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Can Ethic Minorities "Nudge" Their Way into Corporate America?: How Cognitive Biases and Heuristics Impact Hiring Decisions.

Asel Khatypova

A Thesis in the Field of Psychology

for the Degree of Master of Liberal Arts in Extension Studies

Harvard University

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Abstract

Discriminatory treatment within the current labor market is a significant cause of inequality. Notably, women and people of color are often kept away from opportunities, are limited in career promotions, and are deprived of the ability to participate in certain corporate circles simply because of their skin color or belonging to a particular gender group. The study intended to understand whether an intervention through nudging would reduce the discriminative approach and bias associated with the recruiting process. A sample of $N = 135$ participants, 67 men and 68 women, ages 20-51 representing various racial groups, was selected and asked to participate in a survey to choose the best fit candidate for a job.

Participants were divided into two groups and provided two resumes of equally qualified candidates with their professional photos attached. One of the candidates represented an ethnic minority group, and the other did not. Before showing both groups the resumes and candidate photos, the experimental group was nudged to sign a non-discrimination statement electronically. The control group did not sign a statement and directly proceeded to the assessment. Both groups made a choice between the two resumes based on the job description. A two-sample proportions test is run to measure correlation between exposure to nudge and preference for a diverse candidate choice was predicted. However, the study results did not show a significant correlation between applying a condition (exposure to nudge) and the number of participants choosing a

minority candidate resume. The results also did not vary within different gender and racial groups.

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Table of Contents

Acknowledgments.....v

List of Tables ix

Chapter I. Introduction.....1

Definition of Terms.....8

Diversity and Discrimination in the Modern Workplace.....10

Discrimination in Hiring Practices.....11

Cognitive Bias as an Underlying Mechanism.....17

Can We Nudge People Away from Discrimination?.....19

The Focus of the Present Study 24

Other Research and Findings.....25

Chapter II. Method.....27

Participants.....27

Materials 28

Procedure 29

Chapter III. Results 31

Descriptive Demographic Statistics.....31

Participant Group Composition 31

Control and Nudge Groups 32

Two-sample Proportions Z-Test 37

Chi-Square Test 39

Interactions Test....40
Chapter IV. Discussion....42
The Purpose of the Study....42
Overall Analysis....43
Racial Group Results Analysis....43
Gender Group Results Analysis....44
Research Limitations....45
Conclusion....50
Appendix 1. Non-discriminatory Statement....54
Appendix 2. Demographic Questionnaire....55
Appendix 3. Job Description....57
Appendix 4. Candidate Resumes....59
Jamal Aneke – Resume 1....60
Jamal Aneke – Resume 2....61
Patrick Smith – Resume 1....62
Patrick Smith – Resume 2....63
Appendix 5. Candidate Photos....64
References....65

List of Tables

Table 1. Demographic characteristics of respondents 32

Table 2. Distribution of selected variables 33

Table 3. Racial results distribution based on control/nudge group.....35

Table 4. Gender results distribution based on control/nudge group 37

Table 5. Resume Choice Crosstabulation 38

Table 6. Chi-Square Test 39

Table 7. Tests of Between-Subjects Effects. 40

Chapter I.

Introduction

Diversity, specifically ethnic diversity, has become an essential topic in the business world. According to McKinsey (2020), there is a strong positive correlation between executive teams' diversity and the company's financial performance. Recent findings strongly support the claim: in 2019, in regard to financial performance, top-quartile companies outperformed those in the 4th quartile by 36% in profitability, slightly up from 33% in 2017 and 35% in 2014. Objective, non-biased hiring decisions can help increase diversity on teams, leading to the diversity of thought, creative thinking, out-of-the-box ideas, and disruptive solutions to critical issues. The diverse composition of corporate teams can also send positive signals to out-of-group diverse candidates about accepting minority groups on the team. On the other hand, lack of diversity can serve as a detrimental factor that can turn job applicants and job seekers away from an organization. A Glassdoor survey (2020) states that about one in three employees and job seekers, or 32% of respondents, would not apply to a job at a company where there is lack of diversity among its workforces.

Despite these arguments that support the need for diversity in corporate settings, Riach and Rich (2002) found that for almost 50 years, field experiments have consistently reported high rates of discrimination against minority applicants. A study by Bertrand & Mullainathan (2003) illustrates that candidates with African American sounding names got 50% fewer callbacks and interview invites than their Caucasian counterparts. The

question remains: why do companies not implement diversity recruiting practices to enhance the current situation? For instance, why don't enough companies focus their recruiting efforts on eradicating racial biases and assessing candidates solely based on merit, not their racial belonging? Rivera (2012) states that despite having all the proper theoretical tools to hire a diverse pool of candidates, companies still struggle with the practical implementation of diversity-oriented recruitment and hiring processes. Human biases and the tendency to resort to heuristics play a significant role in this outcome (Branscombe & Baron, 2017). While there is some evidence that sometimes diversity-focused recruiting messages can be efficient (Baum et al., 2016), many researchers believe that diversity-targeted efforts can backfire and cause increased minority employee turnover in the future because diversity team members feel that they were hired solely based on their ethnic representation, as opposed to their merit, which in turn leads to decreased performance (McKay & Avery, 2005). Brown et al. (2000) found that gender-diverse candidates selected to lead the group based solely on the diversity factor displayed worse performance over time.

Moreover, candidates hired as token representatives were perceived more negatively by their organization (Yoder & Berendsen, 2001). To summarize, despite its promise, diversity in and of itself is not a solution to the problem. It can come with negative consequences that can be detrimental to the company and lead to negative results. Therefore, it is still critical to introduce best practices around non-discriminatory hiring to achieve the best financial performance for the company and maintain a productive mood internally within the team.

Studies have shown that decision-making is often misguided by the biases of hiring managers. For example, Bursell (2014) found that in an equal pair of candidate applications in a Swedish labor market, a recruiter preferred a candidate with a more Swedish-sounding name rather than someone from a different ethnic group. Carlsoon and Rooth (2007) ran a similar study, where they found that every fourth employer discriminates against the minority. Similarly, Purkiss et al. (2006) analyzed sources of bias in employment interview judgments and decisions. They found that candidates with ethnic names, speaking with an accent, were viewed less positively by interviewers than ethnic named applicants without an accent and non-ethnic named applicants with and without an accent. Given the growing need for diversity in corporate America and worldwide, it is crucial to find solutions to reduce bias in recruiting and hiring and allow candidates to participate in fairly assessed interviews. Unfortunately, it seems that a big number of organizations make a critical mistake of aligning their diversity efforts with their overall organizational goals (Shemla, 2018). In those cases, irrespective of the action put into supporting the initiative, the harsh realities of running the business daily keeping customers heard and satisfied will keep undermining it. There is also often a disconnect between the theoretical inclination for diversity policy design and its actual implementation into the always changing organization. In other words, things that sound good in theory might not always be as good or as easy to implement. The present study aims to help identify factors that can reduce and diminish corporate recruiting bias and lead to a more ethnically diverse workforce.

The study addresses the underrepresentation of ethnic diversity in the workplace. The study intends to understand whether an intervention through “nudging” would help

improve prospects for minority candidates in hiring processes. Nudging is any aspect of the choice architecture that alters people's behavior predictably without forbidding any options or significantly changing their economic incentives. In other words, nudges are not mandates but should be followed voluntarily rather than be enforced (Thaler & Sunstein, 2009). In this study, I will be referring to the nudging technique specifically in the form of a non-discrimination statement signing, which will occur before the candidate assessment stage. The body of literature on bias and effects of nudging demonstrates that this behavioral technique is effective and has been applied in various spheres, such as inspiring people to make healthier food choices (Hansen et al., 2016; Bucher et al., 2016; Kroese et al., 2016), reduce food waste (Kalbekken & Salen, 2013) and promote sustainable consumption (Lehner et al., 2016), promote smoking cessation (Sunstein, 2015), improve hand hygiene (Caris et al., 2018), change financial behavior (Benartzi et al., 2017), modify the perception of gay men with disabilities (Abbott, 2012) and others. Although several studies have been done on bias and diversity in hiring, there are still gaps in the practical application of debiasing solutions, which provides new findings and research on the topic. For instance, O'Meara et al. (2020) examined the effect of implicit and cognitive biases on the hiring process used to hire faculty members in most American higher education settings. They found that although much research establishes the presence of bias in hiring, relatively few studies examine interventions and psychological techniques that can be used to mitigate bias and encourage the recruitment and hiring of faculty identified as women and faculty identified as being from an underrepresented minority group.

Specifically, this study provides two groups of participants with two resumes of equally qualified candidates with their professional photos attached. One of the candidates represents an ethnic minority group, and the other does not. Before showing both groups the resumes and candidate photos, the experimental group is nudged to sign a non-discrimination statement electronically. The control group does not sign a statement and directly proceeds to the assessment phase. Both groups then choose between the two resumes based on the job description provided.

A similar study has been done by Newman (1978). He sent out two resumes of two equally merited White and African American candidates to the hiring managers and studied their feedback on the resumes associated with the candidates' race. While he did focus his study on racial discrimination in the workplace, he did not apply any pre-conceived techniques or psychological heuristics to guide hiring managers to make one decision over the other. Additionally, as mentioned in the commentary by McIntyre et al. (1980), Newman's results could have been skewed due to factors unrelated to racial bias, such as time differences between the receipts of two resumes, the wrong recipient opening the resume mail, and other flaws in the selection process that were independent of the racial bias concept. It is important to note that the experiment was run in 1978 when digital communication was not as widely spread as now, so many of the distracting factors could have weighed in the decision-making process. It makes it challenging to allocate the reasoning for the decisions made to racial bias or other unrelated factors. That said, Newman's study supports the notion of the importance of the selected topic and the need for more detailed research efforts on the matter. To my knowledge, there are some studies that focus on the choice architecture to reduce bias in hiring a selection

process (Bohnet et al., 2016; Chang et al., 2020; Chang and Cikara, 2018), but no specific study that focused on the effect of nudging on the recruiting process in corporate settings. As such, the study seeks to extend the literature on nudging in corporate hiring bias reduction globally, as studies have shown that the issue is present in America and other countries around the globe.

The purpose of this study is to determine whether it is possible to take specific steps before a hiring interview, such as exposure to nudge, to help interviewers reduce cognitive bias and assess candidates from an inclusion perspective. The study hypothesizes that through the application of nudging, recruiters can be influenced to make bias-free decisions, which would provide ethnic minority candidates with equal opportunities in the workplace. Mainly, signing a non-discrimination statement before stepping into an interview will serve as a mental anchor that elevates responsibility and accountability levels for a non-discriminative decision. Thaler and Sunstein (2009) emphasize that commitment to a particular action increases success. Therefore, signing a non-discrimination (nudge) statement and, as a result, mentally committing to apply non-discriminative judgment, can serve as an engine to produce merited assessment and avoid bias-impacted decision-making. Understanding how nudging can reduce cognitive bias is critical to companies and corporations globally. As previous studies have demonstrated, application of nudge is adopted by different communities and people around the world, so it is safe to say that nudge can be applied cross-culturally and globally. It can lead to a more diverse workforce and enable minority groups to enter the workforce, bringing diversity of thought and positively impacting its financial performance (McKinsey, 2020). As a result, it can also make the company more appealing to external job

applicants and allow it to recruit from a bigger pool of talented people (Glassdoor, 2020). Lastly, it can also lead to increased happiness and productivity among employees (McKinsey, 2015), which in turn can positively impact the overall performance of the company and increase compensation incentives and rewards for employees, based on the increased financial returns of the company. To conclude, there are several benefits that can derive from understanding the factors that can influence increased diversity on teams and this study will focus on one of them specifically, the influence of nudge.

Definition of Terms

Nudge/Nudging: is any aspect of the choice architecture that alters people's behavior predictably without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid (Thaler & Sunstein, 2009). In this study, I will be referring to the nudging technique specifically in the form of a non-discrimination statement signing, which will occur before the candidate assessment stage.

Non-discrimination statement: is the policy of a company to ensure equal employment opportunity without discrimination or harassment based on race, color, religion, sex, sexual orientation, gender identity or expression, age, disability, marital status, citizenship, national origin, genetic information, or any other characteristic protected by law.

Heuristics: are mental shortcuts that the brain takes to reduce time, resources, and cognitive efforts (Kahneman, 2011). People resort to heuristics as fundamental reasons as to why discrimination in hiring exists today (Purkiss et al., 2006).

Cognitive biases: are systematic patterns of deviation from the norm and/or rationality in judgment. Cognitive biases significantly impact decision-making and play a critical role in the proposed research like heuristics.

Ethnic minority: is a group of people who differ in race or color or national, religious, or cultural origin from the dominant group, often the majority population, of the country in which they live, given that the study has a global footprint but is specifically focused on corporate America. The term can vary depending on the country where the study is conducted. That said, for this study, the term “ethnic

minority" refers to four major racial groups that are not White/Caucasian Americans: African Americans, American Indians, Alaska Natives, Asians, Pacific Islanders, and Hispanics.

Discrimination: is the unjust or prejudicial treatment of different categories of people or things, especially on race, age, or sex. For this study, I focus on discrimination in the corporate settings, which can be defined as unjust treatment during the recruiting and hiring process based on the abovementioned factors.

Inclusion: is the practice or policy of providing equal access to opportunities and resources for people who might otherwise be excluded or marginalized, such as those with physical or mental disabilities and members of other minority groups.

Diversity and Discrimination in the Modern Workplace

Diversity has always been an important and pressing topic in the world's history, with examples of apartheid, oppression, racial discrimination and segregation, and racial tensions. The modern world has recently faced a wave of explicit, zealous protests from minority groups through #MeToo, #BlackLivesMatter, and #StopAsianHate movements. Society has come closer than ever to realizing and acknowledging an existing disparity between majority and minority groups representatives. The modern business world is also on the verge of discovering that discriminatory workplace practices must go and must go for good. There is substantial racial and gender disparity in the American economy (Darity & Mason, 1998). Discriminatory treatment within the labor market is a significant cause of this inequality. Notably, women and people of color are often kept away from opportunities, are limited in career promotions, and are deprived of the ability to participate in certain corporate circles simply because of their skin color or belonging to a particular gender group. Moreover, discriminatory treatment in the workplace can harm minority representatives' income levels. Council of Economic Advisers (1998) states that compared to Whites, African Americans are twice as likely to be unemployed and earn nearly 25% less when employed.

While people are intuitively aware of the positive impact of diversity in the workplace on the team's performance, variety of ideas and creative, out-of-box thinking, robust statistical data supports these effects. For example, researchers at McKinsey (2020) identified a strong positive correlation between executive teams' diversity and the likelihood of strong financial performance. Given that one of the critical parts of the executive team's job is to maximize shareholder value, the issue is worth paying attention

to. It is good to realize that society has become aware of the workforce's homogeneity, underrepresentation, discrimination of ethnic minority candidates and started finding solutions to address it. However, as many researchers found, there is still very little progress made to tackle the problem.

Discrimination in Hiring Practices

Riach and Rich (2002) found that for almost 50 years, field experiments have consistently reported high rates of discrimination against minority applicants. Their study demonstrates high employment discrimination levels against non-whites and females in Australia, Europe, and North America. The findings support the claim that labor market discrimination severely affects ethnic and gender minorities. As research shows, the problem is not specific to the United States and exists in other labor markets worldwide.

The study by Bertrand & Mullainathan (2003) supports the discrimination claim by reporting that candidates with African American sounding names get 50% fewer callbacks and interview invites than their Caucasian counterparts. The research aimed to measure racial discrimination in the workplace by responding to help-wanted ads in Boston and Chicago newspapers with fictitious resumes of equally qualified candidates with either African American sounding names or Caucasian sounding names. Researchers used White-sounding names (such as Emily Walsh or Greg Baker) for half of the resumes and African American-sounding names (such as Lakisha Washington or Jamal Jones) for the other half. They found significant racial differences in callback rates. Applicants with White-sounding names needed to send about ten resumes to get one callback, whereas applicants with African American-sounding names were required to send around 15 resumes to get one callback. In other words, the callback success rate for

White applicants was 10%, while the number for African American applicants was much lower at 6%. This gap in callback rates between candidates with African American-sounding names and their Caucasian counterparts is statistically significant and underscores the importance of the problem outlined in this paper. This research provides an example of racial discrimination in the hiring process. The study focuses on equally qualified candidates, with the only difference being the name that either sounds African American or Caucasian. As results demonstrate, African American applicants are discriminated against solely based on their race, not any professional merit or strength of their resume or professional background. The findings support the study's claim that racial bias is a critical aspect of racial discrimination in the workforce. Nalty (2016) attributes this type of outcome to unconscious bias that we are prone to as people and explains how bias can affect hiring in the corporate settings, specifically in the legal profession.

Furthermore, Bursell (2014) found that in an equally merited pair of candidate applications in a Swedish labor market, a recruiter would prefer a more Swedish-sounding name than someone from a different ethnic group. As the historical majority population group, Swedes can be compared to the Caucasian group in the United States, with the rest of the ethnic groups representing minority groups. Bursell focuses on racial and gender discrimination across labor markets by using correspondence tests, which involve sending matched pairs of identical job applications to employers posting jobs. The only difference is a characteristic that signals membership to a group. The study results demonstrate extensive ethnic discrimination in the Swedish labor market against applicants with Arabic and African sounding names. The study contributes to the notion

of extensive racial discrimination against minority applicants. Sweden implemented a multicultural integration policy in 1975, with the specific goal to allow the foreign-born population to have the same access to welfare and job opportunities as natives (Soininen, 1999). However, research results (Soininen, 1999) show that Swedish society has not achieved the desired goal of destigmatization among ethnic group minority representatives, particularly Middle Eastern immigrants, despite the effort. Rydgren (2006) also points out that non-Western immigrants' unemployment rates are much higher than those of natives and Western immigrants. Their earning potential is even lower than the natives, although some participants have lived in the country for more than twenty years (Le Grand & Szulkin, 2002). In Bursell's (2012) study, applicants with Arabic and North African sounding names were given fewer callbacks than their counterparts with more Swedish-sounding names, echoing the findings from Bertrand & Mullainathan (2003). These research findings seem to be relevant and can potentially be translated into other societies worldwide consisting of a multicultural and multiethnic workforce. The United States demonstrates similar labor market realities, with ethnic minority applicants being discriminated against in the workplace based on their ethnicity and ethnic-sounding names, not on merit.

Moreover, **s**tudies have shown that affiliation with a particular ethnic group and other factors, such as accents, can hurt the person's candidacy favorability and lead to workplace discrimination. Purkiss et al. (2006) analyzed sources of bias in employment interview judgments and decisions. They found that candidates with ethnic names, speaking with an accent, were viewed less positively by interviewers than ethnic named applicants without an accent and non-ethnic named applicants with and without an

accent. Given the growing need for diversity in the corporate world, it is crucial to find solutions to reduce bias in recruiting and hiring and allow minority candidates to participate in reasonably assessed interviews. Research shows that 55% of America's startups with $1 billion+ in enterprise value have at least one immigrant founder (Forbes, 2018). This data draws attention to the fact that the modern American workplace is diverse and consists of people with different accents and ethnic backgrounds. These immigrant founders strengthen the country's economy by building successful enterprises. Hence, it is another weighty reason to avoid discrimination in the workplace and hiring practices.

Despite acknowledging the importance of diversity in the workplace people still follow ethnic cues. They play an essential role in people's perception of a minority group representative and can often negatively impact decisions. For instance, Purkiss et al. (2006) examined two ethnic cues, accent and name, as explicit sources of bias in interview decision-making processes. The research results show that modern ethnicity bias is negatively associated with favorable decisions that lead to job placement. The study by Purkiss and colleagues demonstrate how racial and ethnic discrimination affects minority group members' ability to be successful in the interview process.

While there is a big push to introduce effective non-discriminatory practices in the workplace to increase inclusion and diversity, McKay and Avery (2005) argue that diversity-targeted efforts can rebound and cause increased minority employee turnover in the future. The paper focuses on how standard diversity recruitment practices can increase turnover among diverse candidates. The paper talks about the importance of a strong bond between minority recruitment and minority employee retention. The authors

underscore the notion that diversity in and of itself is not the goal, as it can backfire and lead to unwanted consequences. The paper outlines that minority job applicants view recruiting practices that blatantly focus on bringing more minority candidates on board, as misleading and feel betrayed. Therefore, it is critical to continue shaping and affecting the recruiting process to avoid discrimination against minority candidates. It needs to be carefully scripted to circumvent the possible negative implications on the perception of the recruiting process by minority candidates.

Another study on how diversity-focused efforts can backfire was run by Brown et al. (2000). The authors found that gender-diverse candidates selected to lead the group based solely on the diversity factor displayed worse performance over time. The study examines the relation between academic performance and preferential selection through the findings of two studies. In the first one, female leaders were led to believe that they were chosen for the role solely based on their gender. In the second one, minority college applicants were led to believe they were accepted because of their ethnicity. Both experiments demonstrated that the participants' work and academic performance decreased because of the preferential selection notion. These findings clarify the importance of having an authentic process and reasoning for hiring diverse and minority applicants. As studies have shown, telling people that the primary reason for them getting chosen for a job is their identity, can negatively impact diverse hires' performance, leading to an overall decrease in the company/academic performance

Not only does preferential selection negatively affect the hires' performance, but it also impacts the way other people in the workplace assess them. Yoder and Berendsen (2001) found that candidates hired as token representatives were perceived more

negatively by their organization. Tokenism is defined as making only a perfunctory or symbolic effort to be inclusive to members of minority groups (Hahn et al., 2017), especially by recruiting people from underrepresented groups to give the appearance of racial or gender equality within the workforce. A study examining the relationship dynamic between White and African American female firefighters found that African American female firefighters experienced subordination through the intentional addition of Black firefighters to the group and adverse effects of tokenism and strained relationship with White coworkers. In other words, African American female firefighters felt like a part of the group due to the forced diversification of ethnic groups within the group, rather than the authentic process of being involved with a group more naturally. As the paper (Yoder & Berendsen, 2001) illustrates, diversity for the sake of diversity with no actual intention to bring change into the workforce can backfire and make minority group representatives feel unwelcomed and unappreciated for their merits, negatively affecting their self-perception and subsequent job performance. To summarize, despite its promise, diversity in and of itself is not a solution to the problem.

In general, diverse groups across various spheres of life tend to perform better given the diversity in the thought process and non-trivial decision-making algorithms (Page, 2017). While few studies have been focused on diversity hiring in corporate settings, some researchers studied the impact of non-discriminatory hiring techniques in other fields. For instance, O'Meara et al. (2020) examined the effect of implicit biases on the hiring process used to hire faculty members in American higher education settings. The research focuses on cognitive bias present in faculty hiring processes in most American higher education settings. The study attempts to identify the specific measures

that can help mitigate the bias by applying interventions. The findings illustrate that although much research establishes the presence of bias in hiring, only a few studies examine interventions or nudges that might be used to mitigate bias and encourage the recruitment and hiring of faculty from an underrepresented minority group. The authors recommend historical, quasi-experimental, and randomized studies to test hiring interventions with more extensive databases and more controlled conditions than have previously been used to establish evidence-based practices that contribute to a more inclusive hiring process diverse workforce. The article underscores the importance of addressing existing bias in recruiting and hiring processes and poses a question about potential solutions.

Like academic settings, other spheres recruiting minority group representatives face similar challenges and are exposed to similar results. For instance, Goldin and Rouse (2000) studied the adoption of "blind" auditions. They used a "screen" to the symphony orchestra to conceal the candidate's identity from the jury and later observed its impact on gender-biased hiring. The results have shown that the blind audition procedure fostered impartiality in hiring and increased the proportion of women in symphony orchestras. While the research by Goldin and Rouse does not explicitly address the topic of racial discrimination, it demonstrates that similar debiasing strategies can be effective in addressing unfair treatment in the workplace.

Cognitive Bias as an Underlying Mechanism

Acknowledging the minority groups' discrimination is only one part of the problem. To fully understand and effectively solve the matter, it is critical to go to the roots of the issue to get a better sense of where it stems from in the first place. People live

in a world filled with various sources of information that often require immediate and undivided attention, which forces them to prioritize and make quick decisions on the go. Social cognition is often compromised by the need to arrive at judgments around complex and challenging decisions, which causes people to be optimally rational (Brandscombe & Baron, 2017). The process of decision-making under uncertain circumstances often leads to the reliance on cognitive biases and heuristics, mental shortcuts that the brain takes to reduce time, resources, and cognitive efforts. A cognitive bias can be defined as a systematic error in decision-making when people process and interpret information and make decisions and judgment calls based on that information (Kahneman, 2011).

Reliance on heuristics leads to cognitive biases. For example, there are ten major heuristics that the brain resorts to under the condition of heavy cognitive load and shortened decision time: representativeness, availability, anchoring, confirmation bias, search satisfying, diagnosis momentum, commission bias, affective heuristic, playing the odds, and fundamental attribution error (Brandscombe & Baron, 2017).

Humans are not perfectly logical, and they are prone to errors, mistakes, and as a result, cognitive biases. For example, the availability heuristic is often present in various spheres of life. Human brains tend to rely on readily available experiences due to recency or highly memorable because of their vividness. Those experiences can inaccurately bias our judgments, like probability predictions (Kahneman, 2011). Another cognitive bias that can significantly impact anchoring bias occurs when people rely too much on pre-existing information. It can seriously affect the decision they end up making, as people weigh first impressions more heavily during the process, often disregarding new data that

comes in later. Things get even more impressive when anchoring bias is combined with confirmation bias, defined as a tendency to interpret further information along the lines of preexisting knowledge. Several things can cause cognitive biases, but heuristics often play a significant role. This type of thinking around the tendency to resort to cognitive biases is also present in the workplace. For instance, in the case of ethnic discrimination during a job search, a hiring manager might be unconsciously anchored by a racial bias and assess a candidate based on belonging to a particular racial group rather than their merit and skillset. In turn, that could lead them to review the candidate's application through a lens of their pre-perception by seeking out detail that confirms that initial standpoint.

Can We Nudge People Away from Discrimination?

Reliance on cognitive biases and heuristics naturally pushes people to make irrational, not thought through decisions that can lead to unfair treatment of various groups in the workplace and other spheres of life. As the studies above have shown, society struggles with addressing discrimination in the workplace. Moreover, multiethnic integration does not occur naturally in the modern business world. Hence, it is crucial to think about ways and strategic tools that can be applied to change the situation without causing much disruption or making it feel forced or inauthentic to the parties involved. One of the paths taken here is using specific behavioral strategies, such as nudging, that can impact the agents' behavior and lead to the desired results.

One way to tackle cognitive biases is through debiasing techniques. Lilienfeld et al. (2009) found that cognitive debiasing works in some instances using psychological interventions. In some instances, nudging can be an example of a debiasing technique

that can mitigate certain cognitive biases. A nudge is a simple change made to an environment to alter people's behavior predictably, without blocking any options or significantly changing any incentives.

Human behavior is complex and challenging to decode. Producing policies that can influence behavioral change requires researchers to understand what drives people's behaviors in the first place and how people behave in different environments and scenarios. Nudges refer to intentional changes in the choice architecture that influence people's behavior by making alterations in the environment that guide and enable individuals to make choices almost automatically by resorting to the default option. Nudging can be effective through simplifying available information or by offering default options in a way that facilitates socially desirable decisions. According to Thaler and Sunstein (2008), nudges work because they correct for biases and errors in human behavior when the situation does not support the cognitive effort.

Thaler and Sunstein (2008) emphasize that commitment to a particular action increases success. They suggest that if a specific unwanted behavioral pattern results from cognitive biases, this pattern may instead be nudged toward improvement by integrating tools to influence people's everyday choices and behaviors in cheaper, less invasive, and more effective ways. Understanding how nudging can reduce cognitive bias is critical to companies and corporations globally. If it is effective, it could lead to a more diverse workforce and enable minority groups to enter the workforce, bringing the diversity of thought positively impacting its financial performance.

The body of literature on bias and the effects of nudging demonstrate that this behavioral technique is effective and has been applied in various spheres. For instance,

nudging has shown to be a functional tool to achieve significant results in the broader field of health and wellness. Many researchers studied the effects of nudging on people making healthier food choices (Hansen et al., 2016; Bucher et al., 2016; Kroese et al., 2016). For instance, Kroese et al. (2016) strategically located certain foods in front of people, nudging them to choose a healthy or unhealthy option based on the food's order or proximity to the study participant. Specifically, healthy foods were placed at the cash register desk while keeping unhealthy products available elsewhere in the shop. The results showed that nudging worked, and participants were more prone to choosing healthier food options when closer to their reach. In addition, Kalbekken and Salen (2013) reduced food waste in hotels and restaurants by ~20% by using nonintrusive nudging techniques, such as reducing the plate size or providing social cues for proportionate food allocation on the plate.

Not only does nudging work as a debiasing technique in the food-related field, but it can also be applied to encourage people to pick up healthier habits or give up certain unhealthy habits. For instance, Sunstein (2015) observed the effects of a "deposit program" and monetary incentives to encourage people to reduce smoking. His experiment involved nudges in the form of choice-preserving interventions through economic incentives. Specifically, he focused on the concept of loss aversion that states that people tend to dislike losses more than they like corresponding gains (Kahneman, 2011; Sunstein, 2015). The study participants were exposed to two different programs that served as nudges to encourage them to stop smoking. The first one was a "deposit program," in which smokers deposited $150, which they could get back if they quit smoking, along with $650 extra. The second program was a "reward program," People

received $800 if they stopped smoking. Study results showed that compared with usual care, both the deposit program and the reward program had significant effects in higher smoking abstinence rates, supporting the idea of nudge effectiveness. Additionally, following the loss aversion concept, participants were more likely to sustain abstinence after being involved in the "deposit program" vs. the "reward program." As the findings conclude, the nudge initiative through economic incentives has shown to be an effective technique to change smoking habits and behavioral patterns, making us believe that it can also be successfully applied in other spheres of behavioral change.

Positive changes brought by nudging can be observed in environmental behavior. Lehner et al. (2016) investigated the effectiveness of applied nudging tools and approaches in consumption domains of energy use in the home, food, and mobility. Persson et al. (2009) talked about the phenomenon of the "energy efficiency gap" or underinvestment in energy efficiency. Stern (1992) found that several nudge-based tools have been used to promote residential energy efficiency, such as feedback on electricity bills. The study conducted in Helsinki showed that providing social comparison information, also known as informative billing, leading to electricity consumption reduction by ~1-1.5% (Arvola et al., 1993). Bharma et al. (2011) found that simple changes to users' physical environment can promote energy-conserving behaviors. For example, a refrigerator alarm can be programmed to produce noise to prevent people from keeping the door open for too long, discouraging energy waste. Recent studies have focused on changing the default option to serve as an energy-saving nudge. The main applications are "opt-out" rather than "opt-in" contracts, wherein the former option, consumers are given an environmentally friendly choice as a default but can "opt-out" if

they do not want it. But because opting out requires additional effort and time investment, people tend to stick with the default option. A study by Pichert and Katsikopoulos (2008) reports two experiments in Germany in which 95-99% of consumers stayed with the "green" electricity, "opt-in" default option instead of switching to a "grey" cheaper but fossil-based electricity supply option. As the aforementioned studies illustrate, nudging has shown to be an effective technique to encourage people to alter their energy consumption habits without resorting to the traditional monetary consequences. Instead, it uses nudging to substitute laws, regulations, and economic tools.

Governments are increasingly interested in using behavioral insights to supplement or replace traditional economic levers, such as incentives, shaping citizens' and government personnel's behavior to promote public priorities. For example, a behaviorally informed policy intervention might automatically enroll people in programs designed to reduce poverty, reduce paperwork requirements for obtaining licenses or permits, or streamline the process of applying for government financial aid for college attendance (Bettinger et al. 2012). The United Kingdom established a nudge unit in 2010 and was soon followed by other countries, including Australia, Germany, The Netherlands, Singapore, and the United States. A Nudge Unit within governments uses insights from the behavioral sciences to influence the creation or modification of public policy. For instance, Benartzi et al. (2017) looked at governments that increasingly adopt behavioral science techniques for changing individual behavior in pursuit of policy objectives. The study has shown that nudge interventions often compare favorably and have proven to be more effective to encourage people to make behavioral changes as

opposed to traditional interventions, by leading people to adopt tax incentives and other financial inducements.

Consistently across the various fields, nudging has proven to lead to positive changes in human behavior by applying non-intrusive subtle prompts. The current study will build upon different findings and apply nudging to business settings. Specifically, it aims to combat cognitive bias in the choice process and use nudging as a psychological technique to encourage behavioral changes through subtle, non-invasive interventions, such as a signature of a non-discriminatory statement.

The Focus of the Present Study

The present study addresses the underrepresentation of ethnic diversity in the workplace. It focuses on the presence of distorted hiring decisions that leave qualified ethnic minority group representatives excluded from modern corporate America. In addition, the study intends to understand whether an intervention through nudging would reduce the recruiting process's discriminative approach and bias associated with it. Specifically, the study provides two groups of participants with two resumes of equally qualified candidates with their professional photos attached. One of the candidates represents an ethnic minority group, and the other does not. Before showing both groups the resumes and candidate photos, the experimental group is nudged to sign a non-discrimination statement electronically. The control group does not sign a statement and directly proceeds to the assessment. Both groups then choose between the two resumes based on the job description.

This study aims to identify whether it is possible to take specific steps and influence interviewers to reduce cognitive bias and assess candidates based on merit and

skillset. The study hypothesizes that through the application of nudging, recruiters can be influenced to make bias-free decisions, which would provide ethnic minority candidates with equal opportunities in the workplace. Mainly, signing a non-discrimination statement before stepping into an interview will serve as a mental anchor that elevates responsibility and accountability levels for a non-discriminatory decision. Specifically, committing to a non-discriminative behavior while choosing a candidate, could remind recruiters to focus on candidates' hard skills and resume strengths rather than paying attention to their racial group belonging. In addition, signing a non-discrimination statement would serve as a nudge, as it would demonstrate the recruiters' commitment to displaying non-racially biased choice preferences. As Thaler and Sunstein (2009) emphasized, commitment to a particular action increases success. Hence, the study hypothesizes that using the signature as a nudge would lead to less discrimination against an ethnic minority candidate and encourage study participants to make decisions based on merit and not racial group belonging.

Other Research and Findings

As research has shown, the problem of discrimination of minority group representatives in current work settings is a real and pressing issue that can negatively affect the company's financial performance and employees' internal motivation. However, although several studies have been done on bias and diversity in hiring, there are still gaps in the practical application of debiasing solutions, which provides new findings and research on the topic.

To my knowledge, there are some studies that focus on the choice architecture to reduce bias in hiring a selection process (Bohnet et al., 2016; Chang et al., 2020; Chang

and Cikara, 2018), but no specific study that focused on the effect of nudging on the recruiting process in corporate settings. As such, the study seeks to extend the literature on nudging in corporate hiring bias reduction globally, as studies have shown that the issue is present in America and other countries around the globe. While Newman (1978) ran a similar study focusing on equally merited resumes of a White and an African American candidate, he did not apply nudging as a differentiating factor, making the current study take a different approach towards racial bias findings. Furthermore, this study seeks to extend the literature on nudging in corporate hiring bias reduction globally. Studies have shown that the issue is present in America and other countries worldwide.

Chapter II.

Method

Participants

The participant sample in this study consists of 135 adults. The initial total number of participants recruited to the study through Prolific was 432. However, 297 of them were disqualified and denied participation in the experiment due to various reasons that did not align with the study design. Some of such reasons included the fact that they did not make a resume choice, answered "no" to the nudge question, did not fill out their racial or gender identity question, refused not to discriminate, did not list their education level, etc. After all the ineligible participants were subtracted from the total number, 135 participants formed the pool of participants engaged in the experiment.

Participants' age varies from 20 to 51 with the mean age being 35.5 years old. According to the study design, all participants hold at least an undergraduate college degree in business, finance, economics, management, or other social sciences-related fields. Choosing these demographics helps the study focus on the relevant group of participants acting as recruiters; hence, the participants need to understand the business world and the work settings. The assumption is that since the participants were exposed to some kind of business-related classes in their degrees, they would be better skilled to properly assess resumes against the job description and contribute to a fair merit-based assessment.

Participants were recruited through an online platform, Prolific, and Qualtrics was used to communicate with the research team through the use of a survey. At the beginning of the study, participants were welcomed to participate in the research and asked for no more than 5 minutes of their time to complete the survey. They were asked to fill out a demographic information questionnaire through the hosting website Qualtrics. The questionnaire helped identify the group composition based on age, gender, education, and ethnicity. Participants were also asked to sign a consent/assent from to participate in the research study. Signing the consent form was a prerequisite for the participation in the survey, so those participants who did not consent to the form, were immediately sent to the end of the study and denied further participation. Participants were randomly assigned to two conditions: experimental and control, and the experimental group was provided with a nudge statement to sign as a part of the experiment. Then both groups of participants were shown the job description and were asked to assess the two resumes of candidates against it. At the end of the survey, all respondents were thanked for their participation.

Materials

The study was delivered entirely online through Qualtrics. Through the platform, two participant groups were provided with a job description that provided an overview and the history of the fund (Nemean Capital) and qualifications for the role of a Vice President, Technology Investments. The job description outlined professional criteria regarding education, prior work experience and desired sector expertise, as well as preference for a set of soft skills, such as culture fit to firm (Nemean Capital) and several other character traits. Participants were also provided with two candidate resumes with

photos. One of the candidate resumes had a photo of a black male, while the other had a photo of a white male attached to it. All documents were created using Microsoft Word and photos of candidates were taken from the stock photo website. In the beginning of the survey, one of the groups, the experimental group, was provided with a non-discrimination, "nudge", statement to sign.

Procedure

Participants were recruited online using the online platform Prolific. During the initial recruiting phase, participants were encouraged to participate in the survey for a small monetary reward that they would receive upon a successful completion of the survey. At the beginning of the study, participants completed the demographic information questionnaire through Qualtrics to meet the inclusion criteria described above. Participants were randomly assigned to either the experimental or control group upon completing that process. They were assigned a Prolific ID number, which they later used when submitting their answers—assigning a Prolific ID vs asking participants to use their names allowed for the anonymity of the responders and provided them with comfort that their responses would not be attributed to them. Both groups were then provided with a job description for the position they were evaluating the candidate for. The control group was then provided with two candidate profiles and asked to choose the one better fit the earlier provided job description. The experimental group was asked to sign a non-discrimination statement after seeing the job description and before being exposed to the candidate profiles. Once the non-discrimination disclaimer was signed, the experimental group was provided with two candidate profiles and asked to choose the one that best fits

the job specification. Once the choice has been made, both participant groups were taken to the end of the survey.

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Chapter III.

Results

Descriptive Demographic Statistics

Participant Group Composition

The study has 135 participants that complied with all the selection criteria and survey requirements. However, a total number of people who participated through Prolific was 432, but 297 of them were disqualified in the analysis due to various reasons, such as they did not make a resume choice, answered “no” to the nudge question, did not fill out their racial or gender identity question, refused not to discriminate, did not list their education level, etc. The total number of qualified participants who adhered to all the survey requirements and answered all the questions within the asked range was 135 participants.

The results revealed that out of 135 participants, 67 (49.6%) are men, and 68 (50.3%) are women. Furthermore, 51 (37.8%) of the participants are Black or African American, 38 (28.1%) are White, 36 (26.7%) are Hispanic, or Latino, 8 (5.9%) are multiracial, and 2 (1.5%) of the participants are Asian or Pacific Islander. Additionally, in regard to education level, 125 (92.6%) of the participants hold a Bachelor’s degree, 5 (3.7%) participants have a Professional degree, and 5 (3.7%) participants hold a Master’s degree. Lastly, the minimum age of the participants is 20 years old, the maximum age of

the participants is 51 years old, and the mean age of the participants is 35.5 years old (Table 1).

Table 1. Demographic characteristics of respondents

SN.	Category	Options	Frequency	Percentage (%)
1.	Gender	Man	67	49.6%
		Woman	68	50.3%
2.	Ethnicity	Black or African American	51	37.8%
		White	38	28.1%
		Hispanic or Latino	36	26.7%
		Multiracial	8	5.9%
		Asian or Pacific Islander	2	1.5%
3.	Education level	Bachelor's degree	125	92.6%
		Professional degree	5	3.7%
		Master's degree	5	3.7%
4.	Age	Minimum	20	
		Maximum	51	
		Mean	35.5	

The demographic composition of the participants based on gender, ethnicity, education level, and age (N = 135)

Control and Nudge Groups

Based on random assignment, 68 (50.4%) of the participants were assigned to the control group, and 67 (49.6%) were assigned to the nudge group. The study specifically

looked at participants who agreed to sign a non-discrimination (nudge) statement within the nudge group, so 67 (49.6%) participants from the nudge group signed the statement and agreed not to discriminate and apply non-biased judgment in the decision-making process. The remaining 68 (50.4%) participants did not sign the non-discrimination statement, as they were assigned to the control group and were not exposed to the condition.

Out of the overall participant population, both in control and nudge groups, 98 (72.6%) of the participants chose Resume 2- Jamal Aneke, and 37 (27.4%) chose Resume 1- Patrick Smith (Table 2).

Table 2. Distribution of selected variables

SN.	Category	Options	Frequency	Percentage (%)
1.	Do you agree not to discriminate and apply non-biased judgment in the decision-making process?	Yes	67	49.6%
		No response	68	50.4%
2.	What candidate do you want to hire?	Resume 1 – Patrick Smith	37	27.4%
		Resume 2 – Jamal Aneke	98	72.6%
3.	Condition	Control	68	50.4%
		Nudge	67	49.6%

Distribution of selected variables across control and nudge groups (N = 135)

Further analysis shows that participants primarily chose the minority candidate's resume irrespective of being assigned to a control or nudge group across all racial groups.

Specifically, within the nudge/experimental group, we can observe the leaning towards Resume 2- Jamal Aneke resume choice with the following number breakdowns: out of 21 Black or African American participants in the nudge group, 8 (38%) chose Resume 1 – Patrick Smith and 13 (62%) chose Resume 2 – Jamal Aneke; out of 22 White participants in the nudge group, 7 (32%) chose Resume 1 – Patrick Smith and 15 (68%) chose Resume 2 – Jamal Aneke; out of 20 Hispanic or Latino participants in the nudge group, 4 (20%) chose Resume 1 – Patrick Smith and 16 (80%) chose Resume 2 – Jamal Aneke; out of 4 Multiracial participants in the nudge group, 1 (25%) chose Resume 1 – Patrick Smith and 3 (75%) chose Resume 2 – Jamal Aneke. Given that the study had only 2 Asian or Pacific Islander participants, they both were randomly assigned to the control group. They were not exposed to the nudge, so they were not considered in this part of the analysis.

Another essential aspect to focus on is the percentage of participants within each racial group who chose Resume 1 – Patrick Smith or Resume 2 – Jamal Aneke. The results are the following: within the Black or African American participants' group, 13 (62%) participants in the nudge group and 23 (77%) in the control group chose Resume 2 – Jamal Aneke; within the White participants 'group, 15 (68%) participants in the nudge group and 11 (69%) participants in the control group chose Resume 2 – Jamal Aneke; within the Hispanic or Latino participants 'group, 16 (80%) participants in the nudge group and 13 (81%) participants in the control group chose Resume 2 – Jamal Aneke; within the Multiracial participants 'group, 3 (75%) participants in the nudge group and 3 (75%) participants in the control group chose Resume 2 – Jamal Aneke. Finally, a small sample of respondents represented Asian or Pacific Islander participants' group, so no

one in the nudge group and 1 (50%) participant in the control group chose Resume 2 – Jamal Aneke (Table 3).

Table 3. Racial results distribution based on control/nudge group

SN.	Racial Group	Number of participants	Options	Frequency	Percentage (%)
1.	Black or African American	Nudge Group - 21	Resume 1 – Patrick Smith	8	38%
			Resume 2 – Jamal Aneke	13	62%
		Control Group - 30	Resume 1 – Patrick Smith	7	23%
			Resume 2 – Jamal Aneke	23	77%
2.	White	Nudge Group - 22	Resume 1 – Patrick Smith	7	32%
			Resume 2 – Jamal Aneke	15	68%
		Control Group - 16	Resume 1 – Patrick Smith	5	31%
			Resume 2 – Jamal Aneke	11	69%
3.	Hispanic or Latino	Nudge Group - 20	Resume 1 – Patrick Smith	4	20%
			Resume 2 – Jamal Aneke	16	80%
		Control Group - 16	Resume 1 – Patrick Smith	3	19%
			Resume 2 – Jamal Aneke	13	81%
4.	Multiracial	Nudge Group - 4	Resume 1 – Patrick Smith	1	25%
			Resume 2 – Jamal Aneke	3	75%

		Control Group - 4	Resume 1 – Patrick Smith	1	25%
			Resume 2 – Jamal Aneke	3	75%
5.	Asian or Pacific Islander	Nudge Group - 0	Resume 1 – Patrick Smith	0	0%
			Resume 2 – Jamal Aneke	0	0%
		Control Group - 2	Resume 1 – Patrick Smith	1	50%
			Resume 2 – Jamal Aneke	1	50%

Distribution of selected variables across racial groups within nudge/control groups (N = 135)

Moreover, analysis shows that participants primarily chose the minority candidate's resume irrespective of being assigned to a control or nudge group across both gender groups. Specifically, within the nudge/experimental group, we can observe the leaning towards Resume 2- Jamal Aneke resume choice with the following number breakdowns: out of 34 men in the nudge group, 10 (29%) chose Resume 1 – Patrick Smith and 24 (71%) chose Resume 2 – Jamal Aneke; out of 33 women in the nudge group, 10 (30%) chose Resume 1 – Patrick Smith and 23 (70%) selected Resume 2 – Jamal Aneke.

Another critical aspect to focus on is the percentage of participants within each gender group who chose Resume 1 – Patrick Smith or Resume 2 – Jamal Aneke. The results are the following: within the men participants' group, 24 (71%) participants in the nudge group and 24 (72%) in the control group chose Resume 2 – Jamal Aneke; within

the women participants' group, 23 (70%) participants in the nudge group and 28 (80%) in the control group chose Resume 2 – Jamal Aneke (Table 4).

Table 4. Gender results distribution based on control/nudge group

SN.	Racial Group	Number of participants	Options	Frequency	Percentage (%)
1.	Men	Nudge Group - 34	Resume 1 – Patrick Smith	10	29%
			Resume 2 – Jamal Aneke	24	71%
		Control Group - 33	Resume 1 – Patrick Smith	9	27%
			Resume 2 – Jamal Aneke	24	73%
2.	Women	Nudge Group - 33	Resume 1 – Patrick Smith	10	30%
			Resume 2 – Jamal Aneke	23	70%
		Control Group - 35	Resume 1 – Patrick Smith	7	20%
			Resume 2 – Jamal Aneke	28	80%

Distribution of selected variables across gender groups within nudge/control groups (N = 135)

Two-sample Proportions Z-Test

A two-sample proportions test was conducted to assess the effect of the nudge. The null hypothesis represents the nudge having no effect.

$$H_0: p_1 > p_2 = 0$$

All conditions for a two-sample proportions test were satisfied.

$n_1\hat{p}_1, n_1(1-\hat{p}_1), n_2\hat{p}_2, n_2(1-\hat{p}_2)$ are all greater than five.

A two-sample proportions test was conducted, where z* is the test statistic:

$$z* = \frac{\hat{p}_1 - \hat{p}_2 - 0}{\sqrt{\hat{p}*(1-\hat{p}*)(\frac{1}{n_1}+\frac{1}{n_2})}}$$

The values were retrieved from SPSS Crosstabs function (Table 5).

Table 5. Resume Choice Crosstabulation

			Q25 - Resume Choice		Total
			Resume 1 - Patrick Smith	Resume 2 - Jamal Aneke	
Condition	Control	Count	17	51	68
		% within Condition	25.0%	75.0%	100.0%
	Nudge	Count	20	47	67
		% within Condition	29.9%	70.1%	100.0%
Total		Count	37	98	135
		% within Condition	27.4%	72.6%	100.0%

Therefore,

$$z* = \frac{\frac{47}{67} - \frac{51}{68} - 0}{\sqrt{\frac{98}{135}(1-\frac{98}{135})(\frac{1}{67}+\frac{1}{68})}}$$

$$z* = -0.63176$$

Based on this z*, we were unable to reject the null hypothesis where $H_0: p_1 > p_2 = 0$. Rather, we observed a negative z-score, indicating that a higher proportion of those in the control group picked Resume 2 than those in the experimental group, contrary to what we expected. However, this z-score is not significant at an alpha of 0.05, as $|z| < 1.96$, where 1.96 is the critical z value for a 5% significance. Therefore, this study is unable to conclusively identify that the nudge had an effect on a participant's likelihood to choose Resume 2.

Chi-Square Test

A Chi-Square test was conducted to examine the effect of the nudge on resume choice preference (Table 6).

Table 6. Chi-Square Test

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.399[a]	1	.528		
Continuity Correction[b]	.193	1	.661		
Likelihood Ratio	.399	1	.527		
Fisher's Exact Test				.567	.331
N of Valid Cases	135				

0 cells (0.0%) have expected count less than 5. The minimum expected count is 18.36

Based on the Chi-Square test, we observed that the Pearson Chi-Square value is 0.399. One degree of freedom and an alpha of 0.05 would equal 3.84 in the chi-square table. However, we observed a Chi-square that is much less in this case. Therefore, the chi-square test illustrates a non-significant effect, similar to the one observed in a two-proportion z test. Furthermore, the 2-tailed p-value is 0.528, which is greater than 0.05. That as well failed to reject the null hypothesis at an alpha of 0.05.

Interactions Test

An interactions test was conducted using gender and ethnicity variables (Table 7).

Table 7. Tests of Between-Subjects Effects.

Dependent Variable: V3					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1.640[a]	8	.205	.804	.600
Intercept	8.720	1	8.720	34.221	<.001
Gender	.001	1	.001	.002	.964
Ethnicity	1.259	4	.315	1.235	.299
Gender * Ethnicity	.395	3	.132	.517	.671
Error	32.109	126	.255		
Total	67.000	135			
Corrected Total	33.748	134			

a. R Squared = .049 (Adjusted R Squared = -.012)

Based on the significance values of gender, ethnicity, and gender * ethnicity, we observe that none of these factors are statistically significant. The values are greater than

a significance value of 0.05 and, therefore, are not statistically significant at an alpha of 0.05. Further, we observed an R-squared value of .049, illustrating the low predictive power of gender and ethnicity on an individual's decision between choosing Resume 1 versus Resume 2.

Chapter IV.

Discussion

The Purpose of the Study

Studies have shown that decision-making is often affected by the biases of hiring managers. In many cases, those biased decisions are made subconsciously when hiring managers or recruiters don't intentionally make decisions against minority candidates. Instead, their biases come into play and change the course of the decision-making process. Given the pressing need for a diverse workforce in corporate America and worldwide, it is critical to find ways to eliminate bias in recruiting and hiring and allow diverse candidates to participate in fairly assessed interviews.

One of the ways to address the problem is the application of a nudge. Nudging is an example of a debiasing technique that can be useful to mitigate certain cognitive biases. Nudges refer to intentional changes in the choice architecture that influence people's behavior by making alterations in the environment that guide and enable individuals to make choices almost automatically by resorting to the default option.

The present study aims to identify whether certain factors can reduce and diminish corporate recruiting bias and lead to a more ethnically diverse workforce. In particular, the current study was designed to assess whether an intervention such as an application of a nudge can impact decision-making in favor of a minority candidate when chosen from two equally merited resumes.

Overall Analysis

Based on the two-sample proportions test, the results suggest that nudge did not affect a participant's likelihood to choose Resume 2. Instead, the results have shown that most respondents, irrespective of being in a control or a nudge group, opted for a minority candidate's resume. Moreover, majority of the respondents, regardless of their racial and gender group, also showed strong preference towards the minority candidate's resume.

Racial Group Results Analysis

Irrespective of the control or experimental group assignment, most of the respondents across all racial groups, Black or African American, White, Hispanic, or Latino, multiracial, and Asian or Pacific Islander, chose the minority candidate's resume, which proves that applying a nudge did not significantly impact their decision-making. It is important to note that most of the participants (37.8%) were Black or African American, which could have contributed to their choosing a minority or Black candidate. However, further analysis showed that the results are similar among other racial groups. In particular, the study showed the following results of participants' choices of the candidate within their respective racial group: out of 51 Black or African American participants, 15 (29.4%) chose Resume 1 – Patrick Smith and 36 (70.6%) chose Resume 2 – Jamal Aneke; out of 38 White participants, 12 (31.6%) chose Resume 1 – Patrick Smith and 26 (68.4%) chose Jamal Aneke; out of 36 Hispanic or Latino participants, 7 (19.4%) chose Resume 1 – Patrick Smith and 29 (80.6%) chose Resume 2 – Jamal Aneke; out of 8 Multiracial participants, 2 (25%) chose Resume 1 – Patrick Smith and 6 (75%) chose Resume 2 – Jamal Aneke; and out of 2 Asian or Pacific Islander

participants, 1 (50%) chose Resume 1 – Patrick Smith and 1 (50%) chose Resume 2 – Jamal Aneke.

There is an opportunity for future studies to replicate this experiment using a larger sample group and potentially apply some criteria on the racial composition of the participant's pool to examine whether results would differ in a setting where Black or African American participants don't represent the majority of the participant pool. It would be critical to understand whether the composition of the participant pool with Black of African American participants representing the majority had a significant effect on the study results and served as a impactful factor in the final study conclusion.

Gender Group Results Analysis

The study shows that irrespective of gender, the majority of the participants, 47 (70.1%) men and 51 (75%) women, chose the minority candidate. However, it is worth noting that the study was run using photos of only male candidates. Hence, the question remains whether using photos of female candidates from different racial groups would have changed the results in any way. There is an opportunity for future studies to expand on the study candidate pool and run the experiment using pairs of 2 female resumes and a mixed couple of female and male resumes. Moreover, it is also possible to experiment with a mixed couple of candidates and test the hypothesis using a male minority candidate resume and a female non-minority candidate resume, and a female minority candidate resume and a male non-minority candidate resume to examine whether a particular combination of a racial and gender belonging might have an impact on the effect of the nudge and the final resume choice. Like the resulting breakdown across racial groups, gender groups tend to lean towards a minority candidate's resume

preference. The analysis shows that participants primarily chose the minority candidate's resume irrespective of being assigned to a control or nudge group across both gender groups.

To conclude, this study did not support the initial hypothesis that through the application of nudging, people can be influenced to make bias-free decisions, which would provide racial minority candidates with equal opportunities in the workplace. Particularly, signing a non-discrimination statement before making a decision did not significantly impact choosing a minority candidate over a majority candidate. Furthermore, unlike other nudge studies have shown, the application of this debiasing technique did not skew the choice preference of the participants towards the minority candidate. What was more interesting was that most applicants chose a minority candidate irrespective of their experimental group and irrespective of gender and racial group belonging.

Research Limitations

The limitations of this study should also be acknowledged. Therefore, three main limitations need to be considered when analyzing the study results.

First, tendency to relate to and like a person similar to oneself might come into play if both the recruiter and the potential candidate are from the same racial group (i.e., a Black or African American recruiter making a choice towards a Black or African American candidate based on the ethnicity group belonging, not on professional merit) (Nickerson, 1998). As the study demographic statistics show, most respondents were Black or African American, which could have skewed the results. People tend to like

people who are like them (Bradford & Welch, 1996), which could have played a significant role in the decision-making process, which might have potentially derived from the focus of the study.

Second, participants were chosen using the Prolific platform and not recruited from a Recruiting/Talent department of a company/private equity firm. The assumption is that they did not necessarily possess relevant skills in assessing resumes against the job specification. Therefore, despite being chosen based on their basic exposure and understanding of the business world and passing the minimal education requirements, some participants could not have read the job description correctly and identified the right fit with the candidate profile based on the requirements. Additionally, there is a significant difference between real life assessment done by employees fulfilling their job responsibilities as opposed to randomly recruited study participants on Prolific. Specifically, stakes of mistakes are higher for employees, as their job performance often depends on the quality of hiring decisions that they make. For example, the composition of the team as well as the impact of new hires brought on that team can affect the team's, and as a result, company's performance, and also have a further impact on company's financial performance (McKinsey & Company, 2020). Many private company employees have their compensation incentives tied to the company performance and equity stakes in the company. Therefore, hiring decisions and adding new members to the team can indirectly affect each employee's bonus and compensation package. Therefore, it is likely that corporate recruiters would be more scrupulous and attentive in their assessment, were it to take place in real life, as compared to Prolific study participants who engage in a simulation exercise and don't have much invested interest in the process aside from a

one-time small monetary incentive for the study participation. This difference could have potentially created a limitation for the study and as a result affected the findings and results of the survey.

Third, one of the goals of the study design was to take the participants' attention away from the focus on the racial belonging of the candidates and instead make them focus on another, unrelated, artificially made-up topic of the study. For that reason, at the beginning of the study, participants were made aware of the purpose of the study, which stated that it was aimed at understanding how people in the corporate world make decisions on choosing one job applicant over the other, and whether the formatting of the resume plays a role in that decision. However, there has been a lot of public attention drawn to the Black Lives Matter movement and anti-discriminatory initiatives in the corporate world lately. Many company CEOs and management team members expressed their opinions about the importance of the need to place the focus of modern corporate world on the issues of discrimination in the workplace and shared the racial make-up of their workforces and action plans for hiring and retaining more employees from underrepresented groups (Hunter, 2021). A survey from JUST (Feloni & George, 2020) found that the majority of Americans either favored or strongly favored CEOs responding to the protests with a statement about ending police violence (84%), promoting peaceful protest (84%), elevating diversity and inclusion in the workplace (78%), condemning racial inequity (75%), and condemning police killings of unarmed Black people (73%).

Many international corporations and conglomerates took a strong stance and reacted to the matter with vocal response about changing the way they used to approach diversity and inclusion issues internally and promised to shift the way the matter was

viewed within the company overall. For many, these changes came along with significant investment of resources and personnel efforts, as changing old ways for new ones is never an easy task. For example, the CEO of Sephora, a multinational retailer of personal care and beauty products, issued a statement committing to stand alongside the Black Lives Matter movement and closed its retail stores for a two-hour company-wide training on racial bias (Rougeout, 2020). Following an example of Sephora and some other CPG companies, Glossier, a skincare and makeup company, posted a statement on Instagram committing to stand in solidarity with Black communities and the Black Lives Matter movement (Glossier, 2020). It also committed to donating $1 million to Black-owned beauty businesses and organizations addressing racial injustice. Another example is an American prepared food ordering and delivery platform Grubhub, that committed to donating money to anti-racist groups with an aim to end unequal treatment of minority racial groups (Maloney, 2020). The CEO of another food, snack and beverage behemoth, PepsiCo, also announced a five-year, $400 million initiative to increase the representation of Black or African American managers in the company by 30% and increase business with Black-owned suppliers by 200% (Laguarta, 2020). CEOs and management teams across sectors and industries made public announcements about the initiatives supporting steps towards increased diversity and inclusion efforts within their organizations. As such, another corporate e-commerce, cloud computing, digital streaming, and artificial intelligence giant, Amazon, announced a $10-million donation to organizations supporting the fight against systemic racism and injustice (Amazon, 2020). Financial services industry also followed the movement with big players, such as BlackRock, the world's largest asset management firm, announcing that it too would get an independent

audit of its racial equity and inclusion (Kishan, 2021). Another heavyweight of the financial services world, Bank of America, announced a $1 billion, four-year commitment to strengthen economic opportunities in communities of color (Bank of America, 2020). Consumer sector also did not stay away from the trend and dove into the new movement: Airbnb, an online marketplace for lodging, primarily homestays for vacation rentals, and tourism activities, launched an initiative called Project Lighthouse aimed at increasing the efforts within the company to investigate and prevent discrimination on its platform through new policies (Airbnb, 2020). Comcast, a consumer cable television, internet, telephone, and wireless services provider, committed $100 million toward diversity and inclusion initiatives, including partnerships with civil rights organizations, increased attention to internal D&I hiring and training efforts, and a focus on Black creators and issues of racial inequity across its media platforms (Feiner, 2020). Another example of a consumer company supporting the diversity and inclusion efforts is Netflix, a subscription streaming service and production company, announced that the company would put 2% of its cash holdings into financial institutions and organizations to directly support Black communities in the U.S.

While the beforementioned efforts of the companies to participate in racial justice initiatives show good intent, corporate support of these initiatives might not be purely altruistic. According to a survey, 60% of the U.S. population say that the way a company or a brand responds to racial justice initiatives would influence whether they would support the brand in the future (Smith, 2021). This type of social pressure certainly creates an atmosphere of public awareness of the matter and could have also potentially impacted the way participants in this study were assessing the resumes. Particularly,

given the rising awareness of the public of workplace racial discrimination, participants could have focused on choosing the minority candidate, which could have taken away from the effect of nudging that the study intended to measure. In addition, being exposed to many news sources and media streams promoting social and racial equality, participants could have been primed (Bargh, 2006) and subconsciously encouraged to decide on a minority candidate.

Conclusion

In conclusion, the current study was designed to assess the relation between an application of nudging and preference for a minority candidate resume choice between two equally merited resumes. The results suggest that participants were not affected by the exposure to nudge irrespective of gender or belonging to a racial group. Furthermore, the experimental group did not show a higher number of choices towards the minority candidate resume than the control group. Important to note that current research had a number of limitations, such as the racial composition of the participant group, professional background, required skillset to assess resumes against a job description properly, and potential diversity priming.

There are a number of research limitations that could have potentially made an impact on the study results and affected the final outcome. For instance, given that the majority of respondents were Black or African American, results could have been skewed towards minority candidate preference as an indication of the same racial group belonging. Moreover, the nature of participants' recruiting through a Prolific platform rather than recruiting them directly from a talent/HR department of a company could have negatively affected the seriousness and diligence with which respondents

approached the survey. Furthermore, the current media and social focus and attention on BLM movements and need for more diversity and inclusion in organizations could have made an impact on the respondents' thinking and encouraged them to make a decision towards a minority candidate.

That said, putting research limitations aside, the study results provide us with hope that modern society is on its way to change and accept the importance of racial equality both in corporate and everyday settings. Not only is the focus on diversity a right thing to do, but it actually provides companies access to broader pool of candidates, not just the talent that belongs to a particular world view or ethnicity or some other restricting definition. A survey from Glassdoor (2020) points out that more than three in four employees and job seekers, or 76% of respondents, report a diverse workforce is an important factor when evaluating companies and job offers. The fact that the vast majority of respondents value and assess their potential future employer based on the diversity statistic, sends a loud and clear message to the corporate world, that diversity in the workplace is important and can serve as a beneficial factor to attracting best talent in the market. What is more, on the other hand, lack of diversity can be a detrimental factor that could isolate the organization from talented jobseekers. Glassdoor survey (2020) also states that about one in three employees and job seekers, or 32% of respondents, would not apply to a job at a company where there is lack of diversity among its workforces. "Many companies have been making commitments around D&I in recent months, but now job seekers and employees want to see action and real change from employers," said Glassdoor Chief People Officer, Carina Cortez (Glassdoor, 2020).

Furthermore, diversity in the workplace can positively affect enterprise-customer relationship as it could allow to properly address and empathize with a more diverse customer population through application of more innovative and creative solutions (Shemla, 2018). According to Josh Bersin's research (2019), inclusive companies are 1.7 times more likely to be innovation leaders in their market. Diverse workplace creates an atmosphere that accepts different points of view and perspectives, which can pave the path to creative, out-of-box solutions and innovative ways to approach problems and find solutions.

Moreover, diversity is directly linked to productivity. Research by McKinsey & Co. (2015) found that diversifying a team can boost its productivity by 35%. A diverse workforce is more likely to understand a diverse customer base better and come up with solutions to address certain matters. The study underscores that diversity in the workplace can also lift the employee morale and motivate employees to be more effective in their roles.

To summarize, all these initiatives and efforts taking place in the corporate settings right now give the world optimism about the state of the workforce of the future and the presence of multicultural, diverse groups of employees working together towards a coming goal. That said, it is known that change, especially such radical and drastic change, takes a lot of time and can be met with obstacles and hardships on the way. However, it seems that society is trending in the right direction, which is a positive and promising sign, and there is hope that if the current efforts continue across different sectors and industries, we will get to operate in diverse corporate settings in the future. There is certainly a huge opportunity for researchers to continue to expand their research

to examine factors that influence decision-making in the corporate world and seek alternative ways to impact and influence the current state of things through application of psychological tools and techniques.

Appendix 1.

Non-discriminatory Statement

I hereby confirm does not and shall not discriminate on the basis of race, color, religion (creed), gender, gender expression, age, national origin (ancestry), disability, marital status, sexual orientation, or military status in any of its activities or operations.

Name: _____ Date: _____

Appendix 2.

Demographic Questionnaire

Age (or birth date)

Age is one of the most common demographic questions asked in surveys. Therefore, how old a person is will often determine their knowledge and experience with the focus of the study.

Q. **Age:** What is your age?

- Under 12 years old
- 12-17 years old
- 18-24 years old
- 25-34 years old
- 35-44 years old
- 45-54 years old
- 55-64 years old
- 65-74 years old
- 75 years or older

Ethnicity

Capturing a respondent's ethnicity or race is another common demographic question. A person's ethnicity or culture may influence their responses to survey questions. In addition, answers may be influenced by the respondents' experiences with the survey topic.

Q. **Ethnic origin:** Please specify your ethnicity.

- White
- Hispanic or Latino
- Black or African American
- Native American or American Indian
- Asian / Pacific Islander
- Other

Education

Asking a respondent what their highest level of education completed is often found on surveys. Respondents who completed a four-year degree at a college or university may answer questions differently than those whose education ended in high school.

Q. **Education:** What is the highest degree or level of school you have completed? *If currently enrolled, highest degree received.*

- No schooling completed
- Nursery school to 8th grade
- Some high school, no diploma
- High school graduate, diploma, or the equivalent (for example, GED)
- Some college credit, no degree
- Trade/technical/vocational training
- Associate degree
- Bachelor's degree
- Master's degree
- Professional degree
- Doctorate degree

Appendix 3.

Job Description

JOB DESCRIPTION

About Nemean Capital

- Founded in 2011, Nemean Capital is a private equity firm that dedicates its capital and operating resources to growing SaaS, enterprise software, media, telecom, and technology-enabled services companies to help them achieve growth.
- The team consists of individuals with significant experience in investment banking, private equity, strategy consulting, enterprise software, and broader TMT (technology, media, and telecom) sectors.
- The firm's investment criteria focus is on companies at a scale of $20 million to $200 million with gross margins greater than 40%.
- The firm was established in Austin, TX, and currently has a presence in Austin, TX, Charlotte, NC, San Francisco, CA, and Seattle, WA.

Nemean Capital is looking to hire a Vice President, Technology Investments, who will focus predominately on developing and maintaining the firm's relationships on the West Coast.

The ideal candidate can be based in San Francisco, CA, or Seattle, WA.

The Candidate:

An ideal candidate will have the following qualifications:

- ~10-12 years of professional experience
- Currently serve at a Vice President or Senior Vice President level at a private equity firm
- At least five years of investment banking or strategy consulting experience
- Primary experience and expertise with originations in buyout, growth equity, structured equity, mezzanine debt, or other junior capital solutions
- Exposure to companies in technology, media, or telecom sectors

- Track record of success in generating new business opportunities in Nemean Capital's target market
- Bachelor's degree in Economics or Finance field; graduate degree is a plus

Specifically, an ideal candidate will have:

- Exceptional presentation, verbal and written skills, and the ability to represent Nemean Capital externally and internally
- Outstanding interpersonal skills, a strong presence, and the ability to make an impact at all levels of the organization and to prioritize responsibilities
- A leadership style that establishes buy-in and facilitates teamwork and broad-based cooperation
- Self-starter with the ability to work in an entrepreneurial yet collegial environment
- Superior academic achievement, as well as outstanding interpersonal and leadership capabilities

Culture Fit to Nemean Capital:

- A relentless pursuer of goals and constructive responder to challenging new ideas and inputs with an appetite to dive into an issue in depth
- A sharp and objective intellect; ability to manage complex problems and to work through influence as well as authority
- Resilient, energetic, and enthusiastic; able to cope effectively with sustained pressure while responding constructively to challenging new ideas and inputs
- A well-rounded financial executive with a broader business perspective and a friendly, pro-active approach to issues coupled with a well-balanced sense of humor
- Bright, polished, and facile; a quick study who can think creatively and effectively challenge existing practices
- Organizationally astute; knows how to effectively utilize the resources of a complex corporate structure without losing an orientation towards action and a sense of urgency

Appendix 4.

Candidate Resumes

Jamal Aneke – Resume 1

Jamal Aneke
Seattle, WA
janeke3467@gmail.com
+1 917 278 2210

Summit Partners, Seattle, WA **2017 - Present**

Summit Partners is a global growth equity firm with the focus on fixed income and public equity opportunities in technology and healthcare.

Vice President; Senior Vice President (promoted in 2021), Technology, Media and Telecom

- Led the firm's investing with the focus on buyouts, growth equity, recaps, and consolidations in the technology, healthcare information technology, and business services sectors
- Closed deals: 3 platforms (pending: 1 platform) / 2 add-ons / 2 exits
- Engaged in all aspects of deal origination, execution, and post-investment value creation
- *Origination:* Identifying, cold-calling, and building relationships with intermediaries and CEOs/CFOs
- *Due Diligence*: Conducting diligence meetings, building detailed operating models, researching industry trends, performing salesforce economics, customer lifetime value and market sizing analyses, interviewing customers and industry experts, managing 3rd party advisors, negotiating documentation
- *Portfolio Management:* Board member for two companies. Collaborating with portfolio management teams on an ongoing basis for buy/sell-side M&A and to evaluate strategic growth opportunities

TA Associates, New York, NY **2015 - 2017**

TA Associates is a private equity firm leads buyouts and minority recapitalizations of profitable growth companies.

Vice President, Technology Group

- Responsible for deal-sourcing, new investment activity, and portfolio company oversight
- Board observer for Blacksirius Methods, BHG and LogicMax
- Assist in deal sourcing efforts and thesis-driven industry research
- Lead transaction due diligence and manage third-party advisors (accountants, technology, lenders)
- Oversee operational and strategic initiatives at portfolio companies, including M&A, budgeting, and post-acquisition integration

McKinsey & Company, New York, NY **2011 - 2013**
McKinsey & Company is an American worldwide management consulting firm.

Engagement Manager, Technology Group

- Developed investment business cases to demonstrate financial return of deals and forecast resources necessary for growth of the acquired business, including transitioned personnel and technology; perform scenario analyses to aid negotiation of deal valuation, structure, and terms; map financial statements from target to client accounts.

Goldman Sachs, San Francisco, CA **2008 - 2010**
Goldman Sachs is an American multinational investment bank and financial services company.

Summer Analyst; Analyst; Associate, Investment Banking

- Performed industry and financial analysis to prepare discussion materials (involved in 30+ pitches)
- Formulated marketing materials (e.g. teasers, information memorandums, buyer lists and management presentations)
- Sourced potential new clients through company screens and direct contact with senior management of growth companies
- Established group perspective, master databases and additional initiatives
- Led firmwide initiative to evaluate and select financial information vendor (Capital IQ vs. FactSet)

Education

- **Harvard University, Business School** **2015**
  MBA
  - Harvard Finance Club, Co-President
- **Stanford University** **2008**
  BS, Economics (full academic scholarship)
  - Rowing Team, Varsity

Jamal Aneke – Resume 2

Jamal Aneke
San Francisco, CA
janeke3467@gmail.com
+1 917 278 2210

Career History

Susquehanna Growth Equity, Vice President **2017 - Present**

Susquehanna Growth Equity is a private equity and venture capital firm focused on growth and expansion-stage companies. The firm primarily invests in software and tech-enabled businesses in North America, Israel, and Western Europe.

San Francisco, CA

- Identified, executed, and managed direct investments across lower middle-market software and tech-enabled services
- Involved in all aspects of transaction execution and portfolio management, including financial modelling and analysis, business and market diligence, debt sourcing and negotiation, legal documentation, and investment committee materials
- Evaluated and presented investment opportunities to senior partners

Selected Transaction Experience:

- Project Healthcare – leading practice management solution for specialty dental offices with ~$10 million revenue
- Project Homebuilder – largest tech-enabled provider of third-party quality assurance inspections with ~$15 million revenue

Deutsche Bank, Vice President, Investment Banking **2015 - 2017**

Deutsche Bank is a German multinational investment bank and financial services company headquartered in Frankfurt, Germany, and dual-listed on the Frankfurt Stock Exchange and the New York Stock Exchange.

San Francisco, CA

- Led business development efforts, performed various financial valuation methodologies, researched technology sectors to educate senior partners, and managed a team of three analysts in a newly formed Investment Bank focused on early-stage internet, software, and semiconductor firms.
- Completed $1+ billion in transactions during tenure, advising clients on mergers and acquisitions, equity raises, debt placements, and strategic alternatives • Ranked in top-tier bonus bucket among peers and received an offer of promotion to Associate.

Credit Suisse, Associate, Investment Banking **2011 - 2013**

Credit Suisse a global wealth manager, investment bank and financial services firm founded in Switzerland.

San Francisco, CA

- Developed investment business cases to demonstrate financial return of deals and forecast resources necessary for growth of the acquired business, including transitioned personnel and technology; perform scenario analyses to aid negotiation of deal valuation, structure, and terms; map financial statements from target to client accounts.

Morgan Stanley, Associate, Investment Banking **2008-2010**

Morgan Stanley is an American multinational investment bank and financial services company.

New York, NY

- Selected deals evaluated: $3B acquisition of a consumer internet company, $800M rescue financing for satellite radio company, and $400M sale of a publishing company

Education

Columbia University, School of Engineering and Applied Science
2014

- Master of Science, Computer Science

Harvard University
2007

- Bachelor of Finance, 3.9 GPA

Patrick Smith – Resume 1

Patrick Smith
Seattle, WA
Pat.j.smith@yahoo.com
+1 917 278 2210

Summit Partners, Seattle, WA **2017 - Present**

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Vice President; Senior Vice President (promoted in 2021), Technology, Media and Telecom

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- **Stanford University** **2008**
  BS, Economics (full academic scholarship)
  - Rowing Team, Varsity

Patrick Smith – Resume 2

Patrick Smith
San Francisco, CA
Pat.j.smith@yahoo.com
+1 917 278 2210

Career History

Susquehanna Growth Equity, Vice President **2017 - Present**
Susquehanna Growth Equity is a private equity and venture capital firm focused on growth and expansion-stage companies. The firm primarily invests in software and tech-enabled businesses in North America, Israel, and Western Europe.
San Francisco, CA

- Identified, executed, and managed direct investments across lower middle-market software and tech-enabled services
- Involved in all aspects of transaction execution and portfolio management, including financial modelling and analysis, business and market diligence, debt sourcing and negotiation, legal documentation, and investment committee materials
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- Master of Science, Computer Science

Harvard University
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- Bachelor of Finance, 3.9 GPA

Appendix 5.

Candidate Photos



(Serebrina, 2020)



Fizkes (2020)

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