and simple tasks. Alternatively, jobs can be designed to be complex.

When it comes to job analysis, the aim is to focus on each job, but analysts should never lose sight of the broader process where each job is related to others, acting as an input, output, or both to other jobs. Also, they should stay focused on the aim of the job, which is part of the aim of the unit/department where it is located, which in turn is part of the organization's strategic plan, goals, and subsequent operational implementation.

There are several methods to conduct a job analysis, and each has its purpose, focus, benefits, and limitations. Methods are classified as either standardized or customized. Standardized methods measure common variables across jobs, usually to identify the comparable worth of each job. Therefore, standardized methods are used for constructing fair compensation systems based on a systematic job evaluation process. In contrast, customized methods focus on the uniqueness of each job, looking at its purpose, the tasks and roles it involves, and the qualifications it needs to accomplish them with good performance standards. Therefore, this paper focuses on customized methods, particularly the task inventory method (Goffin & Woycheshin, 2006). There are other customized methods: among the widespread ones are the critical incidents and the job element methods (Ash, 1982; Koch et al., 2012).

The task inventory method aims to identify the tasks of each job (usually 50 to 200 tasks), and then match the tasks with the required knowledge, skills, abilities, and other characteristics (KSAOs). Thus, it is the most used method if the process aims to generate job descriptions. Figure 1 identifies the major steps of the task inventory method, where the final step is the job description. This paper will explain each step in detail.

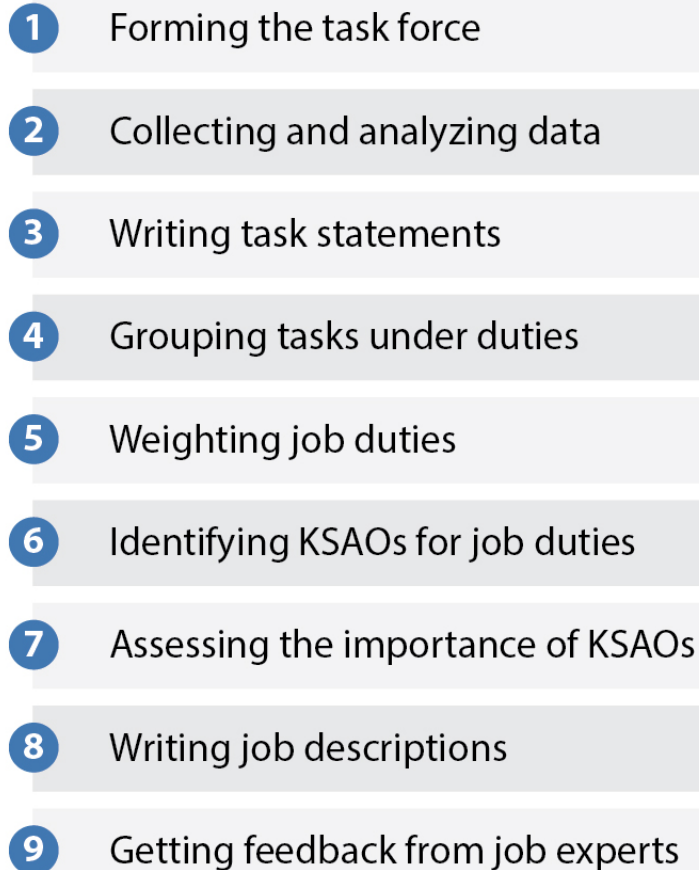
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- 1 Forming the task force
 - 2 Collecting and analyzing data
 - 3 Writing task statements
 - 4 Grouping tasks under duties
 - 5 Weighting job duties
 - 6 Identifying KSAOs for job duties
 - 7 Assessing the importance of KSAOs
 - 8 Writing job descriptions
 - 9 Getting feedback from job experts

Figure 1: The major steps of the job analysis process.

Step 1: Forming the Task Force

A team needs to be assigned to design and implement the job analysis process. As the process requires time and effort, the support of top management and the buy-in of employees are vital to ensure process facilitation and effectiveness. Keep in mind that the process could be periodic, every two or three years, or even as a response to circumstances, such as a company restructuring, the addition of new jobs, or major changes to current jobs. Thus, it might be effective to assign the process to a core human resources (HR) team to deal with ad hoc changes and to monitor job descriptions continuously.

The team usually includes internal HR experts in the area of workforce planning and job analytics, in addition to a representative group of the various organizational functions, units, and occupation levels. In addition, external consultants might join the team, especially when internal expertise is scarce. These initiatives should be championed by at least one top manager to provide a strong message of support and to underscore their importance.

Job analysis is the basis of all HR practices, thus the results of this process have a direct impact on HR processes and HR outcomes. Therefore, the quality of the team that designs and implements the process is vital. The team should be process oriented but also informed of the organizational goals to ensure that the process is consistent with the strategic orientation. Also, the more members who are exposed to the organizational structure, functions, operations, units, policies, and procedures, the better the representation and the wider the perspectives, which result in refined and organization-specific decision-making.

As a piece of practical advice, the process should aim to customize job analyses and descriptions to reflect the reality of the organizational context; thus, even when hiring consultants to lead the project, involvement from internal agents is highly recommended. Another concern is to balance comprehensive representation from multiple functions and units with maintaining the practicality of the process. Since such a process highly influences individual employees and managers, it might be politically concerning and many employees may want to join. That said, although it is positive to have wide perspectives, having too many will make the process complex, time-consuming, and exhausting, resulting in inefficient and ineffective decision-making.



Figure 2: Desired characteristics in a job analysis task force.

Step 2: Collecting and Analyzing Data

After assigning the task force, the team has to decide on the best sources and methods to collect data on jobs. The best source of information is the job incumbents, as they are the ones who perform the tasks. In addition, previous job occupants are also job experts, but they might have forgotten some of the tasks or not be up-to-date with any changes that might have occurred on the list of current tasks. Another option is for an HR specialist or consultant to observe job occupants and take note of their daily tasks. The major benefit of job observation is that it will minimize work interruption for the job occupant while still recording the data from the employee. This approach works best for simple, repetitive, and visible tasks. However, it might fail to capture complex, mental, and occasional tasks. Line managers are also an alternative source to collect data on their subordinates' tasks. Direct managers are usually well acquainted with their subordinates' outcomes, but they might lack the knowledge of the full process that generates those outcomes. Nevertheless, if they are knowledgeable about their subordinates' tasks, supervisors tend to report highly valid data (Weekley et al., 2019). Depending on their expertise, external consultants are best utilized for newly created jobs of which the organization has limited knowledge. However, external

consultants might fail to generate an organization-specific list of tasks, and their knowledge of existing jobs is less accurate than the organization's employees. Additional sources include coded information such as customer reviews, previous job analyses and descriptions, and external databases of sample job descriptions.

Another method for collecting data is to ask employees to keep a diary of their tasks for a specific period. The quality of this method is dependent on the employee's level of commitment and detail of recording. Its major disadvantage is that the employees' work is frequently interrupted and there is a high probability of not capturing important yet infrequent tasks that do not occur during the assigned period. The third and fourth methods for collecting data on jobs are interviews and questionnaires, which are the most commonly utilized methods (Wilson et al., 2012). Interviewing job experts might be based on structured, predefined questions, or the interview might be semi-structured based on covering a set of themes while providing the interviewer freedom to form the questions based on the context. Interview design and implementation are time-consuming. They require commitment from job experts, as the qualitative data need time to be analyzed thematically. If the interviewers and task force cannot determine what specific questions are best suited to capture a job's tasks but decide to stick to the interview method, then it is best to start with exploratory unstructured or semi-structured interviews with a small sample of job holders. Subsequently, interview questions for the wider sample can be developed based on the exploratory results. The ensuing structured interviews will be used to confirm the exploratory results and to fill any information gaps. As for questionnaires, they also can be used to collect data from job experts. Yet the major disadvantage of questionnaires is that designing them is time-consuming. Nevertheless, if structured, collecting and analyzing data is much easier and faster with questionnaires than other methods. That said, similar to interviews, if there is a lack of insight into what structured questions should be asked to capture the relevant data, then it is best to first conduct an exploratory survey with a small representative sample using open-ended questions. Subsequently, a structured questionnaire can be formulated to survey the rest of the sample to confirm the exploratory results. A mixed method is also a good option for exploratory and confirmatory data collection. For example, first a set of exploratory interviews can be conducted, and then based on the thematic analysis, a structured survey can be used to confirm the exploratory results. Table 1 presents the strengths and weaknesses of different data collection methods.

Method	Strengths	Weaknesses
Job observation	■ Minimizes interruptions ■ Effective for simple, repetitive, and visible tasks	■ Might miss complex, mental, and occasional tasks
Direct managers	■ Familiar with subordinates' outcomes	■ Might not fully understand steps leading to outcomes
External consultants	■ Best for positions new to the organization	■ Less accurate for existing jobs ■ Might be too general and not organization specific
Employee diary	■ Draws on incumbents' expertise	■ Quality of data collected varies ■ Frequent work interruptions ■ Likely to miss important yet infrequent tasks
Interview	■ Draws on incumbents' expertise ■ Commonly used	■ Time-consuming to design and implement
Questionnaire	■ Draws on incumbents' expertise ■ Commonly used ■ Quick and easy to analyze data collected	■ Time-consuming to design

Table 1: Strengths and weaknesses of data collection methods for task inventories.

Step 3: Writing Task Statements

After collecting data on each job and thematically and quantitatively analyzing it, the next step is to extract the tasks of each job and articulate them into task statements. Recall that a job is a cluster of tasks, and each task represents a basic unit of a job with a clear beginning and end. When writing task statements, it is preferable to structure them consistently and clearly. A structured task statement indicates the responsibility level, tools, and technologies needed to perform a task; the working conditions; the effect of the task on other tasks and jobs; the importance of the task; and the competencies required and preferred. It is recommended to disregard trivial tasks and minor elements in task statements to keep their number manageable (Heneman et al., 2018). Well-written and structured task statements facilitate and increase the effectiveness and efficiency of the remaining steps in the job analysis process. Table 2 provides an example of three task statements related to the teaching activity of a university professor. Typically, a task statement is structured as follows:

1. Choose an action verb that describes what the jobholder is doing.

2. Identify to whom or what the action is directed, that is, the object of the action verb, which can be a device, people, information, etc.
3. Describe how the action is performed.
4. Describe why the action is performed and the final output of the task.

	What?	To Whom/What?	How?	Why?
1	Preparing	Teaching material	Using media, appropriate software, and the learning management system tools	To ensure covering all the learning objectives and facilitating student interaction
2	Adjusting	The course syllabus every semester	Through researching recent academic work, professional practices, and pedagogies	To ensure that the learning objectives, teaching material, and course delivery methods are up-to-date with research findings and professional practices
3	Delivering	Lectures to students	Utilizing effective communication skills, multimedia, and course material	To ensure student engagement and their attainment of the learning objectives

Table 2: Task statements related to the teaching activity of a university professor.

Step 4: Grouping Tasks under Duties/Dimensions

For practicality and organization, it is highly recommended to group tasks under job duties after writing the task statements. Also referred to as a job dimension, a job duty is a combination of tasks that form an identifiable business activity. For example, a university professor typically has three major job duties: research, teaching, and service. It is recommended to limit the job duties to a range from three to seven. If a task could be classified under more than one duty, then place it under the duty where the task output and significance are most related. At this point, you might find that some task statements are repetitive or some are too simple. Delete repetitive tasks after ensuring that there are no important exclusions and combine the simple tasks into more complex task statements to ensure that they reflect a meaningful unit of work.

Step 5: Weighting Job Duties/Tasks

Job duties, or even individual tasks, are not equally important. Therefore, it is vital to identify the comparable worth of each job duty. If the number of tasks is manageable, it is useful to identify the level of importance of each task as well. Usually this is too complicated, as typically jobs consist of many tasks. The relative worth of each job duty is measured based on the time spent on this business activity or the judgment of job experts on its significance to performing well in a given job. The judgment could be quantified based on surveying job experts, including job holders and their line managers, rating each job duty based on a scale. Alternatively, if there are data on critical incidents for each job, then the relative worth of each job dimension could be based on the frequency of critical incidents related to the total number of critical incidents. Critical incidents are recorded customer feedback or performance feedback from related jobs (internal customers), who report on good or bad performance behaviors and practices.

Keep in mind that in some countries, such as in the United States, individual tasks are often assessed based on whether they are essential or nonessential. This classification could be based on a simple judgment of a sample of job experts or a quantifiable judgment based on the data generated. Table 3 provides an example of a university professor's duties with their relative importance based on time spent and the job experts' rating.

Duty	Tasks Included (Sample)	Time Spent (%)	Relative Importance (%)
Research	Publishing journal articles and books, presenting in conferences, peer-reviewing academic work, and editorial roles.	60%	40%
Teaching	Preparing class material, writing and updating course syllabus, delivering lectures, and supporting students in and out of class.	35%	40%
Service	Participating in department and school meetings; participating in department, school, and university-wide committees; serving the community; and holding leadership and administrative roles.	5%	20%
Total		100%	100%

Table 3: Job duties of a university professor with their time percentage and relative importance.

Step 6: Identifying KSAOs for Job Duties

The next step will be to articulate the knowledge, skills, abilities, and other characteristics (KSAOs) needed for each job dimension or task. Many KSAOs for tasks under the same dimension tend to be shared and are therefore repetitive. Thus, it is common to identify KSAOs for a job dimension rather than for each task under the indicated dimension as the process can otherwise be tedious. To differentiate between KSAOs, a simple definition and examples for each are provided in Table 4.

	Tasks Included (Sample)	Examples
Knowledge	A body of information in a particular discipline, function, and/or activity that the jobholder can apply at work. Knowledge can be factual or procedural.	■ Knowledge of the subject matter ■ Knowledge of qualitative and quantitative research methods
Skill	A psychomotor activity; motor response to cognitive decision-making. It is how tacit knowledge is transferred into action at work.	■ Communication and presentation skills ■ Interviewing skills
Ability	A capacity that enables a person to do something, thus having a state of being able. It is wider than skill, as it provides potential.	■ Ability to learn ■ Ability to analyze
Other characteristics	A category where all other requirements that are not classified under knowledge, skill, or ability are added. It includes personality traits, competencies, physical and mental requirements, values, and interests.	■ Attention to detail ■ Academic integrity

Table 4: Examples of KSAOs for job duties of a university professor.

Based on the KSAOs, qualifications can be deduced. Alternatively, job experts can provide their input during the data collection phase. Qualifications include the level of formal education, vocational degrees, training, and years of experience, among others.

Step 7: Assessing the Importance of KSAOs

After assigning KSAOs for each job dimension, the importance of each should be measured, as not all have the same level of importance to achieve the job tasks under the duty. Unlike job dimensions where the aim is to look at comparable worth, in this step the aim is to look at each KSAO separately when deciding on its importance. Based on the ratings of job experts, a point scale is typically used to

measure the importance of each. The purpose is to identify which KSAOs are essential, which ones are preferable, and which are good to have but nonessential. Quantitatively, essential and nonessential KSAOs could be identified through a cutting score on a point scale. For example, under a ten-point scale, KSAOs that score more than six are considered essential and the ones scoring four or below are considered nonessential. Note that if a qualification is considered essential but the organization is willing to train a recruit, then it should not be classified as a required qualification but as a preferred one. This case occurs when the KSAO is scarce in the labor market, is organization specific, or is easily attained on the job. Table 5 provides a sample of KSAOs for a university professor, under the teaching dimension.

Teaching	Preparing class material, writing and updating course syllabus, delivering lectures, and supporting students in and out of class.	
	Sample KSAO	Rating based on a 10-point scale
Knowledge	Knowledge of subject	9.2
	Pedagogical knowledge	8.8
Skills	Presentation skills	9.6
	Writing skills	7.9
Abilities	Ability to engage with students	8.1
	Ability to adapt to different audiences	7.5
Others	Commitment	9.0
	Agreeability	7.8

Table 5: Sample KSAO and their importance for university professor's job duty of teaching.

Step 8: Writing Job Descriptions

After generating the results of the job analyses, the results are summarized and organized into job descriptions, one of the most vital documents to refer to whenever any job is in focus. A job description starts with stating major details about the job (identification), such as the job title, department, direct manager (to whom the employee reports), job category, salary grade, salary range, subordinate jobs (for which the employee is responsible), and exempt/non-exempt status from overtime pay provisions (Fair Labor Standards Act classification).

The second section is a job summary, two to four sentences that highlight its major purpose and broadly describe the major duties. Details of the job follow in the next section. As a result, job summaries should be concise.

The third section is the detailed job description. Under this section, the job duties are written down as subheads, and the task statements are placed under each subhead. Duties are listed based on their importance, from the most to the least important. Tasks under each duty are also listed based on their importance, from the most to the least important. Nonessential tasks should be separated under a subsequent section to highlight that they will not be used for employee selection purposes.

The fourth section is the job specification, which lists the KSAOs and the qualifications. The most common two qualifications are the education level/specialization and years of experience in a specific field(s). For legal compliance purposes, separate this section into required and preferred categories. For employment decisions, consider first the required qualifications, and then, if several job applicants meet them, apply further filtration based on the preferred qualifications.

The fifth section addresses the work context, which can be deduced from the task statements. This section is important to ensure compliance with anti-discrimination legislation for people with disabilities (both physical and mental) and also with health and safety legislation and regulations. It includes the working environment (setting), working hours (including irregular ones), hazards, travel requirements, and physical requirements. As a general guideline, include the minimum requirements and be very specific to avoid litigation. Also, an employee or applicant who is not able to meet the requirements due to a disability should not be disqualified before assessing the feasibility of providing an accommodation that is reasonable and does not cause undue hardship.



Job descriptions typically follow a pro forma structure and may even be filled into a standardized template, as shown here.

Photo courtesy Getty Images.

Step 9: Getting Feedback from Job Experts

After completing the job descriptions, job holders are provided a copy to revise, sign, and date. At this point, job holders have the opportunity to suggest amendments, although if the process was done effectively, minimal alterations would be expected. If the number of job holders is large, then this process might also be time-consuming and complex. In addition to the job holders, their managers could be included in the feedback stage, and they as well sign and date the job descriptions. For future internal and external recruits, signing the job description will act as an acknowledgment of their job duties. Many organizations do not conduct the job analysis process periodically due to its complexity and time requirement. A good alternative is to provide a yearly opportunity for job holders and their managers to revise the job descriptions and provide updates when needed.

Benefits and Limitations

A major benefit of this process is to minimize litigation risk: the duties, including tasks, qualifications, and working conditions, are clear for each job, thus enabling the organization to better defend itself against potential claims of discrimination and unfair dismissal, among other employment decisions (Smith, 2015). Labeling a task based on whether it is essential or not and qualifications on whether they are required or preferred is particularly important in defending any case. Also, much research has supported a positive correlation between proper job analyses and organizational performance and profitability (Anyakoha, 2019). Furthermore, the process is a major enabler of effective human resource practices, such as training and development, performance management, recruitment and selection, succession planning, and compensation management (Sanchez & Levine, 2012). For example, when it comes to sourcing and recruitment, job analysis will clarify which effective sources and attraction techniques to use for acquiring the talent.

That said, the process, like other HR practices, is limited by human judgment. The validity and reliability of the data can be increased using a research strategy called triangulation. Triangulation is using several sources and methods to collect data (Smith, 2015). The level of triangulation should be balanced with practicality and efficiency. However, even if the utilized data is objective, quantified, and triangulated, the sources and decisions are still based on human judgment, which might be subject to errors and biases. Among the most relevant biases is the self-serving bias, which negatively influences the validity of a job analysis (Cucina et al., 2012). Another major critique of the job analysis process is that job tasks are continuously changing (Heneman et al., 2018). Job tasks are becoming more complex, unclear, unstable, and unpredictable. Given the changing nature of work, many scholars suggest alternatives to job descriptions. An example is utilizing competency modeling, where the focus is on identifying generic competencies (personal characteristics) for job holders that enable them to perform well on the job regardless of their frequently changing duties and roles (Sanghi, 2016).

Final Thoughts and Conclusion

Although job analysis tends to be a time-consuming and demanding process, it is proven to be highly relevant. Many practitioners and scholars have suggested amendments to increase its reliability and validity, and some have advised replacing it with other processes such as competency mapping. That said, it is still the most detailed and specific process in describing jobs, standing as a vital source

for various HR applications. Its utility in minimizing litigation risk is still highly applicable. Even when it comes to competency modeling, such an alternative could be an addition to capture in the process rather than a replacement (Sanchez & Levine, 2009). Finally, technological advancements in HR applications and the utilization of artificial intelligence, combined with big data, are making and will continue to make the process more efficient and valid, revolutionizing its utility and popularity among practitioners and researchers.

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