How to Analyze Data for Age Discrimination in Layoff Situations

When your company must lay off employees, safeguard it from an age discrimination lawsuit by thoroughly analyzing and recording the data surrounding the termination decisions.

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HR managers are directly involved in downsizing a workforce, yet most are unfamiliar with the statistical computations plaintiffs refer to in discrimination cases against their organizations. Plaintiffs use these statistics and procedures to challenge the effect of personnel layoff decisions, either with individual or class-wide discrimination challenges. HR managers who understand how to group or set up data for layoff analysis purposes, and know what statistics to apply under what circumstances, are better-equipped to defend their companies against age discrimination challenges.

Investigation

When lack of work creates the need to terminate some employees, and policy or union agreements allow the terminations to occur for reasons other than seniority, age discrimination can exist. If terminations are based upon a bona fide seniority system, age discrimination cannot exist. When management has the prerogative to consider performance, age discrimination can exist under the guise of a subjective performance evaluation standard. For individual or class action cases, you can analyze age discrimination, at least in part, by the effect of the termination decisions within the environment of the organization. You should consider the following variables:

- **Time period.** First, establish the time period of the terminations. You must frame comparisons of those terminated for lack of work to those who were not terminated for lack of work within the time period of the terminations. For individual actions, you need the date of the individual terminations for lack of work as well as knowledge of the termination time period to explore the effects of age.

- **Age calculation.** Calculate ages for all employees as of the same date so there will be standardization to the calculation and one can avoid “moving” comparisons.

- **Organizational structure.** The structure of the organization will dictate where you can make comparisons of cohorts also available for lack of work terminations. Are terminations made from departments, divisions, or cost centers? Sometimes you can focus the lack of work by a project in a limited area. Identifying the origin of terminations is a practical way to identify the scope of organizations affected.

- **Classification structure.** Most employers classify work functions according to job titles, and they terminate employees not only from organizational structures, but from job titles within the organization. Are terminations limited to one classification or a series of
classifications? After terminations are made, review the classifications held by those terminated to identify the scope of the classifications affected.

Analysis of Individual Actions

When an organization terminates an individual employee for lack of work, a cohort analysis can determine if the effect of the termination decision supports the hypothesis of age discrimination. (Individuals 40 years of age or older at the time of termination are protected by law from discrimination.)

*Older cohorts who are retained.* In the cohort individual analysis, you can compare all those employees holding the same job title within the division and department in which the termination decision was made. If the termination decision is based on age, the employer would first terminate the oldest of those within the department holding the job title. Conversely, if cohorts (i.e., those holding the same job title performing the same basic duties within the same department and within the same division) older than the plaintiff were available for termination when the employer terminated the plaintiff, then this is an argument against age discrimination.

*Replacement by a younger cohort.* If age is the factor that causes termination for lack of work, the terminations could be a pretext if the replacements (new hires or transfers) perform the same work in the same area as the termination. Therefore, an individual analysis of age discrimination should include an analysis of replacements. Has the employer replaced the employee terminated for lack of work with another employee who works in the same department, within the same division, in the same classification? If no one is hired into the same classification, in the same department, within the same division, this is evidence that the lack of work reason was real.

*Function analysis.* If the organization terminates the oldest person (above 40) for lack of work, and does not hire a replacement during the period of terminations in the same classification, within the same department and division, then you can conclude that the lack of work reason is a good reason. But when a replacement is hired within the period of terminations, you cannot conclude age discrimination without more facts.

If the employer hires someone in the same classification, but in different departments in different divisions, you cannot assume age discrimination. There are often different disciplines within a classification job title. For example, a job title might be Associate Professor. Individuals could hold this job title and teach Spanish while others with the same classification title might teach thermodynamics.

However, when the employer hires someone within the same classification in the same department, within the same division as the person terminated, you should conduct a function analysis. A function analysis identifies the plaintiff's job duties immediately before termination. After identifying the job duties, "subject matter experts" (i.e., those who hold the classification, have recently held the classification, or those who immediately supervise the classification) can identify the knowledge, skills, abilities,
physical and other characteristics necessary to perform the job duties listed for the person terminated.

If you conduct the same analysis of the person hired as a replacement, and find that the duties performed by the replacement are the same as those performed by the person bringing the action, or the duties are slightly different, but the knowledge, skills, abilities, physical and other characteristics are the same, then there is evidence that age discrimination may be present. In this scenario, the person terminated for lack of work was not terminated for that reason since a replacement was hired to do the same work. If the replacement was an older person, this would be evidence against age discrimination. If the replacement was younger, this would be support for the age discrimination claim.

**Pattern Analysis of Individual Age Discrimination Claims**

You can conduct a pattern analysis of individual age discrimination claims that is simpler than that for a class action claim of age discrimination. There are two kinds of pattern analysis: a classification approach and a departmental approach.

The classification approach evaluates those who hold the classification and are terminated for lack of work by age. If employers terminate the oldest employees in the classification, this is evidence for age discrimination. If employers also terminate employees younger and older than the individual bringing the claim, this is evidence against age discrimination.

Using the departmental approach, you can determine if the manager responsible for selecting those to be terminated for lack of work is always selecting the oldest within each classification in the department. Evidence showing that the oldest is terminated in each classification in which there is a termination is evidence for age discrimination.

**Class Age Discrimination Analysis - - Disparate Impact**

Class age discrimination analysis takes on the same statistical analyses as class race or sex discrimination cases. Plaintiffs can use these analyses to support individual claims or class claims. However, individual complaints need more specific analyses as described above to support the claim of the individual age discrimination claims.

Plaintiffs must show statistical and practical significance to make the inference of age discrimination. Is age a factor contributing to the layoffs beyond what is expected by chance alone? At least 30 employees must be laid off to perform meaningful statistical analyses. Sample sizes used for analysis with fewer than 30 are considered small samples. Slight changes in small samples can drastically alter appearances of the data.

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Age groupings. Like sex or race discrimination cases, age class cases for analysis purposes use the same procedures. Identify the group with the highest retention rate and compare it to the retention rate for the group represented by the person taking the action and heading the class. Compare one group of those 40 and older to another group of those under 40. To balance against dividing the protected age group into so many age groups that small numbers hinder the analysis, use groupings: younger than 40, 40-49, 50-59, and 60-plus. Then compare those younger than 40 to those 40-plus; those under 40 to those 40-49; those 40-49 to those 50-59; and those 50-59 to those 60-plus.

Departmental or classification analysis. This analysis examines the hypothesis that management responsible for the termination decisions is using age as a factor for the terminations beyond what could be expected by chance alone. Separate all employees during the relevant time frame of the terminations within the department or within a classification by age group. Within each of these age groupings, further divide the employees into groups of those terminated because of lack of work and those not terminated because of lack of work. Then conduct statistical analyses.

Statistical analyses. You can conduct statistical analyses for the departmental analysis or the classification analysis using statistical and practical significance tests.

Statistical significance with rate differences involves calculations with a hypergeometric approach, also called a two-sample approach or a Guidelines approach, which calls for rate comparisons as described in the Uniform Guidelines on Employee Selection Procedures. The fast way to make this calculation (in an approximation way) is with a chi-square formula. The square root of the chi-square result, when comparing two groups with a passing/failing type approach, results in a standard deviation. The more technically correct way to find the precise number of standard deviations is to use the two-tailed Fisher exact probability formula to calculate the exact probability and then to transform that probability calculated to the two-tailed standard deviation that exactly corresponds to the calculated probability.

In the U.S. Supreme Court decision of Hazelwood School District v. United States, the level set for establishing statistical significance was between two or three standard deviations. It is important to note that the U.S. Supreme Court has set the level of statistical significance in terms of a minimum number of standard deviations, and not a minimum probability level. Calculating a probability only can be misleading. For example, a .05 probability can derive 1.645 standard deviations or 1.96 standard deviations, depending upon the hypothesis set up before the calculation is run. Because the U.S. Supreme Court has set up a standard deviation standard, it is necessary to convert probabilities calculated to the two-tailed standard deviation index.

While the probability calculation and procedure sounds complex, inexpensive but reliable computer programs are available that quickly calculate it. Practical significance

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with rate differences involves at least three calculations, each of which involves the
effects of small number changes on other statistics. How many more people need to be
added to the disadvantaged group's passing number to (1) change the statistical
significance conclusion, (2) change the 80 Percent Rule of Thumb conclusion, or (3)
change the selection rates themselves from being different to being the same or very close
to being the same? The court noted in *U.S. v. Commonwealth of Virginia* that by adding
two more to the passing numbers in the plaintiff group, the statistical conclusion would
be altered. In the *Contreras v. City of Los Angeles* decision, the court noted that with
three more added to the plaintiff group, the 80 Percent Rule would be altered, and four
more people added to the plaintiff group would bring the selection rates very close to one
another. Statistical differences that can be altered with very few number changes are not
practically significant and, therefore, do not create adverse impact. For adverse impact to
exist under the Guidelines method, you must show both statistical and practical
significance.

Statistical significance with pool differences follows a procedure endorsed several
times by the U.S. Supreme Court. While the Uniform Guidelines since 1978 have called
for rate differences to be evaluated to determine adverse impact, the U.S. Supreme Court
has expressed the need to evaluate pool differences in cases decided in 1977 through
1989. Substantial differences occur very frequently when you evaluate data with rate
statistics versus pool statistics.

Rate differences compare the rate of one group's success to another group's
success (e.g., those under 40 retained after layoffs compared to those 40 and older
retained after layoffs). Pool differences compare the percentage a group makes up in the
pool before an action starts to the pool after the action has occurred (e.g., the pool under
40 available for layoffs compared to the pool under 40 retained after the layoffs).

As early as 1977 the U.S. Supreme Court in *Castaneda v. Partida* used pool
differences to evaluate the pool of Mexican Americans on a jury compared to the pool of
Mexican Americans in the population. And in June of 1989, the United States Supreme
Court again called for the proper comparison to be pool comparisons in *Wards Cove
Packing Co., Inc. v. Atonio*.

In *Wards Cove*, for example, the Court found: “. . . if the percentage of selected
applicants who are nonwhite is not significantly less than the percentage of qualified
applicants who are nonwhite, the employer's selection mechanism probably does not
operate with a disparate impact on minorities.”

Although these cases dealt with racial discrimination, the Court's opinion applies
equally well to age discrimination charges. Thus, the proper comparison is between the
age composition of the at-issue jobs and the age composition of the qualified population

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   2115 (1989).
in the relevant labor market. (In layoff cases, the qualified population in the relevant labor market would be the pool of employees in classifications from which the layoffs occurred.)

Statistical significance with pool differences is calculated with a binomial statistic, or one-sample statistic. This is also called a Hazelwood analysis in reference to the first U.S. Supreme Court decision that uses this statistic in an employment selection case. Statistical significance is found between two or three standard deviations.

You can calculate practical significance with pool differences by determining the number of people that would have to be added to the plaintiff's group (i.e., selected) to increase its percentage in the pool to a high enough level to eliminate the statistical significance finding. If one or two people added to the plaintiff group eliminate the statistical significance finding, there is no adverse impact because there is no practical significance.

Under what circumstances would you apply the pool comparison versus the rate comparison statistics? When you apply the pool and rate statistics to those available for retention versus those retained after the terminations, for example, pool and rate standard deviations will usually yield different statistical conclusions. The rate statistics will show statistical significance before the pool statistics. When the sample sizes are infinitely large, the results will be the same. If the beginning pool is 10 times larger than the comparison pool, the outcomes are more similar. The rates statistical significance approach is yet to be evaluated by the U.S. Supreme Court.

Conclusion

Poor decisions during layoffs can cause serious consequences. After employees are identified for layoff, you should properly set up data and conduct analyses. Run both rates and pools statistical significance tests along with practical significance tests. If you find disparate or adverse impact, review the justifications for the decisions. The justifications should be job-related reasons based upon the knowledge, skills, abilities, physical and other characteristics needed for the job or duty performance. To ignore proper setup of the data or apply inappropriate statistics for statistical significance and practical significance could produce misleading inferences. A charge of disparate impact against an employer who does not apply job-related reasons for the layoff's results in a profitable pay day for a plaintiff attorney, substantial pay to an individual or class prevailing, and much disruption to the organization.

The information in this article is not intended to be legal advice.

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