# "How I Did It"

## *Inspirational adventures in HR analytics*

*Dr. Margret Bjarnadottir and Dr. David Anderson are the co-founders of PayAnalytics, a Reykjavik-based software company that offers compensation analytics enabling HR managers to measure and address gender pay gaps.*

**What was the question at hand?**

Managers faced with a gender pay gap did not have any tools at their disposal to answer the question, "How should I fix it?" That is, if management is willing to eliminate demographic pay gaps, who should get raises and why? We at PayAnalytics focused on building a data-driven tool to help companies answer this question. Specifically, we wondered: How can we help companies measure their pay gaps and address them in a fair and efficient manner? Can we give them the tools to monitor their overall compensation structure to ensure that it is transparent, fair, and aligned with their strategic priorities?

**Why is this important?**

Fairness, equity, and transparency in pay are increasingly important. This is not only because of pressure from activist investors and public advocacy groups—rather, companies are starting to realize that equitable pay practices are key to attracting and maintaining a high-quality workforce. In addition, government regulations are forcing companies to prove that they meet equal pay for equal work standards set forward in the EU regulations. As an example, Iceland recently passed legislation requiring companies to undergo equal pay verification. Other EU countries may follow: for example, France is considering legislation that will require companies to close their pay gaps before 2021 or face fines. In summary, in addition to being the just thing to do, paying men and women equally for equal work benefits employee morale, protects companies from legal risk, and helps attract talent.

**How did you approach answering it?**

Our goal was to build an easy-to-use application that puts analytics in the hands of HR managers. We have created a web platform that enables users to walk through the process of statistically

measuring their pay gaps. Using data on *bona fide* determinants of pay for each employee, like education, job role, and experience, our software fits a regression model that estimates the impact of gender (or other demographic variables) on the pay of an employee, thus analyzing the underlying pay structure of the company and measuring how much less (if any) women are paid than men with similar characteristics. If the company has a pay gap, the application offers suggestions on which employees should receive a raise and how much that raise should be in order to close the gap as fairly and as efficiently as possible. Our software identifies which employees and which job roles contribute the most to the pay gap, and it targets raises where they will do the most good.
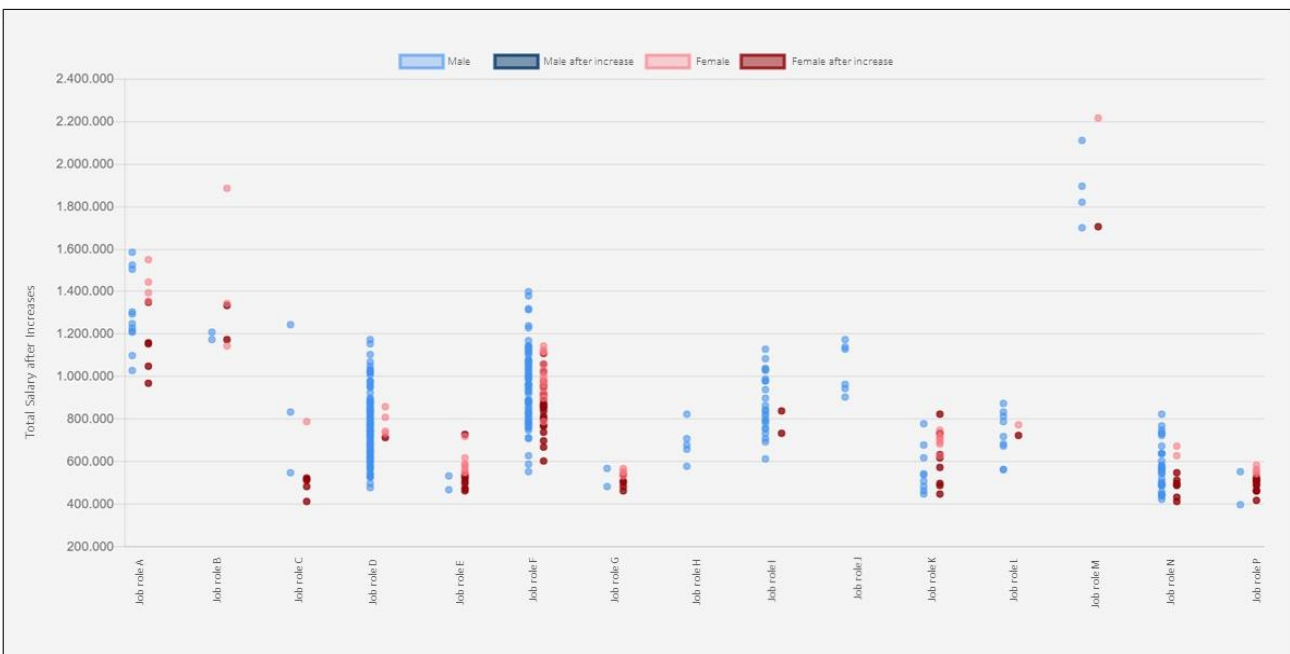


*Figure 1:* *Application display showing a company's salary structure, with darker circles indicating suggested raises.*

**What did you find?**

We find that having real-time information about their pay gaps and transparency about their wage structure allows HR managers to make better compensation decisions and close the gap. As an HR manager at Reykjavik Energy, our initial development partner, puts it:

> "*We were always looking in the rearview mirror by analyzing old data. When the results came in a lot had changed within the company. It was therefore unclear how*

*we should fix this. PayAnalytics provided a solution that could show the situation in real time. With the support of the tool we have now closed the gender pay gap, and now the tool allows us to estimate any future salary decision with respect to the gap."*

Taking a quantitative approach to closing the gap has also led us to discover unintended biases in pay structures. For example, we discovered that top female employees at one organization were not being compensated to the same degree as male top performers.

We have also evaluated the cost of taking a quantitative approach to closing the gap. We find that compared to the naïve approach of giving every female employee an equal raise, our approaches can save almost 10-50% of the cost of compliance by targeting raises only to those employees who are truly causing the gap. The amount of savings depends on the approach taken and how equity is balanced with efficiency.
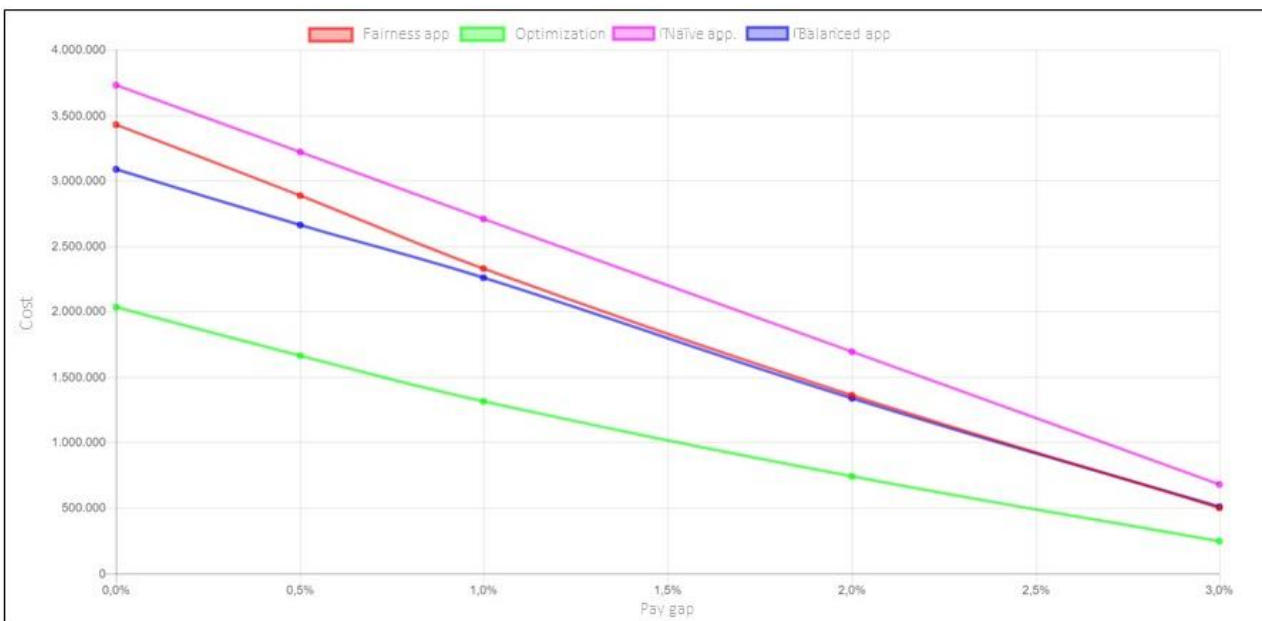


***Figure 2:*** *The cost of closing the gap. The figure demonstrates the cost of closing a demographic pay gap (from right to left) using different approaches. The pink line represents the naïve approach of raising all females´ salaries equally, and the green line represents the lowest cost possible, ignoring all considerations of fairness. The realized cost will always lie between these two lines. Calculating this cost allows it to be taken into account in annual planning.*

**What was the impact on the business?**

Companies using PayAnalytics tools have closed their pay gaps and have helped maintain pay equality between genders. In 2018 Reykjavik Energy reported that they closed their pay gap using our solution; just as importantly, however, they report a higher degree of confidence in day-to-day decisions now that they can evaluate them on the go using real-time data and thus prevent the pay gap from reopening. In addition, the analysis helps identify unknown biases as discussed above as well as unmeasured factors in the pay structure. For example, one company found that all of the customer-facing employees within on job role had significantly higher salaries than the back office, even though this was not reflected anywhere in their employee data.

**What advice do you have for others seeking to use analytics in their HR work?**

- **Have the right data –** Without the correct data, no amount of analytics will improve decision making.

- **Have a specific question –** Analytics work best when there is a specific decision that needs to be made. The better defined the question is, the easier it is to provide good answers and the easier it is to evaluate how much your analytics help.

- **Enable decision makers to use data** – Once you have the right data and a good question, empower employees to use those analytics when making decisions.