

Board of Director Diversity and Firm Financial Performance

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This study examines the relationship between demographic diversity on boards of directors with firm financial performance. This relationship is examined using 1993 and 1998 financial performance data (return on asset and investment) and the percentage of women and minorities on boards of directors for 127 large US companies. Correlation and regression analyses indicate board diversity is positively associated with these financial indicators of firm performance. Implications for both strategic human resource management and future research are discussed.

Keywords: Firm organisation, diversity, performance, heterogeneity

Introduction

As women and minorities are continuing to become a larger proportion of the workforce in comparison to white males, corporations are beginning to experience significant changes in pools of potential candidates as high-ranking officer positions (Holton, 1995; Burke, 1997; Conyon and Mallin, 1997; Burke and Nelson, 2002). The diversification of these resource pools may impact the composition of boards of directors and subsequently corporate governance (Shrader *et al.* 1997). While diversity within boards of directors may be a highly visible effort to demonstrate an absence of discrimination, it is unclear if diversity within boards of directors has an impact on organisational performance. The diversity literature suggests diversity adversely impacts group dynamics, but improves group decision-making. However, this research has not been conducted with boards of directors nor has it investigated the impact of board of director diversity on organisational performance. Our research is designed to investigate the impact

of diversity within boards of directors on firm performance.

To examine the relationship between board of director diversity and firm performance, we first discuss the concept of diversity and then relate diversity to group and organisation performance. Ultimately, we examine specific relationships between board diversity and firm performance.

Demographic diversity

Previous research on diversity typically follows two general distinctions: the observable (demographic) and the non-observable (cognitive). Examples of observable diversity are generally gender, age, race and ethnicity and examples of non-observable diversity are knowledge, education, values, perception, affection and personality characteristics (Maznevski, 1994; Milliken and Martins, 1996; Pelled, 1996; Boeker, 1997; Watson *et al.*, 1998; Kilduff, *et al.*, 2000; Petersen, 2000; Timmerman, 2000). However, most research on diversity and its effects on performance focus on observable or demographic diversity.

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Thus, we define diversity as the representation of both ethnic and gender differences on boards of directors.

This study considers demographic diversity as it directly reflects the increasing numbers of women, Hispanic, Black and Asian Americans entering into the management labour market (Conyon and Mallin, 1997). There is research that suggests that diversity is increasing – especially by gender. Daily *et al.* (1999) conclude, for a study of Fortune 500 firms, that women have made significant progress in terms of assuming seats on boards of directors, but have not in terms of taking CEO positions. Bilimoria (2000) reports that even though the number of female board members is increasing slightly, few companies actively recruit females and there is still sex bias, stereotyping and tokenism on boards where women serve. Mattis (2000) concludes that women board members are increasing in numbers but the changes are small and incremental. While this research focuses more on gender rather than racial diversity, the evidence suggests that the composition of boards of directors in American corporations is beginning to increasingly reflect the changes in workforce diversity (Burke, 1995).

Diversity and group performance

The extant literature offers at least two general conflicting perspectives regarding the relationship between diversity and group performance. Some researchers suggest that diversity leads to a greater knowledge base, creativity and innovation, and therefore becomes a competitive advantage (Watson *et al.*, 1993). Bantel (1993) investigated the relationship between the demographic nature of high-level management groups and strategic clarity in retail banks. Bantel's findings also demonstrated that greater education and functional background diversity in top management teams led to better strategic decision-making.

Simons and Pelled (1999) reported similar results in their study on executive diversity. Their findings suggested that both educational level and cognitive diversity were associated with positive effects on organisational performance. However, they argued that experience diversity had a negative impact on return on investment and overall organisational performance. Simons and Pelled argued that the negative relationship of experience diversity and performance was due to informal communication among top teams.

Elron (1996) examined the relationships of cultural heterogeneity and member diversity with group cohesion and found no relation-

ship. However, the results indicated a positive relationship between cultural heterogeneity and levels of issue-based conflict. In terms of performance, both issue-based conflict and cohesion were positively related to team performance, which was also tied to organisational performance.

Others have investigated board diversity and performance and found positive results. For example, Siciliano (1996) used data from 240 YMCA organisations to construct and compare multiple measures of board member diversity. The findings revealed higher levels of social performance and fundraising when board members exhibited greater occupational diversity. The results also demonstrated that gender diversity played a role in organisation's level of social performance.

Maznevski (1994) examined the literature on group diversity and challenged previous research findings that homogeneous decision-making groups perform better than diverse ones. She argued that diversity has the potential to considerably benefit group decision-making. The keys to improved performance are integration and communication. According to her conclusions from this literature review, enhanced integration and communication help determine the performance of a diverse group.

In contrast, other researchers suggested that diversity can potentially be a disadvantage in terms of group performance. For example, Hambrick *et al.* (1996) conducted a longitudinal study on the effects of diversity on top management team performance in 32 major US airlines. Diversity was measured by functional, educational and tenure heterogeneity. Their findings indicated that homogeneous top-management teams actually outperformed heterogeneous ones. They also reported that heterogeneous teams were slower in their actions and responses and less likely than homogenous teams to respond to competitors' initiatives. The explanation they offered was that in a heterogeneous group individuals were more likely to disagree, thereby weakening the team consensus.

Knight *et al.* (1999) also found that demographic diversity was negatively related to consensus. They further suggested that greater time and effort was necessary for heterogeneous teams to reach decisions, ultimately reducing team performance. Treichler (1995) came to a conclusion similar to Knight *et al.* and Hambrick *et al.* Treichler concludes that workforce diversity requires higher expenditures due to increased initiatives and coordination to accommodate the needs of different types of employees, and has the potential to increase work group conflict and commu-

nication difficulties. In sum, these authors point to the potential negative effects of diversity due to the difficulty of integrating these resources into an effective harmonised group or team.

In sum, it appears that there is equivocal evidence about the effects of diversity on group performance. Diversity both enhances performance by increasing decision-making capacity, but detracts from group performance by increasing conflict. However, none of this research addresses diversity within boards of directors. Consequently, an important research question becomes – *to what extent do these issues impact the relationship between diversity on boards of directors and firm performance.*

Diversity and firm performance

Most studies addressing diversity and firm performance use workforce diversity as opposed to diversity within boards of directors. One study addressing diversity at organisational levels was conducted by Murray (1989). Murray used 84 Fortune 500 food and oil companies to investigate heterogeneous versus homogeneous groups and their effect on organisational performance. Diversity was measured as a composite of age, educational degree, average tenure and occupational history. Findings showed that performance and diversity is related to the type of market the organisation is operating in. Specifically, homogenous groups were more effective than heterogeneous groups during intense market competition. Heterogeneous groups were more effective in dealing with organisational change, suggesting that these groups may better respond to rapid dynamic changes in the market. A limitation with Murray's (1989) study was that diversity was measured via the surrogates' age, educational degree and tenure. While these are undoubtedly important, it may be that racial and ethnical diversity are more informative and relevant to the demographic make-up of the current workforce.

Shrader *et al.* (1997) examined firm financial performance with gender diversity at the middle- and upper-management, and at the board of director levels for large firms. They found general organisational effects, but few top-level diversity effects on performance and, in general, reported a positive link between women (diversity) in management positions with firm financial performance. Shrader *et al.* explain the positive performance relationship by suggesting that these companies were recruiting from a relatively larger talent pool, and subsequently recruited more qualified applicants regardless of gender.

In a more recent study conducted by Richard (2000), the relationship between organisation-wide diversity, business strategy and firm performance was examined in the context of the banking industry. Performance was measured by productivity return on equity, and market performance measured from 64 banks in three states. Study results showed that diversity added value and was perceived as a relative competitive advantage for banks.

Focusing specifically on boards of directors, Catalyst (1995) reported that of the top 100 US companies in terms of revenue, 97 had at least one woman board member. In an earlier study by Catalyst (1993), 82 per cent of the 50 most valuable Fortune 500 firms were found to include at least one woman director on the board.

In another recent work, Burke (2000a) found significant correlation coefficients between the number of women directors and revenue, assets, number of employees and profit margins for Canadian firms. Therefore, the findings of the section above indicate that profitable firms may be amenable to diverse director appointments.

In summary, the existing literature suggests that workforce diversity impacts firm performance. However, few studies have investigated the possible connections diverse boards might have with firm performance. Moreover, most previous studies are focused exclusively on gender diversity rather than both gender and racial diversity.

Board diversity and firm performance

Given the current literature suggesting that diversity tends to generate higher creativity, innovation and quality decision-making at individual and group levels, this study posits that similar findings may be found at the executive board of director level, where these characteristics are most critical. As board functioning is highly related to organisational performance (Zahra and Pearce, 1989), the question becomes whether increased demographic diversity on boards affects overall company performance. In this vein, Finkelstein and Hambrick (1996) outlined two key functions for boards that are highly related to the performance of the organisation. First, boards are commonly the most influential actors determining strategy direction and decision-making inherent in their structural position. Second, boards fulfil a monitoring role that may include: representing shareholders, monitoring proper use of organisations' wealth, response to takeover threats and

hiring, compensating and monitoring top management work.

In light of Finkelstein and Hambrick's work, Fondas (2000) argues that the presence of women directors helps a board execute its strategic function because their experience is often closely aligned with company needs. For example, she notes that women may have a slight edge over men in terms of impacting strategic planning. Consequently, women can potentially help the board fulfil its strategic role.

Burke (2000b) offers some additional practical reasons why firms should consider adding qualified women to the board. He notes that in general there are not currently enough talented directors to go around. CEOs are rejecting invitations to join boards at increasing rates. And men currently serving on boards do not have the time to take on additional responsibilities. This makes the continuing reliance on male CEOs for board members less practical and potentially dilutes quality. Therefore, firms should expand their searches beyond the traditional talent pools. He also notes that women can add important symbolic value both inside and outside the organisation, linking the firm with other constituencies.

Similarly, Selby (2000) interviewed women board members from top US firms and observed that by including gender diversity on their boards firms concomitantly included diversity in other experiences and values. She notes that the "questioning culture" of a board can be influenced, in a positive respect, by having women board members. Bilimoria and Wheeler (2000) and Mattis (2000) are supportive of the above, stating that women directors help foster competitive advantage by dealing effectively with diversity in labour and product markets. Bilimoria and Wheeler see women directors as champions for change because they tend to be younger than their male counterparts and are open to relatively newer ideas and approaches to doing business. Mattis indicates the board should reflect the diversity of the firm's customer base and labour pool. These arguments may well apply to racial diversity as well as gender diversity.

Hypothesis

Bilimoria (2000) recommends that the corporate bottom-line impact of demographically diverse directors be examined specifically. Additionally, Bilimoria and Wheeler (2000) call for research empirically examining the relationship between the presence of women on boards and firm outcomes. Burke and Mattis (2000) recommend research examining the differences in various types of perfor-

mance for firms achieving diversity in the management ranks. And Davidson (2002) asks for research examining both racial and gender effects on work outcomes.

Zahra and Pearce (1989) in their review of boards of directors and the relationship with performance did not identify a single study of demographic diversity at the board level. However, because strategic decision-making is crucial for boards of directors, it seems logical to expect that organisations with higher levels of board of director diversity will demonstrate higher levels of performance than organisations with less diverse executive boards. Thus, the following general hypothesis is proposed: *Greater demographic diversity among board members increases organisational performance.*

Method

Sample

Data for this study were gathered from 112 large public companies in various industries. An article appearing in *Fortune* magazine (Robinson and Hickman, 1999) influenced the initial data-gathering effort. The *Fortune* article presented information regarding the best company work environments for minorities in America. With the help of the Council on Economic Priorities (CEP), a non-profit research firm, *Fortune* sent surveys to the Fortune 1,000 and 200 other large firms collecting information regarding diversity employment and programmes. 137 firms responded to the survey. *Fortune* used these data to present tables chronicling the number and percentages of minorities in management positions.

We contacted *Fortune* and were granted access to these data, as well as information on the Equal Employment Opportunity Commission compliance information for the public companies surveyed. Twenty of the original companies had to be excluded from further study because they were private firms and financial data would not be publicly available. Of the 117 remaining companies, the largest number came from manufacturing (34 per cent consumer non-durable and 23 per cent durable goods). Other industries included the financial services sector (17 per cent), and transportation/utilities (8 per cent).

Three companies had to be eliminated from analysis due to missing data, and two companies were excluded as outliers because their results were 20 standard deviations away from the mean on the ROA and ROI measures. Consequently, 112 companies with complete data were included in the analysis. The average

number of employees was 20,202 and the average amount of total assets was US\$10,864 million. The median for the executive board of director diversity was 24 per cent, ranging from 0.6 to 72 per cent.

Measures

Independent variables

In this study, demographic diversity was measured in terms of ethnic and gender representation on boards. The diversity representation was obtained from company self-reports compiled by *Fortune* magazine. These self-reported numbers were based on the Equal Employment Opportunity Commission (EEOC) categories and were measured at two points in time (1997 and 1998) by the representation percentage of women and minorities (African, Hispanic, Asian and Native Americans) to white Anglo-Saxons for executive board of directors.

The percentage of minorities and females for executive board of directors was determined by dividing the number of nonwhites and white females by the total number of executive board of directors for both 1997 and 1998. A mean average was calculated for these years. The purpose for using an average over two years was to better control for potential changes in the diversity ratio and to increase reliability.

Dependent variables

Organisational performance has been measured in numerous ways (e.g. market share, number of patented products and total assets) and researchers have commonly used financial data such as the ratios of the stock prices to earnings, and stock prices to book values (Murray, 1989). This study used two financial ratios: return on assets (net income divided by total assets or ROA) and return on investment (net income divided by invested capital or ROI). These measures are consistent with other studies on organisational performance and are frequently used by market and financial analysts in assessing a company's performance (e.g. Shrader *et al.*, 1997).

What appears to be a concern in most studies on performance is controlling for changes in the market as it may impact levels of diversity within organisations (Richard, 2000). We chose performance indicators from two different points in time in order to control for these potential changes. Thus, the two performance measures were gathered from the Compact Disclosure database at two different

times (1993 and 1998). The five-year interval served two reasons. First, measuring performance at two different times better controls for market fluctuations and indicate more consistent results (Katz *et al.*, 2000). Second, the impact of strategic decision-making on organisational performance typically requires several years to observe. Thus, a five-year interval accounts for diverse candidates' potential contributions on strategic decision-making.

Control variables

In addition to the independent and dependent variables, we used three organisation and industry control variables. Based on SIC codes, we grouped industries into production (SIC less than 4000) or service (SIC greater than 4000). Firms in production were coded as 1 and firms in service were coded as 2. We also collected information about total assets from compact disclosure and collected information about the size of the board of directors that was self reported from the *Fortune* database.

Analysis

The data were examined by correlation (see Table 1) and regression analysis (see Table 2). First, correlation analysis was used to examine the relationships among variables (board diversity, ROI98, ROI93, ROA98 and ROA93). Second, hierarchical regression analysis was used to demonstrate specific effects of the independent variable on the dependent variable while controlling for ROI93 and ROA93 and other control variables. Control variables were entered in the first step and then the independent variable was added. A change in the explained variance was used to determine levels of significance. Cohen and Cohen (1980) suggest this technique as an appropriate way to examine changes in the dependent variables.

Results

The means, standard deviations, reliabilities and correlation coefficients are reported in Table 1. Based on Table 1, board diversity had a relative high mean ($m = 0.25$). As expected, ROI time 2 and ROA time 2 were highly correlated ($r = 0.88$). ROI time 2 was positively correlated with board diversity ($r = 0.21$). ROA time 2 was only marginally correlated with board diversity. Board diversity was corre-

Table 1: Mean standard deviations correlation matrix

	M	SD	1	2	3	4	5	6	7	8
1 ROI98	0.11	0.15	–							
2 ROI93	0.02	0.36	0.08	–						
3 ROA98	0.05	0.07	0.88**	0.15	–					
4 ROA93	0.02	0.07	0.24*	0.54**	0.33**	–				
5 Industry	1.44	0.50	–0.35**	0.04	–0.38	–0.22*	–			
6 Total assets	39 ^a	7.5 ^a	0.03	–0.25*	–0.15	–0.17	0.27**	–		
7 Board size	12.52	2.93	0.10	–0.04	0.01	–0.03	0.14	0.39**	–	
8 Board diversity	0.25	0.11	0.21*	0.03	0.18	0.02	0.20*	–0.08	–0.01	–

^a In millions.* $p < 0.05$.** $p < 0.01$.

Table 2: Regression results for predicting ROI and ROA

	ROI 1998			ROA 1998		
	β	ΔR^2	F	β	ΔR^2	F
Control variables		0.17	5.30**		0.21	6.98**
ROI 93	0.13			–		
ROA 93	–			0.25**		
Industry	–0.40**			–0.32**		
Total assets	0.13			–0.06		
Board size	0.11			0.09		
Independent variable						
Board diversity	0.32	0.09	13.46**	0.25	0.06	8.59**

* $p < 0.05$.** $p < 0.01$.

lated with industry ($r = 0.20$) with service sector being more diverse than production.

The general hypothesis was tested by conducting a hierarchical regression analysis (Cohen and Cohen, 1975, see Table 2). The results indicated that only industry has a significant impact on ROI at time 2 in the first step of the regression analysis ($t = -4.37$; $p < 0.01$). This suggested that the production firms were able to get better ROI than service firms during this time period. In the second step, board diversity had a significant impact on ROI at time 2 when controlling for ROI at time 1 ($F = 13.46$; $p < 0.01$).

Similar results were found with ROA, with some changes in regards to the control variables. Both ROA time 1 and industry had a significant impact on ROA at time 2 ($t = 2.76$ and $t = -3.52$, respectively). Board diversity had a significant impact on ROA at time 2 ($F = 8.59$; $p < 0.01$). The results of this study supported

the original hypothesis stating that relatively higher levels of board diversity would lead to higher organisational performance.

Discussion

This study investigated the relationship between demographic diversity and organisational performance, specifically for executive board of directors at aggregate organisational levels. As expected, the results supported the hypothesis stating that executive board of director diversity was positively associated with both return on investment and return on assets. Thus, diversity with boards of directors appeared to have an impact on overall organisational performance.

The findings in this study were consistent with other attempts at addressing diversity at organisational levels (Murray, 1989; Richard,

2000). While most past research has addressed the impact of workforce diversity on firm performance, this research clearly supports the notion that board of director diversity may be important above and beyond the effects of workforce diversity. The results also extend Burke's research (2000) to an American sample and includes racial diversity in addition to gender diversity.

Limitations

There are important limitations in this study that need to be addressed. First, the sample is drawn from large US corporations and the results may not generalise to smaller companies. Future research is needed to address diversity at board of director levels and its impact on organisational performance for smaller companies. However, there are no apparent reasons why the results would differ for smaller companies; it is possible that diversity may actually show larger effects on smaller organisations, as individual efforts are more noticeable.

Second, given the research approach used in the present study, it is impossible to determine whether the diverse members actually do significantly differ in their behaviour compared to non-diverse members. The results only suggest that diversity is positively related to organisational performance. In order to understand behavioural differences other approaches, such as participant observation and ethnography of executive boards of directors and corporate officers are needed.

Third, the regression analysis in this study suggests that there is a linear relationship between diversity and performance. However, it was impossible to determine how diversity actually affected organisational performance as diversity representation increased, due to the inherent range restriction in the representation of women and minorities in these companies. One may speculate that if more data were available the linear relationship between diversity and performance would probably change to a more curvilinear relationship; that is, the benefits gained from diversity would increase with a decreasing rate, or flatten out as the number of women and minorities increases.

Related to this is the fact that we have only given temporal precedence to board diversity based on our premises about the better decision-making and enhanced creativity of diverse boards. However, the results could be the converse. That is, the eventual higher level of board diversity could be a result of higher levels of ROA and ROI as company managers

feel more secure and hence open to more diverse board appointments.¹

The study is also limited in terms of our selection of variables and the assumptions we make relative to the temporal effects of those variables on each other. Our diversity statistic is a two-year average reflecting firms' experience from the *Fortune* data. And the performance measures were taken concurrently and five years prior to the diversity measures. The goal was not to establish causality but to capture possible trends. This is obviously not ideal, but does offer a fair amount of rigour. And even though our method and sample were based somewhat on convenience, there have been other studies that have contributed to our understanding of diversity and performance that have been based on similar *Fortune* magazine samples (e.g. Murray, 1989; Catalyst, 1993; Daily *et al.*, 1999).

Conclusions

But even with these limitations, this study has contributed important information relating to diversity effects on performance. Accordingly, this research has significant theoretical, practical and empirical implications. Theoretically, the results suggest that diversity may be associated with effectiveness in the oversight function of boards of directors. The oversight function may be more effective if conflict emerges which allows for a broader range of opinions to be considered. One of the central issues of corporate governance is the degree to which a CEO may have influence on the board of directors. Agency theory (Schleifer and Vishny, 1997) suggests that CEOs may need independent oversight. If so, then diversity of the board of directors and the subsequent conflict that is considered to commonly occur with diverse group dynamics is likely to have a positive impact on the controlling function and could be one of several tools used to minimise potential agency issues.

A case in point is the failing of the Enron board of directors to provide control and oversight for the company's vast off-balance sheet activities. In 1998, Enron's² annual report indicated 17 board members, only one of which was a woman. Compared with the 25 per cent mean for our sample firms, Enron's board was not diverse. Today it has become known that this board failed in its oversight function. And though not one of our sample firms, it seems that Enron's board may typify some of the problems associated with a lack of diversity; namely, lack of conflict and lack of breadth of perspectives. It is not possible with the current study to causally establish this connection, but

the conditions appear to be consistent with our findings.

Moreover, from a practical perspective, Burke's (2000b) contention that there are not enough talented male directors to go around might indeed be true. It may also be that the continuing reliance on male CEOs for board members is growing increasingly less practical. In addition, the claims of Bilimoria and Wheeler (2000), Mattis (2000) and Selby (2000) appear to be plausible in that women directors may be better reflecting the diversity of the firm's customer base and labour pool, and thereby may be enhancing firm performance. Therefore, our results support the contention that firms should expand their searches beyond traditional talent pools.

From an empirical perspective, the results reported herein shed some light on the relationship between diversity and organisational performance, but also raise future research questions. First, there is a need to develop a solid theoretical framework to better understand diversity and its advantages in the business arena. This study provides alternative suggestions as to the positive results between diversity and organisational performance. One aspect that needs further attention is generating theoretical models aimed at how diversity improves the oversight function of boards of directors. Perhaps women and minorities who serve on boards of directors may be more effective decision-makers. There is a common argument that women and minorities experience work disadvantages compared to their white male counterparts (Davidson, 2002). Under this assumption, women and minorities must outperform many of their white male counterparts in order to become promoted, which would suggest that performance is generated from higher expectations and qualification standards. Perhaps it minimises CEO influence on board of director oversight. Perhaps people of the same race and gender are less critical of each other's ideas. Or it could be that a broader information base is considered providing more effective input into the decision-making process. In any event, research is needed to address how diverse boards operate differently from less diverse boards.

In conclusion, this paper has begun to address, at the firm level, what Burke and Mattis (2000) term the outcomes "associated with increased representation of women at the top". In a business climate where much is demanded from boards of directors and where firm performance is being subject to ever-increasing due diligence, the logic of diversifying boards becomes even more compelling. Our findings are that diverse boards are found

in conjunction with increased firm financial performance. And regardless of whether it is the cause or result of performance, it does appear that firms should seriously consider the potential for the enhanced representation and perspective diversity might create.

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Notes

1. We thank the anonymous reviewer for bringing this possible explanation to our attention.
2. Source: <http://www.enron.com/corp/investors/annuals/annual98/board.html>.

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"The current high rate of CEO turnover indicates that executives simply are not ready for the job when they get it. Companies must institute programmes and policies that develop executives' skills so that, when the time comes, they are ready for leadership roles." *From Turnover at the Top, www.dbm.com*