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Aggregate salary data strengthens job pricing confidence

Enterprise comp teams are increasingly using modeled aggregate salary data. What are the benefits and risks?

The biggest threat to your compensation strategy is following the status quo.

As the number of salary sources grows, organizations of all sizes need access to a broader range of data types.

One of the largest shifts in the pursuit of better compensation data has been the growing popularity of modeled aggregate market data in compensation software. According to our Compensation Best Practices Report 2025 (CBPR), organizations using this data increased from 45 percent to 49 percent.

More remarkably still, Enterprise organizations now consider aggregate data sets with modeling as the second-most trustworthy salary source — only followed by survey data from traditional publishers.

Orgs with the most sophisticated and mature compensation practices have recognized the connection between modeled data and pricing confidence. And for good reason.

Organizations leveraging aggregate data sets with modeling reported a 5 percent increase in feeling very confident in market pricings for attracting talent. This translated into a 10 percent increase in confidence for Enterprise orgs.

The positive correlation between aggregate salary data modeling held across other metrics, including more positive employee pay perceptions and greater faith in total rewards packages.

This doesn't mean aggregate data models are risk-free. There are major differences in statistical models that do job pricing math.

Let's examine these important distinctions.

The problem of job-agnostic pay differentials, or the case of NYC hotel managers

Aggregated salary data

PROS

- **Broader Coverage:** Aggregated data pulls from various general and industry-specific surveys with data modeling to fill in gaps, offering a more comprehensive view of the market.
- **Faster Market Pricings:** HR practitioners can quickly make market pricings without weeks spent compiling individual survey reports.

CONS

- **Lack of Transparency:** Comp professionals sometimes don't know how the data is aggregated, adjusted, or otherwise manipulated.
- **Misleading Market Pricings:** Depending on the model underlying the data, market pricings may be inaccurate.

While the problem of job-agnostic pay differentials plays out in different ways with aggregate salary data models, let's look at one example: **the application of geographic pay differentials.**

On average, jobs in New York City pay 12 to 16 percent more than the national average. Makes sense. NYC has a lot of expensive zip codes.

But Hotel General Managers in NYC make even more than the average geographic pay differential — a staggering 30 percent more. This also makes sense. New York City is a popular tourist destination, and higher hotel revenues translate into higher salaries for hotel general managers.

The problem? Some vendors' aggregate data models may not take this into account. When you apply a job-agnostic geographic differential for Hotel Managers in New York City, your software may spit out a 12 to 16 percent geographic pay premium — not the actual job-specific 30 percent differential. This is a problem if you're a compensation director for a hotel chain with locations in NYC.

Compensation tech vendors often promise the models underlying aggregate data sets fill in gaps. But they're also reluctant to reveal precisely how these calculations are made. Do they offer overly simplistic geographic averages to fill in gaps?

Furthermore, what data underlies their models? How transparent are they about the inputs (salary surveys, HRIS-reported data, etc.) they use to generate job pricing outputs?

Do they have a team of data scientists like we do at Payscale working to make salary data models more transparent and job-specific?

Have you asked them?

Let’s examine two other biases that can crop up in aggregate data models.

Double counting industry pay differentials: Say you’re pricing the position of a Retail Store Manager. Seems simple enough. Your data gives you pay ranges for this position by location.

But then, you also apply an industry pay differential according to the model. The market pricing for this job now calculates the salary for a “Retail Store Manager” working in the “Retail Industry.”

Savvy compensation experts will immediately recognize the issue. The model has counted the industry pay impact twice. First, it was tallied in the job title and then separately as an industry differential, distorting the accuracy of the pricing.

Oversimplification of organizational size: While organizational size raises pay for certain jobs, this isn’t uniformly true across the market. Larger organizations often offer higher salaries than Mom & Pops. But let’s return to our Retail Cashier to understand why job-specific variability matters.

Retail workers, on average, make more at big-box chains, but this is often the result of promotional opportunities and not necessarily tied to organizational size. Smaller retail orgs may not need a Retail Team Lead, while big-box stores are more likely to promote employees to higher-salaried positions.

This doesn’t mean that Retail Cashiers at larger organizations enter at a higher wage than smaller ones.

In fact, a few of the biggest companies pay cashiers less than their Mom & Pop counterparts.

Applying an organizational size pay differential doesn’t work for every job, despite what the model underlying your aggregated salary data might assume.

Job-agnostic pay differentials simplify market pricings and fill in data gaps. But they can come at the cost of accuracy. As shown in the examples above, generalized pay differentials, whether based on geography, industry, or company size, can lead to misleading pricings.

Aggregated salary data can be a potent tool when thoughtfully modeled, but without job-specific nuances, it risks distorting the very benchmarks it aims to provide.

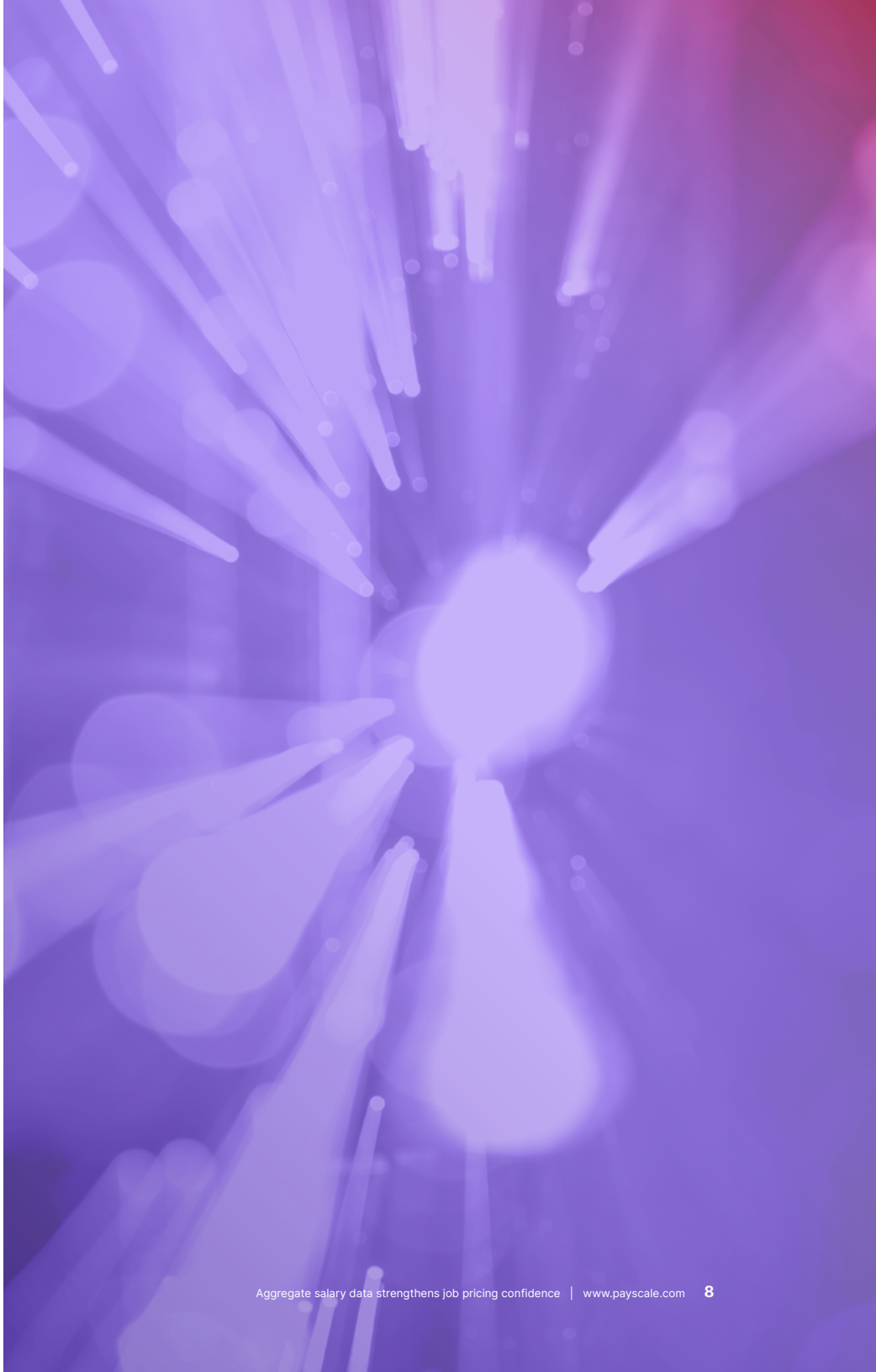
How Payscale's AI-powered salary data model overcomes bias

First, let's acknowledge that some compensation experts are experiencing AI fatigue. While most CBPR survey respondents were either "fully on board" or "cautiously optimistic" about artificial intelligence, hearing the same AI-will-solve-everything pitch from vendors wears thin.

With bold promises about AI technology unlocking key salary insights from screen-scraping online sources, separating the chatter from real use cases is difficult. One thing's for sure: CEOs and other C-suite executives are fully on board in leveraging AI — in compensation and elsewhere.

There is pressure on HR practitioners to harness artificial intelligence to grow compensation intelligence, not as a trend, but to increase business efficiencies. It's logical to start with market pricings, as algorithms are already sufficiently advanced to perform this task more accurately.

Payscale's AI-powered data model solves the problems inherent in aggregate salary data sets with job-agnostic differentials. It does so by leveraging predictive and accurate job-specific differentials instead.



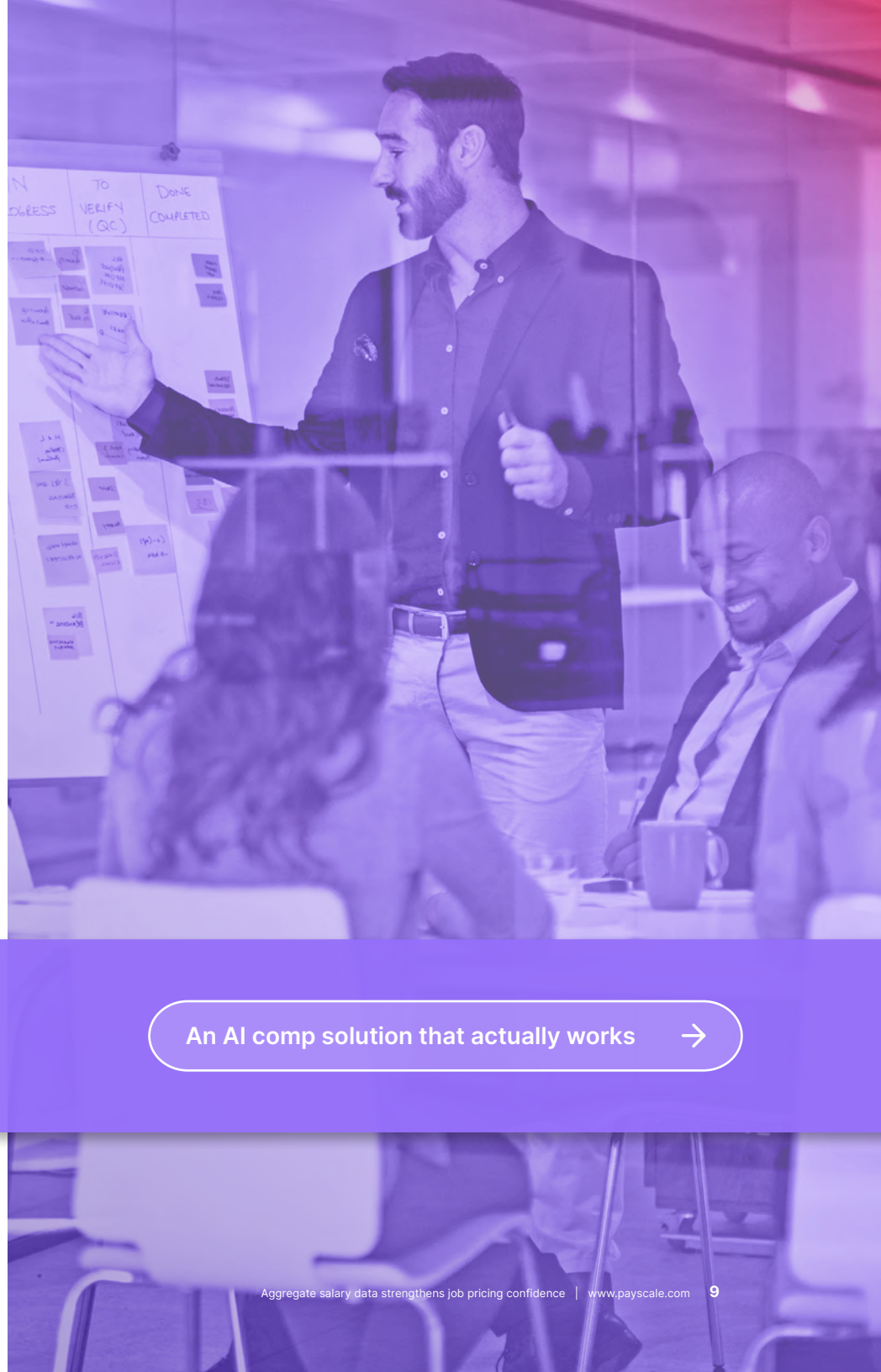
How does it work?

Our AI-powered data model taps into Payscale's HR-sourced proprietary data set with more than 5,400 organizations and 9 million priced jobs. With this data set at its core, our algorithm learns the national average for every role before layering on job-specific differentials by level, industry, company size, and location.

The result? Highly accurate, dynamic pay insights that reflect the current market, allowing you to price any job, anytime, anywhere. Payscale's model is updated monthly, learning from the latest data to stay ahead of market trends. Simply choose the differentials that matter most and rely on our model to do the rest.

The demand for diverse salary data sources is rising. Many companies, including Enterprise orgs, already use data sets with modeling. Our proprietary data model offers an impactful starting point for introducing artificial intelligence into your compensation toolkit.

Built with job-specific differentials and trained on HR-reported data for incumbents, rather than potentially misleading online data, Payscale's pricing model delivers accurate pay insights to gut-check against survey results, fill in data gaps, or price jobs in low or no data markets.



An AI comp solution that actually works →

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Additional resources

Enjoy these insights from our compensation experts.

- **Webinar:**
  Getting the right data mix to market price your jobs

- **Whitepaper:**
  How to benchmark jobs using salary data

- **Ebook:**
  Best Practices 2025: Salary data and market pricing

Get a demo

About Payscale

As the industry leader in compensation management, Payscale is on a mission to help job seekers, employees, and businesses make sustainable fair pay a reality. Empowering 65% of the Fortune 500, Payscale provides a combination of diverse and dynamic data sources, experienced compensation services, and scalable software to enable organizations such as Panasonic, ZoomInfo, Chipotle, AccentCare, University of Washington, American Airlines, and PetSmart to make fair and appropriate pay decisions.

Pay is powerful.

To learn more, visit **www.payscale.com**.