The Impact of Linguistic Exclusion on Corporate Hiring Decisions

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ABSTRACT
This paper explores the role of media, particularly, the quality of media content, in the formation of social prejudice against a group. Firstly, we try to explain the reasons behind social discrimination (usually conducted by 'haves') against marginalized groups ('have nots' of the society) using the theories from behavioral economics. Secondly, we come up with a simple probability model to frame the negative impact of linguistic exclusion by media (discriminatory media content) on corporate hiring decisions. Lastly we conclude with a discussion on economic losses due to the discriminatory practices while hiring employees in such institutions.

KEYWORDS: heuristics, linguistic exclusion, social categorisation, stereotype threat

1. Introduction

Media is a social domain where a 'notion' turns into a 'social belief/opinion'. It's where legitimacy of opinions is fabricated and then injected into a social psychology. As per the conclusions drawn by Uysal Ahmet in his study of Turkey's media in 2009[1], the ideological and material interests of journalists play a significant role in shaping their attitudes towards a novel social notion. He observed that the framing of social issues such as environmental movement which are in direct conflict with the material interests of Turkish media platform(Media content developer) showed a cautious hesitation whereas the idea of feminism which does not involve material conflicts, was fully supported by them. Thus beliefs and material interests of media content developers are at the roots of social perception/beliefs and their words are strong enough to bring a social change (both positive and negative).

In the June 27th, 2011 edition of U.S daily newspaper "Vest" an article titled "Junkies drink methadone in a bus" was published. The methadone therapy centre (Centres for Prevention and Treatment of Drug) was repeatedly referred to as "Day centers for junkies". The journalist had refrained from using 'patient" for persons on methadone therapy and used junkies and nacre-addicts throughout the text. The repeated use of the discriminatory term "junky" presents the 'patients' in a negative light and nourishes the existing social fear against drug-abuse patients[2].

The linguistic and rhetorical discrimination in the form of use of derogatory, offensive, humiliating and abusive words against a particular group or a person masks the real culprit for discrimination and exposes the victimized group or a person to consequent discriminatory practices. The linguistic exclusion of a marginalized group updates the social perception about that group and hence the existing social gap between haves and have-nots widens. It initiates a never ending cycle of discrimination. A person acts on its prejudice against a social group (usually marginalized social group) and discriminate once the discriminatory media content (linguistic exclusion of a particular group/ person) legitimizes its prejudice.

We use statistical modeling to explain how linguistic exclusion can result in discrimination in corporate hiring decisions. The haves are people from White race and have-nots belong to Black race. The hiring decision is modeled as a function of media content. We will show that the probability of Black being hired is directly proportional to the quality of the media content. So if a bad quality (discriminatory) content is floated in the society then the have-nots are further marginalized resulting in a loop of discrimination and social marginalization.
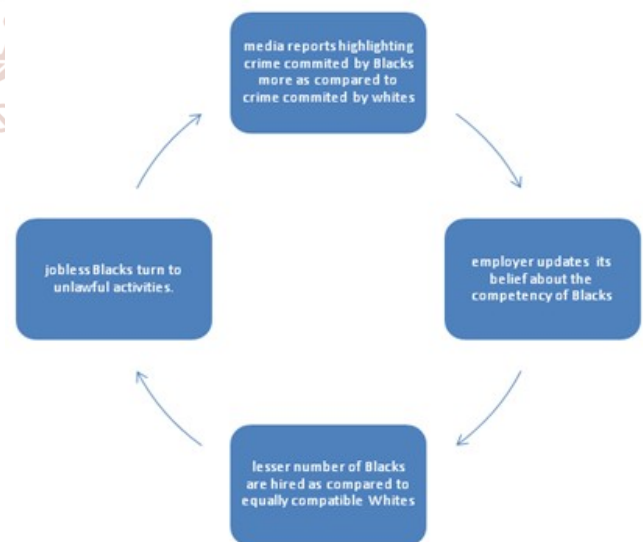
Figure1 Loop of Discrimination and Continuous Marginalisation

2. Social Discrimination-Answers lying in Social categorisation and Social Heuristics

Human processes the complexities of the world using *social categorization* and *social heuristics*. Just as we categorize things into groups based on some commonalities (furniture,

vehicles, jewellery etc.) we also have a spontaneous tendency to categorise a person we meet into a category- man or woman, Black or White, Hindu or Muslim, young or old, able bodied or disabled et cetera. Social categorisation is informative and useful as a heuristic (mental shortcuts) only when the stereotype about a social group is accurate. Being lost in a city can be avoided if a person acts upon its stereotype about a policeman (ask him about the directions) that is a policeman is a social category which ought to have a knowledge about the city but if a policeman is clueless about the city routes than use of this stereotype as a heuristic is uninformative. In experimental studies done by Tajfel and Wilkes (1963)[3] and Patricia Linville and Edward Jones(1980)[4] it was observed that humans have a tendency to see more similarities among people belonging to a same group and more differences among different social categories/groups. In other words, we humans experience *out-group homogeneity*-tendency to perceive more similarities among out-group members than we see in the in-group members (the group we think we belong to). Thus we are prone to exhibit *out-group bias* -negative categorisations, feelings or notions about people from an outgroup. Even when new information (through media, books or other communication means) are floated in the social arena human usually picks up those which either hardened the existing social categorisation and related beliefs or do not challenge the *schemata*. (the general principle of assimilation-world is perceived in a way to fit our existing beliefs; changes in beliefs fit to reality is difficult). "*When we see members of social groups perform behaviors, we tend to better remember information that confirms our stereotypes than we remember information that disconfirms our stereotypes*" (Fyock and Stangor, 1994) [5].

Let's try to understand the differences between how we ought to (Bayesian updating of beliefs once a new piece of information surfaced) and how we usually process the available and new information. Once we are exposed to novel set of information we make judgements not by actually computing probabilities and utilities but by following heuristics- a rule of thumb or mental shortcut that can be used while making a decision or forming a judgement. Though heuristic reduces the time and effort required to solve everyday problems, the consistent application of heuristics often leads to bias.

Let two cab companies operate in a city- Blue colour cabs (10 percent operability) (let it be event A) and Green colour cabs (90 percent operability)(event A^c). One of these two is involved in a hit-and-run case. Luckily there is an eye witness whose accuracy of identifying the colour of the car is 80 percent i.e out of 100 times he was able to identify 80 times the colour of the car shown correctly. He makes his statement that the car involved in a crime had blue colour. What is the probability that the witness is right (i.e. the colour of the car was in fact blue)?

Most of us will say that there is a high probability that witness is correct (witness claims the color of the car to be blue/green given that the actual color of the car was blue/green) since witness is highly accurate (80 times out of 100).

Let's try some statistics! Using Bayes' Theorem the conditional probability the cab being blue (A) on the statement of the witness (B) is the following:

P (A|B) = P(the cab is blue| the eye witness says the colour is blue) = (0.8*0.1)/(0.8*0.1+0.2*0.90) =0.31

Notice that in spite of the fact that the witness is very reliable; the cab that was involved in the accident was more likely to be green colour than blue.

The source of the mistake committed in such cases is the *base rate fallacy or base-rate neglect fallacy.* The base rate (number of green/ blue colour cars in a city, number of terrorists from a social group/ in a population) is often not properly accounted while making presumptions. Let us assume that in a city of 10 million at a given point of time only 10 are terrorists. The competency rate of police officers is 99 percent. The probability that somebody who has been identified as a terrorist is in fact a terrorist is not remotely equal to the accuracy of the police officer's assessments but it is often mistaken to be nearly 99 percent. In this case we failed to account a near zero probability of terrorists in a city population (base rate). What can explain this fallacy? The answer lies in the *availability heuristics.*

When we rely on availability heuristics we assess the probability of some event occurring by the ease with which the event comes to the mind i.e. X is more likely than Y if X comes to mind more easily than Y. It explains why there is mass hysteria about airplane crashes, terrorist attacks, nuclear radiation leaks and hate crimes against a community shortly after the occurrence of such events as they come to mind particularly easily. Stories have the power to communicate information to the masses but they can also bring harm. A broadcast story about a Black committing a heinous crime can generate a strong sentiments in spite of the fact that vicious criminals from both White and Black races are there in the society.

In the hit-and-run case even if we know that witness can be incorrect i.e. 80 percent accuracy does not necessarily means that the colour of the car was that what witness is claiming to be, there is a strong likelihood that the cases of witness being correct will come to mind easily as compared to the cases when witness was incorrect.

3. Corporate Hiring Decision and Media Content- A Statistical Model

A media firm produces two products- *content* (news or entertainment content) and *audiences* (it can be packaged, priced and sold to advertisers). The content is not only a commercial good but also 'cultural 'good'that is tied up with information or 'messages' (quality). It doesn't get used up or destroyed in the act of consumption (non-rival nature). Once created it can be replicated at minimal cost i.e one news article can be reused on various media platforms.Thus media content has a high fixed production cost but near zero replication cost. The revenue of the media firm is coming from the advertisement fees paid by advertisers. The quality of the content will determine the *audiences* which will ensure the positive flow of revenue from the advertisers.

We assume a space where there exists a single media platform acting as a monopoly (media firm). Let the quality of the media content being captured by the continuous variable θ such that $\theta_L<\theta<\theta_H$. If a quality of the media content is below θ_L it will lose all its audience. The media content is considered discriminatory (use of linguistic exclusion against a social group/person) if it lies between

θ_L and θ_0 (cutoff quality varies from society to society). The lower the quality of the media content higher the level of linguistic exclusion (higher the degree of discrimination). As discussed before the quality of the media content is majorly influenced by the materialist and ideological beliefs of the content developer. The schemata and biases of the content developer will be reflected in the quality of the content.

In our set up there are two social categories based upon race- Blacks (socially marginalised group) and Whites (socially privileged group). An employer has some beliefs about the quality of members of these two social categories captured by a variable β_{ij}.

β_{ij} =the probability that member of the ith group is of low quality= prejudice of jth employer against a social group

$\beta_{ij} = f(\theta)= 1/\theta_H - \theta_L$ i=Blacks, Whites j=1.....n employers

In other words, it expresses the belief of an employer about the quality of a member of the out-group. The major source of information and 'facts' now days is media (especially social media). That is why β_{ij} is taken as univariate function (uniform distribution over θ) of quality of media content. There is a negative relation between social prejudice/ individual negative belief about a social group(category) of jth employer and the media content quality i.e. as the media content becomes more and more discriminatory towards a particular social group/ category the social prejudice deepens.

If $\theta_L < \theta < \theta_0$ i.e content quality is discriminatory then
$\beta_{ij} = f(\theta) = 1/(\theta_0 - \theta)$ (1)

If $\theta_0 < \theta < \theta_H$ i.e. content quality is not discriminatory then
$\beta_{ij} = f(x;) = 1/(\theta - \theta_0)$ (2)

Let the probability of a member belonging to i^{th} social category being successful in a job interview when interviewed by j^{th} employer be denoted by Pij (selection) = f $(\alpha_{i,ij})$. It is a joint probability function of two independent variables α_i and β_{ij} (negative belief about a social group/ prejudice) where α_i is a catchall variable which captures all other factors affecting the hiring outcome of a member of ith social category. For our purpose we are assuming that α_i is a constant for both the categories i.e $\alpha_{black} = \alpha_{white} = \alpha$. We also assume that P_{ij}(selection) follows a normal distribution. Considering the case when media content is discriminatory against group i,

P_{ij}(selection)= f(α, β_{ij})=f $(\alpha, 1/(\theta_0 - \theta))= \alpha^*$ $[1/(2\pi)^{0.5}\sigma]$ $[e^{-(1/2^*\{(\beta-\mu)^2/\sigma^2\}}]$ (3)

Where σ and μ are standard deviation and mean for β_{ij} respectively. Mean of β_{ij} is defined as prejudice against social group i , averaged over all j employers i.e. it's a social prejudice against i^{th} group. Standard deviation of β_{ij} tells us about how much individual employer's prejudice differs from social prejudice. Taking logarithms on both sides of the equation 3

ln P_{ij}(selection)=lnα+ln 1-lnσ-0.5 ln 2π- [{1/(2σ^2)}* $(\beta_{ij}-\mu)^2$] (4)

Taking a first order partial differentiation with respect to β_{ij}, we get
∂ ln P_{ij}/ $\partial \beta_{ij}$ = -$(\beta_{ij}-\mu)/\sigma^2$ (5)

$\partial P_{ij}/\partial \beta_{ij}$ = -{P_{ij}* $(\beta_{ij}-\mu)/\sigma^2$} (6)

Since P_{ij} >0 and σ^2>0 (probability and variance are non negative numbers) therefore by equation 6 it can be inferred that the partial rate of change in probability of member from i^{th} group being successful in a job interview when interviewed by j^{th} employer is a decreasing function of probability of member from i^{th} group being perceived as of bad quality by the jth employer provided that the individual prejudice of jth employer is deeper than social prejudice i.e. ∂

$\partial P_{ij}/\partial \beta_{ij} < 0 => P_{ij} \propto (1/\beta_{ij})$ (7)

We know that β_{ij} is inversely proportional to (media content quality)

i.e. $\beta_{ij} \propto (1/\theta)$ (8)

Combining (7) and (8) we get
$P_{ij} \propto \theta$ (9)

I.e. the probability of member from i^{th} group being successful in a job interview when interviewed by j^{th} employer is directly proportional to the quality of the media content. Hence, lower the quality of the media content (more discriminatory media content) lower is the chance for i^{th} group member being selected by a jth employer.

4. Prejudice-Stereotype-Discrimination Threats and Social Losses
In a study done by Claude Steele and Joshua Aronson(1995)[6] it was found that the lower academic performance of Black Students on standardized tests as compared to White students was due to the negative expectation and fear created by stereotypes against Blacks- "Blacks are intellectually inferior to Whites". When the students were asked to indicate their races before taking the math test Black students tend to perform poorer than White students. In literature this negative effect of stereotype is known as *stereotype threat.* In a similar study done by Brown et al (2003)[7] it was found that children with low socioeconomic status perform poorly in comparison to students from high socioeconomic status.

Social prejudice-Stereotype- Social Discrimination brings welfare losses to a society. They reduce the social productivity and increase the dead -weight losses. Overall they are a costly business. In 1974, economists James Gartner and Charles Haworth in order to explore impact of discrimination on firm's profits and performance investigated the recruitment process for baseball teams during late 1950s[8]. They found that those teams who avoided racial discrimination gained a competitve advantage over those teams who chose to racially segregate. 'Low-discriminating' teams performed better than 'high-discriminating' teams in following three aspects- quality of players, attendance of the team members, winning the games.

Thus social discrimination against marginalised groups cripples employers ability to recruit genuine talents,

decrease retention rates, introduces turnover-related costs, stifles job performance and producitivity and limit access to consumer markets.In a real world experiment conducted by officials in Minnesota over how to nudge tax compliance an interesting result was found- the tax compliance rate increases for that group which was told that more than 90 percent of Minnesota already complied,in full. Clearly some taxpayers violate tax laws because of misperception based on the availability of media or other cheaters-that level of compliance is quite low. Humans are prone to social compliances and herd behaviour. The desirable social behavioral changes can be more effectively executed if media uses positive, injunctive norm rather than negative, informational one. Thus instead of focussing more on wrongdoings of handful members of certain social group it should highlight achievements of already marginalized social group.

5. Conclusion

Media is an impactful tool through which changes in social ideas, social attitudes/behaviour and social relations can be achieved in no time. On one hand it's a voice of society and on the other hand it also stimulates the novelty into the society. It's a double edged sword which if not used judiciously will definitely cause social crisis.

There is a rich literature on the role of the media in building the social beliefs. In this paper, we have reviewed some of the literature and presented the theory of linguistic exclusion and heuristics. We have also used simple statistics to show the impact of any media content on the updation of social beliefs and then we have developed a model to show how the content presented by the media to the public affect the social beliefs and then affect the hiring decisions of the corporates. The model explains how the content shown by media leads to the discrimination by corporates in hiring black citizens. We seek to do next empirical study to find out whether it supports our model or not.

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