

CULTURAL DIVERSITY IN MANAGEMENT, FIRM PERFORMANCE, AND THE MODERATING ROLE OF ENTREPRENEURIAL ORIENTATION DIMENSIONS

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Extending previous theorizing on cultural diversity's organizational effects by integrating value-in-diversity and social identity perspectives with the framework of Blau's (1977) theory of heterogeneity, we hypothesized curvilinear relationships between racial and gender diversity in management and firm performance. We evaluated relationships within the context of firm-level entrepreneurial orientation. Our empirical study indicated complex relationships among study variables. It revealed that innovativeness positively and risk taking negatively moderated nonlinear relationship patterns for both racial and gender heterogeneity. Research and practical implications are discussed.

In the United States, women hold more than 40 percent of the administrative and managerial jobs, and about 17 percent of "officials and managers" are racial minorities (Equal Employment Opportunity Commission [EEOC], 2002). Despite these facts, there has been little research on the performance effects of racial and gender heterogeneity in management groups (Williams & O'Reilly, 1998). Instead, management-level diversity studies usually focus on nonvisible types of diversity, such as the functional background and job tenure of top managers (Finkelstein & Hambrick, 1996). Cultural diversity, however, also encompasses differences in visible characteristics such as race and gender (Cox, 1994). Several studies of diversity have found that it has positive effects at the individual and small-group levels (Cox, Lobel, & McLeod, 1991; Watson, Kumar, & Michaelson, 1993), but others have concluded that heterogeneous groups perform less well than homogeneous groups (Pelled, Eisenhardt, & Xin, 1999; Tsui, Egan, & O'Reilly, 1992). Existing theories do not appear to offer a sufficient explanation for these inconsistent findings.

We would like to thank Associate Editor Marshall Schminke and three anonymous *AMJ* reviewers for their helpful comments.

We sought to integrate existing theoretical explanations (value-in-diversity, social identity, and self-categorization theories) within the context of Blau's (1977) theory of heterogeneity and suggest that the relationship between cultural diversity and performance is more complex than previous models have suggested. Specifically, we extended our analysis beyond simple linear relationships and investigated potential curvilinear and contingency relationships. We added to the research concerning cultural diversity among managers by examining two visible components of diversity—race and gender. Further, instead of analyzing diversity's effects at an individual or group level of analysis, we examined how heterogeneity within management affects firm performance.

THEORETICAL DEVELOPMENT AND REFINEMENT

Cultural Diversity in Management and Firm Performance

Cultural diversity has been studied in both laboratory and field settings. In general, lab studies, grounded in the value-in-diversity perspective, have indicated that diversity within work groups increases their effectiveness (Cox et al., 1991;

Watson et al., 1993). In contrast, field studies, guided by social identity and related self-categorization theories, have suggested that diversity is associated with negative performance outcomes (Pelled et al., 1999; Tsui et al., 1992). In this section, we integrate predictions from these two perspectives to provide a theoretical framework based on Blau's (1977) theory of heterogeneity.

Blau (1977) suggested that firms with different levels of cultural diversity experience dissimilar dynamics and organizational outcomes. Within culturally homogeneous groups, members will tend to communicate with one another more often and in a greater variety of ways, perhaps because they share worldviews and a unified culture resulting from in-group attachments and shared perceptions (Earley & Mosakowski, 2000). According to social identity theory, cultural homogeneity in management groups may thus increase satisfaction and cooperation and decrease emotional conflict (Tajfel & Turner, 1985; Williams & O'Reilly, 1998). Since homogeneous groups do not have significant cultural barriers to social intercourse, positive social associations and in-group social contacts are fostered (Blau, 1977). This formulation suggests that deleterious social identity and self-categorization processes will not inhibit an organization with a culturally homogeneous management group.

As cultural diversity increases, however, social comparison and categorization processes occur, and in-groups/out-groups and cognitive biases may emerge, creating barriers to social intercourse (Blau, 1977; Smith, Smith, Olian, Sims, O'Bannon, & Scully, 1994; Tsui et al., 1992). Therefore, as heterogeneity in management groups reaches moderate levels, the psychological processes associated with social identity theory and self-categorization processes may be more likely to occur. These processes generate individual behaviors such as solidarity with others in a race- or gender-based group, conformity to the norms of one's group, and discrimination against out-groups (Tajfel & Turner, 1985). To the extent that multiple subcultures exist in moderately heterogeneous groups, conflict is potentially maximized (Earley & Mosakowski, 2000; Lau & Murnighan, 1998), and intergroup interaction and communication may be blocked (Alexander, Nuchols, Bloom, & Lee, 1995; Blau, 1977). For example, Earley and Mosakowski (2000) found that moderately heterogeneous groups exhibited relationship conflict, communication problems, and low identification of members with an overall work group. Within management groups, the difficulties associated with moderate levels of heterogeneity may lead to negative performance outcomes for an organization.

Although moderate levels of cultural heterogeneity may create barriers to effective social intercourse, high levels of heterogeneity could actually weaken these barriers (Blau, 1977), since group members will be more evenly diffused over the categories of cultural diversity, and in-group/out-group identities will be reduced (Alexander et al., 1995). In groups with high levels of cultural heterogeneity, casual social contacts and communication are more likely to involve members of different racial/gender groups. Further, the in-group pressures that inhibit social interaction with out-group members should be weakened (Blau, 1977). In management groups with high heterogeneity, out-group discrimination is thus less likely to occur. In fact, few common bases for subgroup formation and social identity are likely to exist in management groups with relatively high levels of diversity (Earley & Mosakowski, 2000). In addition, we posit that the processes associated with the value-in-diversity paradigm are fully realized within highly diverse management groups, which further enhances performance (Cox et al., 1991; Watson et al., 1993). An organization with high levels of cultural heterogeneity in management may not be inhibited by social identity processes because organization members have many out-group contacts and may, instead, greatly benefit from a diverse pool of resources.

In sum, in keeping with previous research exploring the nonlinearity of human capital effects (Hitt, Bierman, Shimizu, & Kochhar, 2001), we expected cultural heterogeneity in management to exhibit a U-shaped relationship with firm performance.

Hypothesis 1. Cultural diversity in management will have a U-shaped curvilinear relationship to performance.

The Moderating Effects of Entrepreneurial Orientation Dimensions

Entrepreneurial orientation defined. The diversity of management groups should be studied in light of relevant contextual factors (Chatman, Polzer, Barsade, & Neale, 1998). Firm strategy (Richard, 2000) and strategy process variables are particularly relevant to the study of management diversity, since strategy formulation and implementation involve individuals at all levels and across all functional areas of management (Burgelman, 1983).

Entrepreneurial orientation is a firm-level construct (Covin & Slevin, 1991) that is closely linked to strategic management and the strategic decision making process (Birkinshaw, 1997; Burgelman, 1983; Kanter, 1982; Lumpkin & Dess, 1996; Naman

& Slevin, 1993). A firm's entrepreneurial orientation is its propensity to act autonomously, innovate, take risks, and act proactively when confronted with market opportunities (Lumpkin & Dess, 1996). Entrepreneurial orientation should be distinguished from entrepreneurship, which relates to new business entry and is concerned primarily with questions such as, "What business do we enter?" and "How do we make the new business succeed?" Entrepreneurial orientation is a process construct and concerns the "methods, practices, and decision-making styles managers use" (Lumpkin & Dess, 1996: 136). Entrepreneurial orientation is grounded in the strategic choice perspective and concerns the "intentions and actions of key players functioning in a dynamic generative process" (Lumpkin & Dess, 1996: 136). An entrepreneurial orientation promotes initiative (Burgelman, 1983) and what Birkinshaw (1997) called "dispersed" entrepreneurship, which is the involvement of multiple management levels in the formulation and implementation of entrepreneurial strategies. An entrepreneurial orientation is not created or imposed by top management, but reflects the strategic posture as exhibited by multiple layers of management (Stevenson & Jarillo, 1990).

Entrepreneurial orientation is conceptualized as having anywhere from three to five dimensions, which may vary independently (Lumpkin & Dess, 1996) and have different moderating effects on the relationship between management diversity and performance. An organization could exhibit relatively high levels of one or more dimensions and, at the same time, relatively low levels of other dimensions (Lyon, Lumpkin, & Dess, 2000). In our research, we focused on the three most commonly cited entrepreneurial orientation dimensions: innovativeness, risk taking, and proactiveness. We viewed the dimensions of entrepreneurial orientation as interacting with cultural diversity to affect firm performance but saw the moderating effects of the dimensions as likely to differ.

The moderating effect of innovativeness. *Innovativeness* reflects the propensity of a firm to actively support new ideas, novelty, experimentation, and creative solutions in pursuit of a competitive advantage (Lumpkin & Dess, 1996). Conceptually, an innovative strategic posture is thought to be linked to firm performance because it increases the chances that a firm will realize first-mover advantages and capitalize on emerging market opportunities (Wiklund, 1999). We believe that homogeneous management groups will perform well in firms with innovative orientations. Members of homogeneous management groups are likely to exploit their shared perceptions and high-quality

communication to respond to their organization's demand for novelty and creativity. However, the development of racial and/or gender diversity in management groups may lead to the formation of in-groups and out-groups, stronger identification of members with other members of their own race or gender than with the management group, and thus the potential for poor intergroup communication and increased conflict. In this paper, we argue that these negative effects should be highest at moderate levels of heterogeneity (Hypothesis 1) because categorical groups will be large and concentrated enough to promote in-group identification and out-group bias (Blau, 1977; Earley & Mosakowski, 2000). Thus, we would expect the combination of an innovative strategic posture and relatively moderate levels of cultural diversity to lead to the lowest levels of firm performance.

Proponents of cultural diversity have maintained that the multiple perspectives and insights a culturally diverse workforce provides can foster a wide range of creative decision alternatives, effective decision making, and high-quality decisions (Cox, 1994, McLeod, Lobel, & Cox, 1996). In terms of strategy formulation and implementation within management groups, this value-in-diversity perspective suggests that the attributes of a heterogeneous management group enhance the development of strategic alternatives and promote creative and effective competitive strategies. As the level of heterogeneity in a management group reaches relatively high levels, group members become more evenly diffused over the categories of cultural diversity, and in-group/out-group identities are reduced by the relatively small sizes of homogeneous groups (Alexander et al., 1995). Thus, communication and interaction should increase because group members have many out-group contacts (Blau, 1977). In firms emphasizing the need for innovativeness, such relatively heterogeneous management groups should be able to effectively respond by taking advantage of diverse backgrounds, perceptions, and worldviews without suffering greatly from the aforementioned negative social identity and categorization effects. Thus, we expect the combination of an innovative strategic posture and relatively high levels of diversity to have the most positive impact on firm performance.

Hypothesis 2. The U-shaped relationship between cultural diversity in management and performance will be significantly stronger in firms with innovative orientations.

The moderating effects of risk taking and proactiveness. The *risk-taking* dimension of strategic posture is a firm's propensity to take business-

related chances with regard to strategic actions in the face of uncertainty. *Proactiveness* is its propensity to take the initiative to compete aggressively with other firms (Covin & Slevin, 1989). A strategic posture emphasizing risk taking and proactiveness suggests that a management group will need high levels of trust and interpersonal communication. Both the risk-taking and proactiveness dimensions of entrepreneurial orientation require a firm to make quick decisions and aggressively compete by implementing bold and risky strategies in the face of uncertainty. Timely risks may be a key factor, as strategic decision speed has been linked to firm performance (Eisenhardt, 1989).

Members of homogeneous management groups may have fewer cognitive and interpersonal barriers to overcome in reaching agreement on aggressive and risky strategies (Miller, Burke, & Glick, 1998; Watson et al., 1993). However, homogeneous groups may lack the diverse cognitive perspectives needed to recognize strategic opportunities and/or simultaneously consider alternatives, capacities that are essential for decision speed (Eisenhardt, 1989; Judge & Miller, 1991). In sum, culturally homogeneous groups do little for risk-taking and proactive orientations. In contrast, we posit, a moderate level of diversity will benefit firms with such orientations. Research has shown that up to a certain level, diversity relates to task conflict (Pelled et al., 1999), which is disagreement among members about the content of tasks being performed (Jehn, 1995). Such conflict is suitable for firms that thrive on risk and proactivity. Thus, we predict that a moderate level of diversity in management is ideal in a risky or proactive context. Beyond moderate levels, however, we expect a different effect. Empirical research has suggested that high levels of diversity reduce agreement-seeking behaviors and social cohesion in the context of strategic decision making (Ferrier, 2001). Other studies have indicated that diverse decision-making groups are slower to reach consensus than homogeneous groups (Watson et al., 1993). Consequently, decision-making speed, as well as a firm's ability to effect strategic change, are often impeded (Hambrick, Cho, & Chen, 1996). These potentially negative consequences suggest that a highly diverse management might have difficulty operating successfully in a context characterized by an emphasis on risk taking and proactiveness. Thus, we expect that risk taking and proactiveness will negatively moderate the relationship between management group heterogeneity and firm performance. The combination of a highly proactive and risk-taking posture and high levels of diversity is likely to have the most negative impact on firm performance.

This presentation represents a shift from the earlier curvilinear predictions, outlined in Hypotheses 1 and 2. The first hypothesis proposes a U-shaped relationship between diversity in management and performance, and the second, that the U-shaped relationship will be stronger for more innovative firms. However, Hypotheses 3 and 4 differ markedly, suggesting an inverted U-shaped relationship between cultural diversity in management and performance where a moderate level of diversity is advantageous for risk-taking and proactive firms.

Hypothesis 3. Firm risk taking will moderate the curvilinear relationship between cultural diversity in management and performance in such a way that low and high, but not moderate, levels of diversity will negatively relate to performance, resulting in an inverted U-shaped relationship.

Hypothesis 4. Firm proactiveness will moderate the curvilinear relationship between cultural diversity in management and performance in such a way that low and high, but not moderate, levels of diversity will negatively relate to performance, resulting in an inverted U-shaped relationship.

METHODOLOGY

Sample

Initially, we obtained a stratified random sample frame consisting of 700 banks with \$100 million or less in total assets, 700 with \$100–499 million in assets, and 700 with \$500 million or more in assets. We sent questionnaires to the 2,100 bank presidents, 535 of whom responded. The bank presidents completed items related to their firms' degrees of entrepreneurial orientation and provided other data not utilized in the present study. Prior to beginning the current study, we obtained contact information for the senior human resource executives of the 535 banks that responded to the first survey and queried these HR executives regarding the demographic characteristics of their banks' management. Data were collected for fiscal year 1998. One hundred fifty-three of the 535 HR executives provided usable data, resulting in a 29 percent response rate. The average number of employees in the banks was 154, and the banks had an average of 7 branches. The average bank age was 77 years.

Measures

Cultural diversity. Using data provided by the HR executives, we assessed the racial and gender

heterogeneity of each bank's management group. Because multiple layers of management are involved in the strategic process (Birkinshaw, 1997; Burgelman, 1983), we included senior executives who set corporate strategy and policies and the managers who implemented such policies: middle management, department managers, and salaried supervisors. To simplify reporting, we provided each HR executive a blank 1998 EEO-1 Standard Form 100. The "officials and managers" job category was employed to represent the management group. This job category includes administrative and managerial personnel who set broad policies, exercise overall responsibility for the execution of these policies, and direct individual departments or special phases of a firm's operations (EEOC, 2002). The nature of banks requires high interdependence among management groups and members particularly within, but also across, branches. The average management group size was 32.

Blau's (1977) index of heterogeneity was used to develop measures of racial (white, black, Hispanic, Asian, and Native American) and gender diversity in management. This procedure was consistent with previous measurements of diversity (Hambrick et al., 1996; Richard, 2000). Blau's index (calculated as $1 - \sum P_i^2$, where P is the proportion of individuals in a category and i is the number of categories) could thus theoretically range from 0 to .80. In our sample, Blau index values for race ranged from 0 to .61. Although we do not explicitly categorize index values into "low," "moderate," and "high" heterogeneity here, Blau index values of .25 or above would reflect relatively high heterogeneity for this sample and management groups in the financial industry. To reduce kurtosis and skewness, we used the logarithm of the racial diversity measure.

For gender heterogeneity, we observed index values from 0 to .50, reflecting the entire feasible range. Again, the index values represented a continuous measure. However, as with racial heterogeneity, Blau index values greater than .25 would reflect relatively high levels of heterogeneity. The test for normality appeared sufficient for the gender diversity measure, and thus we did not use any transformation for this measure. Following the approach of Alexander and colleagues (1995), we used the quadratic terms of both racial and gender heterogeneity to test the curvilinear relationship between heterogeneity and performance.

Entrepreneurial orientation. To measure dimensions of entrepreneurial orientation, we used Covin and Slevin's (1989) nine-item entrepreneurial orientation scale, which is intended to assess three components of firm-level entrepreneurial ori-

entation—innovativeness, risk taking, and proactiveness. Previous studies have reported evidence of reliability and validity for the entrepreneurial orientation scale (e.g., Naman & Slevin, 1993). However, questions remain as to the dimensionality of the measure (Knight, 1997; Lumpkin & Dess, 2001). We factor-analyzed the component items with data collected from the presidents of the 382 banks that were not included in the sample for this study, employing a maximum likelihood analysis with oblique rotation.

In evaluating each item's factor "loading," we applied a relatively stringent rule of thumb, accepting an item only if it had a .40 or greater loading on a factor that was also at least .20 greater than its loading on any other factor. We obtained a two-factor solution. Five items loaded on factor 1. These items addressed risk propensity, environmental boldness (that is, competitive aggressiveness), aggressiveness of decision making, competitive posture, and the degree to which a firm was first to market with new services, techniques, and/or technologies. Thus, we interpreted this factor as a *risk-taking* factor. Two items loaded on an *innovativeness* factor, as the items concerned the number of new or changed service and product lines a financial institution had introduced in the previous five years. Thus, the factor analysis did not result in a separate factor for proactiveness. To further investigate the dimensionality of the entrepreneurial orientation scale, we performed a confirmatory factor analysis using the 153 respondents to the present study. The CFA confirmed that the same two-factor solution fitted the data better (GFI = .91) than either a one-factor (GFI = .80) or a three-factor (GFI = .86) solution. In view of the results of the factor analyses, we formed risk-taking and innovativeness measures for respondents to the current study by summing the items comprising each factor and dividing by the number of items. This calculation resulted in measures with scores ranging from 1 to 7, with higher scores indicating a stronger propensity to engage in firm-level risk-taking or innovative behaviors. The Cronbach alphas for the risk-taking and innovativeness scales were .78 and .80, respectively, with all corrected item-correlations exceeding the .40 threshold.

Firm performance. Productivity, an intermediate output measure, is an important performance indicator in a bank (Mehra, 1996). Productivity was calculated as the logarithm of net income per employee (Richard, 2000) for year-end 1998. Return on equity (averaged for the years 1997 and 1998 to account for volatility), our bottom-line measure of financial performance, is a preferred measure of a

bank's financial performance and overall viability (Hopkins & Hopkins, 1997).

Control variables. Racial heterogeneity and the proportion of whites in management are not synonymous. For example, two teams, one with 90 percent whites and 10 percent blacks and the other with 90 percent Hispanics and 10 percent blacks, would have the same Blau index score. Although the nature of our sample (managers in the banking industry) is such that the majority of the management teams were likely to be predominantly white, including a proportional control variable enabled us to interpret the results of our heterogeneity variable with more confidence. Therefore, we controlled for the *percentage of whites* in the management groups. We also controlled for the *percentage of men* in the management groups. Another control, *firm size*, was the logarithm of the total dollar value of bank assets. We also annualized the percentage of asset growth experienced by the banks for 1997–98. Higher percentages reflected a *growth strategy*, and negative percentages reflected asset reduction.

RESULTS

Table 1 provides the means, standard deviations, and correlations for the study variables. Regression results for the tests of hypotheses are presented in Table 2.

Hypothesis 1 states that cultural diversity in management will have a curvilinear relationship with firm performance in which firms with low and high levels of heterogeneity will outperform those with moderate levels of heterogeneity. To test this hypothesis, we ran two regressions, one with the control variables, percent white and percent male, included and one without those controls. Since the

results were not materially different, the regressions reported here are those for the full models including all control variables. Model 1 in Table 2 reports the results for the control variables along with race and gender heterogeneity measures. In model 1, only the squared racial diversity term was significantly related to either measure of firm performance, as it was positively related to productivity ($\beta = 0.60, p = .00$). Model 2 adds the hypothesized moderators and interaction terms. In this regression, the significant effect for racial diversity disappeared. Thus, the results did not support the presence of a U-shaped relationship between racial or gender heterogeneity and firm performance across all the firms in the sample.

Hypotheses 2 and 3 were assessed simultaneously in model 2. Because our factor analysis of the entrepreneurial orientation scale did not yield a factor analogous to proactiveness, we were unable to test Hypothesis 4. Our test of Hypothesis 2 examined the positive moderating effect of innovativeness on the diversity-performance relationship, while the Hypothesis 3 test evaluated the negative moderating effect of risk taking. For racial heterogeneity in management, innovativeness significantly and positively moderated the relationship with firm performance as measured by productivity ($\beta = 2.08, p = .02$) and return on equity ($\beta = 2.02, p = .03$). For gender heterogeneity in management, innovativeness positively, although marginally, moderated the relationship with productivity ($\beta = 2.07, p = .10$), but not return on equity ($\beta = 0.66, p = .26$). In general, these results provided moderate support for Hypothesis 2.

Risk taking was found to have a marginally significant and negative moderating effect on the relationship between racial heterogeneity in manage-

TABLE 1
Descriptive Statistics and Correlations^a

Variable	Mean	s.d.	n	1	2	3	4	5	6	7	8	9
1. Size	11.70	1.26	155									
2. Growth strategy	0.22	0.41	155	.24**								
3. Percent white in management	0.94	0.16	153	.06	.01							
4. Percent men in management	0.54	0.21	153	-.25**	-.03	.12						
5. Racial diversity in management	0.05	0.10	150	.29**	.05	-.43**	-.17*					
6. Gender diversity in management	0.41	0.15	150	.35**	.06	-.05	-.49**	.06				
7. Innovativeness	4.45	1.27	154	.29*	.04	.06	-.15	.12	.12			
8. Risk taking	3.64	0.99	155	.20**	.13	.04	-.13	.05	-.01	.45**		
9. Productivity	3.23	0.64	153	.29**	.14	.24**	-.03	-.03	.12	-.02	.03	
10. Return on equity	13.00	6.32	152	.31**	.04	.04	-.09	.06	.09	.18*	.06	.58**

^a Size was the logarithm of total bank assets averaged for 1997 and 1998. Growth strategy was the percent annual change in total assets between year-end 1996 and year-end 1998. For risk taking and innovativeness, scores ranged from 1.00 to 7.00. Productivity was the log of net income per employee for year-end 1998. Return on equity was the percent return averaged for years 1997 and 1998.

* $p < .05$

** $p < .01$

TABLE 2
Results of Regression Analysis^a

Variable	Hypothesis Tested	Productivity, Model 1			Productivity, Model 2			ROE, Model 2			Productivity, Model 3			ROE, Model 3		
		<i>b</i>	β	<i>b</i>	β	<i>b</i>	β	<i>b</i>	β	<i>b</i>	β	<i>b</i>	β	<i>b</i>	β	
Control																
Intercept		0.21 (0.64)		-9.89 [†] (6.63)		1.38 (0.98)		-17.54* (10.54)		0.49 (2.73)		-4.27 (21.84)				
Size		0.17*** (0.05)	0.33***	1.97*** (0.46)	0.40***	0.17*** (0.05)	0.33***	1.91*** (0.53)	0.38***	0.28*** (0.10)	0.52***	1.52* (0.79)	0.40*			
Growth strategy		0.11 (0.12)	0.07	0.64 (1.25)	-0.04	0.18 [†] (0.12)	0.12 [†]	-0.21 (1.29)	-0.01	-0.38 (0.29)	-0.19	0.94 (2.33)	0.07			
Percent whites in management		0.98* (0.42)	0.22*	1.14 (4.37)	0.03	1.09* (0.43)	0.24*	1.79 (4.62)	0.04	2.41 (2.02)	-0.45	-12.02 (16.14)	-0.33			
Percent men in management		0.11 (0.27)	0.04	-0.84 (2.77)	-0.03	-0.16 (0.28)	-0.05	-0.90 (3.00)	-0.03							
Racial diversity in management		-3.87** (1.42)	-0.57**	-12.33 (15.02)	-0.18	4.43 (5.95)	0.66	57.84 (63.69)	0.85	19.76 (17.38)	3.24	108.16 (138.0)	2.60			
Gender diversity in management		0.76 (1.44)	0.18	11.96 (14.73)	0.28	-8.75 (6.88)	-2.05	-34.90 (73.95)	-0.82	1.78 [†] (1.06)	0.29 [†]	2.37 (2.31)	0.59			
Racial diversity in management squared	1	11.71** (4.02)	0.60**	26.05 (41.92)	0.13	-8.65 (15.13)	-0.44	-116.0 (161.0)	-0.60	-36.92 (32.01)	-2.80	-222.24 (255.0)	-2.48			
Gender diversity in management squared	1	-1.07 (2.76)	-0.13	-28.26 (28.58)	-0.35	13.57 (13.71)	1.67	95.82 (148.0)	1.19							
Entrepreneurial orientation																
Innovativeness				-0.21 [†] (0.14)	-0.42 [†]			0.25 (1.53)	0.05	0.28 (0.29)	0.48	2.37 (2.31)	0.59			
Risk taking				-0.05 (0.21)	-0.08			1.92 (2.24)	0.29	0.05 (0.37)	0.08	1.01 (2.96)	-0.22			
Interactions																
Innovativeness × racial diversity				-3.50** (1.40)	-2.50**			-33.02* (15.03)	-2.33*	-4.94 [†] (3.09)	-4.03 [†]	-41.03 [†] (24.75)	-4.88 [†]			
Innovativeness × gender diversity				-0.87 (1.25)	-1.16			-5.84 (13.47)	-0.78							
Risk taking × racial diversity				2.48 [†] (1.61)	1.39 [†]			21.03 (16.52)	1.19	1.30 (3.78)	0.86	24.49 (30.23)	2.37			
Risk taking × gender diversity				4.01* (2.05)	4.38*			21.52 (21.83)	2.37							
Innovativeness × racial diversity squared	2			9.22* (4.49)	2.08*			89.45* (48.02)	2.02*	9.94 [†] (7.06)	3.28 [†]	96.30* (56.41)	4.65*			
Innovativeness × gender diversity squared	2			3.04 [†] (2.36)	2.07 [†]			16.61 (25.28)	1.13							
Risk taking × racial diversity squared	3			-6.17 (4.95)	-1.13			-70.17 [†] (52.97)	-1.28 [†]	-3.97 (8.03)	-1.07	-70.35 (64.01)	-2.77			
Risk taking × gender diversity squared	3			-8.44** (3.94)	-4.70**			-57.71 [†] (42.44)	-3.25 [†]							
<i>R</i> ² /Adjusted <i>R</i> ²		.19/.14		.13/.08		.30/.20		.19/.08		.49/.30		.32/.06				
Model total		145		144		145		144		45		44				
<i>F</i>		3.98***		2.46*		2.97***		1.75*		2.60*		1.23				

^a Standard errors are in parentheses. Model 3 uses a reduced sample.

[†] $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

ment and performance for return on equity ($\beta = -1.28, p = .09$), but not productivity ($\beta = -1.13, p = .11$). Stronger results emerged for gender heterogeneity, with significant findings for productivity ($\beta = -4.70, p = .02$) and marginally significant findings for return on equity ($\beta = -3.25, p = .09$). Thus, the results provided moderate support for Hypothesis 3 as well.

Because of the relatively low level of racial heterogeneity in the majority of the management groups in our sample, our data related to this variable were skewed (more values were close to 0, representing homogeneity, than to .80, representing heterogeneity). Violation of normality assumptions impedes the interpretation of results, so we duplicated the racial diversity analysis in a sample subset that was normally distributed, with racial heterogeneity ranging from low to high. The results were similar to those for the full sample of firms. Subset results in Table 2 (model 3) indicated general support for Hypothesis 2, which further increases our confidence in the full-sample findings.

For clarity, we developed graphs of some of the above moderating effects, which are shown in Figures 1–2. Because of the generally consistent results across both race and gender and the more powerful statistical results related to race when innovativeness was a moderator, in Figure 1 we illustrate the joint effect of racial heterogeneity and innovativeness on the productivity performance measure. We divided the data set into high-innovation companies (scoring one standard deviation above the mean) and low-innovation companies

(scoring one standard deviation below the mean). As Figure 1 demonstrates, the relationship of racial diversity in management with productivity varies in form according to a firm's level of innovativeness. The high-innovativeness curve has a negative slope as racial diversity in a firm's management team moves from homogeneity through moderate heterogeneity. However, in the high-innovativeness firms, there is a dramatic positive slope once racial heterogeneity exceeds about .25 on the Blau index.

Although only marginal support was found for the impact of risk taking on the relationship between racial diversity and performance, the findings are more robust for gender diversity. Therefore, in Figure 2, we graphed the gender results along the productivity measure at both high and low levels of risk taking (one standard deviation above and below the mean). The curvilinear relationship between gender heterogeneity and firm performance varied according to our predictions. In high-risk-taking firms, there was a definite inverted U-shaped relationship between gender diversity and performance, as firms with homogeneous management groups and very heterogeneous management groups performed less well than firms with moderately heterogeneous management groups. As a whole, the results supported our contention that risk taking would emerge as a negative moderator of the diversity-performance relationship. Our results revealed the complexity of the relationships but were generally supportive of the moderating hypotheses.

FIGURE 1
Interaction Effects of Racial Diversity in Management and Innovativeness

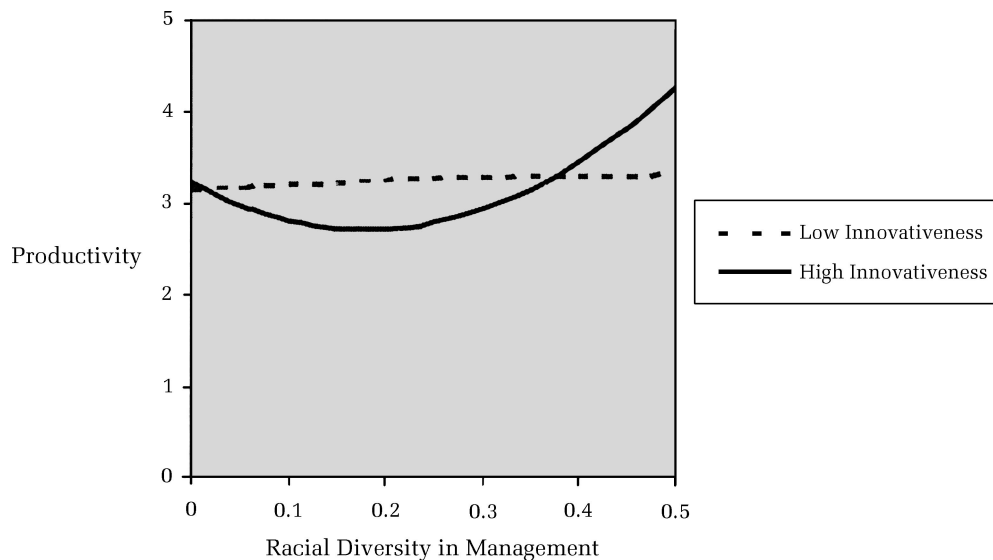
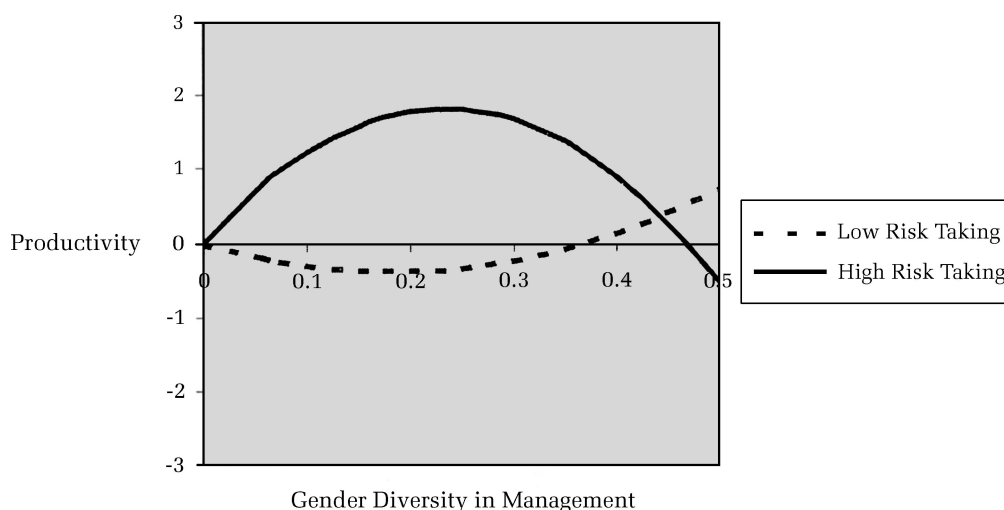


FIGURE 2
Interaction Effects of Gender Diversity in Management and Risk Taking



DISCUSSION

Overview

We hope that this study will represent both a departure and a fresh beginning in the study of the diversity-performance relationship, particularly among managers. We believe our study makes three noteworthy contributions. One contribution of our study is its attempt to offer a “third-way” theoretical perspective on the diversity-performance relationship, as we depart from both the “diversity equals better performance” and “diversity equals poorer performance” arguments that have dominated the literature. Our theoretical framework, grounded in Blau’s (1977) theory of heterogeneity and incorporating notions from the value-in-diversity, social identity, and social categorization literatures, suggests that cultural diversity and performance may not have a simple, linear relationship. One virtue of this new approach to studying the relationship is its potential for reconciling conflicting previous empirical findings.

Previous research into management group diversity has focused largely on (1) nonvisible aspects of diversity, such as functional background and (2) top management teams. A second contribution of our study is thus the extension of this area of research into visible attributes of cultural diversity—race and gender—at several levels of management. This extension is particularly appropriate in that our focus on firm performance and the moderating effect of entrepreneurial orientation acknowledges the role of multiple layers of management in strategy formulation, implementation, and entrepre-

neurial behaviors. Finally, until recently, research has not addressed contextual factors that may moderate the relationship between diversity and performance. A final contribution of our study is its analysis of the potential moderating effects of entrepreneurial orientation.

Although our empirical results did not fully support the hypothesized curvilinear relationship between cultural diversity in management and firm performance, we did observe such effects in specific strategic contexts. More specifically, in firms with highly innovative strategic postures, both low and high management group heterogeneity were associated with higher productivity than was moderate heterogeneity. This effect was strongest for racial diversity. This finding has potentially important implications. The results suggest, as we expected, that the relationship between cultural diversity and performance is more complex than that captured by either rubric (“greater diversity equals better/poorer performance”). In short, the finding on diversity suggests that although neither the value-in-diversity perspective nor social identity theory is necessarily incorrect, their ability to explain the diversity-performance relationship might depend upon the overall level of diversity within the management group under consideration *and* the context within which the group is operating.

In firms characterized by high levels of risk taking, we observed an inverted U-shaped relationship between management group heterogeneity and productivity, with moderately heterogeneous management groups exhibiting better performance than other management groups. This effect was strongest

for gender heterogeneity. Thus, the results suggest that totally homogeneous groups may not thrive in an environment requiring decision speed and aggressive competitive behavior. As management group diversity approaches a moderate level, however, its positive effects may yield performance advantages in a high-risk strategic context. Notwithstanding, as diversity exceeds moderate levels and continues to increase, cognitive biasing and communication problems may increase, which leads to reduced cooperation and increased conflict. These results are consistent with previous research indicating that high diversity reduces agreement seeking, social cohesion, and decision speed (Ferrier, 2001), phenomena that may impede a firm's ability to respond in a context that demands aggressiveness (Hambrick et al., 1996).

Limitations and Conclusion

Although our results suggest that the relationship between management group diversity and firm performance is nonlinear, at least in some strategic contexts, conclusions drawn from our results must be tempered by the fact that, in regard to racial heterogeneity, our management groups were not, on the average, highly diverse. A stronger test of the hypothesized curvilinear relationships calls for a setting of work groups in which the full theoretical range of racial heterogeneity (0 to .80) can be assessed. At the management level, however, maximum theoretical racial diversity is rare in U.S. firms. Among *Fortune's* 50 Best Companies for Minorities for 1998 were two banks, Washington Mutual, rated 27th, and the Bank of America, rated 41st. The first of these had 28.6 percent racial minorities in management, and the second, 23.5 percent. Given Bank of America's percentage of white managers (76.5%), the maximum attainable Blau index for this bank would be approximately .40. There were banks in our sample with more diversity than the Bank of America, but it would be highly unlikely to find a sample of banks in which the racial heterogeneity index values ranged all the way to .80. Thus, laboratory studies with assigned work groups might be utilized to test the full range of racial heterogeneity in groups, allowing researchers to see whether the positive performance shift continues throughout the theoretical range of heterogeneity. Given that more variation existed in the gender measure and that the statistical patterns converge with the race measure, we believe that in at least some strategic contexts (firms with highly innovative strategic postures), increasing levels of heterogeneity will continue to affect performance

positively up to maximum levels of heterogeneity. Confirmation of our theoretical proposition awaits.

We should point out additional limitations inherent in our study. We were unable to provide a test of our hypothesis related to proactiveness, as factor analysis of the entrepreneurial orientation scale yielded only two interpretable factors. The dimensionality of the entrepreneurial orientation scale may need to be further explored. Research should continue to explore situations in which the dimensions converge and diverge.

Of course, our study only examined the linkage between the level of diversity and two measures of firm performance and did not directly address the relationship between the level of diversity and the process variables (communication, conflict, social contacts, and so forth) identified above. Our theoretical suppositions should be tested in future cross-sectional and longitudinal research that looks at the relationship of cultural diversity in management with these and other process variables.

Given our use of a single industry, caution should be used in generalizing beyond the financial sector. We call for diversity research in other industries and in other nations. Our sample consisted of U.S. banks, although many other countries have diverse managements in terms of both race and gender and could thereby provide viable samples to explore. Just as inviting is the exploration of other diversity dimensions related to globalization (for instance, ethnicity, geographic background).

In conclusion, our findings indicate that management-level heterogeneity can be a critical asset in certain strategic contexts but that the diversity-performance relationship is complex. In addition to the strategic posture of entrepreneurial orientation that we found to moderate the relationship, other contextual variables require attention. Future research that takes into account the complexity of the diversity-performance relationship and its potential moderators should move scholars closer to a general theory of cultural diversity in the firm.

For a final thought, we note that results of this research have managerial implications. The findings begin to answer a practical question: What is the financial impact of breaking the "glass ceiling"? Our results show that within certain settings, cultural diversity in management groups can be exploited to gain a competitive edge. Given the irreversible trend towards more racial and gender diversity in organizations, it behooves managers to develop organizational capabilities that maximize the benefits of diverse human capital and ultimately strive for a "sustainable diversity advantage."

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