

TOPICS IN CORPORATE DIVERSITY

SOUNDING AN ALARM ON MINORITY HIRING
MARCH, 2017



RESTLESS BANDIT

Talent Rediscovery

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Introduction

In the spring of 2016, in a meeting with several members of the Restless Bandit team, the Chief Human Resources Officer of a leading global retail apparel brand made the following proclamation: “For us to be a successful company, our employee diversity must demographically mirror our customer base.”

To maintain a successful competitive advantage, the HR leader went on to say that product decisions must be informed by customers, and that understanding customer needs means interpreting feedback from a consumer’s vantage point. Companies should look at how to better understand the customer to ensure that the workforce, at an individual level, looks and feels like the consumer.

Over the next six months, Restless Bandit received similar inquiries from global brands. In a corporate world that’s becoming more ethnically, racially, and gender diverse, how can companies adapt to the changing demographics of their consumers?

This paper will analyze diversity across industry segments. Its purpose is to help companies and industries understand white-collar corporate diversity so they can better plan future hiring.

While the Bureau of Labor Statistics (BLS) reports on workforce diversity as a whole, the data is not classified between blue-collar and white-collar workers. That is, workers with resumes tend to be white-collar workers and make up between 55% and 60% of the labor force in the United States (Source: BLS). The general distinction is that blue-collar employees tend to work with their hands while white-collar employees tend to work in an office setting. And data demonstrates that over time blue-collar work is less and less in demand in the American economy.

Conclusions

Corporate diversity in white-collar jobs across multiple industry segments, especially as it relates to Hispanics and blacks, is at odds with the changing American populace. This will increase the likelihood that enterprises redouble their efforts to focus on minority hiring if they want their workforce to mirror the population generally. Some facts:

- The high tech industry is the largest lagger in black minority hiring for white-collar jobs, representing a massive **643%** deficit compared to the back populous as a whole. Hispanics are also unrepresented by **500%** in white-collar jobs compared to their representation of the total workforce.

- The automotive industry is substantially behind in white-collar hiring with a black and Hispanics diversity gap compared to the population by **420% and 239%, respectively**.
- White-collar financial service jobs held by blacks are underrepresented compared to the population generally by a massive **550%**.
- Non-pharma healthcare white-collar jobs are also underrepresented by minorities by over **275%**.
- The US workforce will be a majority non-white labor pool by 2050.
- The US workforce will mostly mirror the population as a whole.

Analysis

While Restless Bandit aggregates tens of millions of resumes and job descriptions annually to build its statistical Talent Rediscovery models, this corpus of data allows for research and investigation into labor market trends. And this data set is overwhelmingly white-collar workers. Specifically, this examination used 19,258,407 resumes.

In order to determine industry classifications, the Restless Bandit data science team implemented a vector space model (https://en.wikipedia.org/wiki/Vector_space_model) between companies on resumes. By examining millions of resumes, a signal begins to emerge as to which companies are similar. For example: Eli Lilly tends to hire people from within a group of companies such as Merck, Novartis, etc. Companies with a high similarity rating are grouped into an industry segment.

The data science team used several academic models to identify ethnicity and gender. The ethnicity classifier was developed at the Computer Science Department, Stony Brook University under the guidance of Prof. Steven Skiena (<http://www.textmap.com/ethnicity/>).

To classify gender, the team used the SexMachine engine available at <https://pypi.python.org/pypi/SexMachine/>.

While the team has gathered enough data to determine diversity at a company-by-company level for Global 2000 enterprises, to protect corporate privacy this report will focus on industry segments only. Companies within these segments can reach out to Restless Bandit to receive a report on their company exclusively.

General Analysis

We examined six industry segments:

Industry	Example Companies*
Automotive	Ford, GM, Tesla, Toyota
Consumer Product Goods (CPG)	Procter & Gamble, Unilever, Nike, Coca-Cola, Pepsi, Nestlé
Consulting	Deloitte, Accenture, Bain, KPMG
Financial Services	Goldman Sachs, Wells Fargo, Morgan Stanley, Citigroup
Healthcare (Non-Pharma)	McKesson, United Health, Cardinal Health, Anthem, Humana, HCA, Dignity, Kaiser Permanente
Oil and Gas	Exxon Mobil, Chevron, Phillips 66, Occidental, Royal Dutch Shell
Pharmaceuticals	AstraZeneca, GlaxoSmithKline, Merck, Bayer, Pfizer

* List includes only example companies; the examined sample set includes hundreds of companies per segment.

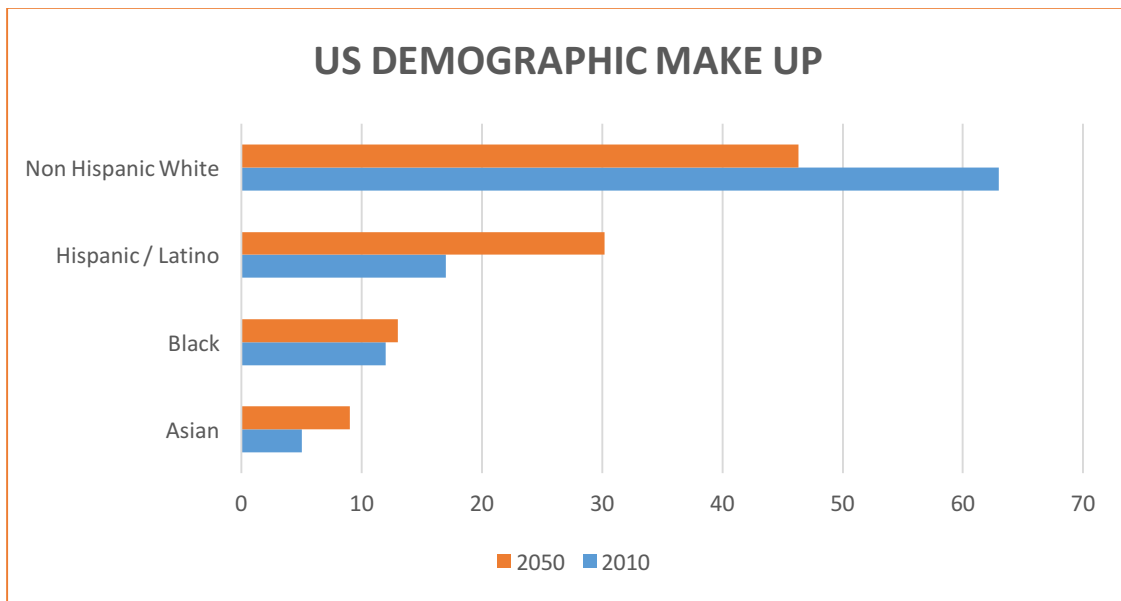


Figure 1: Source, US Census

As depicted in Figure 1, the demographic composition of the United States is rapidly changing. By the year 2050, the U.S. Census Bureau reports that non-Hispanic whites will be a minority, representing 46% of the US populace. Population increases will mostly be in the Hispanic and Asian populations, gaining 13% and 4%, respectively.

Below, the BLS labor force participation data as of February 2017 shows a slight deviation from the actual population distribution. That is, workers as a whole match up reasonably well against the population as a whole.

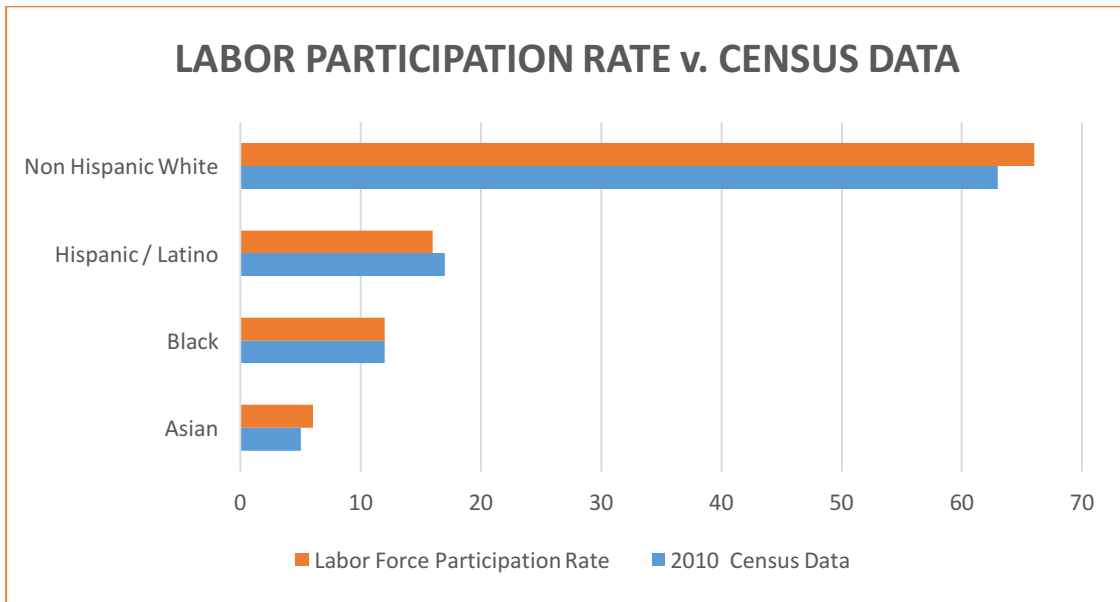


Figure 2: Source, US Census, BLS

However, as the economy moves from a blue-collar manufacturing paradigm to a service economy, the labor participation rate of white-collar workers is a more pertinent measure.

The current make up of the white-collar labor market is below in Figure 3.

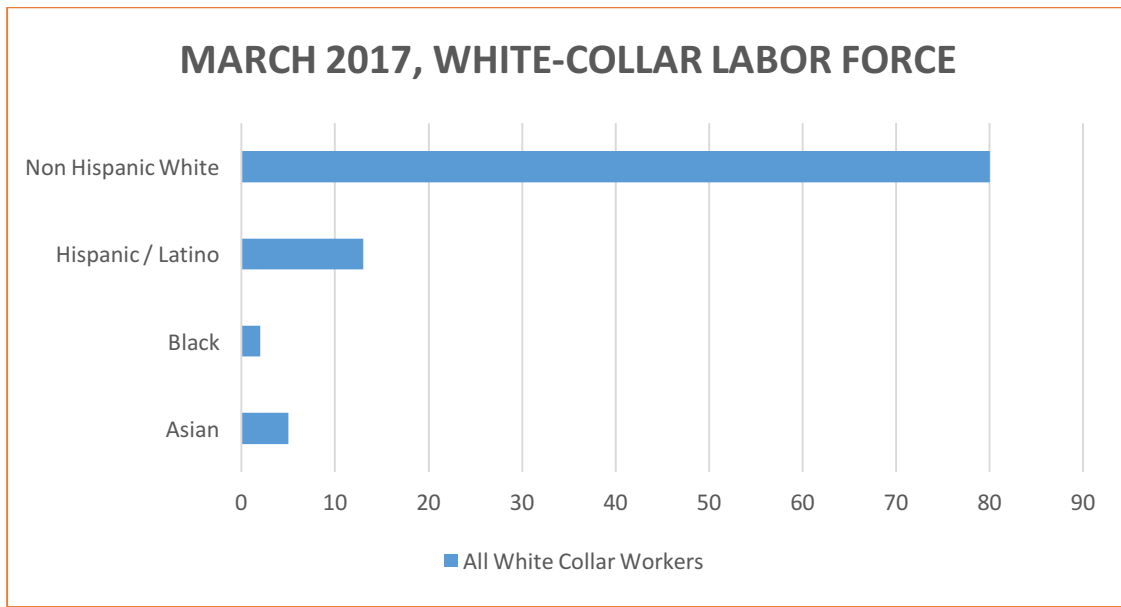


Figure 3: Restless Bandit corpus of approximately 75M resumes.

That’s where we start to see a difference. Blacks make up only 2-3% of the white-collar workforce—substantially below their total workforce participation rate of 12%. Hispanics also lose about 5% from total workforce participation to white-collar work. This is at odds with today’s population distribution. And it gets worse if we compare it to the expected population distribution in the year 2050.

Consider Figure 4 below. The Hispanic population, expected to be the leading population gainer, will be at a deficit in white-collar work. Specifically, while there is currently only a 4% deficit of white-collar Hispanic workers to the group as a percentage of the population, this number is expected to grow to 11% by the year 2050.

According to the Restless Bandit resume corpus, the education gap (figure 4a) between Hispanics and the white and black population plays into this narrative. While Asians lead educational achievement, blacks perform substantially better than Hispanics.

As companies think strategically about diversity, and as the American economy shifts toward more white-collar work, enterprises will have to hire and train considerably more Hispanics — almost focus on it—if they want their employee make up to mirror the population as a whole.

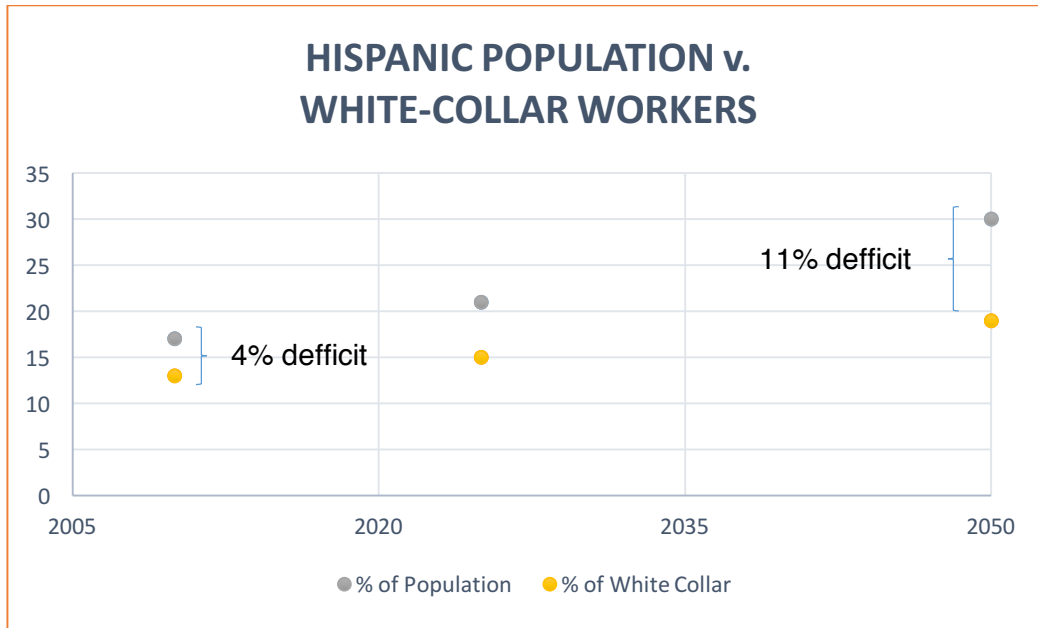


Figure 4: Source: BLS and Restless Bandit white-collar density analysis.

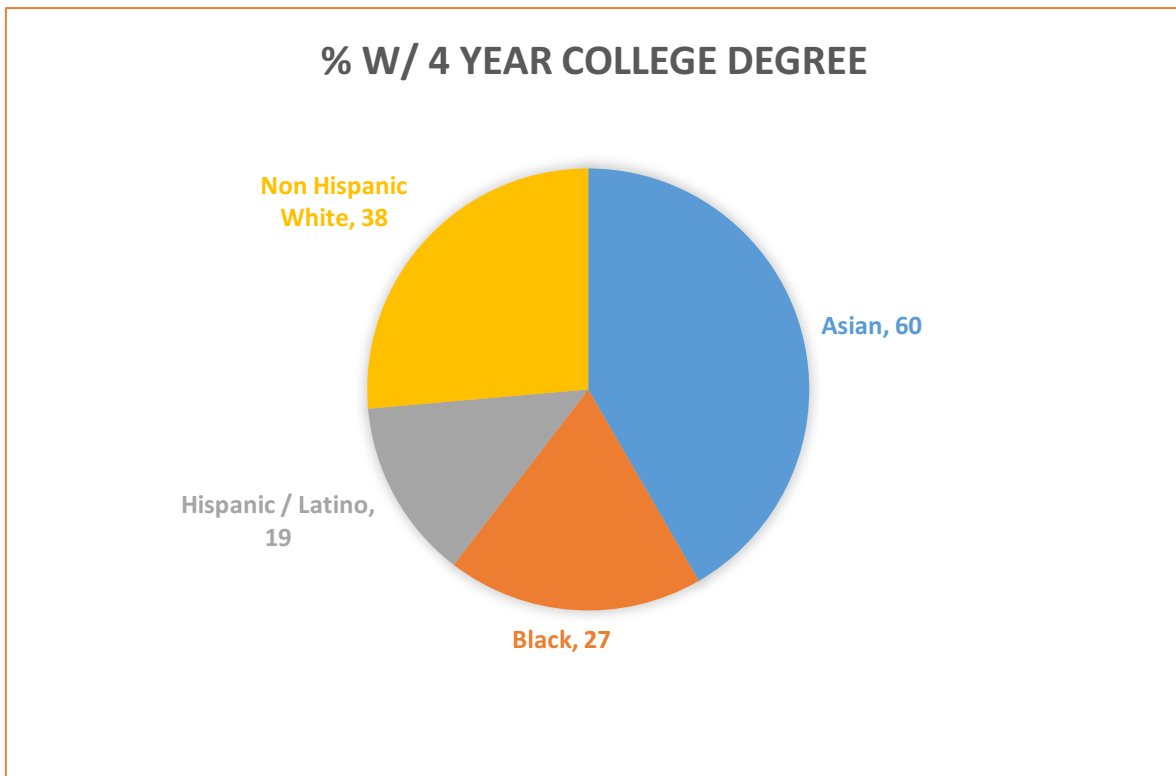


Figure 4a: Source: Restless Bandit Resume Corpus

Industry Analysis

When we examine industries it's clear that some are more diverse than others. Figure 5 below illustrates diversity by industry.

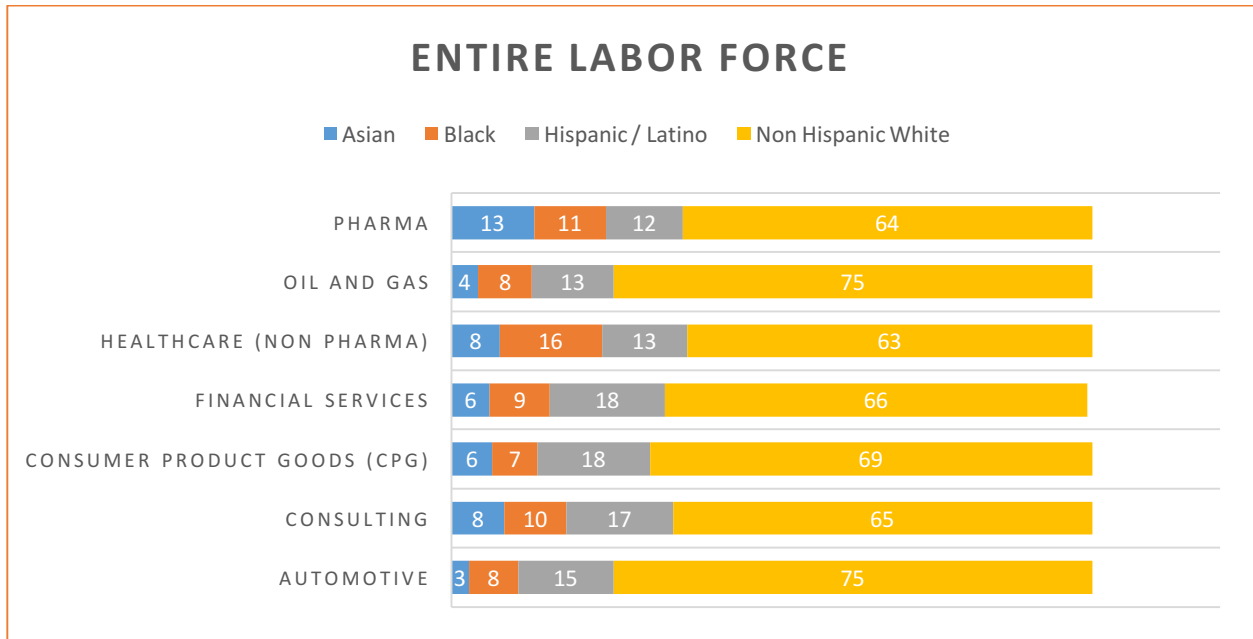


Figure 5: Source: BLS

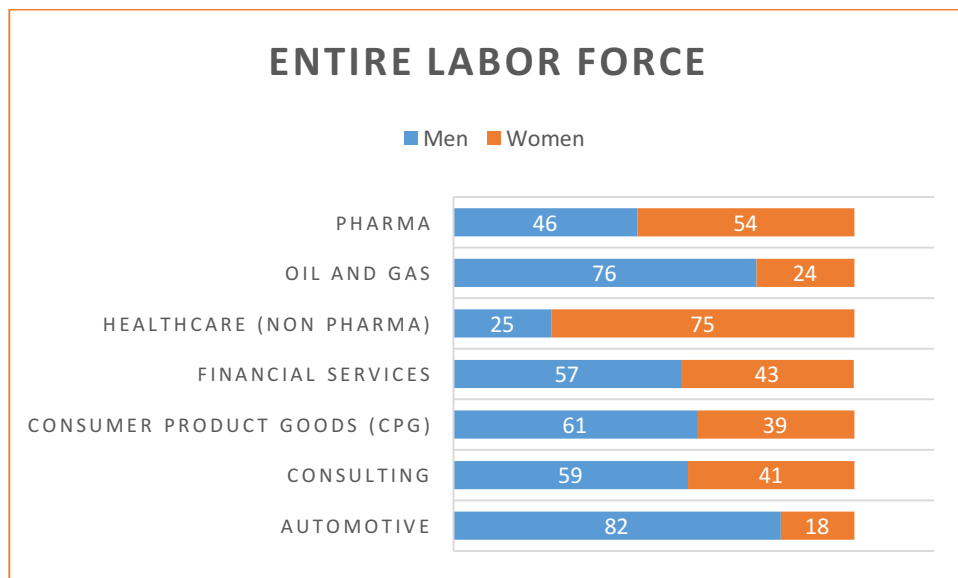


Figure 6: Source: BLS

But when we look at diversity in white-collar jobs, the picture looks more skewed toward whites; blacks are disproportionately negatively affected in non-pharma healthcare, and Hispanics are negatively affected across the board—especially in automotive, consulting, and consumer product goods.

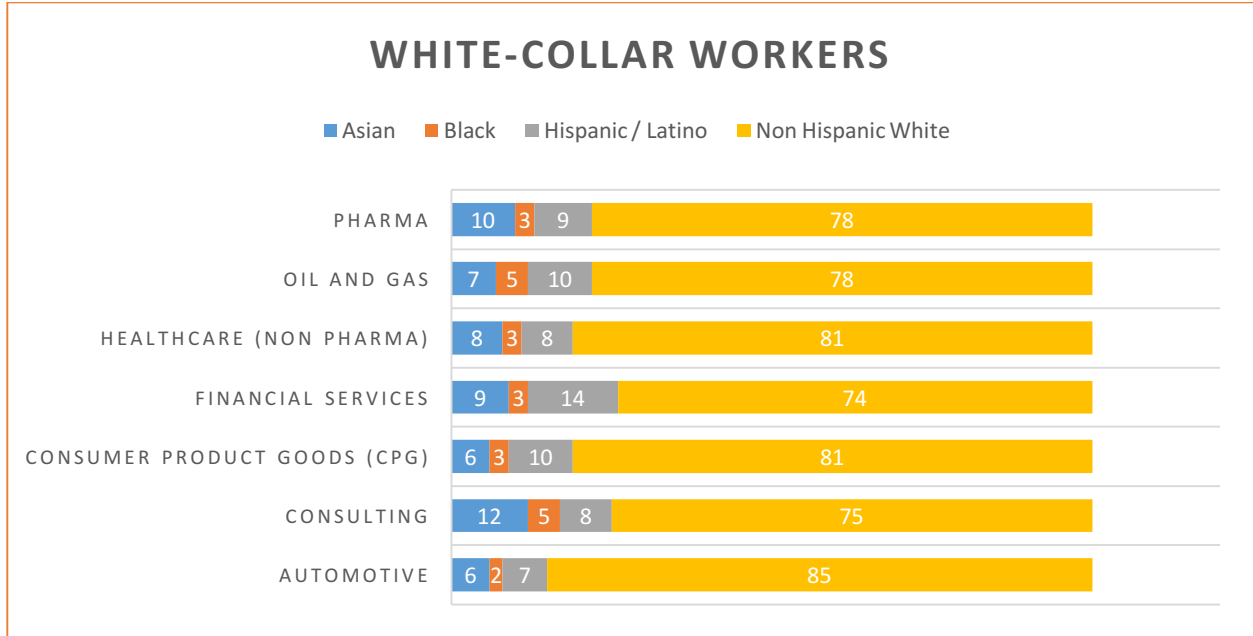


Figure 7: Source: Restless Bandit resume corpus

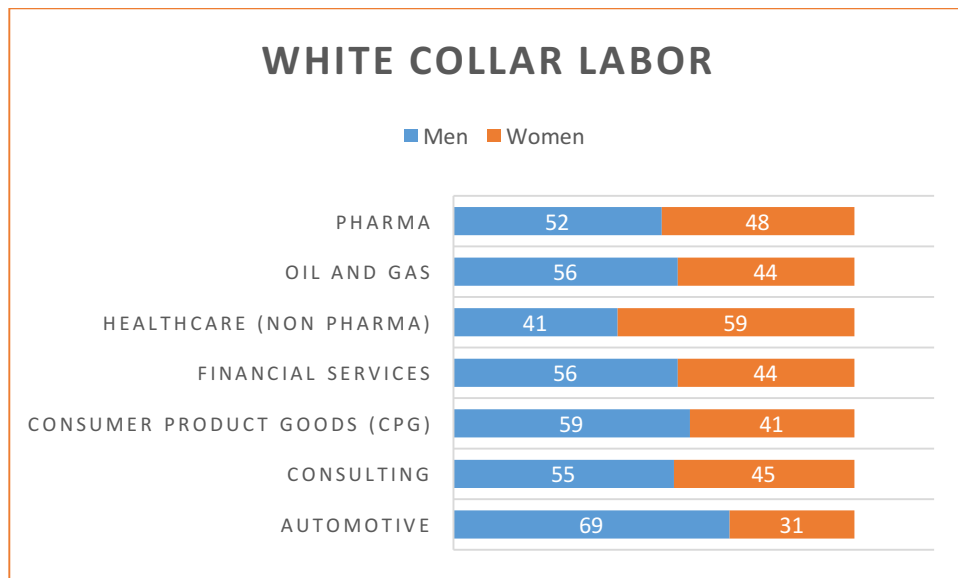
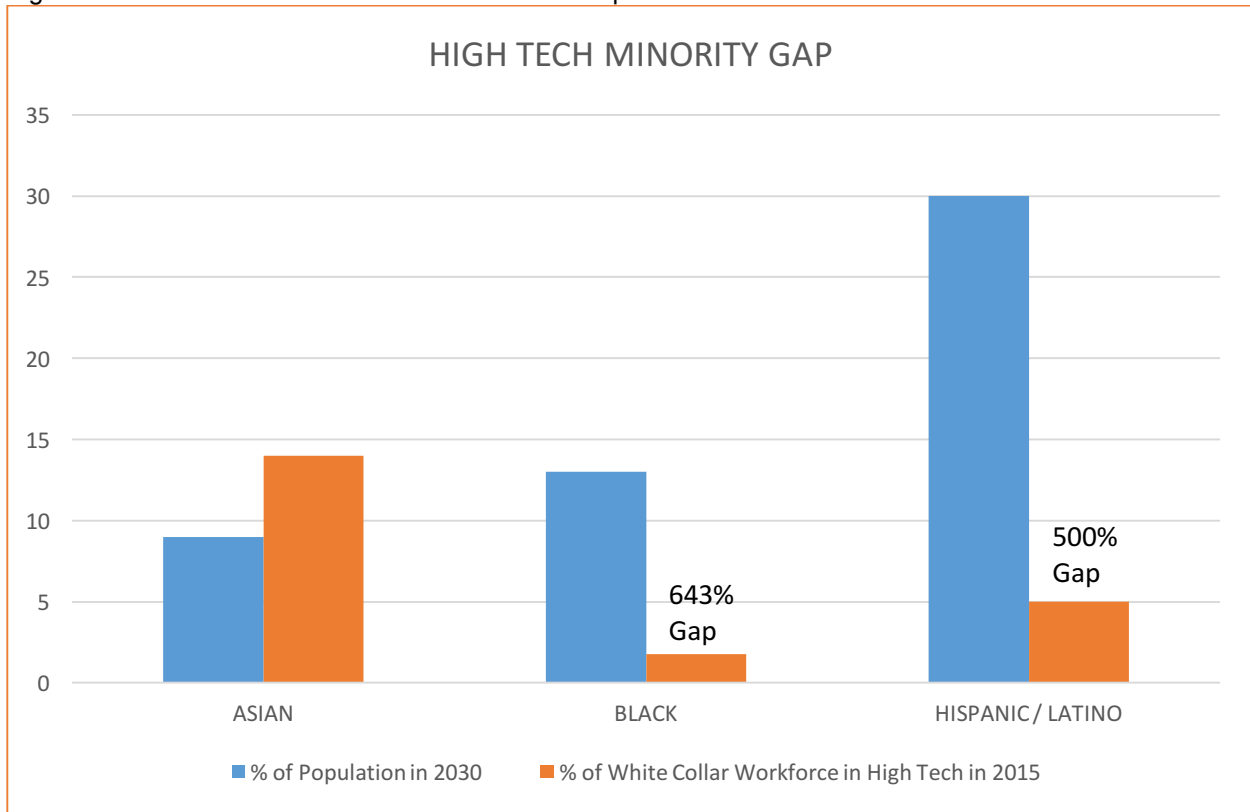
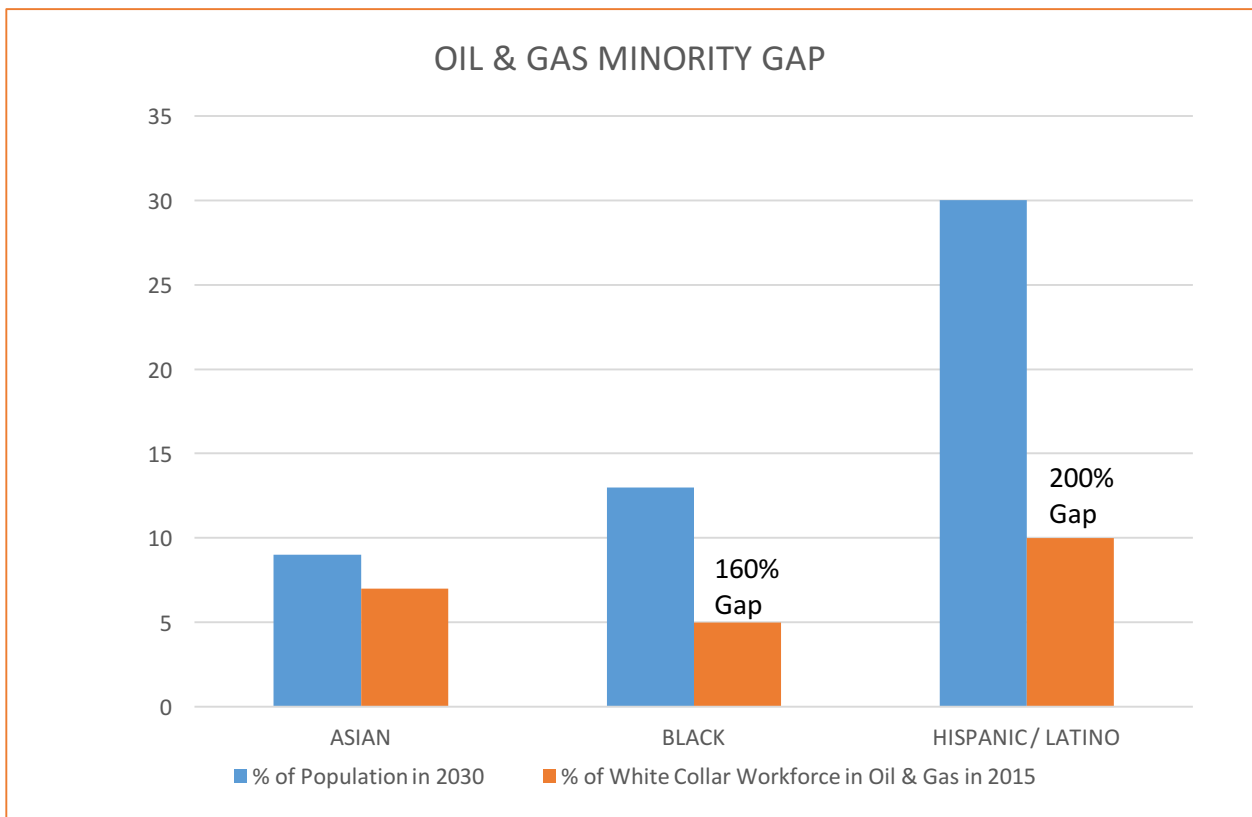
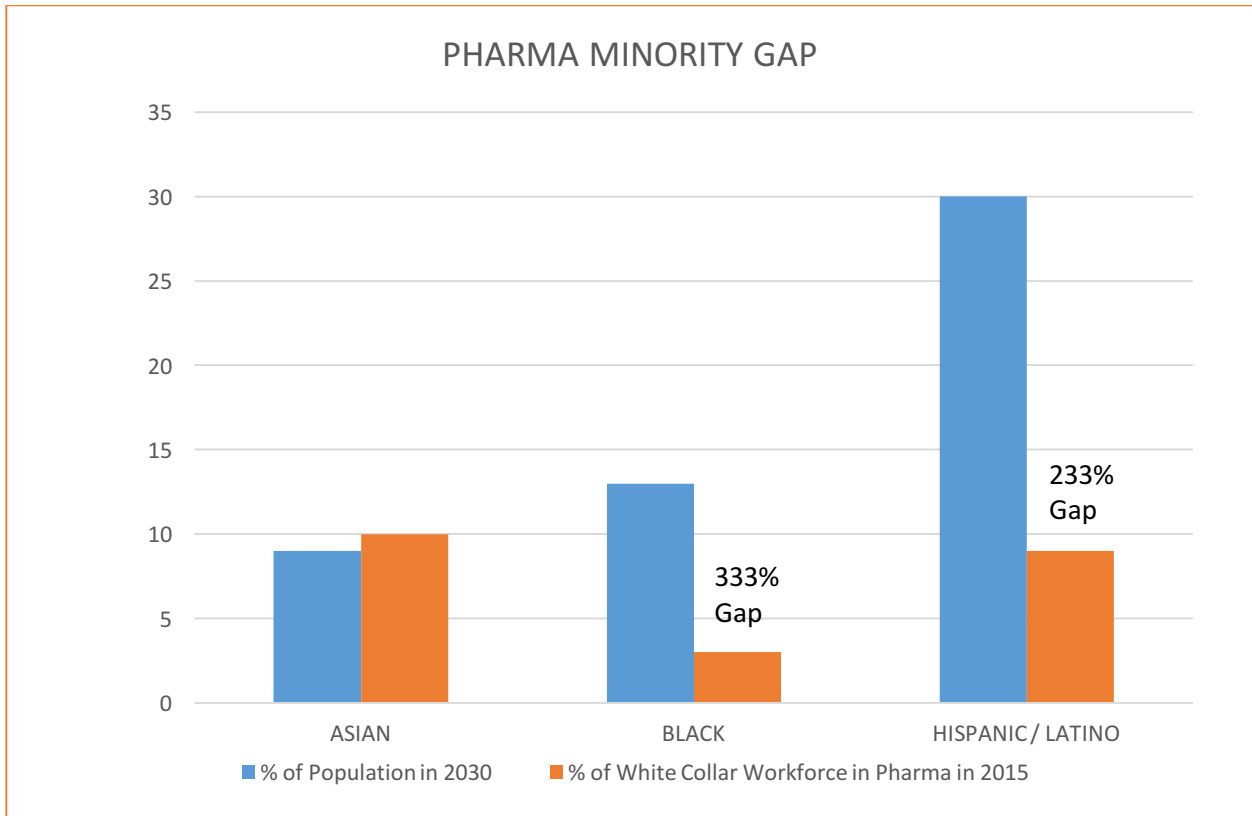


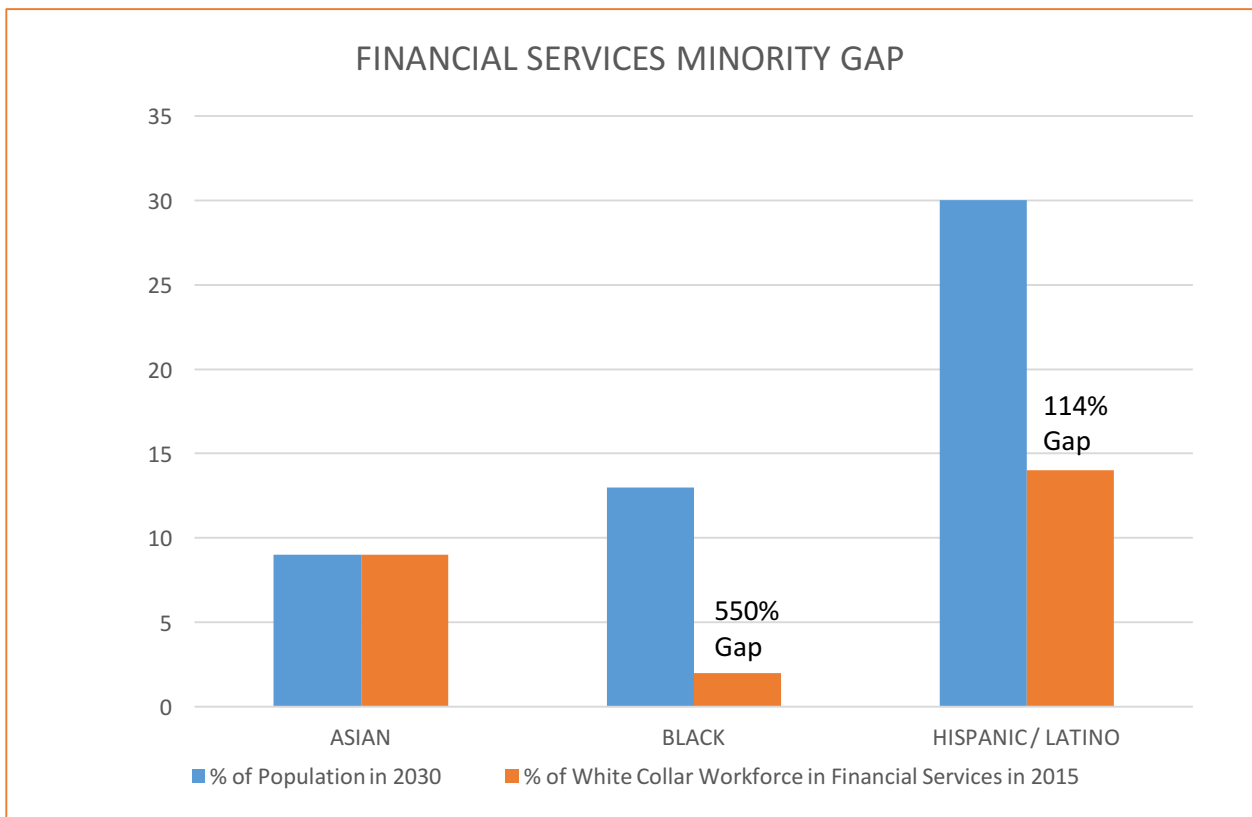
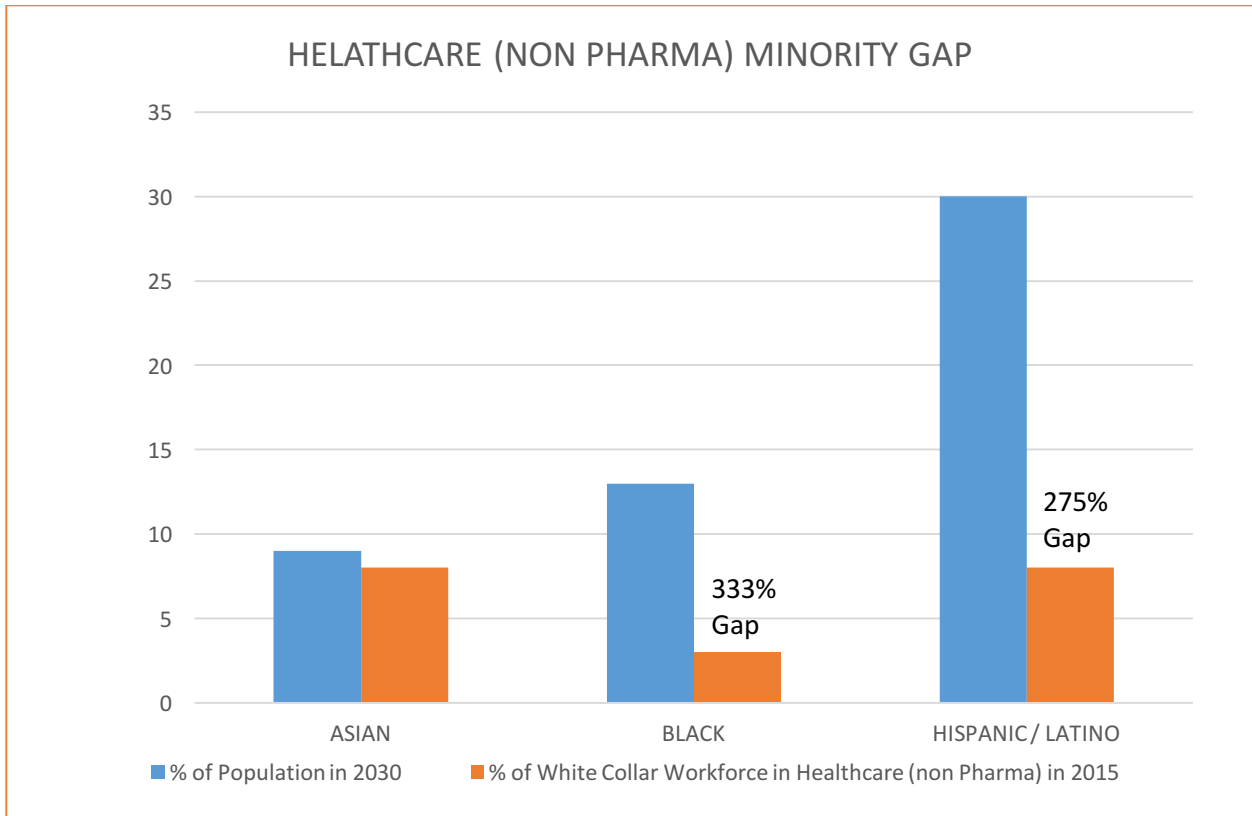
Figure 8: Source: Restless Bandit resume corpus

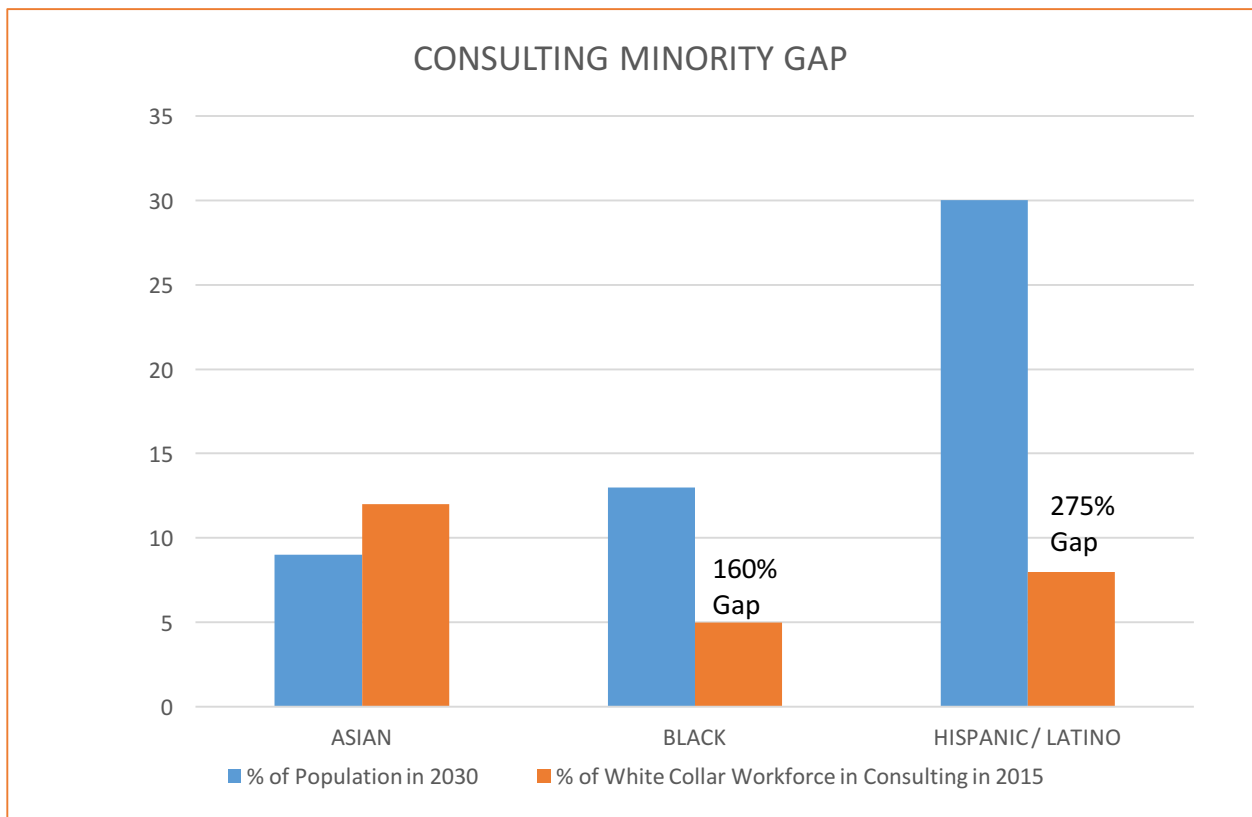
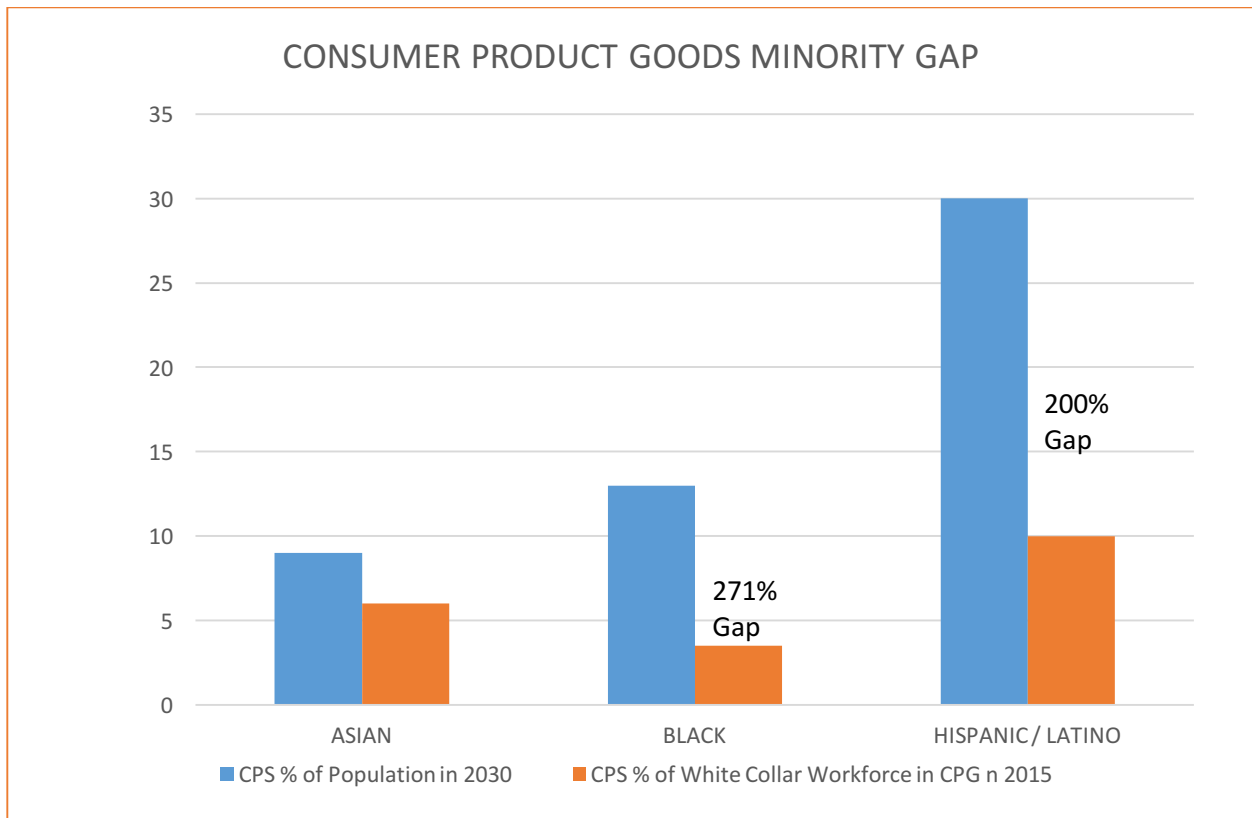
When we analyze industry segments for white-collar jobs in Figures 9a-h below, we see that the high tech and automotive industry has the most work to do in order to close the gap, followed by healthcare non-pharma, and pharma.

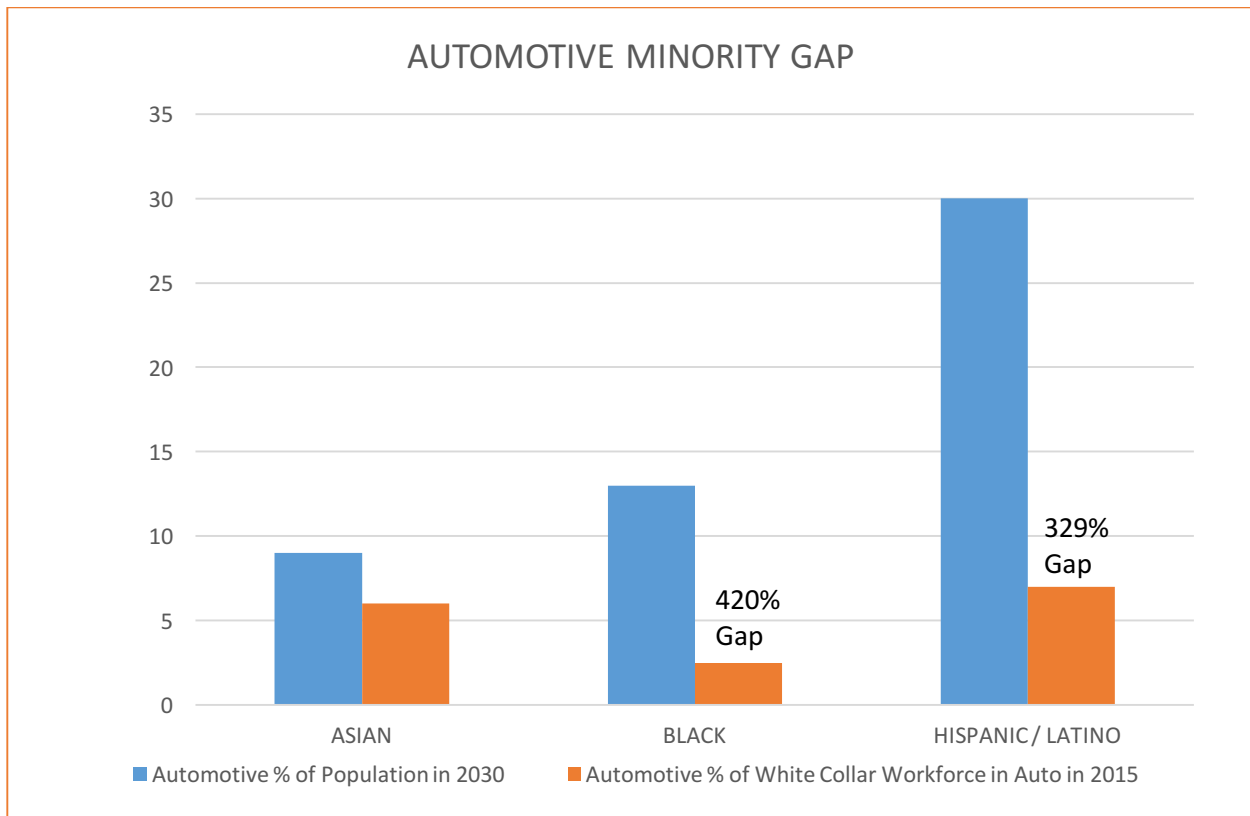
Figures 9a-h: Source: Restless Bandit Resume Corpus











Final Thoughts

As the American economy trends toward a service economy, and as the population mix moves toward a more racially diverse demographic, companies that want their employee base to mirror the demographic make up of consumers will have to think hard about talent acquisition strategies.

The modestly positive news is that most industries are starting from a reasonably good place, as diversity is relatively strong across some segments. While there are pockets of poor diversity (noted in charts above), for the most part, some industry segments have embraced the demographically diverse American workforce. Automotive, consumer product goods, and non-pharma healthcare segments lag behind, but not by the order of magnitude we expected.

However, there is a dramatic shift occurring in the US demographic, and this is where the challenge begins. The Hispanic population percentage is expected to double in the next twenty years, and blacks remain underrepresented, especially in white-collar work. Companies with an especially targeted consumer base of blacks and Hispanics will have to double their diversity hiring efforts to bring their workforce up to par with the population as a whole, however this report doesn't cover immigration trends, pay gap, and location.

Along with minority hiring, most companies are also focused on gender diversity. According to the US Census Bureau, as of 2010, women made up 47% of the American workforce. We were surprised, however, to find the white-collar labor percentage of women to be so high in specific industries, and so low in others. In fact, women dominate men in the non-pharma healthcare segment while they are dominated in automotive and consumer goods. It could be that both men and women are attracted to specific industries; however, companies generally understand their employee gender ratios. They also know that while women will make up more of the workforce in the years ahead, the number will go up from 47% to no more than 50%. So hiring strategies based on gender - as opposed to race, ethnicity, and religion - tend to be easier to implement.