Updating O*NET® Sources of Additional Information Listings: Use of Job Incumbent and Occupational Expert Professional Association Membership

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Prepared for

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Employment and Training Administration
Office of Workforce Investment
Division of National Programs, Tools, & Technical Assistance
Washington, DC

Submitted by

The National Center for O*NET Development
March 13, 2018

www.onetcenter.org

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Overview

O*NET OnLine (https://www.onetonline.org) occupation reports contain a section labelled "Sources of Additional Information." This section provides customers with a list of sources external to the O*NET Program that provide occupationally relevant information, such as related jobs, specialties, and industries. The goal is to provide a means for customers to further explore each occupation. The vast majority of these linked sites are related professional associations. The links are provided for customer convenience and do not constitute an endorsement by the National Center for O*NET Development or the U.S. Department of Labor. Sources of Additional Information listings are also available to program and application developers via O*NET Web Services (https://services.onetcenter.org).

The initial population of Sources of Additional Information was drawn from three sources: an O*NET Program association outreach effort, association listings provided by the Bureau of Labor Statistics (BLS), and research conducted during new and emerging occupation identification. Subsequently, sources were added on a "by request" basis from professional organizations. Links to related pages from within the BLS Occupational Outlook Handbook (OOH) were also added to provide more information about specific occupations.

Professional association information gathered directly from job incumbents and occupational experts (OEs) during the O*NET Data Collection Program will now serve as a contributor to occupations' Sources of Additional Information. The purpose of this paper is to describe the association membership information collected via job incumbents and OEs and to detail the procedures for including this valuable input within O*NET OnLine Sources of Additional Information.

Association Information Collected from Job Incumbents and Occupational Experts (OEs)

Within the O*NET Background questionnaire provided to all participants in the O*NET Data Collection Program, there is a section that focuses on professional association membership. Responding job incumbents and OEs indicate their current membership in job-related professional associations by (1) endorsing associations pre-identified for their occupations and (2) writing in the names of other associations to which they belong (See Appendix A for the wording and formatting of the questionnaire items).

Initial Association Membership Data Review

Respondent data collected from the association membership section of the background questionnaire are reviewed and processed by trained occupational analysts. Each occupation's data undergo extensive cleaning, reduction, and amalgamation. The process (1) confirms the organization's continued existence and occupational relevance and (2) ensures the accuracy and currency of each organization's name and URL. Each

remaining association's respondent endorsement rate (i.e., membership indication by respondents from a particular occupation) is calculated. The result is a refined list of up to 15 of the most highly endorsed professional associations for each occupation. This list is used within subsequent O*NET Data Collection questionnaires and other efforts. The refined lists of associations identified by survey respondents serves as valuable, current input to O*NET OnLine Sources of Additional Information.

Sources of Additional Information Review

As professional associations are identified for O*NET occupations in preparation for data collection, trained occupational analysts review them to update the occupations' Sources of Additional Information. These newly identified association lists are combined with the preexisting Sources of Additional Information. Each occupation's combined list of sources is then reviewed to ensure:

- Currency
    - The organization is still in existence.
        - Any merger, acquisition, or split is identified and resolved.
    - The organization remains relevant to the linked occupation.
- Accuracy
    - The correct association name is identified.
    - The correct URL is identified.
- Format
    - The association name is formatted according the O*NET Association Name Formatting Guidelines (See Appendix B).
    - The URL is formatted to ensure it will function properly within O*NET OnLine.
- Redundancy
    - All duplicate organization entries are removed.

To prepare for analyst review, automated steps are applied to the combined review file, where possible, to address format and style conventions. For example, "&" is converted to "and", and association names listed in all capital letters are converted to title case, where appropriate. In addition, URLs are converted to a standardized format.

The review process or "review tree" the analysts follow depends on whether or not the association record has an identified URL.

Review Process for Association Records with URLs

To review association records with identified URLs, analysts

1) navigate to the currently identified association Web site via the provided URL;
2) confirm that the Web site corresponds with the same organization name.
    a. If YES
        i. Confirm that the Web site corresponds to an organization relevant to the occupation;
        ii. Edit the name and URL to meet O*NET guidelines.
    b. If NO
        i. Determine if it is the same organization.
            1. If YES
                a. Confirm that the Web site corresponds to an organization relevant to the occupation;
                b. Update name;
                c. Edit the name and URL to meet O*NET guidelines.
            2. If NO
                a. Conduct research to determine whether or not the organization still exists, has merged with another organization, or has split off from the original organization;
                    i. If another relevant Web site is discovered, update the name and URL address following O*NET guidelines.

See Figure 1 for a depiction of the review tree.

Review Process for Association Records without URLs

To review association records without identified URLs, analysts

1) perform a Web search on the association name;
2) select the best search result; and
3) follow the "Review Process for Association Records with URLs" described above, starting with Step 2.

See Figure 2 for a depiction of the review tree.

Redundancy and Quality Control Checks

Once all records within the file are reviewed by the analysts, automated procedures are used to ensure:

1) identification and removal of duplicate organizations for each occupation;
2) adherence of association names and URLs to O*NET guidelines; and

3) proper URL function (e.g., links are not broken).

If necessary, analysts reprocess and resolve records flagged with potential name or URL errors or inconsistencies.

Results from Pilot Implementation

From January, 2013 to February, 2017, occupation analysts reviewed data on professional association endorsements to serve as survey response options for 528 O*NET-SOC occupations. A pilot of the final review procedures described in this report was run to prepare these data for final publication as Sources of Additional Information in each occupation's O*NET OnLine reports. Existing O*NET OnLine professional association listings for an additional 77 occupations were included in the pilot, for a total of 605.

Prior to the pilot, there were 451 professional associations listed as Sources of Additional Information across 151 occupations, an average of 3 linkages per occupation. Including OOH links, there were 1,179 linkages across 748 occupations, or 1.6 linkages per occupation. Implementation of the pilot resulted in 4,339 linkages across 896 occupations, a nearly three-fold increase. The average number of linkages per occupation increased to 4.8. Considering professional associations, alone, the average number of linkages doubled: from 3 to 6 linkages per occupation. Prior to the pilot, the range of linkages per occupation was 1 to 13; the pilot increased this range to 1 to 19.

Summary

The occupation reports within O*NET OnLine (https://www.onetonline.org) contain a section labelled "Sources of Additional Information." For each occupation, the section provides customers with a list of sources external to the O*NET Program that provide additional information, such as related jobs, specialties, and industries. Professional association information gathered directly from job incumbents and OEs during the O*NET Data Collection Program will now serve as a contributor to occupations' Sources of Additional Information. The listings are also available to program and application developers via the O*NET Web Services (see: https://services.onetcenter.org).

This paper described the association membership information collected via job incumbents and OEs and detailed the procedures for including this valuable input as Sources of Additional Information for O*NET occupations. Sources of Additional Information listings for 605 O*NET-SOC occupations were successfully updated during the pilot implementation of the procedures.

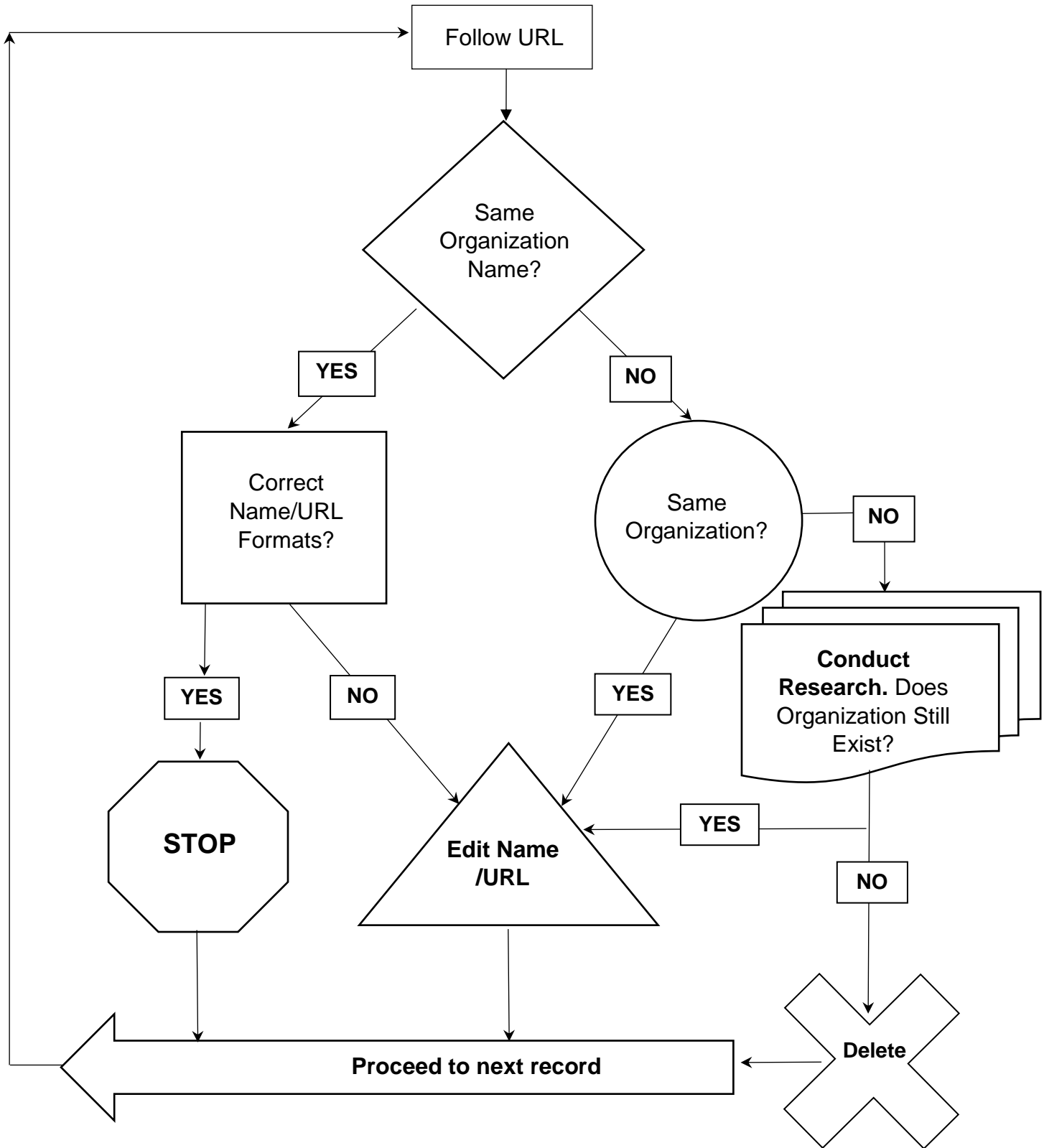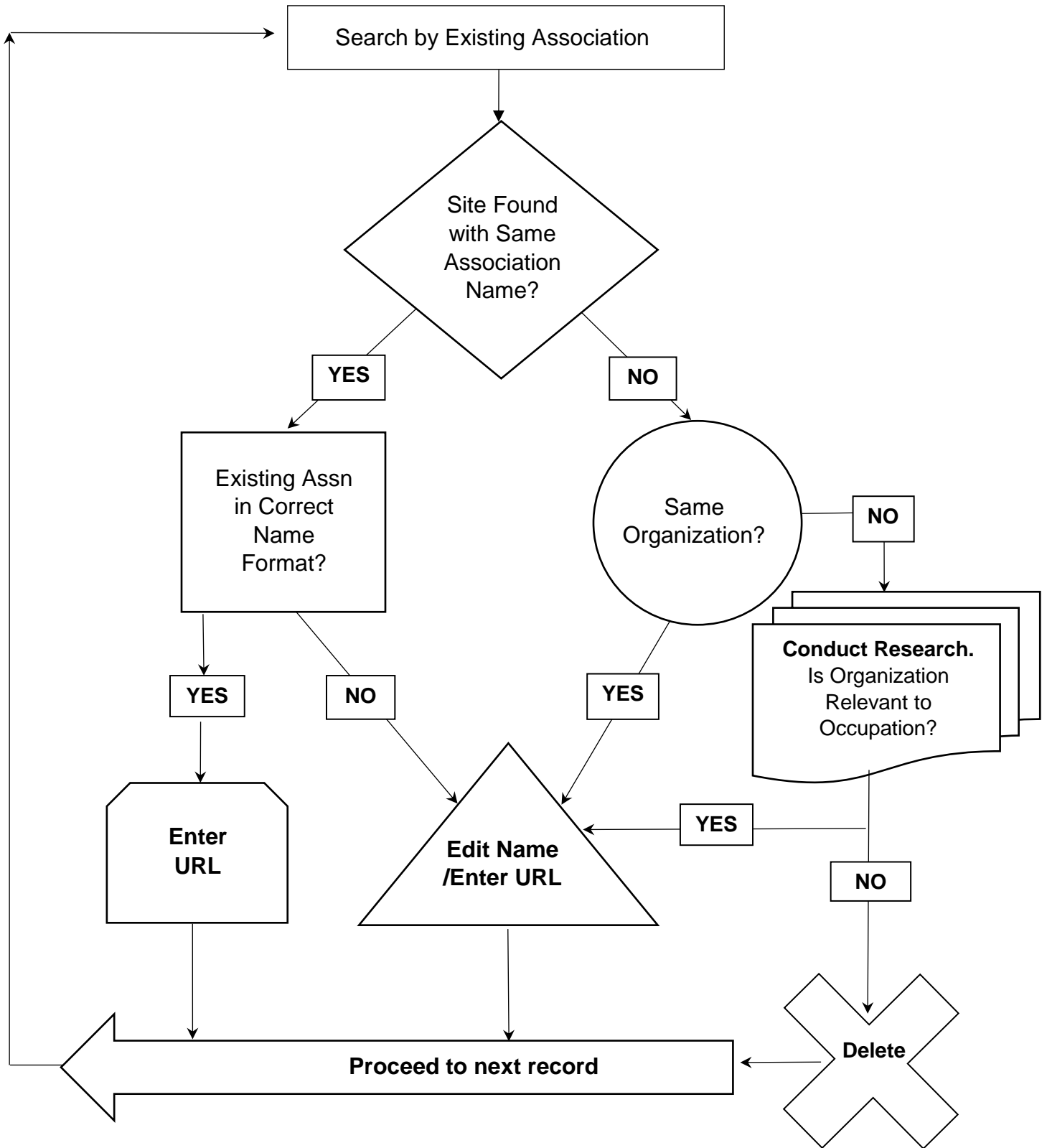Figure 1. Association Review Tree: Records with URLs

Figure 2. Association Review Tree: Records without URLs

Appendix A: Association Membership Questionnaire Items

Your Association Memberships

Finally, we would like to know about the professional associations to which you belong.

1. **Are you currently a member of the following job-related association(s)?**

   World Organization of Webmasters ☐ Yes ☐ No

   National Association of Government Web Professionals ☐ Yes ☐ No

2. **Please write in the names of any job-related associations to which you belong that are not listed above.**

   a. _____

   b. _____

   c. _____

Appendix B: O*NET Association Name Formatting Guidelines

1. Names are written in title case.

2. Omit any abbreviation or acronym, unless the site clearly indicates that the acronym or abbreviation is part of the recognized formal name of the organization.

   - Examples of acceptable abbreviations include:

        SAG-AFTRA
        USA Swimming
        American Institute of CPAs

   - Examples of unacceptable abbreviations include:

        American Psych. Nurses Assoc.
        American Soc. Of Civil Engineers
        Amer. Council of Life Insurers

3. Write out the word "Association", unless the abbreviation is part of the organization's recognized formal name.

4. Adhere to the organization's punctuation convention. For example, "Actors' Equity Association" is correct; "Actor's Equity Association" is incorrect.

5. Omit "Inc." or "Incorporated", if either appears after the organization's name.

6. Change "&" to "and". For example, change "Association of Records Managers & Administrators" to "Association of Records Managers and Administrators". In the rare instance that "&" is integral to the organization's brand, e.g. "E&I Cooperative Services," retain "&". In all other instances, use "and" in place of "&".