CHAPTER

8

Enterprise-wide Job Task Analysis in a Large Organization

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Abstract

This case study describes an enterprise-wide job analysis of over 600 roles in a government organization. The study applied a customized job analysis method to collect and analyze occupational information from across the organization to create profiles describing critical tasks, knowledges, and credentials for up to five career levels within each role. These profiles underlie an online career development portal that current and potential employees use to investigate customized career paths through the organization. Below is an overview of the case.

Where the Needs Assessment Was Conducted	Who Conducted the Needs Assessment	Focus of Needs Assessment	How Data Were Collected	How Data Were Analyzed
U.S. government agency that had dispersed sites	A consulting company	Constructed and validated over 600 role profiles that each included data for up to five career levels; provided career development information for roles filled by over 90% of organization's workforce	Background information on each role (e.g., position descriptions, vacancy announcements, and official titling and job grading standards), information from a Department of Labor database, feedback from subject matter experts (SMEs)	Content-analyzed documents; created draft profiles for SME review and feedback

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Background

At its core, job analysis is the systematic study of work and worker requirements (Brannick, Levine, & Morgeson, 2007; Harvey, 1991; Sanchez & Levine, 2001). The job analysis process identifies (a) critical duties and tasks that employees must perform in the job; (b) the human capabilities (e.g., knowledges, skills, and abilities [KSAs]) required to perform these duties and tasks; and (c) contextual factors associated with the job or role (e.g., use of tools and technology, physical demands, environmental factors, interpersonal and group interactions). Organizations use job analysis information to establish human resource tools, such as employee selection, promotion, or certification assessments; training and career development programs; and workforce planning and performance management systems. Well-designed job analysis studies follow professional guidelines and procedures, including the *Principles for the Validation and Use of Personnel Selection Procedures* (Society for Industrial and Organizational Psychology, 2003), the *Standards for Educational and Psychological Testing* (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 2014), and the *Uniform Guidelines on Employee Selection Procedures* (Equal Employment Opportunity Commission, Civil Service Commission, Department of Labor, & Department of Justice, 1978).

Within these guidelines, numerous approaches to job task analysis exist, and the choice between them should be driven by the intended use of the job analysis data. For example, a credentialing program might choose a task-analysis-oriented approach to collect detailed information on the tasks that job incumbents must be able to perform, while an organization developing a new performance management system might choose a worker-oriented approach to job analysis that identifies the KSAs needed to perform the job effectively. In the current case, a large corporate university needed to develop an organization-wide career map, which necessitated an approach to job analysis that identified both detailed information about the unique tasks and KSAs required in over 600 roles and an overarching taxonomy of information that applied across roles to support career exploration. To accomplish this goal accurately and efficiently, the organization implemented a hybrid approach to job analysis that included both task-oriented (Harvey, 1991) and worker-oriented (Sanchez & Levine, 2001) methods. The approach chosen for this study aligns closely with the process described in *A Practical Guide to Needs Assessment* (Sleezer, Russ-Eft, & Gupta, 2014). Both approaches start with a planning phase, involve conducting a workshop with subject matter experts (SMEs) to identify and refine critical components of the job, and result in training or other human resources recommendations.

The purpose of this study was to conduct an organization-wide job analysis for a large public-sector organization so that current and potential employees could create and explore customized career paths throughout the organization. As organizations face increasing competition for high-performing employees, career path exploration tools such as this have emerged as a key human resources tool for attracting and retaining staff, because they allow employees to see how their personal KSAs can be applied in the organization (Carter, Cook, & Dorsey, 2011).

Profile of the Organization

The sponsoring organization was a very large federal government agency that provides a wide range of services, including health care and benefits. Operating in locations across the United States, the organization employed workers in the full spectrum of blue- and white-collar occupations. As part of a larger transformation initiative, the organization wished to improve its ability to attract and retain high-performing employees by providing transparent occupational information that could allow motivated employees to see where they fit into the organization.

Preassessment Information

Prior to the assessment, the organization faced significant recruitment and retention problems, especially losing qualified candidates who had reached "dead ends" in their career paths and believed that they had limited opportunity to develop and advance. When it was available, existing career planning information only showed progression within a job series (e.g., financial management) to a terminal point within the job series itself. The organization wanted to provide a customizable career exploration tool that employees could use to find, and prepare for, new roles in the organization. Providing this information required thorough occupational information collected through a job analysis. The dean of the organization's corporate university requested that we perform this study in response to these issues and approved our proposed methods.

Needs Assessment Process

Most approaches to job analysis rely heavily on interviews, surveys, and focus groups with SMEs. The best SMEs are often those employees who are most critical to the organization and who have the least time to participate in the job analysis process. To minimize the burden on SMEs and because the scope of this study was so broad, essentially requiring over 600 separate job analyses, the project team developed a streamlined job analysis process that required SME input at only the most critical points. The resulting process involved four phases, which the project team conducted for each job family.

Phase I: Planning

To begin the process, the project director and the project sponsor organized the 600 roles into 55 related job families. Each role reflected a core set of responsibilities performed by employees in multiple individual positions that may have had distinct job titles. These job families provided a higher-order organizing structure for the study that aligned with government-wide job classification

standards. It also guided the recruitment of SMEs to participate in the job analysis process. The project sponsor prioritized each job family's participation in the process based on (a) amount of relevant work previously conducted, (b) availability of SMEs, and (c) percent of the workforce assigned to each family. The project director identified a point of contact within each job family who was responsible for identifying SMEs to participate in the job analysis process and, ultimately, to approve the results of their work. The project director assigned a team to each job family, which typically consisted of a team lead and two trained job analysts.

Phase II: Analysis

This section describes the process used to analyze the job analysis information. The analysis process included the following steps: (a) gather background information, (b) develop overall role descriptions and career level duties, (c) identify critical areas of knowledge, (d) link role profiles to O*NET occupations, (e) identify methods for acquiring the necessary KSAs, and (f) ensure quality control.

Gather Background Information

For each job family, trained job analysts on the project team (i.e., not job incumbents) collected background information on each role, which typically included position descriptions, vacancy announcements, and official titling and job grading standards. The job analysts used this information to create draft profiles for each of the identified roles within a job family. The role profiles included an overall role description, a short description of each career level (i.e., entry, mid, senior, supervisor, manager) within the role, the major duties performed in the role, the 10 most critical areas of knowledge for performing the duties, and representative methods for acquiring the necessary KSAs (e.g., training courses, on-the-job experiences, education). To maintain consistency across roles, job families, and analysts, the project team used a spreadsheet-based analysis guide as a template for creating the draft profile. Analysts populated this guide with the draft profile and identified the source of each component of the draft profile to keep track of information used to populate each of these data fields.

Develop Overall Role Descriptions and Career Level Duties

Analysts content analyzed the identified documents to construct a general description of each role. Because these descriptions addressed the overall role, analysts reviewed at least three vacancy announcements per career level and selected duties that appeared in multiple vacancy announcements at multiple levels. Then, using the same data sources, analysts selected the three most critical duties for each career level within the role to define the differences in responsibility by career level.

Identify Critical Areas of Knowledge

Next, analysts identified up to 10 specialized knowledges (e.g., "knowledge of graphic design principles") for each role that applied across career levels to document the capabilities necessary to perform the identified duties. The project team limited this analysis to the 10 most critical knowledges so that (a) the analysis could be completed for all 600 roles in a reasonable amount of time and (b) the ultimate users of the information were not overwhelmed with information when exploring career paths.

To identify critical knowledges, analysts identified common themes in each role's duties and inferred the knowledge required to perform them. For example, if a role required the incumbent to write a press release, an analyst might infer that the incumbent would need "knowledge of AP writing style" or "knowledge of messaging strategy principles." To distinguish between career levels, analysts assigned a minimum proficiency rating to each specialized knowledge for each career level using a 5-point scale (1 = *basic knowledge* to 5 = *expert knowledge*) that included behavioral anchors for each scale point.

Link Role Profiles to O*NET Occupations

The previous steps resulted in detailed information about the unique requirements for each role. This information was critical for learning about, and preparing for, potential roles in the organization. However, career exploration tools also required an overarching taxonomy of occupational information to support career exploration. Therefore, analysts also linked each draft profile to the relevant Occupational Information Network (O*NET) (Peterson, Mumford, Borman, Jeanneret, & Fleishman, 1999) occupational profile. O*NET provided profiles of 1,110 occupational titles using a standardized set of duties and KSAs, including 41 work activities/duties (e.g., selling or influencing others), 33 knowledge areas (e.g., biology), 35 skill areas (e.g., equipment maintenance), and 52 abilities (e.g., near vision). The O*NET Information Center conducts regular surveys of job incumbents to update each occupational profile. As part of this process, O*NET analysts assess the reliability of the survey ratings to ensure the profiles are accurate and complete. After linking the custom-developed role profiles to these O*NET profiles, the analysts built an algorithm to calculate the similarity of each role to all other roles. This algorithm identified other roles that require similar KSAs to those required for each user's current role, thereby facilitating career exploration.

Identify Methods for Acquiring the Necessary KSAs

Because the purpose of this project was to provide career development guidance, analysts also identified representative methods by which each KSA could be developed. In this step, analysts first identified any formal education, licensure, or certification requirements necessary for entry to the role as required by published job-grading standards. Next, analysts mapped the identified specialized knowledges to training courses available through the corporate university.

Finally, analysts drafted on-the-job developmental experiences for each specialized knowledge at each rating level, typically by referring to information in the position descriptions and vacancy announcements about the duties performed in the role and what kinds of experiences job seekers or incumbents could perform to progress to the next career level. On-the-job experiences were activities an employee could perform in their current role to prepare for a future role.

Ensure Quality Control

Before presenting the draft role profiles to SMEs, the project team conducted a two-level quality assurance (QA) review to identify and fix (a) spelling and grammar errors, (b) unclear content, and (c) style and other compliance issues.

Phase III: Validation Workshop

Next, the project team conducted a workshop with SMEs to review, update, and validate the role profile. Prior to the in-person workshop, SMEs took part in a 1-hour online orientation session that described the overall project objectives, the data collection efforts, and the expectations for the workshop. This allowed the SMEs to understand the purpose and expectations of the workshop prior to their arrival. At the workshop, SMEs first reviewed the roles to be validated during the workshop. SMEs could recommend removing roles that were not relevant or adding positions that were missing. After the SMEs agreed on the roles, the workshop facilitator presented each element of the role profile. SMEs could suggest revisions to any element of the role profile, including the addition of new information and the deletion or editing of existing information. SMEs reached agreement on each modification before proceeding. Generally, SMEs made more edits to the specialized knowledges than to the role descriptions and career level duties. Finally, SMEs reviewed the on-the-job developmental experiences. Because the draft experiences were linked to the specialized knowledges, SMEs often had to make significant edits to the experience description if they modified the associated specialized knowledge. To ensure that the SMEs shared a common understanding of the information in the role profiles, the workshop facilitator led the SMEs through a discussion of each profile until they reached agreement on the final content.

Phase IV: Finalize Content

Following the workshop, the analyst compiled the output from the workshop and made the necessary edits. After the project team completed a second QA review for grammar, spelling, formatting, and clarity, SMEs had an opportunity to review the updated role profiles and suggest any final modifications before the dean reviewed and approved the profiles. The project team uploaded approved role profiles into the career exploration tools.

Timeline

Over the course of this study, the project team conducted over 200 workshops during a 2-year period. The project team typically worked with each job family for approximately 4 months. Delays in identifying SMEs, scheduling and conducting validation workshops, and gaining final approval occasionally extended this timeline for specific job families. In most cases, the project team completed the analysis phase in 6 to 8 weeks.

Results of the Needs Assessment

Ultimately, the project team constructed and validated over 600 role profiles, and each included data for up to five career levels and provided career development information for roles filled by over 90% of the organization's workforce. The role profiles populated a suite of human resources tools that (a) matched users to roles based on the similarity of their current role requirements to all other roles, (b) identified career path(s) that bridge the gap between employees' current and goal roles, and (c) provided detailed data about each role and recommended training and development to support employees as they considered various career paths. These tools also linked to other systems that helped users build resumes for, and apply to, jobs in their chosen career paths. The overall objective of this project was to support the organization's strategic transformation by improving its ability to attract and retain a high-performing workforce. To this end, the website hosting these tools attracted over 2.5 million site visits, resulting in over 70,000 job candidates and over 500,000 career development activities by current employees.

Influences

Conducting an enterprise-wide job analysis required the project team to modify several aspects of the traditional job analysis process. While these modifications allowed the project team to complete the study accurately and quickly, several factors influenced the performance of the project team.

The decision to have the project team develop complete draft versions of the role profiles prior to involving SMEs was a critical component of the methodology. While this saved time and reduced the SME's workload, it did not always result in accurate profiles. In some cases, available background information on a role was outdated or incomplete. As a result, the analysts could not develop an accurate draft role profile. In these cases, the project team scheduled additional time with the SMEs to jointly develop the role profile during the workshop. In other cases, the analyst had access to sufficient data to develop a draft profile, but the SMEs participating in the validation workshop did not agree on the content of the profile during the validation workshop. To resolve these disagreements,

the analyst described the origin of the data in question, such as the specific position descriptions or vacancy announcements that the analyst had used to create the draft. Then, the analyst facilitated a discussion between the SMEs to identify potential resolutions to the disagreement. With few exceptions, the SMEs ultimately came to agreement. When the SMEs could not resolve the issue during the workshop, the project team identified a "super SME" who could.

Job analysis of public-sector positions required familiarity with federal human resources regulations, terminology, and culture. The project's team members all had significant experience working with government job analysis data and organizations, thereby minimizing the effect of this factor on the study.

Issues and Challenges

The size and scope of this study presented several challenges. Enterprise-wide job analysis required input from SMEs representing all parts of the organization. The sponsoring organization for this study was both geographically and organizationally dispersed, and organizational stakeholders were not accustomed to working across boundaries on projects like this. As a result, the project team initially had difficulty getting stakeholders from across the organization to collaborate. During the first phase of this study, the project team and the dean identified strategies for improving collaboration, including demonstrating the value of the study to the organization and minimizing the organization's workload to develop the tool. Ultimately, this approach convinced organizational stakeholders of the study's value, and they helped the project team access the resources (i.e., documentation and SMEs) required to complete the study.

Despite stakeholder support for the project, gaining sufficient SME participation remained a challenge throughout the duration of the study. The best SMEs were critical to the organization and managers were often reluctant to make them available for activities like job analysis workshops. In addition, the organization discouraged travel, which further inhibited access to SMEs. The project team addressed this challenge through the design of the methods. Specifically, project team analysts developed draft role profiles for SMEs to review, update, and validate, thereby reducing SME time commitment. A traditional job analysis method, in which facilitators elicit tasks and KSAs from SMEs during a workshop, would have required 3 to 5 days of SME involvement per job family. For most job families, the method used in this study required no more than 1 day of SME involvement. In addition, the project team used communication technology, such as WebEx, to minimize, and in some cases eliminate, the need for SMEs to travel to the workshop site.

While the complete project team, which consisted of a project director, two team leads, and eight job analysts, experienced both planned and unplanned turnover, the turnover had little effect on the project team's performance. When a team lead left the project, for example, one of the job analysts became a team lead.

Finally, the study produced large amounts of complex occupational data. Ultimately, the project team created over 3,000 unique profiles (600 roles with 5 career levels each) containing hundreds of variables each. The project team used a series of customized tools to manage the data during the course of the study. Analysts created draft profiles in a spreadsheet-based workbook and used the same workbook to facilitate the SME validation workshops. After SMEs validated the role profiles, analysts uploaded the finalized role profiles into a database that software developers used to populate the career development tools. The project team implemented standardized tools, style guides, and QA procedures throughout the profile development and validation process to maintain the quality of the data.

DISCUSSION QUESTIONS

1. What would you do differently if the purpose of the job task analysis were different (e.g., workforce planning or performance management)?

2. What would you differently if conducting this project for a smaller organization?

3. How would you modify the methods if you had a shorter timeline?

4. How would you modify the methods if you had a longer timeline?

5. How could you demonstrate the value of the project?

6. How would you maintain the accuracy of the job analysis data over time?

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