Do birds of a feather shop together? The effects on performance of employees' similarity with one another and with customers

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Summary   Theories have suggested that employee diversity can affect business performance both as a result of customer preferences and through changes of relations within the workplace. We examine these theories with data from more than 700 retail stores employing over 70 000 individuals, matched to census data on the demographics of the community. While past theories predict that increasing the similarity between employees and customers will increase sales, we find no consistent relationship. The exception is that Asian employees appear to be most productive when many nearby residents are Asian immigrants who do not speak English. Diversity of gender and race within a store had no important effect on sales, while age diversity predicted lower sales. Copyright © 2004 John Wiley & Sons, Ltd.

Introduction

The business case for diversity rests on the assumption that customers are typically diverse and that customers prefer to deal with demographically similar salespeople. Based on this assumption, proponents of diversity often argue that employers should hire women and minorities in order to attract and understand the needs of a demographically diverse customer base. Interestingly, proponents of racial discrimination and segregation also frequently argue that customers prefer to deal with demographically similar salespeople (e.g., the case discussed in Watkins, 1997). Because such proponents of discrimination perceive the customer base as largely white and male, they have used matching customer preferences as an argument for maintaining a homogeneous workforce with a low representation of groups that have historically suffered from discrimination.

Past research on workplace diversity suggests that diversity can be either detrimental or beneficial for workgroup performance (see Williams & O'Reilly, 1998, for review). For instance, workgroup diversity is positively associated with creativity and problem-solving skills (e.g., Bantel & Jackson,

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1989; Jehn, Northcraft, & Neale, 1999) and negatively associated with cohesiveness and cooperation (Pelled, Eisenhardt, & Xin, 1999). Overall, the findings from over four decades of research are inconclusive for making a determination regarding the performance effects of diversity.

While past research has examined the effects of diversity on performance in a variety of settings ranging from top management teams (e.g., Bantel & Jackson, 1989; Knight et al., 1999) to product development teams (e.g., Pelled et al., 1999; Ancona & Caldwell, 1992), our study tests the role of diversity in a retail setting. Because employees serve customers directly we can test both sets of arguments discussed above. Using evidence from more than 700 establishments we examine how the demographic match between customers and employees affects workplace performance. We also examine how employees' racial, ethnic, gender, and age diversity affect workplace performance. The effects of diversity have been examined along a number of dimensions ranging from task-relevant dimensions such as tenure and function to demographic attributes such as gender and race (Jackson, May, & Whitney, 1995). In the present study, our focus is on easily observable attributes such as age, gender, and race diversity. In a retail setting, we believe that these readily detectable traits would be relevant to testing the employee–customer matching argument. In addition, gender, race, and age also represent underlying attitudes, values, and beliefs that influence interpersonal interactions in workgroups (Fiske, 1993) and are, therefore, especially relevant to the present research setting.

Our measure of workplace performance is an objective one of central importance to business: sales. We use rich measures of diversity along multiple dimensions. We examine a broad demographic span, with stores that have both female and male majorities as well as stores with both white and non-white majorities. To examine the employee–customer matching argument, we use census data on the demographics of potential customers in the nearby community.

Employee–customer match: the similarity-attraction argument

Several related theories suggest that the match between employee and customer demographics can improve store performance. Important examples include social identity theory (Tajfel & Turner, 1986), similarity-attraction theory (Schnieder, 1987; Jackson et al., 1991; Tsui, Egan, & O'Reilly, 1992), social-categorization theory (Hogg & Terry, 2000; Tajfel & Turner, 1986), and Becker's theory of customer discrimination (1957). In these theories, familiarity—the desire to consider similar people as holding desirable traits—and preferences to be near those one considers the 'in group' all lead to preferences for doing business with similar others.

Theories suggest that in addition to satisfying customer preference, a close match between employee and customer demographics may also improve store performance by reducing communication costs among people from the same racial, ethnic, gender, or age group. Jargon, slang, and speech patterns all vary by demographic group. Even among native English speakers, racial (Lang, 1986) and gender (Tannen, 1990) differences often make communication difficult.

A close match in demographic characteristics may also improve employees' understanding of customers' preferences (Jackson & Alvarez, 1992; Cox, 1993). Employees who are demographically similar to customers may have an easier time understanding customer preferences and how they change over time. Finally, there is some evidence to suggest that employees can also attract customers by connections within the community (Cox, 1993). That is, in many sectors (including the one we study), an employee's social ties often help bring customers to the workplace and increase sales to them.

In short, hypotheses drawn from a number of social sciences imply profit-maximizing employers may desire a workforce that is demographically similar to its potential customers. In spite of the many theories supporting this idea, the evidence for this effect is generally weak, with one important exception.

The evidence for customer discrimination is most clear for professional sports. For example, studies find that white players' baseball memorabilia sells for more than the memorabilia of similarly accomplished black players (e.g., Andersen & La Croix, 1991; Nardinelli & Simon, 1990; and Gabriel, Johnson, & Stanton, 1999, but not 1995). In addition, white basketball players attract more fans than do black players of similar quality, which presumably contributes to whites' higher pay (Kahn & Sherer, 1988). Also, professional basketball teams in cities with a higher proportion of white residents typically employ a higher proportion of white players (Burdekin & Idson, 1991). In football there is no racial wage gap, but whites earn more in cities with a high proportion of whites, and non-whites earn more in cities with a high proportion of non-whites (Kahn, 1991).

Outside of sports, the results are less convincing. The literature on marketing contains several small-scale studies that tend to find a mixture of results, with no clear pattern that sales are higher when customer and employee demographics are similar (e.g., contrast Churchill, Collins, & Strang, 1975, with Dwyer, Richard, & Shepherd, 1998).

Some evidence from other spheres indicates that 'customers'—when broadly defined—do better with demographically similar service providers. One randomized experiment indicates that students learn more when teachers are of the same race (Dee, 2001). A non-randomized study suggests patients are more involved in their care when their doctors are of the same race (Cooper-Patrick et al., 1999). The results are particularly surprising in the latter case because those patients who most care about the demographic match with their physician can often find a same-race physician.

Other studies examine employee–customer similarity but do not look at actual sales performance. For example, one important study finds that newly hired low-wage workers who have direct contact with customers are more likely to match the demographics of those customers than are new hires who have no customer contact (Holzer & Ihlanfeldt, 1998). Similarly, employers as different as federal agencies (Borjas, 1982) and restaurants (Neumark, 1996) hire workforces that approximate that of their clients (controlling for location and the demographics of the labor market). That is, employers in these studies act as if customers discriminate.

The evidence above documents two important points. First, academics have only mixed evidence that customers prefer to be served by similar others. Second, employers often act as if customers have this preference.

Despite the lack of consistent evidence, proponents of diversity routinely advocate that employers must hire a diverse workforce to attract diverse customers. Examples can be found in trade publications including those serving marketing departments (Bertagnoli, 2001), voluntary associations (Baker, 1999), restaurants (Lieberman, 1998), real estate (Liparulo, 1998), healthcare providers (Chyna, 2001), and many others.

Advocating discriminatory customer preferences as a rationale for hiring non-white workers is an ironic twist in the history of American race relations. For much of the last 300 years, proponents of segregation (not integration and diversity) have proposed that customers prefer to be served by similar others. The theories are the same, but the older proponents of segregation assumed most customers were white, while many modern proponents of diversity assume customers are racially diverse.

To test the relationship between an employee–customer demographic match on business outcomes, we propose the following.

Hypothesis 1a: There will be a positive relationship between employee–customer demographic match and store sales.

In some neighborhoods language barriers provide an additional reason for Hypothesis 1a to hold. That is, when a large number of potential customers do not speak English well, having employees who speak the customers' language is particularly likely to be valuable. Although most immigrants learn

English rather rapidly (Friedman & DiTomaso, 1996), in many cities, large immigrant enclaves contain a substantial number of people who cannot or prefer not to speak English. Thus, near immigrant enclaves, the importance of employees with a background similar to potential customers is likely to be higher.[1] This logic leads us to propose:

> *Hypothesis 1b*: The presence of Hispanic and Asian employees will have a stronger relation to sales when many Hispanics or Asians in the community speak only Spanish or an Asian language than when the Hispanics or Asians in the community also speak English.

Positive and negative customer discrimination

Among theories that imply many customers prefer service from demographically similar employees, we can distinguish between negative discrimination where people of a race avoid stores with employees of other races (no matter how few), and positive discrimination where people are attracted to stores with at least a few employees of their race (no matter how many).

With positive discrimination, customers look for at least one similar employee. In this case, stores maximize profits by having a few employees of every race. If these cases are common, we should see:

> *Hypothesis 2a*: Sales increase as each race's share rises above zero and then level off as the share gets beyond modest levels.

Negative discrimination is tightly linked to theories of status and power. Demographic traits such as race and gender are tacit reflections of status in organizations (Nkomo, 1992; Ely, 1994). Racial and gender-based inequities in organizations are reinforced and justified by stereotypes and biases that ascribe positive characteristics and therefore a higher status to whites and males (Nkomo, 1992; Heilman et al., 1989). Historically, the ideology of race-based superiority (whites as the superior race) was developed to justify the exploitation of blacks during the era of slavery (Cox, 1948). Further, inequalities based on race and gender underlie the division of labor or occupational segregation in organizations even today, with whites and males occupying most of the upper echelons of organizational hierarchies (Wharton, 1992). Based on these perspectives, biases and prejudices against blacks and perhaps Hispanics would influence customer perceptions in a retail setting as well. If negative discrimination against blacks or Hispanics is prevalent, employing even a few members of these groups could reduce sales. This possibility yields the proposal:

> *Hypothesis 2b*: Sales decrease with the presence of blacks and Hispanics, although at a decreasing rate.

Direct effect of diversity on productivity

Even if diversity does not affect business performance through customer preferences, it can still have direct productivity effects. In this section, we document that both the theory and evidence of how employees' similarity with each other affects performance show mixed results.

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[1]Our estimates will probably understate the benefits of employees who speak the language of linguistically isolated customers. First, many people who self-identify as Hispanic or Asian do not speak any language but English. We are unable to identify such language skills in our data. In addition, Asian immigrants to the United States speak many languages. We are unable to identify which employees speak a language other than English spoken by Asians who live nearby.

First, theories of diversity emphasize that it can bring both positive and negative effects. Diverse teams can help performance because they are more likely to have the information needed to solve any given problem (Lazear, 1998), come up with more creative solutions than do homogeneous groups (Thomas & Ely, 1996; Nemeth, 1985), and are more likely to have employees with insights into the needs of customers (Thomas & Ely, 1996). If these forces are important we have:

Hypothesis 3a: Store diversity of gender, race, and age predict increased store performance in terms of sales after controlling for the effects of customer–employee demographic match.

At the same time, diversity can increase the costs of communication within the workforce (Lang, 1986; Zenger & Lawrence, 1989), lower group cohesiveness (Pfeffer, 1983), increase employee turnover (O'Reilly, Caldwell, & Barnett, 1989; Jackson et al., 1991), and reduce incentives for cooperation (Greif, 1993). These countervailing forces lead us to propose:

Hypothesis 3b: Store diversity of gender, race, and age predict decreased store performance in terms of sales after controlling for the effects of customer–employee demographic match.

Given the contradictory forces outlined by these theories, it is perhaps unsurprising that the empirical relationship between diversity and organizational performance remains murky (Williams & O'Reilly, 1998).

Organizational Context

We first describe the organization, jobs, and employees. We then discuss how these characteristics permit us to examine our hypotheses.

Organizational Factors

The workplaces we study are located all over the United States and are part of national chains that by design attempt to hold fixed many confounding factors that might affect sales. If social scientists could run a controlled experiment on diversity, we would want to replicate the same workplace, experimentally varying only employee demographics. The employer here has, as a matter of policy, attempted to replicate the workplace.

The employer we study is in an industry characterized by monopolistic competition. Numerous small outlets sell somewhat differentiated products. This employer, like most national chains, organizes subsets of these outlets into subunits that invest heavily in establishing brand image. We study all the outlets in the major subunits of this employer. The workplaces we study are open to the public. Moreover, most of the non-managerial employees at work at any time are visible to the public, literally by looking through a window.

Job-Related Factors

Each workplace typically employs 15–40 part-time employees with several full-time managers and assistant managers. The employees work scattered shifts throughout the week. Thus, employees work with a changing mix of the other employees on the payroll that month. In general, most frontline employees rotate through the several tasks in the store, spending some of their time dealing with customers and other time in support tasks.

The workplaces we study have several characteristics that may mute the potential positive or negative effects of diversity on sales. Employees receive minimal training when they are hired. Employees interact with each other to maintain stock and service customers, but these interactions are not complex. The work has a few interdependencies as several employees typically assist the order of one customer, but the interactions are fairly straightforward. Employees (and even store managers) have little discretion and make few decisions about the organization of work. Pay is straight wages, without commissions (which might impede cooperation) or incentives for teamwork (which might promote it). Further enhancing the likelihood that diversity effects will be muted, managers (unlike new hires) do receive some training in managing a diverse workforce.

The employer hires a diverse workforce. This employment pattern arises partly because the employer has a reputation for gender and race diversity in its marketing and employment. Moreover, in our interviews, managers noted they hire many employees from among the ranks of customers. A diverse customer base leads naturally to a diverse workplace.

Employee Factors

The young age of most of our sample may play a role in the study's results. The median age of employees in our data is only 22 years. Thus, any employees in their thirties or older may be self-selected to have low labor-market attachment or to be re-entering the labor market; either could reverse the usual main effect of age.

The special nature of the workplace and work populations involved in this study must be kept in mind when thinking about possible effects. Consider the example of age diversity. The age distribution in our firm, as noted above, is unusually young. The relatively low pay and lack of promotional opportunities mean we tend to see neither older workers who have moved up the job ladder nor those who have good job alternatives. Further, the expectations of and interactions with potential customers may vary in settings where store employees are expected to be older, limiting the generalizability of our findings to these settings.

Advantages of this Research Setting

Field research usually involves trading a smaller number of observations for greater depth. This study examines over 700 workplaces and over 70 000 employees. This figure is roughly the total number of natural workgroups in *all* the field studies reviewed by Williams and O'Reilly (1998).

In most field studies, demographics are highly correlated with other features of the workplace or job; for example, female-dominated occupations and establishments typically involve quite different tasks than do those dominated by males. The workplaces in our study exhibit almost none of this variation. Each workplace has minimal local discretion, as each must implement the detailed human resource policies disseminated from corporate headquarters. Wages, internal hierarchy, fringe benefits, and job content are for the most part centrally set and uniformly implemented. As is common among national chains that promote a common brand image, the employer has purposefully attempted to replicate the same outlet characteristics in every U.S. market of any significance. Advertising, product selection, pricing, and human resource policies are all centrally determined to promote uniformity. The employer's goal is that customers and employees perceive workplaces in different locations as essentially interchangeable. The remaining variation is far less than would be observed across most other jobs, employers, or industries. This standardization limits possible confounds between demographics and omitted job, product, or establishment characteristics.

As the establishments we analyze are dispersed across the United States, location-specific factors may affect both demographics and sales. For example, inner-city establishments may have both low sales and a high percentage of minority employees without any direct causal link. We use specifications designed to capture fixed features, measured or not, of the workplace, labor market, and customers.

An additional contribution of this study is to unpack the concept of diversity into a number of theoretically and empirically distinct measures. Most previous studies have had no workplaces with female, black, or Hispanic majorities. The limited range of data implies that a single diversity measure conflates both a main effect (such as rising per cent female) and gender diversity. The data used in this study are unique among studies of organizational demography in having a sufficiently large sample size and sufficiently dispersed workgroup compositions to examine both diversity and the main effect of per cent female, per cent black, and per cent Hispanic.

Methods

Sample

The proportion of women in the stores ranges from 6 per cent to 100 per cent with a mean of 75 per cent. The proportion of whites averages 70 per cent, but some stores are all white while others are mostly non-white. Non-whites are fairly evenly distributed among blacks, Hispanics, and Asians. Thus, there is substantial racial diversity on average and substantial variation in racial diversity. Most employees fall within a fairly narrow range of ages. The mean of the within-store standard deviation of the logarithm of ages is only 27 per cent.

These are entry-level jobs. The stores' employees are more frequently black, Hispanic, Asian, and female, and are younger than the members of their communities. In consequence, with the exception of age, the stores are more diverse than the communities they serve.

Procedure

We first model the match between a store and community, and then enrich the model to account for within-store diversity. We assume that the current match between a store and its community determines the current level of sales in a store. Store demographics are highly correlated over time in any case. Equation (1) presents a simple reduced-form empirical specification where sales at store i in community c depend on store average demographics such as the proportion Hispanic, other store-observable characteristics such as size and store age, mean community demographics such as the proportion of blacks in the community, and other community-observable characteristics such as the distribution of household income:

$$
\begin{aligned}
\text{Sales}_{\text{store}} = a &+ b_1 \text{demographics}_{\text{store}} + b_2 \text{demographics}_{\text{community}} \\
&+ b_3 \text{demographics}_{\text{store}}{}^* \text{demographics}_{\text{community}} \\
&+ b_4 \text{characteristics}_{\text{store}} + b_5 \text{characteristics}_{\text{community}} + \text{residual}
\end{aligned}
\tag{1}
$$

For the matching theories, the coefficient of interest is b_3; for example, a positive coefficient on the interaction of a store and a community's per cent Hispanic implies that adding more Hispanics to a store is more useful in areas with a high proportion of Hispanics. For example, if b_3 is positive, then moving from 3 to 30 per cent Hispanic employees in a community that is 20 per cent Hispanic will increase sales more than the same shift in employee demographics in a community with 2 per cent Hispanics.[2]

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[2]As noted below, results using the absolute value of the gap in store and community demographics, |demographics$_{\text{store}}$− demographics$_{\text{community}}$|, resemble those in the interaction specification. This absolute value of the gap is more sensitive to mismeasurement of the appropriate community boundaries than the interaction we use.

The main effect on store demographics b_1 captures worker characteristics correlated with race (for example, if whites attend better high schools than non-whites) and characteristics of the neighborhood that predict what groups would choose to work in this sector (white men may work in low-wage retail more often when labor markets are weak). The main effects also capture customer discrimination that is shared by all demographic groups; that is, in our society, all demographic groups may prefer to be served by certain high-status groups or (if it is more comfortable to fit with traditional roles) by certain low-status groups (Kiesler, 1975). Because the main effect conflates these several forces, it is important to be careful when interpreting these main effects.

One problem with estimating Equation (1) is that the residual is plausibly correlated with unobservable features of the store and community. Intuitively, if blacks live in areas with low incomes, then the low incomes, rather than race, could reduce sales. To the extent that the factors affecting both demographics and sales are common within a geographic area, comparing stores within that area will solve this problem. Thus, we add progressively finer sets of zip code dummies—up to four digits. This specification corresponds to including a separate intercept based on the first four digits of each store's zip code:

$$
\begin{aligned}
\text{Sales}_{\text{store}} = {} & a' + b_1'\text{demographics}_{\text{store}} + b_2'\text{demographics}_{\text{community}} \\
& + b_3'\text{demographics}_{\text{store}} * \text{demographics}_{\text{community}} \\
& + b_4'\text{characteristics}_{\text{store}} + b_5'\text{characteristics}_{\text{community}} + \text{zip4 dummies} + \text{residual}'
\end{aligned} \tag{2}
$$

The zip code fixed effects help us minimize the local effects of the labor market and product demand to a great extent. For example, these zip code controls will hold constant community wealth, race relations, regional differences in the price index for this sector, and distance to Mexico.

In results not shown we incorporate five-digit zip codes. The cost of this method is that we can only study the subset (roughly half) of stores that are in the same mall or neighborhood as other stores. The strength of this method is that we are confident that all community effects are constant. Results are similar with four- or five-digit zip code controls.

Data

We combine employee-level data on demographics, store-level data on sales, and data from the 1990 census on community characteristics. The employee data are the complete personnel records from February 1996 to October 1998. We analyze data on frontline workplace employees, dropping workplaces with fewer than 10 employees.

We complement our quantitative analysis with semi-structured interviews of roughly a dozen employees and a half-dozen managers at workplaces scattered across one region of the country. We also interviewed headquarters staff from the Human Resources Department. These interviews were neither random nor a representative sample, but they do help flesh out the statistical analyses. They largely help us understand the procedures stores follow in hiring, the distance customers travel to the store, and the levels and forms of customer–employee and employee–employee interaction.

Store-level variables

The dependent variable is the natural logarithm of average real monthly sales, where we deflate sales by an industry-specific consumer price index and average over all months for which we have data for that store.

From the company's human resource dataset, we construct a store–month dataset of employee demographics, including the proportion female, average age, and the shares of three categories for race or ethnicity (black, Asian, and Hispanic, with white, the small percentage Native American, and unknown ethnicity categories pooled as the baseline). The race and ethnicity codes are the company's coding, and they create a set of mutually exclusive and collectively exhaustive categories that for simplicity we refer to as 'race.' Educational requirements are minimal, and educational attainment varies little. Few employees have a college degree.

We control for a number of store characteristics that are likely to affect sales: the logarithm of employment, store age and its square, time since the last store remodel and its square, store size (measured in square feet) and its square, and indicator variables according to whether the store is on the street, a commercial strip, or in a mall.

Sales per store will also depend on the number of nearby competitors. We control for the number of establishments in the same county in the same four-digit industry as reported in the 1998 County Business Patterns. To control for other local factors, some estimates include an extensive set of dummy variables: one for each of the first four digits of the store's zip code.

Community variables

Using the store's zip code, we match each store to 1990 census data on nearby census tracts. To construct community demographics, we use a store's zip code and all census tracts within 2 miles of the centroid of that zip code.

We construct the proportion black, Hispanic, Asian, and female surrounding each store. We also determine the age distribution in the surrounding community. The 1990 census asks questions on race (black vs. white, etc.) separately from ethnicity (Hispanic vs. non-Hispanic). Thus, on the census, respondents can categorize themselves as both black and Hispanic or as both white and Hispanic. In contrast, the employer has mutually exclusive codes of white, black, and Hispanic. We allow both the census categories of population and the employer's categories of employment to enter unrestricted in our equations.

We control for several other community characteristics likely to affect product demand. Some variables such as median income were only available for the store's zip code, without the 2-mile radius of surrounding tracts. As control variables, we use census data on the household income distribution (percentages of households in each of 10 detailed income categories), the age distribution (percentages of individuals in each of six age categories), total population within 2 miles, population within 2 miles categorized into six size groups, and the unemployment rate. Because population is measured within a fixed 2-mile radius, the other demographic measures can be thought of as population density measures.

Matching store and community demographics

For matching theories, the variables of interest are the interactions between store and community demographics. Such interactions allow us to test, for example, for the effect of having a highly Hispanic workforce near a Hispanic population center.

We also measure the interaction between the proportion female at the store and in the community. Aside from some isolated military bases, single-sex colleges, and mining operations, there is much less variation in gender shares than in race or ethnicity across locations. Thus, we have little testable variation in the proportion female across communities.

Diversity

We calculate age, gender, and racial diversity within the store as well as the surrounding community. For race and gender, we use a Simpson (1949) diversity index equal to the odds that two people selected at random from a workplace differ on race or gender. The formula is that the diversity index is one minus the sum of the demographic shares squared:

$$\text{Diversity index on race or gender} = 1 - \Sigma_i S_i^2$$

where S_i is the share of each gender or racial group i. This diversity index is zero with perfect homogeneity and is maximized when each group has an equal share of employment. For gender diversity, this index is just twice the per cent female times per cent male (a parabola that approximates the absolute value of the gap of per cent female from gender equality).

Most past researchers have used the coefficient of variation on age or the standard deviation of age to measure age diversity. We prefer to use the standard deviation within the workgroup of the natural logarithm of age. The standard deviation of log(age) implies that proportional gaps in age are what lead to social distance; for example, the age gap between 18 and 22 usually leads to more social difference than does the age gap of 40–44, although the two gaps are the same in absolute years. As with the race and gender diversity indices, the standard deviation of log(age) has a simple interpretation: it is approximately the expected percentage gap in age of two people chosen at random. This relation holds exactly for normally distributed variables.

Results

We first discuss findings with regard to the main effect of community and store demographics on store sales. We then turn our attention to the relationship between customer–employee demographic match and store sales. Finally we report results on the relationship between store diversity and store sales. The data are averaged across sample months. A control for number of months in the sample is included because we have differing numbers of observations on different stores. Table 1 presents the descriptive statistics and intercorrelations of the key variables examined in this study. The main results of the paper are given in Table 2.

Main effect of store and community demographics

We did not find many significant relationships between community demographics and store sales. We also find that while employee demographics sometimes do matter, the effects are modest in magnitude. We first discuss the baseline specification 1 (Table 2 column 1), with main effects but no controls for store–community matching or for non-linear diversity effects.

Sales were not significantly predicted by the gender or racial composition of the surrounding community. Except for per cent Asians in the community, none of the other main effects of race composition of the community were significant. It is important to remember that this result is conditional on the firm's decision of where to open stores. (Few stores have closed in our sample period.) Thus, this result suggests that either the company successfully markets to a diverse customer base or that it chooses locations in which it can successfully sell, or both.

Table 1. Means, standard deviations and intercorrelations

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1 Log of sales	12.08	0.61																					
2 Total employees in store	37.23	23.61	0.15																				
3 Store average age	24.21	2.04	−0.05	−0.13																			
4 Store % female	0.75	0.13	−0.39	−0.32	0.27																		
5 Store % white	0.70	0.22	−0.15	−0.22	0.14	0.51																	
6 Store % black	0.12	0.13	0.00	0.21	−0.05	−0.27	−0.65																
7 Store % Hispanic	0.10	0.13	0.16	0.12	−0.11	−0.40	−0.71	0.13															
8 Store % Asian	0.07	0.08	0.12	0.05	−0.12	−0.29	−0.46	−0.04	0.12														
9 Store % Native American	0.00	0.01	0.03	0.01	−0.02	−0.07	−0.11	−0.03	0.10	0.06													
10 Store % unknown race	0.01	0.02	0.09	0.04	−0.05	−0.17	−0.31	0.02	0.10	0.41	0.06												
11 Store age diversity	0.27	0.05	−0.16	−0.01	0.57	0.41	0.29	−0.16	−0.17	−0.23	−0.07	−0.11											
12 Store gender diversity	0.34	0.13	0.39	0.34	−0.36	−0.93	−0.46	0.26	0.34	0.26	0.07	0.16	−0.40										
13 Store racial diversity	0.39	0.19	0.19	0.19	−0.16	−0.53	−0.89	0.56	0.56	0.52	0.14	0.36	−0.30	0.50									
14 Comm. % female	0.51	0.02	−0.08	0.06	0.14	0.05	0.02	0.19	−0.07	−0.22	−0.05	−0.08	0.14	−0.04	−0.05								
15 Comm. % black	0.07	0.09	−0.03	−0.01	0.01	−0.16	−0.29	0.52	0.01	−0.06	−0.03	−0.03	−0.22	0.16	0.26	0.09							
16 Comm. % white	0.79	0.17	−0.12	−0.04	0.07	0.39	0.70	−0.32	−0.58	−0.40	−0.10	−0.26	0.32	−0.34	−0.58	0.19	−0.55						
17 Comm. % Hispanic	0.05	0.07	0.14	0.02	−0.07	−0.29	−0.52	0.03	0.78	0.10	0.09	0.08	−0.14	0.24	0.37	−0.18	0.01	−0.66					
18 Comm. % Asian	0.05	0.08	0.12	0.09	−0.02	−0.22	−0.42	0.03	0.13	0.75	0.07	0.48	−0.16	0.18	0.40	−0.17	−0.05	−0.49	0.08				
19 Comm. % Native American	0.00	0.01	−0.02	−0.06	−0.03	0.01	0.00	−0.10	0.08	0.01	0.29	0.01	−0.10	0.01	0.03	−0.08	−0.03	−0.12	0.12	−0.01			
20 Comm. % other race	0.03	0.05	0.12	−0.01	−0.13	−0.28	−0.49	0.04	0.69	0.17	0.13	0.10	−0.21	0.25	0.38	−0.29	0.05	−0.68	0.74	0.13	0.15		
21 Comm. gender diversity	0.50	0.00	−0.02	0.00	−0.02	0.02	0.03	−0.06	−0.02	0.05	0.01	0.01	0.02	−0.02	−0.03	0.18	−0.10	0.07	−0.08	0.06	0.00	−0.04	
22 Comm. racial diversity	0.31	0.18	0.13	0.07	−0.09	−0.41	−0.71	0.36	0.59	0.37	0.13	0.24	−0.32	0.36	0.69	−0.21	0.50	−0.90	0.61	0.39	0.16	0.67	−0.08

Correlation coefficients with absolute values greater than or equal to 0.06 are significant at the 0.05 level.
Note: The sample contains store averages (averaged up to 30 months) for over 700 stores. Community variables include information from the 1990 census on residents of the store's zip code and all census tracts within 2 miles. The store requires applicants to mark Hispanic or black, while the census permits people to mark both a race and an ethnicity. Race and gender diversity indices are 1 minus the sum of squared shares of each group.

Table 2. Store–community similarity or employee–employee similarity as predictors of log real sales

	(1) Baseline	(2) Curvilinear effects	(3) Store-Community Interactions	(4) Curvilinear effects and store-community interactions	(5) Diversity	(6) Full
Store avg. age	0.005 (0.004)	0.027 (0.043)	0.006 (0.004)	0.029 (0.043)	0.019** (0.005)	0.087 (0.045)
Store % female	−0.298** (0.095)	−0.548 (0.468)	−0.372** (0.143)	−0.746 (0.540)	−0.291 (0.160)	−0.333 (0.194)
Store % black	−0.193** (0.074)	−0.101 (0.167)	−0.245** (0.086)	−0.085 (0.168)	−0.329** (0.096)	−0.173 (0.393)
Store % Hispanic	0.152 (0.103)	0.696** (0.194)	0.258* (0.121)	0.699** (0.198)	0.005 (0.120)	0.596 (0.377)
Store % Asian	−0.202 (0.133)	−0.174 (0.242)	−0.231 (0.137)	−0.136 (0.253)	−0.376* (0.161)	−0.258 (0.411)
Comm. % female	−0.634 (0.529)	4.160 (8.709)	−0.506 (0.555)	3.526 (8.733)	−0.498 (0.528)	4.419 (8.682)
Comm. % black	−0.084 (0.103)	−0.244 (0.195)	−0.230 (0.140)	−0.277 (0.197)	−0.119 (0.103)	−0.338 (0.196)
Comm. % Hispanic	0.176 (0.178)	0.069 (0.480)	0.318 (0.210)	0.085 (0.483)	0.262 (0.179)	0.249 (0.481)
Comm. % Asian	0.283 (0.144)	0.122 (0.313)	0.104 (0.277)	0.062 (0.327)	0.295* (0.147)	0.123 (0.325)
(Store avg. age)^2		−0.000 (0.001)		−0.000 (0.001)		−0.001 (0.001)
(Store % female)^2		0.206 (0.330)		0.316 (0.391)		
(Store % black)^2		−0.162 (0.292)		−0.356 (0.339)		−0.342 (0.523)
(Store % Asian) *(Comm. % immigr.)		−0.052 (0.620)		−0.466 (0.925)		−0.238 (1.000)
(Store % Hispanic) *(Comm. % immigr.)		−1.083** (0.315)		−1.179* (0.574)		−1.165 (0.695)
(Comm. % female)^2		−5.024 (8.877)		−4.394 (8.903)		−5.190 (8.850)
(Comm. % black)^2		0.417 (0.374)		0.077 (0.475)		0.070 (0.472)
(Comm. % Asian)^2		0.273 (0.475)		−0.149 (0.825)		−0.317 (0.820)
(Comm. % Hispanic)^2		0.728 (0.873)		0.532 (1.076)		0.243 (1.071)
Bottom quartile of store % female − Comm. % female			−0.024 (0.025)	−0.021 (0.025)		−0.024 (0.025)
Top quartile of store % female − Comm. % female			0.005 (0.028)	−0.012 (0.032)		−0.004 (0.032)
(Store % black) *Comm. % black)			0.504 (0.352)	0.668 (0.561)		0.794 (0.559)
(Store % Hispanic) *(Comm. % Hispanic —all races)			−0.413 (0.288)	0.215 (0.909)		0.327 (0.906)
(Store % Asian) * (Comm. % Asian)			0.468 (0.565)	0.955 (1.523)		0.882 (1.514)

Continues

Table 2. Continued

	(1) Baseline	(2) Curvilinear effects	(3) Store-Community Interactions	(4) Curvilinear effects and Store-Community Interactions	(5) Diversity	(6) Full
Racial diversity store					0.167*	0.049
					(0.084)	(0.216)
Gender diversity store					−0.064	−0.058
					(0.165)	(0.195)
Age diversity store					−0.849**	−0.923**
					(0.198)	(0.205)
R^2	0.37	0.38	0.37	0.38	0.38	0.39

Standard errors in parentheses.
*Significant at 5%; **significant at 1%.
Note: Additional controls include store age and its square, log(employment), time since last remodel and its square, store size in square feet and its square, store division, store type (mall, street, etc.), store and Community % Native Americans and their interaction (columns 3–5), store and Community % other races, 9 Community income shares (such as % of households with incomes of $50–75 000 per year); % unemployed in Community, 5 measures of Community age shares (such as % ages 30–49), six measures of population density (such as between 80 000 and 320 000 live within 2 miles), and the number of competing establishments in this 3-digit SIC in this county.

Sales are significantly lower in stores with greater proportions of female or black employees. This result is consistent with the customer discrimination hypothesis discussed earlier. First, consider the main effect of per cent female and black employees in the store. A 10 percentage point increase in female employment share is associated with 3 per cent lower sales. The same increase in black employment share is associated with 2 per cent lower sales. Neither the average age of employees nor the share that is Asian or Hispanic is associated with higher store sales. As shown below, these results are somewhat sensitive to the extent to which we control for alternative factors that may affect both demographics and sales. Note also that this specification does not allow for the non-linear effects of diversity.

Hypothesis 1a: demographic match between store and community

The store–community interactions are presented in Table 2, column 3. Contrary to Hypothesis 1a, none of the coefficients approaches statistical significance. Moreover, the point estimates imply economically small effect sizes. For example, we found that a reduction in proportion of Asian employees from 10 to 20 per cent is associated with only a 0.5 per cent decrease in sales in communities with 20 per cent Asians. To avoid extreme multicollinearity, we replace the interaction of store and community per cent female with quartiles of the gap between the two. Contrary to our hypothesis, we found that sales were not significantly predicted by a match between store per cent female and community per cent female.

Hypotheses 2: positive and negative customer discrimination

Our findings with regard to positive versus negative customer discrimination differ based on the racial category being examined (see Table 2, column 2). Consistent with our hypothesis of positive discrimination, we found support for a curvilinear relationship between the proportion of Hispanic employees in a store and store sales. Specifically, we found that the proportion of Hispanic employees in a store predicted store sales at a declining rate in communities where a subset of potential customers

were Hispanic. This result is particularly likely for Hispanics if a subset of potential customers include at least one Spanish speaker—a hypothesis we return to below. As these results are cross-sectional, it is always possible that omitted community characteristics drive these findings.

Hypothesis 3: store diversity

We found a complex pattern of results relating store diversity and sales. Even where the effect of diversity on sales is statistically significant, it is often modest in magnitude. The small magnitude of these effects is the main finding from the model examining the effects of within-store diversity (Table 2, column 5).

We can statistically identify diversity as a non-linear effect distinct from the main effects; nevertheless, it is important to remember that gender diversity can only change by shifting the relative proportions of men versus women. Analogously, at least two of the racial shares must shift to change race diversity.

Age diversity (as measured by the standard deviation within the store of the natural log of age) significantly predicts lower sales. A two standard deviation increase in age diversity (for example, moving from roughly 21 to 32 per cent age differences among two employees chosen at random) lowers predicted sales by 9 per cent. At the same time, the coefficient on average age is also positive and significant in this specification. Together these findings suggest that it is the variance in age rather than an older set of employees in stores that has a negative influence on sales. The positive coefficient on racial diversity implies that diversity predicts higher sales, holding all else constant. Based on this finding we would propose that increasing the share of blacks, Hispanics, and/or Asians in all-white stores may have a positive influence on sales. Although almost none of the stores are 100 per cent black, Hispanic, or Asian, increasing the racial diversity of these stores could also potentially have a positive impact on sales.

Interestingly, as represented in Figure 1, the proportion of white employees in a store also predicts higher sales. Thus, in a moderately diverse store, increasing diversity by hiring fewer whites will be negatively related to sales. For example, the total effect of changing the racial composition of a store from the mixture equal to the national average (70 per cent white, 12 per cent black, 10 per cent Hispanic, and 7 per cent Asian) to one more diverse (e.g., halving the white share and roughly doubling the non-white share so the store becomes 35 per cent white, 26 per cent black, 21 per cent Hispanic, and 15 per cent Asian) would be about 4 per cent lower sales. At the same time, moving from the average mixture to an all-white store also has a negative influence on sales by a similar amount because the store becomes much less diverse.

Figures 1–3, based on the coefficient estimates in Table 2, column 5, show these relationships. As the per cent white increases, the main effect line indicates the sum of two effects: the main effects on sales of increasing whites plus the concomitant decreases among non-whites. The non-white shares are allocated in proportion to each minority's average share of non-white employment. As all these employment shares change, the index of racial diversity, a non-linear measure, also changes. This non-linear effect on sales is separately plotted. While this non-linear diversity effect is of interest to the academic debate on diversity, businesspeople presumably are more interested in the sum of the effects.

Figure 1 shows how the logarithm of sales varies with the percentage white among employees. Over the observed range, the main effects of race and the diversity effect tend to offset each other. The result is that changing the white employment share in a store from 100 per cent to 40 per cent, an exceptionally large change, has no significant effect on sales. In the relevant range of typical changes, no store manager is likely to see sales respond to changes in racial diversity. Likewise, going from zero to 12 per cent black in the store hardly affects sales because the positive diversity effect and
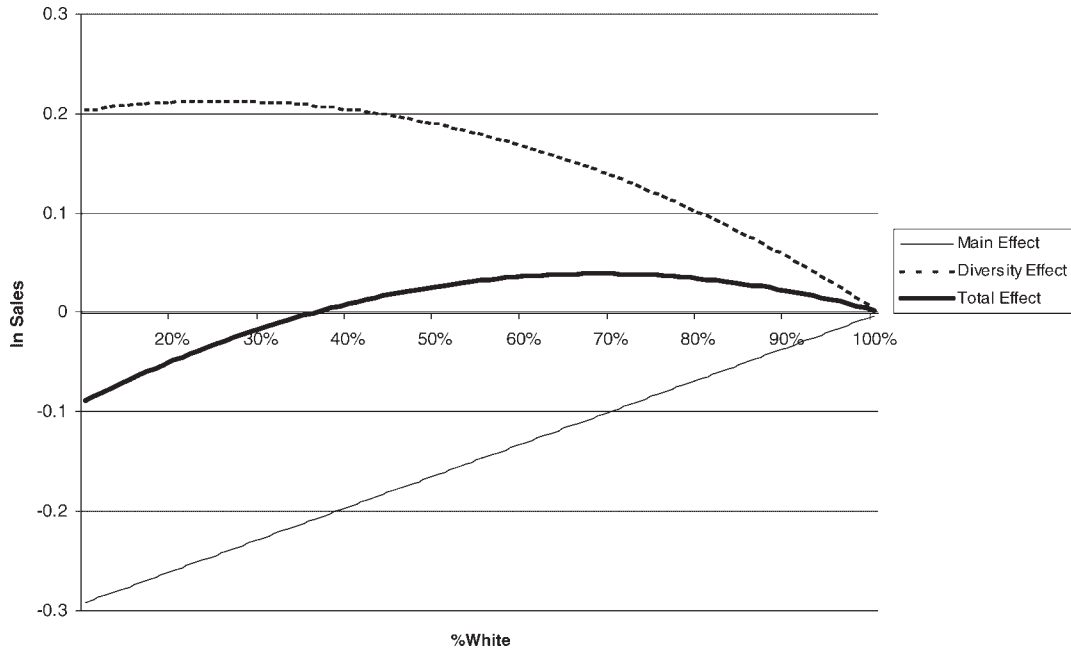
Figure 1. Effect of % white on sales. This figure is drawn based on the coefficients in Table 2, column 5, assuming non-whites are divided proportionate to their representation in the store chain

negative effect of percentage black on predicted sales roughly offset each other. However, when the proportion of black employees in a store is already high, increasing the percentage black further can have a negative influence on store sales. For example, increasing the proportion of black employees from 40 per cent to 50 per cent was associated with 4 per cent lower sales (Figure 2).
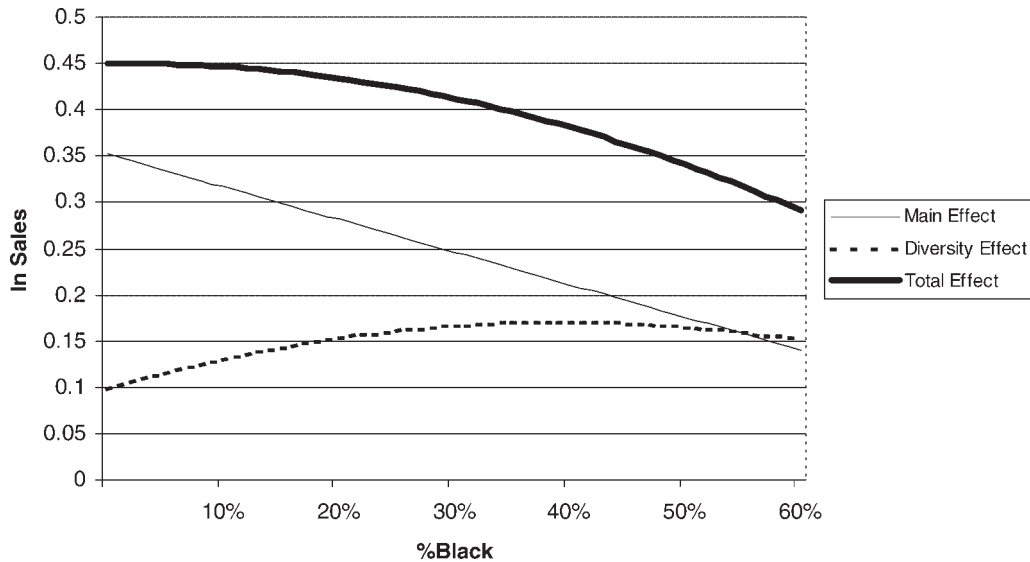

Figure 2. Effect of % black on sales. This figure is drawn based on the coefficients in Table 2, column 5, assuming non-blacks are divided proportionate to their representation in the store chain
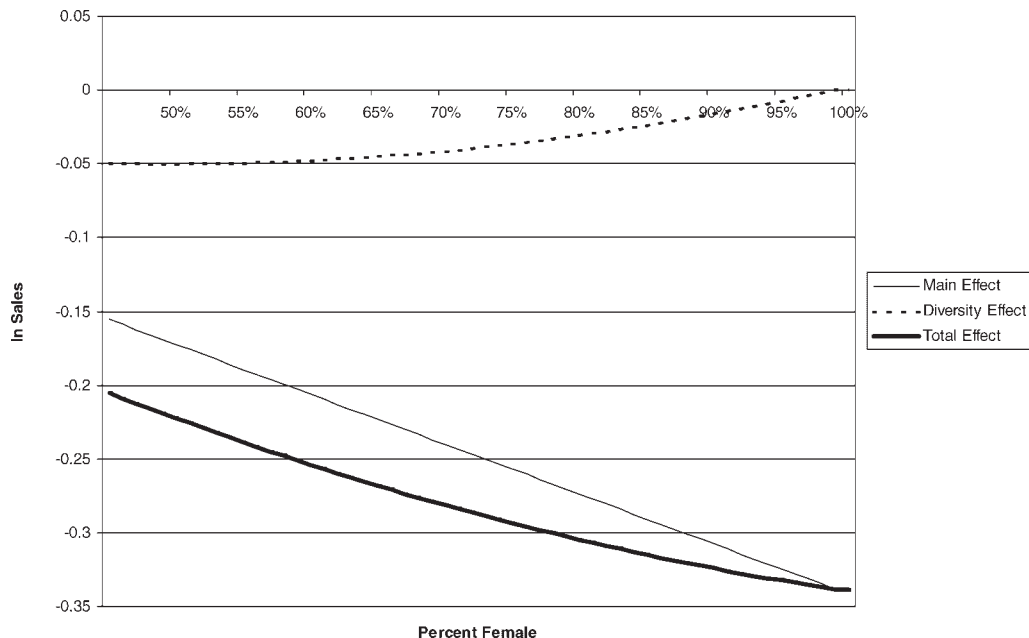
Figure 3. Effect of % female on sales. This figure is drawn based on the coefficients in Table 2, column 5

In contrast, gender diversity has effects that are both small in magnitude and statistically insignificant. These are graphed in Figure 3. While the presence of male employees can influence sales positively, gender diversity is not significantly associated with sales.

Employee diversity can affect sales either based on the customer matching argument or because workplace diversity is directly associated with store sales. When we combine the store–community interactions with the within-store diversity measures, most results remain similar (Table 2, column 6). Customer matching does not emerge as a significant predictor of store sales. Conditional on customer matching, the main effects of employment and population shares are insignificant, as is store racial diversity. The effect of gender diversity on store sales remains negative and non-significant.

Hypothesis 1b: effects of non-English speakers in the community

Our analyses of the importance of hiring staff likely to speak the language of nearby non-English speakers are presented in Table 3. Our main test is to see if the proportion of Hispanic or Asian employees can positively influence sales in communities with nearby enclaves of Hispanic or Asian immigrants who do not speak English.

Hiring both Asian and Hispanic workers is correlated with higher sales if the community has many people of that background who do not speak English, although only the effect for Asian workers is statistically significant. To understand the magnitude of the coefficient of 9.7 on the interaction of the share of the store's per cent Asian and the community's per cent speaking an Asian–Pacific language but not English, consider two communities that differ by 10 percentage points on the share of linguistically isolated Asians. This coefficient implies that a store with 10 percentage points more Asians in it has almost 10 per cent higher sales in a community with more Asians who are linguistically isolated than in a community with fewer. This effect is both economically and statistically significant across specifications.

Table 3. Summary of results concerning the linguistically isolated on log average sales

(Store % Asian) ∗ (Comm. % Asian)	−0.182
	(1.498)
(Store % Hispanic) ∗ (Comm. % Hispanic—all races)	0.695
	(0.734)
(Store % Asian) ∗ (Comm. % an Asian–Pacific language but not English)	9.732**
	(2.800)
(Store % Hispanic) ∗ (Comm. % speaking Spanish but not English)	2.252
	(2.529)

Note: Other controls are as in column 5 of Table 2. See notes to Table 2.

Including detailed controls for store locations

The results discussed above rest on comparisons across stores in different locations. If locations differ in ways not controlled for here and that are correlated with both store demographics and with sales, our estimates will be biased. We check for this by adding progressively finer geographic controls, ranging from one- to four-digit zip code dummies. In general, finer controls for location do not alter the signs of the coefficients of interest. This suggests a limited role for locational bias. We first add 10 controls for the first digit of the ZIP code, then controls for the first two digits, three digits, and finally four digits. Table 4 shows the results with four-digit zip code controls.

As increasingly finer zip code controls are added, the significance of the female main effect drops. However, the black main effect becomes somewhat (but not statistically significantly) larger. This means that differences across communities or labor markets (as proxied by the first four digits of a zip code) are not accounting for the lower sales in stores with more black employees. This result is consistent with the possibility that when several stores from the same chain are within the same large mall, neighborhood, or town, some customers favor the store with fewer black employees.

Results concerning the role of employee–customer similarity are shown in Table 4, column 3. As before, no employee–customer interactions are statistically significant.

The diversity specification (Table 4, column 5) adds diversity indexes for race and gender and the standard deviation of the logarithm of age. Sales are significantly greater in stores that are more racially diverse, but the main effect of Asian share as well as the black share is now negative. Overall, the main race effects dominate. Over most of the relevant range (below 80 per cent white), increasing minority employment shares is associated with reduced sales.

Age diversity remains significantly related to lower sales. Keeping in mind the narrow age distribution and distinct youthfulness of this company's employees, sales are slightly higher in stores with an older average workforce but fall with increasing age dispersion within the store. The latter effect is substantial. Despite our efforts at introducing zip code controls to account for location-specific omitted variables we acknowledge that these controls may be imperfect and that our results may be biased even with the use of these extensive controls.

Robustness checks

One possibility is that similarity between the manager and the community, not workers and the community, has a large effect on sales. In results not shown we tested this hypothesis; it received no support.

Table 4. Store–Community similarity or employee–employee similarity as predictors of log real sales with 4-digit zip code controls

	(1) Baseline	(2) Curvilinear effects	(3) Store–community interactions	(4) Curvilinear effects and store-community interactions	(5) Diversity	(6) Full
Store avg. age	0.004	0.022	0.005	0.025	0.018**	0.082
	(0.004)	(0.042)	(0.004)	(0.042)	(0.005)	(0.044)
Store % female	−0.236*	−0.609	−0.277*	−0.874	−0.262	−0.308
	(0.094)	(0.447)	(0.140)	(0.515)	(0.152)	(0.186)
Store % black	−0.196*	−0.120	−0.264**	−0.111	−0.325**	−0.228
	(0.078)	(0.173)	(0.089)	(0.174)	(0.099)	(0.401)
Store % Hispanic	0.172	0.682**	0.272*	0.682**	0.018	0.541
	(0.107)	(0.201)	(0.126)	(0.205)	(0.125)	(0.389)
Store % Asian	−0.248	−0.233	−0.273	−0.207	−0.416*	−0.349
	(0.136)	(0.244)	(0.143)	(0.256)	(0.163)	(0.415)
Comm. % female	−0.521	3.964	−0.314	3.201	−0.370	3.657
	(0.578)	(9.235)	(0.601)	(9.270)	(0.576)	(9.198)
Comm. % black	−0.051	−0.239	−0.221	−0.268	−0.086	−0.329
	(0.110)	(0.214)	(0.152)	(0.216)	(0.110)	(0.214)
Comm. % Hispanic	0.143	0.206	0.325	0.234	0.240	0.368
	(0.201)	(0.516)	(0.234)	(0.520)	(0.202)	(0.516)
Comm. % Asian	0.310*	0.271	0.246	0.215	0.301	0.245
	(0.155)	(0.341)	(0.289)	(0.355)	(0.157)	(0.352)
(Store avg. age)^2		−0.000		−0.000		−0.001
		(0.001)		(0.001)		(0.001)
(Store % female)^2		0.287		0.474		
		(0.317)		(0.375)		
(Store % black)^2		−0.125		−0.311		−0.258
		(0.298)		(0.343)		(0.531)
(Store % Asian) * (Comm. % immigr.)		−0.056		−0.359		−0.115
		(0.608)		(0.913)		(0.990)
(Store % Hispanic) * (Comm. % immigr.)		−1.045**		−1.184*		−1.114
		(0.334)		(0.586)		(0.713)
(Comm. % female)^2		−4.583		−3.861		−4.219
		(9.443)		(9.479)		(9.404)
(Comm. % black)^2		0.452		0.088		0.072
		(0.398)		(0.499)		(0.495)
(Comm. % Asian)^2		0.103		−0.197		−0.348
		(0.515)		(0.826)		(0.822)
(Comm. % Hispanic)^2		0.442		0.164		−0.053
		(0.925)		(1.142)		(1.133)
Bottom quartile of store % female − Comm. % female			−0.017	−0.016		−0.019
			(0.025)	(0.025)		(0.025)
Top quartile of store % female − Comm. % female			−0.004	−0.025		−0.016
			(0.027)	(0.031)		(0.031)
(Store % black) * (Comm. % Black)			0.572	0.679		0.803
			(0.366)	(0.565)		(0.563)
(Store % Hispanic) * (Comm. % Hispanic—all races)			−0.453	0.316		0.403
			(0.307)	(0.931)		(0.926)
(Store % Asian) * (Comm. % Asian)			0.200	0.696		0.649
			(0.606)	(1.485)		(1.477)
Racial diversity store					0.176*	0.075
					(0.088)	(0.221)
Gender diversity store					−0.103	−0.137
					(0.157)	(0.188)
Age diversity store					−0.831**	−0.903**
					(0.200)	(0.207)
R^2	0.37	0.38	0.37	0.38	0.38	0.39

Standard errors in parentheses.
*Significant at 5%; **significant at 1%.
Note: Controls include the Comm.unity characteristics in Table 2. Sample is over 700 stores and over 300 zip codes.

We rerun results, dropping stores likely to sell largely to non-locals (for example, stores in the downtown shopping areas of major cities and stores in mega-malls that are destinations. Results were unchanged.

Discussion

One rationale that workplace diversity can increase profits is that a diverse set of employees will be able to understand and meet the needs of a diverse customer base. We test this proposition in a retail setting with employees on the front line of customer service. We focus here on visible and immutable dimensions of diversity: race, ethnicity, gender, and age.

We have examined two distinct effects of employment diversity on sales, the first reflecting customer preferences, the second a direct output effect irrespective of customer demographic preferences. Based on social identity theory, past research has suggested that demographic similarity reflects similarity in attitudes, values, and beliefs (Northcraft, Polzer, Neale, & Kramer, 1996; Jehn et al., 1999). In this study, we have hypothesized that demographic similarity between customers and employees would increase sales. We do not find support for this hypothesis. Most results are not statistically significant. Specific attributes of the research setting may explain these non-findings. For example, in our interviews, several managers reported that they often found employees by approaching customers and encouraging them to apply for a job. If this pattern is common, the actual match will always be better than our measures indicate and bias our findings.

Our findings regarding positive and negative customer discrimination suggest that the nature of customer discrimination is much more complex than the demographic matching theory proposes. Customers act consistently with positive discrimination toward Hispanics (that is, sales rise when any Hispanics are present in a store but at a declining rate) and negative discrimination toward blacks (sales decline with the presence of any blacks but at a declining rate). Such results may also be due to employee characteristics or to characteristics of the communities or stores where more Hispanics and blacks are employed.

In the past, studies on race have primarily focused on relationships between blacks and whites (Allport, 1954; Blalock, 1967; Reed, 1972) or distinguished only between whites and non-whites (e.g., Tsui et al., 1992; Cox, Lobel, & McLeod, 1991). Our findings indicate that in retail stores the effects of racial composition may be more complex than these dichotomous distinctions allow. While these findings may not be generalizable to all retail settings, we believe that more fine-grained inquiry into the effects of racial composition on performance outcomes is warranted.

Consistent with Hypothesis 3, store diversity measures did not consistently predict sales. Specifically, diversity of age was associated with lower sales race diversity had a smaller positive effect on sales. The lack of a positive relationship between store diversity and sales may be due to the routine tasks the employees typically perform. These tasks rarely require complex decisions or a varied base of information. The company's highly centralized decision-making puts little value on coordination, communication, and creativity at the workplace level. Thus, the informational benefits of diversity found in other settings (e.g., Jehn et al., 1999; Bantel & Jackson, 1989) may not materialize in these stores.

Other attributes of the research setting may account for our many non-findings. These workplaces demand relatively little employee–customer interaction. Thus, there is below-average incentive for customers to seek a close match. In addition, the employer has extremely high turnover, hiring roughly three entire workforces a year. Although demographics are correlated across time, workplaces may not

form strong reputations for their demographic pattern. Employee demographics may matter more at workplaces with more stable workforces and demographic patterns.

We have found some interesting main effects of store and community demographics on store sales. The race, ethnicity, and gender of the surrounding community generally do not affect this employer's sales per store. This result is a tribute to the wide appeal of this firm's marketing and advertising, as well as to the company's careful location decisions.

While community demographics do not matter, store demographics do. Sales are lower in stores with a high share of black (and in some specifications Asian) employees. This effect is probably not solely due to discrimination from whites, as the same result holds in neighborhoods with above-average shares of blacks (results available on request). Also, sales are improved by adding some males to heavily female stores. These findings are not strongly supported by prior theories, and future research may address some of the implications of these findings.

Contributions, limitations, and directions for future research

A common problem affecting research on workplace diversity as well as organizational behavior is that countless other factors differ from employer to employer. Our study design dramatically reduces this endemic problem by using data from a single employer with more than 1000 separate establishments. Just as a natural scientist would want to replicate conditions other than the experimental variable, the employer in this case promotes a consistent national brand and strives to hold fixed both human resource practices and customers' experience across locations. This creates by design an unusual degree of homogeneity across locations.

Diversity studies can mistake not just employer differences but also community differences for diversity effects. We add extensive controls for community characteristics that might affect sales and controlled for the first four digits of each workplace's zip code.

Despite these advantages, the study also has a number of limitations that must be acknowledged. Importantly, we have mismeasured the potential customer base for two reasons. First, we have been unable to measure how far customers typically travel to visit each workplace. Second, we use census data to count people living near a workplace. In a capitalist economy, dollars vote, not people. A more precise measure of a demographic group's importance would be a head count weighted by expenditures in this employer's product and service category.

While studying multiple establishments owned and operated by a single enterprise may limit the effects of several confounding factors, it could possibly limit the generalizability of our findings. In areas with high population density, this employer often has multiple workplaces in nearby shopping districts. Research has shown that employers may face incentives to segregate their workforce so that each workplace specializes in a single demographic group (Becker, 1957). In some cases, a chain of workplaces can maximize performance in diverse communities by operating multiple stores, each of which has a homogeneous workforce and appeals to a distinct segment of the customers. For example, Garson (2002) describes several ethnically distinct shopping malls in the highly diverse city-state of Singapore. Each mall specializes in speakers of a specific language. Thus, the employer in our study, unlike most, can have several workplaces, each of which may differ from its community average, while still creating workplaces that are close demographic fits for most potential customers.

Moreover, any study of diversity using field data is unlikely to generalize to random allocations of workers and customers because of self-selection. For example, those white employees working in largely black neighborhoods are disproportionately those whites most comfortable around blacks and those who communicate particularly well with blacks. Randomly chosen white employees who are relocated to a mostly black community might be less productive than those we observe in such stores.

The converse point applies as well—randomized laboratory studies may not generalize to actual organizations because lab studies do not permit this self-selection. We also acknowledge that range restriction with regard to age and ethnic diversity may have limited our tests of the interaction effects. While our data allowed us to test an entire range of gender proportions in stores, in comparison to other retail settings, employees in this research setting were younger and were predominantly white. These specific demographic characteristics of our sample may also limit the generalizability of our findings. Finally, we believe that despite our extensive use of location-specific controls we may not have been able to account for all the confounds that might influence our results. Future research is needed to evaluate whether the inclusion of additional controls such as consumer income would alter our conclusions

Conclusion

As the discussion presented above indicates, the research setting in which this study has been conducted offers several opportunities to examine the direct relationship between the customer–employee match and business outcomes. At the same time, several attributes of the setting may mute significant findings in this area. Overall, we find no consistent evidence that most customers care whether the salespeople who serve them are of the same race or gender. These results do not support the business case for diversity that rests on the assumption that customers' desires can be satisfied when they are served by those who physically resemble them. Echoing recent critiques of the business case for diversity (e.g., Kochan et al., 2003), our findings suggest that the workplace diversity has complex effects on business related outcomes. At the same time, these results are heartening for old-fashioned proponents of workplace integration, who have fought against employers who claim their (mostly white) customers care about the race and gender of the employees who serve them.

Author biographies

Jonathan S. Leonard is an expert on the operation and regulation of labor markets. He is best known for his work on compensation, on job creation and turnover, and on affirmative action—cited in President Clinton's Review of Affirmative Action Policies. He has served as a Senior Economist at the President's Council of Economic Advisers and as a consultant to the Assistant Secretary for Policy, U.S. Department of Labor; the Glass Ceiling Commission; the Commission on Workforce Quality and Labor Market Efficiency; the U.S. Equal Employment Opportunity Commission; the U.S. Commission on Civil Rights; the U.S. Department of Education's Panel on Disability Policy; and the Steering Committee for the Affirmative Action Study Project of the U.S. House Committee on Education and Labor. Internationally, he has served as a consultant to Employment and Immigration Canada, the OECD, Brazil's Ministry of Justice, the government of Switzerland, the Economic Planning Agency of Japan, and the Commission of the European Union. At the University of California, Berkeley, he served as a member of the Chancellor's Advisory Commission on Compensation, responsible for improving compensation policies and procedures.

He has testified concerning affirmative action and anti-discrimination policy before the House Subcommittee on Employment Opportunities, the House Subcommittee on the Constitution, and the House Subcommittee on Civil Rights. He has published a number of leading articles analyzing the impact of government enforcement of affirmative action and anti-discrimination policies. He has also published papers on compensation, the use of wage surveys, and pay patterns within industries.

Professor Leonard earned his PhD in Economics from Harvard University in 1983, with a specialty in Labor Economics. He is the Thomas J. Fitzmyers and Barclay Simpson Distinguished Professor of Corporate Responsibility, Chair of the Economic Analysis and Policy Group, and Professor of Organizational Behavior and Industrial Relations at the Haas School of Business, University of California, Berkeley, where he formerly served as Associate Dean. He teaches courses of Microeconomics and on Human Resource Management and has twice won the school's Cheit award for outstanding teaching.

David I. Levine is a professor at the Haas School Business, University of California, Berkeley, where he is also editor of the journal *Industrial Relations* and Associate Director of the Institute of Industrial Relations. Levine's research focuses on labor markets and workplaces. One stream of this research examines what combinations of management policies lead to effective workplaces with high levels of employee skill and decision-making. He examines why such workplaces are rare and analyzes cost-effective policies to promote such high-skill workplaces. This research is summarized in *Reinventing the workplace* (Brookings, 1995) and the co-edited volume *The American workplace: Skill, pay and employee involvement* (Cambridge University Press, 1999). A second focus of his research examines the determination of wages and inequality in the United States, with an emphasis on institutional and human capital forces. This research is summarized in *How new is the 'new employment contract'?* (with Dale Belman, Gary Charness, Erica Groshen, and K. C. O'Shaughnessy, Upjohn Institute, Kalamazoo, MI, 2002). Levine's third focus involves the intersection of organizations and investments in children. The goal here is to understand how private and public organizations interact and how to improve those interactions to promote both efficiency and equality of opportunity. (See *Working in the twenty-first century: Government policies to promote opportunity, learning and productivity in the new economy*, M. E. Sharpe, 1998.)

Aparna Joshi received her doctorate from the School of Management and Labor Relations at Rutgers University. She is currently an Assistant Professor at the Institute of Labor and Industrial Relations at the University of Illinois. Her research interests include work team diversity, team networks, and the management of global and distributed work teams.

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